The Officers and Board of Directors welcome you to Amelia Island, Florida, for the 89th Annual Meeting of the North Central Section of the AUA, Inc.

November 10 – 14, 2015
The Ritz-Carlton, Amelia Island
Amelia Island, Florida
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**POLICY: Filming, Photography, Audio Recording and Cell Phones**

No attendee/visitor at the NCS 89th Annual Meeting may record, film, tape, photograph, interview or use any other such media during any presentation, display or exhibit without the express, advance approval of the NCS Executive Director. This policy applies to all NCS members, non-members, guests and exhibitors as well as members of the print, online or broadcast media.
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:30 a.m. - 5:30 p.m.</td>
<td>Registration/Information Desk Hours</td>
<td>Location: Talbot Registration Desk</td>
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<tr>
<td>6:30 p.m. - 8:30 p.m.</td>
<td>Exhibit Hall Hours</td>
<td>Location: Ritz-Carlton Ballroom</td>
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<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite</td>
<td>Location: Seaside</td>
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<td>7:30 a.m. - 5:30 p.m.</td>
<td>Speaker Ready Room Hours</td>
<td>Location: Magnolia</td>
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<td>11:00 a.m.</td>
<td>AUA Course of Choice: Diagnosis and Management of the Hypogonadal Male</td>
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<td>11:30 a.m.</td>
<td>Robotic IVC Tumor Thrombectomies: The University of Iowa Experience</td>
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<td>12:00 p.m.</td>
<td>Making Sense of the Current Prostate Cancer Biomarker Landscape</td>
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<tr>
<td>12:30 p.m.</td>
<td>Industry Satellite Symposium Luncheon</td>
<td>Location: Plaza 1</td>
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<td>1:00 p.m.</td>
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<td>1:30 p.m.</td>
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<td>2:00 p.m.</td>
<td>Health Policy and Practice Management Program Session I: Legislative Affairs and Health Policy</td>
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<td>2:30 p.m.</td>
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<td>7:30 p.m.</td>
<td>Welcome Reception</td>
<td>Location: Ritz-Carlton Ballroom</td>
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<td>Time</td>
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<td>5:30 a.m. - 5:30 p.m.</td>
<td>Registration/Information Desk Hours</td>
<td>Talbot Registration Desk</td>
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<td>7:00 a.m. - 4:00 p.m.</td>
<td>Exhibit Hall Hours</td>
<td>Ritz-Carlton Ballroom</td>
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<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite</td>
<td>Seaside</td>
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<tr>
<td>5:30 a.m. - 5:30 p.m.</td>
<td>Speaker Ready Room Hours</td>
<td>Magnolia</td>
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<tr>
<td>6:30 a.m.</td>
<td>Primary Care Update</td>
<td>Talbot E</td>
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<tr>
<td>7:00 a.m.</td>
<td>Break/Visit Exhibits</td>
<td>Talbot A-D</td>
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<tr>
<td>7:30 a.m.</td>
<td>President's Welcome</td>
<td>Ritz-Carlton Ballroom</td>
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<tr>
<td>8:00 a.m.</td>
<td>State of the Art Lecture: Renal Sparring Surgery for Unilateral Wilms: Heresy?</td>
<td>Talbot A-D</td>
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<tr>
<td>8:30 a.m.</td>
<td>Pediatrics Podium Session</td>
<td>Talbot A-D</td>
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<tr>
<td>9:00 a.m.</td>
<td>Prostate Cancer Podium Session</td>
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<tr>
<td>9:30 a.m.</td>
<td>Announcements</td>
<td>Ritz-Carlton Ballroom</td>
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<tr>
<td>10:00 a.m.</td>
<td>Break/Visit Exhibits</td>
<td>Ritz-Carlton Ballroom</td>
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<tr>
<td>10:30 a.m.</td>
<td>Outcomes Podium Session</td>
<td>Talbot A-D</td>
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<tr>
<td>11:00 a.m.</td>
<td>Male Infertility/Erectile Dysfunction Podium Session</td>
<td>Talbot F-H</td>
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<tr>
<td>11:00 a.m.</td>
<td>Current Urology Health Policy- The Major Issues and How to Get Involved</td>
<td>Talbot F-H</td>
</tr>
<tr>
<td>11:30 a.m.</td>
<td>Ask the Expert: The Surgeon, Academician, Administrator: The Importance of Continued Mentorship</td>
<td>Talbot E</td>
</tr>
<tr>
<td>12:00 p.m.</td>
<td>Industry Satellite Symposium Luncheon</td>
<td>Plaza 1</td>
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<tr>
<td>1:00 p.m.</td>
<td>Panel Discussion: Management of High Risk Prostate Cancer</td>
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<tr>
<td>2:00 p.m.</td>
<td>Bladder-Malignant I Podium Session</td>
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<tr>
<td>3:00 p.m.</td>
<td>AUA Guidelines Update</td>
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<tr>
<td>3:30 p.m.</td>
<td>Break/Visit Exhibits</td>
<td></td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>Urinary Incontinence/ Neurogenic Bladder Podium Session</td>
<td>Talbot A-D</td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>Socioeconomic/Health Policy Podium Session</td>
<td>Talbot F-H</td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>Endourology/Stone Disease I Podium Session</td>
<td>Talbot E</td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>Prostate Malignant Poster Session</td>
<td>Santa Maria 1</td>
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<tr>
<td>5:00 p.m.</td>
<td>Adrenal/Kidney/ Ureter/Bladder Poster Session</td>
<td>Director's</td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>Pediatrics Poster Session</td>
<td>Santa Maria 2</td>
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</tbody>
</table>
**Schedule at a Glance**

*All sessions are located in Talbot A-D unless otherwise noted*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:15 a.m.</td>
<td>Registration/Information Desk Hours</td>
<td>Talbot Registration Desk</td>
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<tr>
<td>7:30 a.m.</td>
<td>Exhibit Hall Hours</td>
<td>Ritz-Carlton Ballroom</td>
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<tr>
<td>7:30 a.m.</td>
<td>Spouse/Guest Hospitality Suite</td>
<td>Seaside</td>
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<tr>
<td>7:15 a.m.</td>
<td>Speaker Ready Room Hours</td>
<td>Magnolia</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Industry Sponsored Breakfast</td>
<td>Plaza 1</td>
</tr>
<tr>
<td>7:30 a.m.</td>
<td>State of the Art Lecture: Update from the ABU</td>
<td>Plaza 1</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>Panel Discussion: Medical Malpractice: How to Prevent and Defend</td>
<td>Talbot A-D</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>Ask the Expert: Urotrauma - Male External Genital Trauma</td>
<td>Talbot A-D</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Urinary Incontinence Podium Session</td>
<td>Talbot A-D</td>
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<tr>
<td>10:30 a.m.</td>
<td>AUA Update</td>
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<tr>
<td>11:00 a.m.</td>
<td>AUA Panel</td>
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<tr>
<td>11:30 a.m.</td>
<td>Break/Visit Exhibits</td>
<td>Ritz-Carlton Ballroom</td>
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<tr>
<td>12:00 p.m.</td>
<td>Young Urologists Session: Integrating Advanced Practice Providers</td>
<td>Talbot E</td>
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<tr>
<td>12:00 p.m.</td>
<td>Penis/Testis/Urethra Podium Session</td>
<td>Talbot A-D</td>
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<tr>
<td>12:30 p.m.</td>
<td>Endourology/ Stone Disease Poster Session</td>
<td>Santa Maria 1</td>
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<tr>
<td>1:00 p.m.</td>
<td>Incontinence/ Infertility/ Sexual Dysfunction/ Trauma/ Transplant</td>
<td>Santa Maria 2</td>
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<tr>
<td>1:30 p.m.</td>
<td>Industry Satellite Symposium Luncheon</td>
<td>Plaza 1</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Incontinence/ Infertility/ Sexual Dysfunction/ Trauma/ Transplant</td>
<td>Director’s</td>
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<tr>
<td>3:00 p.m.</td>
<td>Prostate Malignant/ Benign Poster Session</td>
<td>Director’s</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Young Urologists Mixer</td>
<td>Courtyard at Ritz-Carlton Amelia Island</td>
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<tr>
<td>4:00 p.m.</td>
<td>President’s Reception/ &quot;Farm to Table&quot; Theme Night</td>
<td>Ocean Front Lawn at Ritz-Carlton Amelia Island</td>
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<td>4:30 p.m.</td>
<td>(until 10:00 p.m.)</td>
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<td>8:00 p.m.</td>
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# Schedule at a Glance

All sessions are located in **Talbot A-D** unless otherwise noted

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:00 a.m. - 3:00 p.m.</td>
<td>Registration/Information Desk Hours</td>
<td>Talbot Registration Desk</td>
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<tr>
<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite</td>
<td>Seaside</td>
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<tr>
<td>6:00 a.m. - 3:00 p.m.</td>
<td>Speaker Ready Room Hours</td>
<td>Magnolia</td>
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<tr>
<td>6:30 a.m.</td>
<td>Men's Health</td>
<td>Talbot A-D</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Video Session</td>
<td>Talbot E</td>
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<tr>
<td>7:30 a.m.</td>
<td>Announcements</td>
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<tr>
<td>8:00 a.m.</td>
<td>State of the Art Lecture: The Challenge of Recurrent Post-Prostatectomy Bladder Neck Contracture</td>
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<tr>
<td>8:30 a.m.</td>
<td>Bladder-Malignant Podium Session</td>
<td>Talbot A-D</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Break</td>
<td>Talbot Pre-Function</td>
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<tr>
<td>9:30 a.m.</td>
<td>AUA Update</td>
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<tr>
<td>10:00 a.m.</td>
<td>State of the Art Lecture: Management of Sling Failures</td>
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<tr>
<td>10:30 a.m.</td>
<td>Panel Discussion: Management of Sling Complications</td>
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<tr>
<td>11:00 a.m.</td>
<td>Award Presentations: Thirlby, Traveling Fellowship, John D. Silbar</td>
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<tr>
<td>11:30 a.m.</td>
<td>State of the Art Lecture: Reconstruction of the Posterior Urethra Following Pelvic Fracture Urethral Injury</td>
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<tr>
<td>12:00 p.m.</td>
<td>Critical Shot: Survival That Made a Presidency, Saved the Nation, and United the World</td>
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<td>12:30 p.m.</td>
<td>Annual Business Meeting</td>
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<td>1:00 p.m.</td>
<td>Industry Satellite Symposium Luncheon</td>
<td>Plaza 1</td>
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<tr>
<td>1:30 p.m.</td>
<td>Should We Still Prescribe Alpha Blockers for Ureteral Calculi?</td>
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<td>2:00 p.m.</td>
<td>NCS Resident College Bowl: Round 1</td>
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<td>6:30 p.m.</td>
<td>Annual Reception and Banquet</td>
<td>Salon 1&amp;2</td>
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<td>Registration/Information Desk Hours</td>
<td>Talbot Desk</td>
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<td>Spouse/Guest Hospitality Suite</td>
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<td>7:30 a.m.</td>
<td>Speaker Ready Room Hours</td>
<td>Magnolia</td>
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<tr>
<td>8:00 a.m.</td>
<td>State of the Art Lecture: Challenging Reconstructive Cases</td>
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<tr>
<td>8:30 a.m.</td>
<td>Bizarre and Interesting Cases Podium Session</td>
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<tr>
<td>9:00 a.m.</td>
<td>Urology Care Foundation Update</td>
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<tr>
<td>9:00 a.m.</td>
<td>NCSAUA Foundation Scholar Report</td>
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<td>9:30 a.m.</td>
<td>AUA 2015 Choosing Wisely Recommendations</td>
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<tr>
<td>10:00 a.m.</td>
<td>Adrenal/Kidney/Ureter Podium Session</td>
<td>Talbot A-D</td>
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<tr>
<td>10:30 a.m.</td>
<td>Laparoscopy/Robotics Podium Session</td>
<td>Talbot E</td>
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<tr>
<td>11:00 a.m.</td>
<td>NCS Resident College Bowl: Finals</td>
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<tr>
<td>11:30 a.m.</td>
<td>Announcement of Best Bizarre and Interesting Case, Best Video</td>
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<tr>
<td>12:00 p.m.</td>
<td>Incoming NCS President Remarks</td>
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</table>
Hotel Directory

General Session: Talbot A-D
Breakout Rooms: Talbot E
Talbot F-H
Exhibit Hall: Ritz-Carlton Ballroom
Poster Sessions: Director’s
Santa Maria 1
Santa Maria 2
Speaker Ready Room: Magnolia
Spouse/Guest Hospitality Suite: Seaside
Committee Meetings: Director’s
King’s Bay
Promotional Partners and Contributors

NCS Recognizes and Welcomes Our 2015 Promotional Partners
(as of 10/20/2015)

Platinum Level Partners

AbbVie
Genomic Health
Lumenis, Inc.
Maximum Medical Solutions
Medivation/Astellas

Silver Level Partners

Astellas Pharma US, Inc.
Coloplast

Thank You to Our 2015 Contributors
(as of 10/20/2015)

Myriad Genetic Laboratories
Olympus America, Inc.
Urology Care Foundation
 Exhibitors

Thank You to Our 2015 Exhibitors
(as of 10/20/2015)

AbbVie
Allergan, Inc.
American Medical Systems, Inc.
American Urological Association, Inc./Urology Care Foundation
Astellas Pharma US, Inc.
Bayer HealthCare
BK Medical
Boston Scientific Corporation
Cardinal Health
Cogentix Medical
Coloplast
ContextMedia:Health
Cook Medical
Dendreon Corporation
Dornier MedTech
EDAP Technomed, Inc.
Ferring Pharmaceuticals
Focal Healthcare Inc.
GenomeDx Biosciences Inc.
Genomic Health
HealthTronics, Inc.
Hitachi-Aloka Medical
Imprimis Pharmaceuticals
Janssen Biotech, Inc.
KARL STORZ
LABORIE
Lumenis, Inc.
Maximum Medical Solutions
MDxHealth
Medispec, Ltd.
Medivation/Astellas
MiMedx Group
Miraca Life Sciences
Myriad Genetic Laboratories, Inc.
NeoTract, Inc.
Olympus America, Inc.
OPKO Labs
Pacific Edge Diagnostics USA Ltd.
Pfizer, Inc.
Prometheus Laboratories Inc.
Pulse Systems Inc.
Retrophin
Richard Wolf Medical Instruments
Surgical Laser Incorporated
TOLMAR Pharmaceuticals
United Medical Systems
University Specialty Urologicals
### Industry Satellite Symposium Events

**TUESDAY, NOVEMBER 10, 2015**

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<thead>
<tr>
<th>Time</th>
<th>Event Details</th>
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| 12:00 p.m. – 1:30 p.m. | **Industry Satellite Symposium Luncheon**  
*Location: Plaza 1*  
*“The New Gold Standards in TUR: BPH and NMIBC Visualization and Treatment Options”*  
Kenneth M. Kernen, MD  
*Michigan Institute of Urology* |

**WEDNESDAY, NOVEMBER 11, 2015**

<table>
<thead>
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<th>Time</th>
<th>Event Details</th>
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| 12:15 p.m. – 1:30 p.m. | **Industry Satellite Symposium Luncheon**  
*Location: Plaza 1*  
*“XTANDI (enzalutamide) Capsules in the Urology Practice: Continuing Care for Your Patients with Metastatic CRPC”*  
Mark Delworth, MD  
*The Urology Group*  
*Cincinnati, OH* |

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<tr>
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<th>Event Details</th>
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</table>
| 12:15 p.m. – 1:30 p.m. | **Industry Satellite Symposium Luncheon**  
*Location: Plaza 2*  
*“Pulse 120H: The Urologist’s Toolbox”*  
Stephen Brewer, MD, FACS  
*Urologist; St. Elizabeth Physicians*  
*Florence, KY* |
### THURSDAY, NOVEMBER 12, 2015

<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Speaker/Details</th>
</tr>
</thead>
</table>
| 7:00 a.m. – 8:00 a.m.| **Industry Satellite Symposium Breakfast**                            | Plaza 1         | *Biomarkers and Genomic Testing in Prostate Cancer: Integration Into Clinical Practice*  
Leonard G. Gomella, MD, FACS  
Professor of Prostate Cancer and Chairman of the Department of Urology at Jefferson Medical College  
Philadelphia, PA |
| 1:30 p.m. – 2:30 p.m.| **Industry Satellite Symposium Luncheon**                              | Plaza 1         | *Promoting Wellness in 2015: Save Time Reviewing What Works and What Is Worthless*  
Mark Moyad, MD, MPH  
Department of Urology, University of Michigan  
Ann Arbor, Michigan |

### FRIDAY, NOVEMBER 13, 2015

<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
<th>Speaker/Details</th>
</tr>
</thead>
</table>
| 12:40 p.m. – 1:45 p.m.| **Industry Satellite Symposium Luncheon**                            | Plaza 1         | *Integrating Oncotype DX® GPS Into Clinical Practice*  
David M. Albala, MD  
Medical Director, Co-Director of Research Associated Medical Professionals  
Syracuse, NY |
Needs & Objectives

Educational Needs
The Secretary of the North Central Section (Gary Faerber, MD), consulted with other members of the Program Committee and the Executive Committee members, including the current NCS President, Dr. Patrick McKenna; recent past-President Dr. Christopher Cooper, Chair of the NCS Education Committee, Dr. Bradley Schwartz, and AUA Secretary, Dr. Manoj Monga regarding the needs we are attempting to fulfill through our annual scientific program. It was agreed by the above committee members, Section Officers and the Office of Education of the AUA that there continues to be significant educational needs for our Annual Meeting and scientific program.

Urologic abnormalities can present with a myriad of clinical symptoms and signs. Accurate differential diagnosis and disease management, which meets current standards of care, requires ongoing review of the presentations of various urologic abnormalities as well as the appropriate use of safe and cost-effective imaging modalities and various pharmacologic, minimally invasive, and operative management options. In addition, advancements in medical science and progress in management of various urologic diseases require basic and clinical research. Presentation and discussion of such peer-reviewed and abstract reviewer-selected summaries and results of investigations provide “cutting edge” updates for practicing clinicians and essential feedback to researchers on the practical applications and translation of their investigations to clinical practice.

The American Urological Association provided many services and Health Policy support to practicing urologists in the NCS region and the Past President, AUA Secretary, AUA Chairman of Education, NCS Board Representative, will provide an update on the activities of the AUA.
Educational Objectives
At the conclusion of the 89th Annual Meeting of the NCSAUA, attendees should be able to:

- Apply Evidence Based Medicine (EBM) in urologic practice specifically incorporating AUA Guidelines into daily practice.
- Apply the role of new ablative therapies (histotripsy) in the treatment of urologic conditions.
- Explain the evolving role of active surveillance as a treatment strategy for patients with low risk Prostate cancer (LRPC).
- Analyze the role of new biomarkers for prostate cancer and their implications in the treatment of low risk and high-risk prostate cancer.
- Analyze data pertaining to various pharmacologic and surgical treatments for voiding dysfunction and urinary incontinence.
- Utilize evidence based treatment algorithms to manage patients with challenging urolithiasis.
- Integrate new and modified treatments for erectile dysfunction, infertility, and use of testosterone.
- Enumerate prognostic significance and treatments of various stages and grades of bladder cancer and its associated morbidity and mortality.
- Explain coding, physician payment reforms, and collaboratives between payers and providers.
CME Accreditation

Accreditation: The American Urological Association (AUA) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation: The American Urological Association designates this live activity for a maximum of 30.50 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Non-physician Health Professionals: The AUA is not accredited to offer credit for non-physician health professionals. However, the AUA will issue documentation of participation that states that the activity was certified for AMA PRA Category 1 Credit™.

Evidence Based Content: It is the policy of the AUA to ensure that the content contained in this CME activity is valid, fair, balanced, scientifically rigorous, and free of commercial bias.

AUA Disclosure Policy: All persons in a position to control the content of an educational activity (i.e., activity planners, presenters, authors) participating in an educational activity provided by the AUA are required to disclose to the provider any relevant financial relationships with any commercial interest. The AUA must determine if the individual's relationships may influence the educational content and resolve any conflicts of interest prior to the commencement of the educational activity. The intent of this disclosure is not to prevent individuals with relevant financial relationships from participating, but rather to provide learners information with which they can make their own judgments.

The disclosure report for this meeting may be found in your registration packet.

Resolution of Identified Conflict of Interest: All disclosures will be reviewed by the program/course directors or editors for identification of conflicts of interest. Peer reviewers, working with the program directors and/or editors, will document the mechanism(s) for management and resolution of the conflict of interest and final approval of the activity will be documented prior to implementation. Any of the mechanisms below can/will be used to resolve conflict of interest:

- Peer review for valid, evidence-based content of all materials associated with an educational activity by the course/program director, editor, and/or Education Content Review Committee or its subgroup.
- Limit content to evidence with no recommendations
- Introduction of a debate format with an unbiased moderator (point-counterpoint)
- Inclusion of moderated panel discussion
- Publication of a parallel or rebuttal article for an article that is felt to be biased
- Limit equipment representatives to providing logistics and operation support only in procedural demonstrations
- Divestiture of the relationship by faculty
Off-label or Unapproved Use of Drugs or Devices: It is the policy of the AUA to require the disclosure of all references to off-label or unapproved uses of drugs or devices prior to the presentation of educational content. The audience is advised that this continuing medical education activity may contain reference(s) to off-label or unapproved uses of drugs or devices. Please consult the prescribing information for full disclosure of approved uses.

Disclaimer: The opinions and recommendations expressed by faculty, authors and other experts whose input is included in this program are their own and do not necessarily represent the viewpoint of the AUA.

Consent to Use of Photographic Images: Attendance at or participation in AUA meetings and other activities constitutes an agreement by the registrant to AUA's use and distribution (both now and in the future) of the attendee's image or voice in photographs and electronic reproductions of such meetings and activities.

Audio, Video and Photographic Equipment: The use of audio, video and other photographic recording equipment is prohibited by attendees inside AUA meeting rooms.

Reproduction Permission: Reproduction of written materials developed for this AUA course is prohibited without the written permission from individual authors and the American Urological Association.

Special Assistance/Dietary Needs: The American Urological Association complies with the Americans with Disabilities Act §12112(a). If any participant is in need of special assistance or has any dietary restrictions, please see the registration desk.
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Lawrence J. Litscher, MD; Dayton, OH (Ohio)
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Stephen A. Boorjian, MD; Rochester, MN (Representative)
### Past Presidents and Annual Meeting Sites

<table>
<thead>
<tr>
<th>Year</th>
<th>President</th>
<th>City, State</th>
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<tbody>
<tr>
<td>2014</td>
<td>Christopher S. Cooper, MD</td>
<td>Chicago, IL</td>
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<td>2013</td>
<td>Chandru P. Sundaram, MD</td>
<td>Naples, FL</td>
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<td>Howard N. Winfield, MD</td>
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<td>Peter M. Knapp, Jr., MD</td>
<td>Rancho Mirage, CA</td>
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<td>Steven W. Siegel, MD</td>
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<td>Stephen Y. Nakada, MD</td>
<td>Scottsdale, AZ</td>
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<td>2007</td>
<td>Dennis A. Pessis, MD</td>
<td>Hollywood, FL</td>
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<td>2006</td>
<td>David E. Patterson, MD</td>
<td>Coronado, CA</td>
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<td>Robert C. Flanigan, MD</td>
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<td>San Antonio, TX</td>
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<td>2004</td>
<td>Frank P. Begun, MD</td>
<td>Miami Beach, FL</td>
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<td>2003</td>
<td>Elroy D. Kursh, MD</td>
<td>Vancouver- Canada</td>
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<td>2002</td>
<td>R. Bruce Bracken, MD</td>
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<td>Richard A. Memo, MD</td>
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<td>J. Randolf Beahrs, MD</td>
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<td>Richard D. Williams, MD</td>
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<td>James E. Lingeman, MD</td>
<td>Amelia Island, FL</td>
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<td>Ananias C. Diokno, MD</td>
<td>Monterey, CA</td>
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<td>Earl H. Johnson, MD</td>
<td>Tucson, AZ</td>
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<td>Joseph W. Segura, MD</td>
<td>Minneapolis, MN</td>
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<td>Jack L. Summers, MD</td>
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<td>Arthur J. Johnson, MD</td>
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<td>Eugene T. McEnery, MD</td>
<td>Dorado, Puerto Rico</td>
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<td>Charles E. Hawtrey, MD</td>
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<td>Lawrence S. Ross, MD</td>
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<td>Paul R. Hartig, MD</td>
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<td>Kenneth A. Kropp, MD</td>
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<td>Joseph C. Cerny, MD</td>
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<td>John D. Silbar, MD</td>
<td>Palm Beach, FL</td>
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<td>1984</td>
<td>Edwin D. Kennedy, MD</td>
<td>Cedar Rapids, IA</td>
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<td>John P. Donohue, MD</td>
<td>Maui, HI</td>
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<td>Everette J. Duthoy, MD</td>
<td>Marco Island, FL</td>
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<td>William E. Forsythe, MD</td>
<td>Indianapolis, IN</td>
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<td>1980 *</td>
<td>David C. Utz, MD</td>
<td>Hamilton- Bermuda</td>
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<td>1979</td>
<td>Charles F. McKiel, Jr., MD</td>
<td>Phoenix, AZ</td>
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<td>Jack Lapides, MD</td>
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<td>Laurence F. Greene, MD</td>
<td>Coronado, CA</td>
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<td>Harry E. Lichtwardt, MD</td>
<td>Palm Beach, FL</td>
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<td>1975 *</td>
<td>David Presman, MD</td>
<td>Phoenix, AZ</td>
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1974  * David A. Culp, MD  
1973  * Lester Persky, MD  
1972  George J. Bulkley, MD  
1971  * Jack N. Taylor, MD  
1970  * Myron H. Nourse, MD  
1969  * James W. Sargent, MD  
1968  * Baxter A. Smith, Jr., MD  
1967  * Paul J. Schildt, MD  
1966  * Frank B. Bicknell, MD  
1965  * Ormond Culp, MD  
1964  * Donald J. Jaffar, MD  
1963  * F. Harold Entz, MD  
1962  * Charles J. Cooney, MD  
1961  * Edwin C. Graf, MD  
1960  * T. Brent Wayman, MD  
1959  * N. Warren Bourne, MD  
1958  * C. Grafton Weller, MD  
1957  * John L. Emmett, MD  
1956  * C.D. Creevy, MD  
1955  * William J. Butler, MD  
1954  * Rubin H. Flocks, MD  
1953  * William J. Engel, MD  
1952  * Reed M. Nesbit, MD  
1951  * William N. Wishard, Jr., MD  
1950  * Russell D. Herrold, MD  
1949  * James C. Sargent, MD  
1948  * Robert S. Breakey, MD  
1947  * William J. Baker, MD  
1946  * Walter M. Kearns, MD  
1944  * H.W. Plaggemeyer, MD  
1941  * G.J. Thompson, MD  
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1935  * Robert E. Cumming, MD  
1934  * Frederic E.B. Foley, MD  
1933  * Vincent J. O'Connor, MD  
1932  * William N. Taylor, MD  
1931  * H.M. Stang, MD  
1930  * Ira R. Sisk, MD  
1929  * Harry Culver, MD  

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Acapulco-Mexico  
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Detroit, MI  
Cincinnati, OH  
Milwaukee, WI  
Rochester, MN  
Cleveland, OH  
Chicago, IL  
Minneapolis, MN  
Columbus, OH  
Chicago, IL  
Detroit, MI  
Cincinnati, OH  
French Lick, IN  
Chicago, IL  
Milwaukee, WI  
Mackinac Island, MI  
Cleveland, OH  
Toledo, OH  
Milwaukee, WI  
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Madison, WI  
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Rochester, MN  
Cleveland, OH  
Chicago, IL  
Detroit, MI  
St. Paul, MN  
Indianapolis, IN  
Rochester, MN
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<th>Year</th>
<th>President *</th>
<th>City, State</th>
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<tr>
<td>1928</td>
<td>J.L. Crenshaw, MD</td>
<td>Columbus, OH</td>
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<tr>
<td>1927</td>
<td>E.O. Smith, MD</td>
<td>Madison, WI</td>
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<td>1926</td>
<td>H.L. Morris, MD</td>
<td>Cincinnati, OH</td>
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<td>1925</td>
<td>N.G. Alcock, MD</td>
<td>Detroit/Ann Arbor, MI</td>
</tr>
<tr>
<td>1924</td>
<td>G.J. Thomas, MD</td>
<td>Iowa City, IA</td>
</tr>
</tbody>
</table>

*Deceased
Board of Directors and Committee Meetings

**Monday, November 9, 2015**

8:00 a.m. - 9:00 a.m. Executive Committee Meeting  
*Location: Director’s*

9:00 a.m. - 10:00 a.m. Finance Committee Meeting  
*Location: Director’s*

10:00 a.m. - 11:00 a.m. Long Range Planning Committee Meeting  
*Location: Director’s*

11:00 a.m. - 12:00 p.m. Annual Meeting Committee Meeting  
*Location: Director’s*

12:00 p.m. - 1:00 p.m. Board of Directors Luncheon  
*Location: Santa Maria*

1:00 p.m. - 5:00 p.m. Board of Directors Meeting  
*Location: Director’s*

**Tuesday, November 10, 2015**

7:00 a.m. - 9:30 a.m. Nominating Committee Meeting  
*Location: King’s Bay*

**Thursday, November 12, 2015**

11:45 a.m. - 12:45 p.m. Young Urologist Committee Meeting  
*Location: King’s Bay*

**Friday, November 13, 2015**

12:40 p.m. - 1:40 p.m. Health Policy Council Meeting  
*Location: King’s Bay*
General Meeting Information

Scientific Sessions

*Location: Talbot A-D*
- **Tuesday, November 10, 2015** 8:30 a.m. – 5:30 p.m.
- **Wednesday, November 11, 2015** 6:30 a.m. – 5:30 p.m.
- **Thursday, November 12, 2015** 8:00 a.m. – 1:30 p.m.
- **Friday, November 13, 2015** 6:30 a.m. – 3:00 p.m.
- **Saturday, November 14, 2015** 8:30 a.m. – 12:00 p.m.

Registration/Information Desk Hours

*Location: Talbot Registration Desk*
- **Monday, November 9, 2015** 1:00 p.m. – 4:00 p.m.
- **Tuesday, November 10, 2015** 7:30 a.m. – 5:30 p.m.
- **Wednesday, November 11, 2015** 5:30 a.m. – 5:30 p.m.
- **Thursday, November 12, 2015** 7:15 a.m. – 1:30 p.m.
- **Friday, November 13, 2015** 6:00 a.m. – 3:00 p.m.
- **Saturday, November 14, 2015** 7:30 a.m. – 12:00 p.m.

Exhibit Hall Hours

*Location: Ritz-Carlton Ballroom*
- **Tuesday, November 10, 2015** 6:30 p.m. – 8:30 p.m.
- **Wednesday, November 11, 2015** 7:00 a.m. – 4:00 p.m.
- **Thursday, November 12, 2015** 7:30 a.m. – 12:00 p.m.

Spouse/Guest Hospitality Suite Hours

*Location: Seaside*
- **Tuesday, November 10, 2015** 7:30 a.m. – 11:00 a.m.
- **Wednesday, November 11, 2015** 7:30 a.m. – 11:00 a.m.
- **Thursday, November 12, 2015** 7:30 a.m. – 11:00 a.m.
- **Friday, November 13, 2015** 7:30 a.m. – 11:00 a.m.
- **Saturday, November 14, 2015** 7:30 a.m. – 11:00 a.m.
Evening Functions

One ticket to each event is included in the meeting registration. To purchase additional tickets, please visit the Registration/Information Desk.

Welcome Reception and Bourbon/Wine Tasting
Date: Tuesday, November 10, 2015
Time: 6:30 p.m. – 8:30 p.m.
Location: Ritz-Carlton Ballroom
Attire: Casual
Cost: One ticket included in registration; additional tickets are $50.00 for adults and free for children under 13.

Attendees can sample a variety of bourbons and wines, connect with fellow attendees and visit our industry sponsors and exhibitors while enjoying an array of appetizers.

Young Urologists Mixer
Date: Thursday, November 12, 2015
Time: 6:00 p.m. – 7:00 p.m.
Location: Courtyard at Ritz-Carlton, Amelia Island
Attire: Business Casual
Cost: This is a free event open to residents and urologists who are within ten years post-training.

This is a great way to network with other urologists and learn how to become more active in the Section. Please indicate your participation on the registration form below.

President’s Reception/“Farm To Table” Theme Night
Date: Thursday, November 12, 2015
Time: 7:00 p.m. – 10:00 p.m.
Location: Ocean Front Lawn at the Ritz-Carlton, Amelia Island
Attire: Casual
Cost: One ticket included in registration; additional tickets are $175.00 for adults and free for children under the age of 13.

Plan to join the fun at the 2015 Theme Night! We will enjoy the delicious bounty of the sea and earth Oceanside. Attendees will meet Amelia Island’s local farmers and the hotel’s very own beekeeper. After dinner, attendees will enjoy a variety of lawn games and live entertainment.

Annual Banquet
Date: Friday, November 13, 2015
Time: 6:30 p.m. – 7:30 p.m.  Cocktails and Hors d’oeuvres
7:30 p.m. – 11:00 p.m.  Dinner and Entertainment
Location: Salon 1 & 2
Attire: Black Tie Optional
Cost: One ticket included in registration; additional tickets are $185.00.

The 2015 Annual Banquet promises to be an affair to remember. This event will feature delicious culinary delights followed by an enthralling evening of music and dancing.

*Tables are assigned during the meeting, so be sure to sign up with your friends/colleagues on the boards posted by the NCS registration desk.*
Optional Events

España Cooking Class
Date: Wednesday, November 11, 2015
Time: 11:00 a.m. – 2:00 p.m.
Location: Meet in the lobby of the Ritz-Carlton by 10:30 a.m.
Cost: $130.00 per person
Includes: Roundtrip transportation, private cooking class, homemade sangria and meal.
Chef/Owner Roberto Pestana, has over 20 years' restaurant experience in both culinary arts and management. He takes great pride in his recipes, bringing the flavors of Spain to your table. They utilize only the freshest fish, shellfish, herbs (some grown on premises) and spices for their paellas. Attendees will prepare a traditional Spanish meal while enjoying España’s homemade sangria.

Amelia Island River Cruise
Date: Thursday, November 12, 2015
Time: 1:45 p.m. – 4:30 p.m.
Location: Meet in the lobby of the Ritz-Carlton by 1:15 p.m.
Cost: $83.50 per person
Includes: Roundtrip transportation, 90-minute cruise and gratuities.
Set sail on a 90-minute scenic cruise with Amelia River Cruise. This afternoon tour is a nice blend of history and nature, including a trip up Beach Creek with a beautiful view of the salt marshes and bird life of Cumberland Island. It offers a close-up view of the ruins of the Dungeness Mansion and takes you literally inside Cumberland Island.

Group Fishing
Date: Thursday, November 12, 2015
Time: 12:45 p.m. – 5:30 p.m.
Location: Meet in the lobby of the Ritz-Carlton by 12:15 p.m.
Cost: $238.00 per person
Includes: Privately chartered roundtrip transportation, experienced captains and mates for the safety and convenience of all, and all bait and tackle.
Amelia Island is the Florida coast's best place for year-round fishing. Attendees will be transferred to Fernandina Harbor Marina to board their exclusive, 16-passenger offshore charter. Our experienced captains will put attendees in prime waters that will have the best opportunity to catch bull redfish, puppy drums, whiting, sharks and sheepshead in the island’s waters in the fall season.
A minimum of 10 people must register for the activity or it will be cancelled (payments are refundable).
NCS Golf Outing
Date: Thursday, November 12, 2015
Time: 1:00 p.m., shotgun start
Location: The Golf Club of Amelia Island
Cost: $175.00 per person
Includes: Green fees, transportation, shared cart, privileges prior to play, divot tool and yardage book. All players must check in at the course at least 30 minutes prior to play. Club rental is available at the course. Rentals are $65.00 per set.
The Golf Club of Amelia Island offers an exciting 18-hole championship golf course designed by Mark McCumber and Gene Littler. This challenging, yet fun layout is an avid golfer’s dream. With the breathtaking landscape, meticulously maintained greens, strategically placed bunkers and the ever-shifting ocean breeze, no two rounds are ever the same.

Salt of the Earth Custom-Blending Bar Experience
Date: Friday, November 13, 2015
Time: 11:00am - 12:30pm
Location: The Ritz-Carlton Spa
Cost: $80.50 per person
Includes: Spa certified Salt-Barista, (2) 6-oz Salt of the Earth body products of choice, complimentary access to the Spa amenities on Friday, and a $10 gift certificate towards a Spa or Salon service.
Hand-blend your very own salt or sugar scrub and whipped body crème with a scent you create from our signature aroma collection. This fun and interactive experience includes your very own “Salt Barista,” who will demonstrate to attendees how to custom create their own body indulgence product using our Salt of the Earth Blend-Bar. Attendees will enjoy learning the benefits of using natural ingredients like Himalayan Salt, sugar, and vitamin A- and E-enriched grape seed oil to rebuild collagen, repair damaged skin and enhance the skin’s resistance to oxidative damage.
Speaker Information

The North Central Section thanks all the presenters for their outstanding commitment to the 89th Annual Meeting.

Speaker Guidelines
All presentations shall be loaded onto the computer in the Speaker Ready Room. An AV technician will be present during the Speaker Ready Room hours to load presentations and answer any question you may have. We strongly encourage you to turn in your presentations as early as possible. At a minimum, presentations must be turned in to the AV Technicians four hours prior to your presentation. Remember, all media must be IBM Compatible.

Poster Presentation Guidelines
Presenters may hang their posters starting at 1:00 p.m. for the Thursday and Friday Sessions. Please look for the board containing your poster number. NCS will provide pushpins. Posters must be removed immediately at the close of the session. NCS will not hold or be responsible for posters left behind.

Moderator Guidelines
Please make every effort to ensure that the program runs on schedule by checking the speaker timer before each talk and each discussion. Also, encourage the speakers and discussants to adhere to the allotted time. Please be sure to inform the audience that all speakers have completed the AUA faculty disclosure process, a written report is included in the registration envelopes. Finally, remember to introduce presentations by the following: Title of Presentation, Speaker’s Name, and Speaker’s City. Please do not cite all of the authors’ names.

Speaker Ready Room Hours

Location: Magnolia
Tuesday, November 10, 2015  7:30 a.m. – 5:30 p.m.
Wednesday, November 11, 2015  5:30 a.m. – 5:30 p.m.
Thursday, November 12, 2015  7:15 a.m. – 1:30 p.m.
Friday, November 13, 2015  6:00 a.m. – 3:00 p.m.
Saturday, November 14, 2015  7:30 a.m. – 12:00 p.m.
89th Annual Meeting of the North Central Section of the AUA

All sessions will be held in Talbot A-D unless otherwise noted. Speakers/times are subject to change

MONDAY, NOVEMBER 09, 2015

OVERVIEW

8:00 a.m. - 9:00 a.m. Executive Committee Meeting
Location: Director’s

9:00 a.m. - 10:00 a.m. Finance Committee Meeting
Location: Director’s

10:00 a.m. - 11:00 a.m. Long Range Planning Committee Meeting
Location: Director’s

11:00 a.m. - 12:00 p.m. Annual Meeting Committee Meeting
Location: Director’s

12:00 p.m. - 1:00 p.m. Board of Directors Luncheon
Location: Santa Maria

1:00 p.m. - 5:00 p.m. Board of Directors Meeting
Location: Director’s

TUESDAY, NOVEMBER 10, 2015

OVERVIEW

7:30 a.m. - 5:30 p.m. Registration/Information Desk Hours
Location: Talbot Registration Desk

7:30 a.m. - 11:00 a.m. Spouse/Guest Hospitality Suite
Location: Seaside

7:30 a.m. - 5:30 p.m. Speaker Ready Room Hours
Location: Magnolia

8:00 a.m. - 9:00 a.m. Breakfast
Location: Talbot Pre-Function

8:30 a.m. - 5:30 p.m. Scientific Sessions

6:30 p.m. - 8:30 p.m. Exhibit Hall Hours
Location: Ritz-Carlton Ballroom

6:30 p.m. - 8:30 p.m. Welcome Reception
Location: Ritz-Carlton Ballroom
## GENERAL SESSION

<table>
<thead>
<tr>
<th>Time</th>
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| 8:30 a.m. - 10:30 a.m. | AUA Course of Choice: Diagnosis and Management of the Hypogonadal Male  
AUA Course of Choice Guest Speaker: Wayne J. G. Hellstrom, MD, FACS  
New Orleans, LA  |
| 10:30 a.m. - 11:00 a.m. | Break  
Location: Talbot Pre-Function  |
| 11:00 a.m. - 11:30 a.m. | Robotic IVC Tumor Thrombectomies: The University of Iowa Experience  
Speaker: Amit Gupta, MD, MPH  
Iowa City, IA  |
| 11:30 a.m. - 12:00 p.m. | Making Sense of the Current Prostate Cancer Biomarker Landscape  
Speaker: Todd M. Morgan, MD  
Ann Arbor, MI  |
| 12:00 p.m. - 1:30 p.m. | Industry Satellite Symposium Luncheon  
Location: Plaza 1 |

### Health Policy and Practice Management Program

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<th>Time</th>
<th>Event</th>
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| 1:30 p.m. - 5:30 p.m. | Session I: Legislative Affairs and Health Policy  
Moderators: Matthew T. Gettman, MD  
Rochester, MN  
Mark D. Stovsky, MD, MBA, FACS  
Cleveland, OH |
| 1:30 p.m. - 1:50 p.m. | Implementation of the ACA: Where Do We Stand?  
Speaker: Christopher M. Gonzalez, MD, MBA, FACS  
Cleveland, OH  |
| 1:50 p.m. - 2:10 p.m. | Value-Based Reimbursement: Current and Future Strategies  
Speaker: Mark D. Stovsky, MD, MBA, FACS  
Cleveland, OH  |
| 2:10 p.m. - 2:30 p.m. | Legislative Priorities in Urology: 2015 UROPAC Update  
Speaker: James C. Ulchaker, MD, FACS  
Cleveland, OH  |
| 2:30 p.m. - 2:50 p.m. | ICD-10: Assessing the Impact  
Speaker: Norm D. Smith, MD  
Chicago, IL  |
| 2:50 p.m. - 3:10 p.m. | Break  
Location: Talbot Pre-Function  |
Session II: Practice Management and Clinical Innovations

3:10 p.m. - 3:30 p.m.  Practice Innovations in Urology: The LUGPA Perspective
Speaker:          Gary M. Kirsh, MD
Cincinnati, OH

3:30 p.m. - 3:50 p.m.  The Emerging Role of Telemedicine in Urology
Speaker:          Matthew T. Gettman, MD
Rochester, MN

3:50 p.m. - 4:10 p.m.  Mobile Health Innovations in Urology: Not Just for Millennials
Speaker:          Todd M. Morgan, MD
Ann Arbor, MI

4:10 p.m. - 4:30 p.m.  Developing Collaborative Medical Teams in Urology
Guest Speaker:       Kenneth Mitchell, MPAS, PA-C
Woodbury, MN

4:30 p.m. - 4:50 p.m.  Understanding the Complexity of Workforce Projections in Urology
Speaker:          Patrick H. McKenna, MD, FAAP, FACS
Madison, WI

4:50 p.m. - 5:15 p.m.  Roundtable Discussion
Panelists:         Gary M. Kirsh, MD
Cincinnati, OH
Matthew T. Gettman, MD
Rochester, MN
Todd M. Morgan, MD
Ann Arbor, MI
Kenneth Mitchell, MPAS, PA-C
Woodbury, MN
Patrick H. McKenna, MD, FAAP, FACS
Madison, WI

5:15 p.m. - 5:20 p.m.  Health Policy Award Ceremony
Introducer:       Matthew T. Gettman, MD
Rochester, MN

5:20 p.m. - 5:30 p.m.  Presentation of NCS/AACU Health Policy Young Investigator Award
Speaker:          Lindsey A. Herrel, MD, MS
Ann Arbor, MI

6:30 p.m. - 8:30 p.m.  Welcome Reception
Location: Ritz-Carlton Ballroom
Wednesday, November 11, 2015

**OVERVIEW**

5:30 a.m. - 5:30 p.m. **Registration/Information Desk Hours**  
*Location: Talbot Registration Desk*

5:30 a.m. - 5:30 p.m. **Speaker Ready Room Hours**  
*Location: Magnolia*

6:00 a.m. - 8:00 a.m. **Breakfast**  
*Location: Ritz-Carlton Ballroom*

6:30 a.m. - 5:30 p.m. **Scientific Sessions**

7:00 a.m. - 4:00 p.m. **Exhibit Hall Hours**  
*Location: Ritz-Carlton Ballroom*

7:30 a.m. - 11:00 a.m. **Spouse/Guest Hospitality Suite**  
*Location: Seaside Room*

11:00 a.m. - 2:00 p.m. **España Cooking Class**  
*Location: Meet in the lobby of the Ritz-Carlton by 10:30 a.m.*

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**Concurrent Sessions Begin**

**Concurrent Session 1 of 2**

6:30 a.m. - 7:30 a.m. **Primary Care Update**  
*Location: Talbot E*  
Moderator: Ajay K. Singla, MD  
Toledo, OH

6:30 a.m. - 6:35 a.m. **Welcome and Introduction**

6:35 a.m. - 6:50 a.m. **Prostate Cancer Screening Controversy**  
Speaker: Samay Jain, MD  
Toledo, OH

6:50 a.m. - 7:05 a.m. **BPH With Reference to the AUA Guidelines**  
Speaker: J.Quentin Clemens, MD  
Ann Arbor, MI

7:05 a.m. - 7:20 a.m. **Erectile Dysfunction - A Simplified Approach**  
Speaker: Edward E. Cherullo, MD  
Cleveland, OH

7:20 a.m. - 7:30 a.m. **Lower Urinary Tract Symptoms in Women**  
Speaker: John C. Hairston, MD  
Chicago, IL
Concurrent Session 2 of 2

6:30 a.m. - 7:30 a.m.  LUTS/BPH: Update  
*Location: Talbot A-D*  
Moderator: Kevin T. McVary, MD, FACS  
*Springfield, IL*

6:30 a.m. - 6:50 a.m.  What Else Can We Try Doc? Behavior, Medications and Interventions  
*Speaker: Kevin T. McVary, MD, FACS*  
*Springfield, IL*

6:50 a.m. - 7:10 a.m.  New Approaches to LUTS/BPH Surgery: Does the Future of LUTS Need All This?  
*Speaker: William W. Roberts, II, MD*  
*Ann Arbor, MI*

7:10 a.m. - 7:30 a.m.  How I Choose What Technology to Use and When  
*Speaker: James E. Lingeman, MD*  
*Indianapolis, IN*

Concurrent Sessions End

7:30 a.m. - 7:55 a.m.  Break/Visit Exhibits  
*Location: Ritz-Carlton Ballroom*

7:55 a.m. - 8:00 a.m.  President's Welcome  
*President: Patrick H. McKenna, MD, FAAP, FACS*  
*Madison, WI*

Concurrent Sessions Begin

Concurrent Session 1 of 3

8:00 a.m. - 9:30 a.m.  Current Urology Health Policy- The Major Issues and How to Get Involved  
*Location: Talbot F-H*  
*Speaker: Mark T. Edney, MD*  
*Salisbury, MD*  
*This session is designed as a primer for residents and young urologists*

Concurrent Session 2 of 3

8:00 a.m. - 8:30 a.m.  State of the Art Lecture: Renal Sparring Surgery for Unilateral Wilms: Heresy?  
*Location: Talbot A-D*  
*Guest Speaker: Fernando A. Ferrer, MD*  
*Hartford, CT*
8:30 a.m. - 9:20 a.m.  | Pediatrics Podium Session  

**Location:** Talbot A-D  

Moderators:  
- Christopher S. Cooper, MD, FAAP, FACS  
  *Iowa City, IA*  
- Julian H. Wan, MD  
  *Ann Arbor, MI*  

Discussant:  
- Fernando A. Ferrer, MD  
  *Hartford, CT*

### 8:30 a.m.  #1  
**COMPUTER MODEL PREDICTING BREAKTHROUGH FEBRILE UTI IN CHILDREN WITH PRIMARY VESICOURETERAL REFLUX (VUR)**  
Siobhan Alexander, Moshe Wald, Angela Arlen, Christopher Cooper, MD, FAAP, FACS  
University of Iowa  
Presented By: Christopher Cooper

### 8:34 a.m.  #2  
**THE IMPLICATIONS OF FELLOWSHIP EXPANSION ON PEDIATRIC UROLOGIST CASE VOLUMES**  
Sophie Ramsay, MD¹, Travis W Groth, MD¹, Christopher S Cooper, MD², William A See, MD¹, John V Kryger, MD¹  
¹Medical College of Wisconsin; ²University of Iowa Carver College of Medicine  
Presented By: Sophie Ramsay

### 8:38 a.m.  #3  
**MULTI-INSTITUTIONAL ANALYSIS AND VALIDATION OF THE VESICOURETERAL REFLUX INDEX (VURX)**  
Angela M. Arlen, MD¹, Michael Garcia-Roig², Aaron D. Weiss², Traci Leong², Christopher S. Cooper¹, Andrew J. Kirsch²  
¹University of Iowa Hospitals & Clinics; ²Children’s Healthcare of Atlanta/Emory University  
Presented By: Angela Arlen

### 8:42 a.m.  #4  
**WNT−5A OVEREXPRESSING STEM CELLS ENHANCE BLADDER TISSUE REGENERATION IN A BLADDER AUGMENTATION MODEL**  
Jessica Hannick, MD¹, Edward Diaz, MD², Devon Snow-Lisy, MD², Matt Bury², Natalie Fuller², Nida Ahmad³, Arun Sharma, PhD⁴  
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; ³Loyola University; ⁴Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; Northwestern University Feinberg School of Medicine, Department of Urology; Northwestern University, Simpson Querrey Institute for BioNanotechnology  
Presented By: Jessica Hannick
8:46 a.m.  #5 TESTICULAR MICROLITHIASIS IN ASYMPTOMATIC BOYS: WHAT IS THE APPROPRIATE FOLLOW-UP?
Alison Keenan, MD, Benjamin Whittam, MD, MS, William Bennett, MD, Aaron Carroll, MD, MS, Richard Rink, MD
Indiana University Health
Presented By: Alison Keenan

8:50 a.m.  #6 USE OF SEMEN ANALYSIS IN ADOLESCENTS WITH VARICOCELE: AN UPDATE
Ayad Khourdaji, MD¹, Emily Blum, MD², Gregory McLennan, MD³, Charity Chen MS², Evan Kass, MD⁴
¹Beaumont Health System; ²Beaumont Health System, Royal Oak, MI; ³Mercy Hospital, Saint Louis, MO; ⁴Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Ayad Khourdaji

8:54 a.m.  #7 FARMLAND, FERTILIZER AND HYPOSPADIAS
Randy Sulaver, MD¹, Ranijv Mathews, MD²
¹SIU SOM; ²SIU-SOM
Presented By: Randy Sulaver

8:58 a.m.  #8 IMPACT OF INITIATING A PRACTICE WIDE LOWER URINARY TRACT DYSFUNCTION PROGRAM
Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley MS, Glen E. Leversen, PhD, Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: Patrick McKenna

9:02 a.m.  #9 NATIONAL TRENDS OF SURGICAL MANAGEMENT FOR TESTICULAR TORSION AND LOSS
Akshay Sood, MD¹, Hanhan Li, MD¹, Firas Abdollah, MD¹, Jesse Sammon, DO¹, James Peabody, MD¹, Mani Menon, MD¹, Yegappan Lakshmanan, MD², Quoc-Dien Trinh, MD³, Jack Elder, MD¹
¹Henry Ford Hospital; ²Children's Hospital of Michigan; ³Brigham and Women's Hospital
Presented By: Hanhan Li

9:06 a.m.  #10 READMISSION CHARACTERISTICS OF ELECTIVE PEDIATRIC CIRCUMCISION
Joshua Roth, MD, William Bennett, MD, Benjamin Whittam, MD, MS, Alison Keenan, MD, Aaron Carroll, MD, MS, Richard Rink, MD, Mark Cain, MD
Indiana University Health
Presented By: Joshua Roth
IS GLANS PENIS WIDTH PREDICTIVE OF COMPLICATIONS AFTER HYPOSPADIAS REPAIR?
Diana Bowen, MD, Elizabeth Yerkes, MD, Emilie Johnson, MD, Bruce Lindgren, MD, Max Maizels, MD, Antonio Chaviano, MD, Earl Cheng, MD, Edward Gong, MD, William Kaplan, MD, Dennis Liu, MD, Mark Faasse, MD
Ann & Robert H. Lurie Children's Hospital of Chicago
Presented By: Diana Bowen

9:15 a.m. - 9:20 a.m. Q&A

Concurrent Sessions End

9:20 a.m. - 10:00 a.m. Prostate Cancer Podium Session
Moderator: Brent K. Hollenbeck, MD, MS
Ann Arbor, MI
Discussant: Robert R. Bahnson, MD
Columbus, OH

9:20 a.m. #12 REPEAT BIOPSY RATES FOR PREMALIGNANT LESIONS IN A STATEWIDE QUALITY IMPROVEMENT COLLABORATIVE
Frank Burks, MD¹, Dinesh Telang, MD¹, Alice Liu, BS², Yuqing Gao, BS², Susan Linsell, BS², James Montie, MD², David Miller, MD², Khurshid Ghani, MD²
¹Oakland University William Beaumont School of Medicine; ²University of Michigan
Presented By: Frank Burks

9:24 a.m. #13 THE ASSOCIATION OF PROSTATE CANCER FAMILY HISTORY WITH MORTALITY AMONG MEN UNDERGOING RADICAL PROSTATECTOMY
Mary Elizabeth Westerman, MD¹, Boris Gershman, MD¹, Laureano Rangel², Stephen A. Boorjian, MD¹
¹Mayo Clinic Department of Urology; ²Mayo Clinic Department of Health Sciences Research
Presented By: Mary Westerman

9:28 a.m. #14 TRIPTOLIDE INHIBITS ANDROGEN DEPENDENT, CASTRATION RESISTANT AND ENZALUTAMIDE RESISTANT PROSTATE CANCER GROWTH BY DECREASING ANDROGEN RECEPTOR FULL LENGTH AND SPLICE VARIANTS EXPRESSION
Sumit Isharwal, MD, Shrey Modi, MD, Usman Barlass, MD, Ayman Soubra, MD, Rohit Chugh, MD, Sulagna Banerjee, PhD, Vikas Dudeja, MD, Ashok Saluja, PhD, Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Sumit Isharwal
9:32 a.m.  #15  BUILD A NOMOGRAM WITH PREOPERATIVE PREDICTORS TO PREDICT EARLY URINARY CONTINENCE RECOVERY AFTER RADICAL PROSTATECTOMY
Jose Flores, MD, David Vock, PhD, Ayman Soubra, MD, Neil Wasserman, MD, Stephanie Jarosek, PhD, Isaac Palma, Christopher Warlick, MD, Christopher J. Weight, MD, Nisrine Nakib, MD, Badrinath Konety, MD
University of Minnesota
Presented By: Jose Flores

9:36 a.m.  #16  ACTIVE SURVEILLANCE ACCEPTANCE RATE AMONG AFRICAN AMERICAN MEN WITH LOW−RISK PROSTATE CANCER AT A TERTIARY CARE CENTER
Ibraheem Malkawi, MD¹, Scott Hughes, DO², Roy Miller Osteopathic Medicine Student³, Ranko Miocinovic, MD
¹DMC Urology/Michigan State University; ²Michigan State University School of Osteopathic Medicine - Detroit Medical Center - Urology; ³Michigan State University School of Osteopathic Medicine
Presented By: Ibraheem Malkawi

9:40 a.m.  #17  HIGH GRADE INTRAEPITHELIAL NEOPLASIA (HGPIN) IN AFRICAN AMERICAN MEN: SHOULD IMMEDIATE RE−BIOPSY BE RECOMMENDED?
Ibraheem Malkawi, MD¹, Min Jun, DO², Lira Chowdhury, DO², Ranko Miocinovic, MD²
¹DMC Urology/Michigan State University; ²Michigan State University School of Osteopathic Medicine - Detroit Medical Center - Urology
Presented By: Ibraheem Malkawi

9:44 a.m.  #18  WITHDRAWN

9:48 a.m.  #19  MRI−GUIDED TRANSURETHRAL ULTRASOUND ABLATION IN PATIENTS WITH LOCALIZED PROSTATE CANCER: 12−MONTH OUTCOMES OF A PROSPECTIVE MULTI−NATIONAL PHASE I CLINICAL TRIAL
James Relle, MD¹, Jason Hafron, MD², Kiran Nandular, MD³, Sascha Pahernik³, Matthias Roethke³, Heinz-Peter Schlemmer³, Mathieu Burtynk⁴, Michele Billia⁴, Joseph Chin, MD⁵
¹William Beaumont Hospital, Royal Oak MI; ²Department of Urology and Radiology, Beaumont Health System, Royal Oak MI, United States; ³Department of Radiology, German Cancer Research Center DKFZ, and Department of Urology, University Hospital, Heidelberg, Germany; ⁴Profound Medical Inc., Toronto ON, Canada; ⁵Departments of Urology, Western University UWO, London Health Sciences Center, London Victoria Hospital, London ON, Canada
Presented By: James Relle

9:52 a.m. - 10:00 a.m.  Q&A

10:00 a.m. - 10:05 a.m.  Announcements
Local Arrangements Chair: James D. Relle, MD
West Bloomfield, MI
10:05 a.m. - 10:30 a.m.  Break/Visit Exhibits  
*Location: Ritz-Carlton Ballroom*

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### Concurrent Sessions Begin

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#### Concurrent Session 1 of 4

10:30 a.m. - 11:00 a.m.  
**Ask the Expert: The Surgeon, Academician, Administrator: The Importance Of Continued Mentorship**  
*Location: Talbot E*  
Moderator: Christopher S. Cooper, MD, FAAP, FACS  
*Iowa City, IA*  
Guest Speaker: Fernando A. Ferrer, MD  
*Hartford, CT*

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#### Concurrent Session 2 of 4

10:30 a.m. - 11:30 a.m.  
**Outcomes Podium Session**  
*Location: Talbot A-D*  
Moderators: Simon Kim, MD, MPH  
*Cleveland, OH*  
Stephen A. Boorjian, MD  
*Rochester, MN*  
Discussant: John T. Wei, MD, MS  
*Ann Arbor, MI*

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10:30 a.m.  
**#20 BOWEL PREPARATION AND PERIOPERATIVE ANTIBIOTIC USE IN UROLOGIC SURGERY: PRACTICE PATTERN AMONGST UROLOGISTS**  
Amanda C. Chi, MD, Barry McGuire, MD, Kent T. Perry, MD, Robert B. Nadler, MD  
Northwestern University  
Presented By: Amanda Chi

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10:34 a.m.  
**#21 SEVERE URINARY ADVERSE EVENTS AFTER HIGH VS. LOW DOSE RATE PROSTATE BRACHYTHERAPY: A POPULATION–BASED ANALYSIS**  
Daniel Liberman, MDCM, MSc¹, Travis Pagliara, MD², Stephanie L. Jarosek, PhD, RN³, Beth Virnig, PhD⁴, Haitao Chu, PhD⁴, Sean P. Elliott, MD, MSc³  
¹University of Minnesota; ²Department of Urology, University of Minnesota Medical School; ³Department of Urology, University of Minnesota Medical School; ⁴Division of Health Policy and Management, School of Public Health  
Presented By: Daniel Liberman
INCIDENCE OF CONTRAST REACTION DURING NON-INTRAVENOUS URINARY TRACT IMAGING
Robert Blackwell, MD¹, Eric Kirshenbaum, MD¹, Matthew Zapf, BS², Anai Kothari, MD³, Paul Kuo, MD, MBA³, Robert Flanigan, MD¹, Gopal Gupta, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Stritch School of Medicine, Maywood, IL; ³Loyola University Medical Center, Department of Surgery, Maywood, IL
Presented By: Eric Kirshenbaum

EQUITABLE COMMUNITY UTILIZATION OF PARTIAL NEPHRECTOMY NATIONALLY FOR MANAGEMENT OF T1A RENAL TUMORS
Dhruti Patel, MD¹, Elizabeth Ferry, MD², Robert Abouassaly, MD, MSCE²
¹UH Case Medical Center Urology Institute; ²University Hospitals Case Medical Center Urology Institute
Presented By: Dhruti Patel

STANDARD AND TRANSCORPORAL ARTIFICIAL URINARY SPHINCTER PLACEMENT WITH IN-SITU INFLATABLE PENILE PROSTHESIS – SURGICAL AND FUNCTIONAL OUTCOMES
Deep Bhatt¹, William O. Brant, MD², Sean P. Elliot, MD, MS³, Lee C. Zhao, MD, MS⁴, Nejd Alsikafi, MD⁵, Christopher D. Mcclung, MD⁶, Bradley A. Erickson, MD, MS⁷
¹University of Iowa Carver College of Medicine; ²University of Utah; ³University of Minnesota; ⁴New York University; ⁵Loyola University Chicago; ⁶Ohio State University; ⁷University of Iowa
Presented By: Deep Bhatt

INCREASING SYMPTOM MANAGEMENT SELF-EFFICACY IN LOCALIZED PROSTATE CANCER USING A NEW EHEALTH SYMPTOM MANAGEMENT TOOL: FINDINGS FROM A PILOT TRIAL
Nathaniel Sufrin, BA¹, David Victorson, PhD², James Burns MS², Robert Nadler, MD², Sarah Buono, BA², Jacqueline Petkewicz, MA¹, Charles Brendler, MD¹
¹NorthShore University HealthSystem; ²Northwestern University
Presented By: Nathaniel Sufrin

USING ANALYTIC MORPHOMICS TO UNDERSTAND SHORT-TERM CONVALESCENCE AFTER RADICAL CYSTECTOMY
Amy Luckenbaugh, MD, Brent Hollenbeck, MD, Jeffrey Montgomery, MD, Cheryl Lee, MD, Rodney Dunn, MD, Michael Englesbe, MD, Stewart Wang, MD, PhD, John Hollingsworth
University of Michigan
Presented By: Amy Luckenbaugh
10:58 a.m.  #27  REFERRAL PATTERNS AND BARRIERS TO TREATMENT AMONG ACADEMIC AND COMMUNITY UROLOGISTS MANAGING PATIENTS WITH ADVANCED PROSTATE CANCER
Edouard J. Trabulsi, MD¹, Patricia Jassak, MS, RN², Hong Tang, MD³, J. Chad Williamson, MS, MBA³, Sharon Hwang, MD, MPH³, Greg Salinas, PhD³
¹Thomas Jefferson University; ²Astellas Scientific & Medical Affairs, Inc.; ³CE Outcomes
Presented By: Edouard Trabulsi

11:02 a.m.  #28  DEFINING THE PUBLICATION SOURCE OF HIGH QUALITY EVIDENCE IN UROLOGY: AN ANALYSIS OF EVIDENCE UPDATES
Vikram Narayan, MD¹, Brian Haynes, MD, MSc, PhD², Rick Parrish³, Philipp Dahm, MD, MHA¹
¹Minneapolis Veterans Healthcare System and University of Minnesota, Department of Urology; ²McMaster University
Presented By: Vikram Narayan

11:06 a.m.  #29  REDUCING ANXIETY, URINARY, BOWEL & SEXUAL SIDE EFFECTS IN LOCALIZED PROSTATE CANCER: RESULTS FROM A PILOT STUDY OF A NEW EHEALTH SYMPTOM MANAGEMENT SUPPORT TOOL “IMANAGE−PC”
David Victorson, PhD¹, James Burns, MS¹, Robert Nadler, MD¹, Sarah Buono, BA¹, Jacqueline Petkewicz, MA², Nat Sufrin, BA², Charles Brendler, MD²
¹Northwestern University; ²NorthShore University Health System
Presented By: David Victorson

11:10 a.m.  #30  USE OF THE, MDRD EQUATION FOR ESTIMATING GLOMERULAR FILTRATION RATE IN THE UROLOGIC LITERATURE
Joseph Zabell, MD¹, Grant Larson², Jonathan Koffel, MSI¹, Danni Li, PhD¹, James Kyle Anderson, MD¹, Christopher Weight, MD, MS¹
¹University of Minnesota; ²University of North Dakota School of Medicine and Health Sciences
Presented By: Grant Larson

11:14 a.m.  #31  RECOVERY OF URINARY FUNCTION AFTER ROBOTIC−ASSISTED LAPAROSCOPIC PROSTATECTOMY VERSUS RADICAL PERINEAL PROSTATECTOMY FOR EARLY STAGE PROSTATE CANCER
Kaivan Salehpour, BS¹, Michael Ehler, MD², John Lavin, MD², Larry Sirs, MD³
¹Oakland University William Beaumont School of Medicine; ²Department of Urology, Beaumont Health System, Royal Oak, MI; ³Department of Urology, Beaumont Health System, Royal Oak, MI and Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Kaivan Salehpour
11:18 a.m.  #32 INTRAVESICAL SILVER NITRATE IN THE MANAGEMENT OF HEMORRHAGIC CYSTITIS: A CONTEMPORARY SERIES
Brian Montgomery, MD, Stephen Boorjian, MD, Brian Linder, MD
Mayo Clinic
Presented By: Brian Montgomery

11:22 a.m. - 11:30 a.m.  Q&A

Concurrent Session 3 of 4

10:30 a.m. - 11:30 a.m. Male Infertility/Erectile Dysfunction Podium Session
Location: Talbot F-H
Moderator: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL
Discussant: James M. Dupree, IV, MD, MPH
Ann Arbor, MI

10:30 a.m.  #33 TESTOSTERONE LEVELS FOR YOUNG MEN IN A POPULATION-BASED, NATIONALLY REPRESENTATIVE SURVEY
James Dupree, MD, MPH¹, Chang He¹, Dana Ohl, MD¹, Larry Lipshultz, MD², Aruna Samma, PhD¹
¹University of Michigan; ²Baylor College of Medicine
Presented By: James Dupree IV

10:34 a.m.  #34 WORSENED URINARY STORAGE SYMPTOMS AND DECREASED QUALITY OF LIFE PREDICTS LOW TESTOSTERONE IN MALE CARDIOLOGY PATIENTS
Michael Kottwitz, MD, Randy Sulaver, MD, Georgia Mueller, MS, Kohler Tobias, MD
Southern Illinois School of Medicine
Presented By: Michael Kottwitz

10:38 a.m.  #35 PENILE IMPLANTS: WHY ARE MEN DISSATISFIED?
Tobias Kohler, MD, MPH, Gerard Henry, Anthony Bella, Edward Karpman, Bryan Kansas, Leroy Jones, Nelson Bennett, Mohit Khera, Brian Christine, Will Brant
Southern Illinois University
Presented By: Tobias Kohler

10:42 a.m.  #36 EFFECTS OF AROMATASE INHIBITION WITH ANASTROZOLE ON SPERM AND HORMONAL PARAMETERS IN PATIENTS WITH MALE INFERTILITY
Ryan Dobbs, MD¹, Saturnino Luján, MD², Martin Kathrins, MD¹, Tony Nimeh, MD¹, Laurel Sofer, MD¹, Craig Niederberger, MD¹
¹Department of Urology, University of Illinois at Chicago; ²Department of Urology, IVI Valencia
Presented By: Ryan Dobbs
10:46 a.m. #37 ACHIEVING PREGNANCY IN MEN WITH ISOLATED ASTHENOSPERMIA
Kevin Zeeck, MD, Christopher M. Deibert, MD, MPH, Jay I. Sandlow, MD
Medical College of Wisconsin
Presented By: Kevin Zeeck

10:50 a.m. #38 WITHDRAWN

10:54 a.m. #39 PREVALENCE OF HYPOGONADISM IN VETERANS WITH DEFINITIVELY TREATED LOW-RISK PROSTATE CANCER
Marah Hehemann, MD¹, Abigail Silva, PhD, MPH², Maguy Chiha, MD³, Lily Agrawal, MD, FACE⁴, Ahmer Farooq, DO⁵, Larissa Bresler, MD⁵
¹Loyola University Health System; ²Edward Hines, Jr VA Hospital, Center of Innovation for Complex Chronic Healthcare; ³Loyola University Health System, Division of Endocrinology; ⁴Edward Hines, Jr VA Hospital, Division of Endocrinology; ⁵Loyola University Health System, Department of Urology
Presented By: Marah Hehemann

10:58 a.m. #40 HOW IS DELAYED EJACULATION DEFINED AND TREATED IN NORTH AMERICA?
Daniel Sadowski, MD, MPhil¹, Michael Butcher, DO¹, Charles Welliver, MD², Albert Botchway, PhD¹, Tobias Kohler, MD, MPH¹
¹Southern Illinois University School of Medicine; ²Albany Medical College and Urological Institute of Northeastern New York
Presented By: Daniel Sadowski

11:02 a.m. #41 COMPARATIVE COST-EFFECTIVENESS ANALYSIS OF MODIFIED TWO-LAYER VERSUS FORMAL TWO-LAYER VASOVASOTOMY
Yaw Nyame, MD, MBA, Paurush Babbar, MD, Nima Almassi, MD, Alan Polackwich, MD, Edmund Sabanegh, MD Cleveland Clinic
Presented By: Yaw Nyame

11:06 a.m. #42 FEMALE POST FINASTERIDE SYNDROME: ITS A MANS WORLD
Julia Fiuk, MD¹, Michael Butcher, DO¹, Aye Lwin¹, Bradley Holland¹, Michelle Herberts², Joseph Clemens¹, Kevin McVary¹, Tobias Kohler, MD¹
¹Southern Illinois University, School of Medicine; ²Southern Illinois University, School Of Medicine
Presented By: Julia Fiuk

11:10 a.m. #43 EXAMINING POST–OPERATIVE OUTCOMES AFTER USE OF A SURGICAL ALGORITHM FOR MANAGEMENT OF PEYRONIE’S DISEASE
Dimitri Papagiannopoulos, MD, Emily Yura, BS, Laurence Levine, MD
Rush University Medical Center
Presented By: Dimitri Papagiannopoulos
11:00 a.m. - 11:30 a.m. Benign Prostate Podium Session

**Location:** Talbot E

**Moderators:**
- Lawrence J. Litscher, MD  
  *Dayton, OH*
- Richard A. Memo, MD  
  *Youngstown, OH*

**Discussant:** Kevin T. McVary, MD, FACS  
*Springfield, IL*

11:00 a.m. #44 **DURABLE SYMPTOM IMPROVEMENT AFTER HOLMIUM LASER ENucleATION OF THE PROSTATE: ANALYZING OUTCOMES AT TEN YEARS**

Michael S. Borofsky, MD, Marawan M. El Tayeb, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky

11:04 a.m. #45 **TRANSURETHRAL BIPOLAR ENucleATION OF THE PROSTATE - A NOVEL TECHNIQUE FOR PATIENTS IN URINARY RETENTION**

James Tracey, MD, Jonathan N. Warner, MD
University of Michigan
Presented By: James Tracey

11:08 a.m. #46 **EVALUATION OF SURGICAL EFFECTIVENESS AND SAFETY OF XPS GREENLIGHT LASER: OUTCOMES OF A MULTICENTER RETROSPECTIVE STUDY**

Mahmood Hai, MD, FICS¹, Ricardo R. Gonzales, MD², Gregg R. Eure, MD³, Lewis S. Kriteman, MD⁴, Kevin C. Zorn, MD⁵
¹Comprehensive Urology; ²Methodist Hospital, Houston, TX; ³Urology of Virginia, Virginia Beach, VA; ⁴Georgia Urology, Roswell, GA; ⁵University of Montreal, Canada
Presented By: Mahmood Hai

11:12 a.m. #47 **SIMPLE ROBOTIC ASSISTED LAPAROSCOPIC PROSTATECTOMY FOR THE TREATMENT OF BLADDER OUTLET OBSTRUCTION. A FURTHER MODIFICATION OF TECHNIQUE**

Christopher Knoedler Jr., BA¹, Robert Gaertner, MD²
¹Tulane University School of Medicine; ²Metro Urology
Presented By: Robert Gaertner

11:16 a.m. #48 **WOLF PIRANHA VERSUS LUMENIS VERSACUT PROSTATE MORCELLEATION DEVICES: A PROSPECTIVE, CONTROLLED, RANDOMIZED TRIAL**

Marawan M. El Tayeb, MD, Michael S. Borofsky, MD, Jessica E. Paonessa, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
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<tbody>
<tr>
<td>11:20 a.m.</td>
<td>RANDOMIZED PROSPECTIVE ANALYSIS OF PREOPERATIVE PATIENT EDUCATION USING A 3D VIRTUAL REALITY BPH MODEL Giulia I. Lane, MD, Salah J. El Haddi, Ken Haberman, MD, Kristin Chrouser, MD, MPH, Robert Sweet, MD ¹University of Minnesota; ²VA Medical Center Minneapolis, University of Minnesota Presented By: Giulia Lane</td>
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<tr>
<td>11:25 a.m. - 11:30 a.m.</td>
<td>Q&amp;A</td>
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<tr>
<td>11:30 a.m. - 12:15 p.m.</td>
<td>State of the Art Lecture: Management of Non-muscle Invasive Bladder Cancer Guest Speaker: Sam S. Chang, MD Nashville, TN</td>
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<td>12:15 p.m. - 1:30 p.m.</td>
<td>Industry Satellite Symposium Luncheon Location: Plaza 1</td>
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<tr>
<td>12:15 p.m. - 1:30 p.m.</td>
<td>Industry Satellite Symposium Luncheon Location: Plaza 2</td>
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<tr>
<td>1:30 p.m. - 2:00 p.m.</td>
<td>Panel Discussion: Management of High Risk Prostate Cancer Moderator: Todd M. Morgan, MD Ann Arbor, MI Panelists: Kathleen A. Cooney, MD Ann Arbor, MI Robert C. Flanigan, MD Maywood, IL</td>
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<tr>
<td>2:00 p.m. - 2:45 p.m.</td>
<td>Bladder-Malignant I Podium Session Moderator: Amit Gupta, MD, MPH Iowa City, IA Discussant: Sam S. Chang, MD Nashville, TN</td>
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<tr>
<td>2:00 p.m. #50</td>
<td>COMPETING RISKS OF DEATH FOR PATIENTS FOLLOWING RADICAL CYSTECTOMY Boris Gershman, MD, Matthew Tollefson, MD, Igor Frank, MD, Daniel Moreira, MD, Prabin Thapa MS, Robert Tarrell, MS, R. Houston Thompson, MD, Stephen Boorjian, MD Mayo Clinic Presented By: Boris Gershman</td>
</tr>
</tbody>
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RECEIPT OF INTRAVESICAL THERAPY AND ASSOCIATION WITH PATHOLOGIC AND CLINICAL OUTCOMES AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boris Gershman, MD, Stephen Boorjian, MD, Matthew Tollefson, MD, Daniel Moreira, MD, Prabin Thapa, MS, Robert Tarrell, MS, R. Houston Thompson, MD, Igor Frank, MD
Mayo Clinic
Presented By: Boris Gershman

LONG TERM HEALTH RELATED QUALITY OF LIFE OUTCOMES FOLLOWING RADICAL CYSTECTOMY AND URINARY DIVERSION
Paul Gellhaus, MD, K. Clint Cary, MD MPH, M. Francesca Monn, MD, MPH, Timothy A. Masterson, MD, Thomas A. Gardner, MD, Richard Bihrle, MD, Michael O. Koch, MD
Indiana University
Presented By: Paul Gellhaus

THE ASSOCIATION OF STATIN THERAPY WITH CLINICOPATHOLOGIC OUTCOMES AND SURVIVAL AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boyd Viers, MD, Matthew Tollefson, MD, Ilya Sobol, MD, R. Houston Thompson, MD, Robert Tarrell, Prabin Thapa, R. Jeffrey Karnes, MD, Igor Frank, MD, Stephen Boorjian, MD
Mayo Clinic
Presented By: Boyd Viers

UNDERSTANDING READMISSION AFTER RADICAL CYSTECTOMY: WHAT HAPPENED AFTER DISCHARGE?
Naveen Krishnan¹, Ben Li², Johnathan Helm, PhD³, Chang He, MS⁴, Bruce Jacobs, MD⁴, Sapan Ambani, MD², Brent Hollenbeck, MD², Todd Morgan, MD², Khaled Hafez, MB, BCh², Alon Weizer, MD², Jeffrey Montgomery, MD², Cheryl Lee, MD², Mariel Lavieir, PhD², Ted Skolarus, MD²
¹University of Michigan Medical School; ²University of Michigan; ³University of Indiana; ⁴University of Pittsburgh
Presented By: Naveen Krishnan

THE ASSOCIATION OF ABO BLOOD TYPE WITH DISEASE RECURRENCE AND MORTALITY AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boris Gershman, MD, Matthew Tollefson, MD, Igor Frank, MD, Daniel Moreira, MD, MHS, Prabin Thapa, MS, Robert Tarrell, MS, R. Houston Thompson, MD, Stephen Boorjian, MD
Mayo Clinic
Presented By: Boris Gershman
2:24 p.m. #56 EMETINE DIHYDROCHLORIDE PREFERENTIALLY INHIBITS HIF1α AND HIF2α EXPRESSION IN BLADDER CANCER CELLS
Kimberly Foreman, PhD¹, Deval Patel, BS², Valerie Davidson, BS³, Paul Kuo, MD¹, Robert Flanigan, MD¹, Gopal Gupta¹
¹Loyola Medical Center; ²Stritch School of Medicine
Presented By: Gopal Gupta

2:28 p.m. #57 ADDITION OF INTERLEUKIN-2 AND GRANULOCYTE MACROPHAGE COLONY STIMULATING FACTOR TO BACILLUS CALMETTE-GUERIN (BCG)/INTERFERON IN THE TREATMENT OF BCG FAILURE PATIENTS WITH NON-MUSCLE INVASIVE BLADDER CANCER
Kyla Velaer, BS¹, Ryan L. Steinberg, MD², Lewis J. Thomas, MD², Michael A. O'Donnell, MD², Kenneth G. Nepple, MD²
¹University of Iowa Carver College of Medicine; ²Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Kyla Valaer

2:32 p.m. #58 RESINIFERATOXIN INDUCES NON-APOPTOTIC CELL DEATH IN UROTHELIAL CARCINOMA CELLS
William Herre, MD, Fanghong Chen, PhD, Guanjian Zhang, PhD, Gopit Shah, PhD, William See, MD
Medical College of Wisconsin
Presented By: William Herre

2:36 p.m. #59 SARCOPEGANY ASSESSMENT IN A CYSTECTOMY COHORT
Aeen Asghar, BS¹, Lewis Thomas, MD², Eric Askeland, MD², Mark Newton, MD², Kenneth Nepple, MD²
¹University of Iowa; ²University of Iowa Department of Urology
Presented By: Aeen Asghar

2:40 p.m. - 2:45 p.m. Q&A

2:45 p.m. - 3:05 p.m. AUA Guidelines Update
Speaker: Joshua J. Meeks, MD, PhD
Chicago, IL

3:05 p.m. - 3:30 p.m. Break/Visit Exhibits
Location: Ritz-Carlton Ballroom
Concurrent Sessions Begin

Concurrent Session 1 of 6

3:30 p.m. - 4:30 p.m.  Urinary Incontinence/Neurogenic Bladder Podium Session
Location: Talbot A-D
Moderators: Larry T. Sirls, II, MD
           Royal Oak, MI
           Ajay K. Singla, MD
           Toledo, OH
Discussant: Elizabeth B. Takacs, MD
           Iowa City, IA

3:30 p.m.  #60  THE PROTECTIVE IMPACT OF BODY MASS INDEX ON PRIMARY ARTIFICIAL URINARY SPHINCTER OUTCOMES AMONG MALES WITH STRESS URINARY INCONTINENCE
Boyd Viers, MD, Brian Linder, MD, Marcelino Rivera, MD, Laureano Rangel, Matthew Ziegelmann, MD, Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd Viers

3:34 p.m.  #61  BASELINE RISK CHARACTERISTICS IN 500 CONSECUTIVE PATIENTS WITH POSTOPERATIVE URINARY RETENTION (POUR)
Benjamin Sherer, MD, Peter Tsambarlis, MD, Karl Godlewski, Rebecca Deal, MD, Leslie Deane, MBBS
Rush University Medical Center
Presented By: Benjamin Sherer

3:38 p.m.  #62  LONG TERM CONTINENCE OUTCOMES AND RETREATMENT RATES FOLLOWING ARTIFICIAL URINARY SPHINCTER PLACEMENT: AN ANALYSIS OF 1082 CASES AT MAYO CLINIC
Brian Linder, MD, Matthew Ziegelmann, MD, Marcelino Rivera, MD, Joshua Piotrowski, Daniel Elliott, MD
Mayo Clinic
Presented By: Brian Linder

3:42 p.m.  #63  A COMPARISON OF ARTIFICIAL URINARY SPHINCTER DEVICE OUTCOMES AMONG PATIENTS WITH AND WITHOUT DIABETES
Boyd Viers, MD, Brian Linder, MD, Marcelino Rivera, MD, Laureano Rangel, Matthew Ziegelmann, MD, Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd Viers
3:46 p.m.  #64  CONSISTENT LONG-TERM SAFETY AND
EFFICACY OF ONABOTULINUMTOXINA FOR
NEUROGENIC DETRUSOR OVERACTIVITY IN
PATIENTS WHO COMPLETED 4 YEARS OF
TREATMENT
Sender Herschorn, MD¹, Eric Rovner, MD², Alfred Kohan, MD³,
Emmanuel Chartier-Kastler, MD⁴, Klaus-Peter Juenemann, MD⁵,
Giulio Del Popolo, MD⁶, Tamer Aboushwareb, MD, PhD⁷,
Quanhong Ni, PhD⁸, Victor Nitti, MD⁹
¹University of Toronto; ²Medical University of South Carolina,
Charleston, SC, USA; ³Advanced Urology Centers of New
York, Bethpage, NY, USA; ⁴Pitié-Salpêtrière Academic
Hospital, University Paris 6, Paris, France; ⁵Klinik für
Urologie und Kinderurologie, Universitätsklinikum Schleswig-
Holstein, Kiel, Germany; ⁶Careggi University Hospital,
Florence, Italy; ⁷Allergan, Inc., Irvine, CA, USA; ⁸Allergan,
Inc., Bridgewater, NJ, USA; ⁹New York University School of
Medicine, New York, NY, USA
Presented By: Tamer Aboushwareb

3:50 p.m.  #65  PREDICTORS OF LONGTERM SACRAL NERVE
STIMULATION (SNS) FAILURES
Kevin Zeeck, MD, Morgan Schubbe, BS, Robert O’Connor,
MD, Michael Guralnick, MD
Medical College of Wisconsin
Presented By: Kevin Zeeck

3:54 p.m.  #66  ONABOTULINUMTOXINA REDUCES URINARY
INCONTINENCE AND URGENCY AND IMPROVES
QUALITY OF LIFE IN PATIENTS WITH
OVERACTIVE BLADDER REGARDLESS OF
INCONTINENCE SEVERITY AT BASELINE
Courtenay Moore¹, Marcus Drake, MD², David Ginsberg,
MD³, Jennifer Gruenenfelder, MD⁴, Albert Kaufmann, MD⁵,
Tamer Aboushwareb, MD, PhD⁶, Andrew Magyar, PhD⁷,
Sender Herschorn, MD⁸
¹Cleveland Clinic; ²Bristol Urological Institute, Bristol, United
Kingdom; ³USC Institute of Urology, Los Angeles, CA, USA;
⁴Orange County Urology Associates, Laguna Hills, CA, USA;
⁵Kliniken Maria Hilf GmbH, Mönchengladbach, Germany;
⁶Allergan, Inc, Irvine, CA, USA; ⁷Allergan, Inc, Bridgewater,
NJ, USA; ⁸University of Toronto, Toronto, Ontario, Canada
Presented By: Courtenay Moore

3:58 p.m.  #67  OSSABAW PIG AS A LARGE ANIMAL MODEL
FOR HYPOACTIVE DETRUSOR IN METABOLIC
SYNDROME PILOT STUDY
CR Powell, MD¹, Albert Kim, MS², Mouhamad Alloosh, MD³,
Babak Ziaie, PhD², Mike Sturek, PhD³
¹Indiana University School of Medicine, Department of
Urology; ²Purdue University Biomedical Engineering;
³Indiana University Department of Cellular and Integrative
Physiology
Presented By: Charles Powell II
4:02 p.m.       #68  NATURAL HISTORY OF NEUROGENIC BLADDER IN ADULTS WITH CEREBRAL PALSY
Katherine Cotter, MD¹, Robert Goldfarb, MD², Daniel Liberman, MD², Yunhua Fan, Sean Elliott, MD²
¹University of Minnesota Urology Department; ²University of Minnesota
Presented By: Katherine Cotter

4:06 p.m.       #69  WITHDRAWN

4:10 p.m.       #70  OUTCOMES OF SACRAL NEUROMODULATION IN PATIENTS WITH PRIOR SURGICAL TREATMENT OF STRESS URINARY INCONTINENCE AND PELVIC ORGAN PROLAPSE
Verity Ramirez, MSIII¹, Jamie Bartley, DO², Kim Killinger, MSN³, Judy Bours, MS³, Priyanka Gupta, MD³
¹Oakland University William Beaumont School of Medicine, Rochester, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI; Beaumont Health System, Royal Oak, MI; ³Beaumont Health System, Royal Oak, MI
Presented By: Verity Ramirez

4:14 p.m.       #71  VARIATION IN DEFINITIONS OF URINARY TRACT INFECTION IN SPINAL CORD INJURY PATIENTS: A SYSTEMATIC REVIEW
Yahir S. Lastra, MD, Anne P. Cameron, MD
University of Michigan
Presented By: Yahir Santiago-Lstra

4:18 p.m.       #72  DURABLE IMPROVEMENTS IN URINARY INCONTINENCE AND POSITIVE TREATMENT RESPONSE IN PATIENTS WITH OVERACTIVE BLADDER SYNDROME FOLLOWING LONG−TERM ONABOTULINUMTOXINA TREATMENT: FINAL RESULTS OF 3.5−YEAR STUDY
Peter Sand¹, Sidney Radomski², Dirk De Ridder³, David Sussman⁴, Karl-Dietrich Sievert⁵, Christopher Chapple⁶, Charles Pignataro⁷, Yan Zheng⁷, Victor Nitti⁸
¹Evanston Continence Center; ²University of Toronto; ³University Hospitals KU Leuven; ⁴Rowan University School of Osteopathic Medicine; ⁵University of Luebeck; ⁶Royal Hallamshire Hospital; ⁷Allergan, Inc.; ⁸New York University
Presented By: Peter Sand

4:22 p.m. - 4:30 p.m.  Q&A
Concurrent Session 2 of 6

3:30 p.m. - 4:30 p.m. Endourology/Stone Disease I Podium Session

Location: Talbot E
Moderator: Jeffrey A. Triest, MD
Detroit, MI
Discussant: Amy E. Krambeck, MD
Rochester, MN

3:30 p.m. #73 NATURAL HISTORY OF RESIDUAL FRAGMENTS FOLLOWING URETEROSCOPIC STONE EXTRACTION
Cameron Charchenko, MD¹, Courtney Yong, MS-3², Bodo Knudsen, MD², Amy Krambeck, MD¹
¹Mayo Clinic; ²Ohio State University
Presented By: Cameron Charchenko

3:34 p.m. #74 MANAGEMENT OF FAILED PYEOPLASTY: A RETROSPECTIVE REVIEW OF 43 PATIENTS.
Ryan Swearingen, MD, Sapan N. Ambani, MD, Gary J. Faerber, MD, David A. Bloom, MD, J. Stuart Wolf, MD
University of Michigan
Presented By: Ryan Swearingen

3:38 p.m. #75 ULTRA-LOW DOSE CT IS INFERIOR TO STANDARD DOSE CT FOR EMERGENCY ROOM RENAL COLIC PATIENTS
Jason Wynberg, MD¹, Christopher Atalla, DO¹, Esther Han, DO¹, Richard Santucci, MD¹, Ibraheem Malkawi, MD¹,
Michael Kruger², Brian O'Neil, MD³
¹Dept of Urology, Detroit Medical Center; ²Dept of Statistics, Wayne State University; ³Dept of Emergency Medicine, Wayne State University
Presented By: Christopher Atalla

3:42 p.m. #76 PROCALCITONIN: A HIGHLY SPECIFIC PREDICTOR OF INFECTION AND SEPSIS IN THE SETTING OF ACUTE OBSTRUCTIVE URETEROLITHIASIS
Dimitri Papagiannopoulos, MD, Patrick Whelan, MD,
Waseem Ahmad, BS, James Rybak, MD, Dino Rumoro, MD,
Leslie Deane, MD, Ajay Nehra, MD
Rush University Medical Center
Presented By: Dimitri Papagiannopoulos

3:46 p.m. #77 OUTCOMES OF URETEROSCOPIC STONE TREATMENT IN SPINAL CORD INJURED PATIENTS
Duncan R. Morhardt, MD/PhD, J. Stuart Wolf, Jr., MD, Gary J. Faerber, MD, William W. Roberts, MD, John T. Stoffel,
MD, He Chang, MS, Anne P. Cameron, MD
University of Michigan Health System
Presented By: Duncan Morhardt
3:50 p.m.  #78  UPPER TRACT UROTHELIAL CARCINOMA: PARADIGM SHIFT IN RECURRENCE AND TREATMENT MODALITIES  Julia Fiuk, MD, Josh Ring, MD, Brad Schwartz, DO, FACS  Southern Illinois University, School of Medicine  Presented By: Julia Fiuk

3:54 p.m.  #79  PERCUTANEOUS NEPHROLITHOTOMY IN PATIENTS WITH SPINAL CORD NEUROPATHY: A CONTEMPORARY SERIES  Julia Fiuk, MD, Josh Ring, MD, Brad Schwartz, DO, FACS  Southern Illinois University, School of Medicine  Presented By: Julia Fiuk

3:58 p.m.  #80  ADHERENCE RATES FOR SELECTIVE MEDICAL THERAPY AMONG PATIENTS WITH KIDNEY STONES  Yooni Yi, MD¹, Casey Dauw, MD², Maggie Bierlein¹, AF Alruwaily, MBChB, Khurshid Ghani, MBChB, J. Stuart Wolf, MD², John Hollingsworth, MD² ¹University of Michigan; ²University of Michigan Department of Urology  Presented By: Yooni Yi

4:02 p.m.  #81  CONSEQUENCES OF NON-ADHERENCE TO SELECTIVE MEDICAL THERAPY AMONG PATIENTS WITH KIDNEY STONES  Casey Dauw, Yooni Yi, MD, Maggie Bierlein, MS, Abdul Alruwaily, MBChB, Khurshid Ghani, MBChB, J. Stuart Wolf, Jr., MD, John Hollingsworth, III, MD  University of Michigan  Presented By: Casey Dauw

4:06 p.m.  #82  URIC ACID UROLITHIASIS AND THE METABOLIC SYNDROME: INDEPENDENT ASSOCIATION WITH GLOMERULAR FILTRATION RATE  Adam Kadlec, MD¹, Arpeet Shah, MD², Christopher Haydek, MD², Thomas Turk, MD² ¹Loyola University Medical Center; ²Loyola  Presented By: Adam Kadlec

4:10 p.m.  #83  HOW MUCH INFORMATION IS LOST WHEN ONLY ONE 24–HOUR URINE IS COLLECTED AS PART OF THE INITIAL METABOLIC EVALUATION?  Abdul Alruwaily, MBChB¹, Casey Dauw¹, Maggie Bierlein, MS¹, John Asplin, MD², Khurshid Ghani, MBChB¹, J. Stuart Wolf, Jr., MD¹, John Hollingsworth, MD,MS¹ ¹University of Michigan; ²Litholink, Laboratory Corporation of America  Presented By: Casey Dauw
THE NATURAL HISTORY OF ASYMPTOMATIC RENAL STONES: A SYSTEMATIC REVIEW AND META ANALYSIS
Khurshid Ghani, MD, Abdulrahman Alruwaily, MD, Mary Rogers, PhD, Maggie Bierlein, MS, Whitney Townsend, MS, Casey Dauw, MD, J. Stuart Wolf, Jr., MD, John Hollingsworth, MD
University of Michigan
Presented By: Khurshid Ghani

METABOLIC SYNDROME INCREASES RISK OF POSTOPERATIVE MYOCARDIAL INFARCTION FOLLOWING PERCUTANEOUS NEPHROLITHOTOMY
Robert Blackwell, MD¹, Petar Bajic, MD¹, Kristin Greco, MD¹, Anai Kothari, MD², Paul Kuo, MD, MBA², Thomas Turk, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Department of Surgery, Maywood, IL
Presented By: Petar Bajic

EFFICIENCY, SATISFACTION AND COSTS OF REMOTE VIDEO−VISITS IN UROLOGY: A RANDOMIZED CONTROLLED TRIAL
Boyd Viers, MD, Deborah Lightner, Marcelino Rivera, Matthew Tollefson, Stephen Boorjian, R. Jeffrey Karnes, R. Houston Thompson, Daniel O'Neil, Rachel Hamilton, Matthew Gardner, Mary Bundrick, Sandhya Pruthi, Sarah Jenkins, Igor Frank, Matthew Gettman
Mayo Clinic
Presented By: Boyd Viers

IMPACT OF APOLOGY LAWS ON LITIGATION LENGTH
Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley, MS, Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: Patrick McKenna
INDEMNITY PAYMENTS BASED ON SEVERITY OF PATIENT INJURY IN CLOSED UROLOGIC MALPRACTICE CLAIMS
Benjamin Sherer, MD, Christopher Coogan, MD
Rush University Medical Center
Presented By: Benjamin Sherer

IMPACT OF USING MEDICAL SCRIBES IN AN ACADEMIC UROLOGY PRACTICE
John Stoffel, MD, Tracy Troilan, BS, Bahaa Malaeb, MD, Ann Oldendorf, MD, Quentin Clemens, MD, Malissa Eversole, MS
University of Michigan
Presented By: John Stoffel

DETERMINING RESIDENT SLEEP DURING AND AFTER CALL WITH COMMERCIAL SLEEP MONITORING DEVICES
Duncan Morhardt, MD, PhD, Amy Luckenbaugh, MD, Cathy Goldstein, MD, MS, Julian Wan, MD, Gary Faerber, MD
University of Michigan
Presented By: Amy Luckenbaugh

USMLE STEP 1 SCORES AS A PREDICTOR OF RESIDENT PERFORMANCE ON SUBSEQUENT UROLOGY IN-SERVICE EXAMINATIONS
Luke Edwards, MD, Jay Hollander, MD, Mike Ehlert, MD, Ken Peters, MD
Beaumont Urology
Presented By: Luke Edwards

IMPACT OF TORT REFORM ON LOSSES INCURRED BY MALPRACTICE INSURERS
Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley, MS, Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: Patrick McKenna

USING LEAN METHODOLOGY FOR PATIENT CALL CENTER IMPROVEMENT AT AN ACADEMIC UROLOGY CLINIC
Thomas Tieu, MD¹, Bradford Stevenson, MD¹, Teri Baldini, RN¹, Tobias Kohler, MD, MPH¹, Chris Gonzalez, MD, MBA², Kevin McVary, MD¹
¹Southern Illinois University SOM; ²Northwestern Feinberg SOM
Presented By: Thomas Tieu

TRENDS IN THE DELIVERY OF UROLOGIC PROCEDURAL CARE BY ADVANCED PRACTICE PROVIDERS
Matt Uhlman, MD, MBA¹, Thomas Gruca, PhD, MBA², Bradley Erickson, MD, MS³
¹Iowa; ²University of Iowa, College of Business; ³University of Iowa
Presented By: Matthew Uhlman
4:06 p.m.       #95  A COMPARISON OF WAIT TIMES FOR TRANSURETHRAL RESECTION OF BLADDER TUMORS BETWEEN ACADEMIC AND PRIVATE PRACTICES UTILIZING THE SAME FACILITIES
Nathaly François, MD¹, Charles Welliver, MD², Bradley Holland¹, Danuta Dynda, MD³, Kristin Delfino, PhD³, Thomas Baron, MD³, Tobias Köhler, MD³
¹Southern Illinois University School of Medicine; ²Urological Institute of Northeastern New York; ³Springfield Clinic
Presented By: Nathaly Francois

4:10 p.m.       #96  HEALTH LITERACY IN THE NEPHROLITHIASIS POPULATION
Luke R. Frederick, MD, Bradley Schwartz, DO
SIU School of Medicine
Presented By: Luke R. Frederick

4:14 p.m.       #97  INVESTIGATING THE ETIOLOGY OF KIDNEY CANCER DISPARITIES IN ILLINOIS
Daniel Sadowski, MD, MPhil, Georgia Mueller, MS, Whitney Zahnd, MS, Shaheen Alaneel, MD, MPH, Kevin McVary, MD
Southern Illinois University School of Medicine
Presented By: Daniel Sadowski

4:18 p.m.       #98  UTILIZATION AND OUTCOMES OF INPATIENT UROLOGICAL CARE AT SAFETY NET HOSPITALS
Lindsey Herrel, MD, Zaojun Ye, MS, David Miller, MD, MPH
University of Michigan
Presented By: Lindsey Herrel

4:22 p.m. - 4:30 p.m.  Q&A

Concurrent Session 4 of 6

4:30 p.m. - 5:30 p.m.  Prostate Malignant Poster Session
*Location: Santa Maria 1*
Moderators: Amit Gupta, MD, MPH
            Iowa City, IA
            Kamal S. Pohar, MD
            Columbus, OH

Posters:

**Poster #1**
LIPID LEVELS IN AN ACTIVE SURVEILLANCE POPULATION
Andrew Cohen, MD¹, Brittany Lapin², Chi Wang², Brian Helfand², Kristian Novakovic²
¹University of Chicago; ²Northshore University HealthSystem
Presented By: Andrew Cohen

**Poster #2**
PROSTATE MRI HAS A SIGNIFICANT IMPACT ON THE DECISION ON WHETHER OR NOT TO BIOPSY: RESULTS OF AN INTERNATIONAL SURVEY
Connor Rittwage, MPH, Barbara Saltzman, PhD, MPH, Samay Jain, MD
University of Toledo Medical Center
Presented By: Connor Rittwage
Poster #3

PSYCHOSOCIAL FACTORS ASSOCIATED WITH EPIC SEXUAL DOMAIN SCORES IN LONG−TERM PROSTATE CANCER SURVIVORS

Alexander M. Helfand, BA¹, Ted A. Skolarus, MD, MPH², Sarah T. Hawley, PhD, MPH³, Chang He, MS⁴, May Darwish−Yassine, PhD⁵, Daniela Wittmann, PhD, LMSW⁶
¹Department of Urology, Dow Division of Health Services Research, University of Michigan, Ann Arbor, MI; ²Dow Division of Health Services Research, Department of Urology, University of Michigan, Ann Arbor, MI; VA Center for Clinical Management Research, VA Ann Arbor Healthcare System, Ann Arbor, MI; ³Department of Internal Medicine, Division of General Medicine, University of Michigan, Ann Arbor, MI; VA Health Services Research and Development, VA Ann Arbor Healthcare System, Ann Arbor, MI; ⁴Dow Division of Health Services Research, Department of Urology, University of Michigan, Ann Arbor, MI; ⁵Cancer Control Services Program, Michigan Public Health Institute, Okemos, MI; ⁶Department of Urology, University of Michigan, Ann Arbor, MI; Department of Social Work, University of Michigan, Ann Arbor, MI
Presented By: Alexander Helfand

Poster #4

MANAGEMENT OF SYMPTOMATIC LYMPHOCELES DEPENDS ON SIZE AND PRESENCE OF INFECTION

Ilya Sobol, MD, Christina Ogle, MD, Igor Frank, MD, Stephen Boorjian, MD, Mathew Tollefson, MD
Mayo Clinic
Presented By: Ilya Sobol

Poster #5

COMPOSITE AMNIOTIC TISSUE MEMBRANE (AMNIOFIX) AND ITS EFFECT ON EARLY RECOVERY OF ERECTILE FUNCTION POST ROBOTIC ASSISTED RADICAL PROSTATECTOMY (RARP)

Christopher Knoedler, Jr., BA¹, Robert Gaertner, MD²
¹Tulane Medical School; ²Metro Urology
Presented By: Robert Gaertner

Poster #6

LOW PREOPERATIVE SERUM TOTAL TESTOSTERONE IS ASSOCIATED WITH HIGH−GRADE GLEASON SCORE PROSTATE CANCER.

Sriram Eleswarapu, MD, PhD, Akshay Sood, MD, Mireya Diaz, PhD, Mani Menon, MD, Ali Dabaja, MD
Vattikuti Urology Institute, Henry Ford Health System
Presented By: Sriram Eleswarapu
Poster #7

VALIDATION OF AN ACTIVE SURVEILLANCE THRESHOLD FOR THE CCP SCORE IN CONSERVATIVELY MANAGED MEN WITH LOCALIZED PROSTATE CANCER

Jack Cuzick¹, Steven Stone, PhD², Gabrielle Fisher, PhD¹, Bernard North, PhD¹, Daniel M. Berney, FRCP(Path)³, Luis Beltran, RGC⁴, David C. Greenberg, PhD⁴, Henrik Moller, MD⁵, Julia E. Reid, MStat⁶, Alexander Gutin, PhD², Jerry S. Lanchbury, PhD², Michael K. Brawer, MD⁶, Peter T. Scardino, MD, FACS⁷

¹Wolfson Institute of Preventive Medicine, Queen Mary University of London; ²Myriad Genetics, Inc.; ³Barts Cancer Institute; ⁴National Cancer Registration Service, Public Health England; ⁵King's College London; ⁶Myriad Genetic Laboratories, Inc.; ⁷Memorial Sloan-Kettering Cancer Center

Presented By: Jack Cuzick

Poster #8

PATIENT AUA RISK CLASSIFICATION BASED ON COMBINED CLINICAL CELL CYCLE RISK (CCR) SCORE

Jack Cuzick¹, Steven Stone, PhD², Julia E. Reid, MStat⁶, Gabrielle Fisher, PhD¹, Henrik Moller, MD³, Michael K. Brawer, MD⁴, Peter T. Scardino, MD, FACS⁵, Neal Shore, MD⁶

¹Wolfson Institute of Preventive Medicine, Queen Mary University of London; ²Myriad Genetics, Inc.; ³King's College London; ⁴Myriad Genetic Laboratories, Inc.; ⁵Memorial Sloan-Kettering Cancer Center; ⁶Carolina Urologic Research Center

Presented By: Jack Cuzick

Poster #9

SIGNIFICANT REDUCTION IN THERAPEUTIC BURDEN FROM USE OF CCP TEST IN TREATMENT DECISIONS AMONG NEWLY DIAGNOSED PROSTATE CANCER PATIENTS IN A LARGE PROSPECTIVE REGISTRY

Neal Shore, MD¹, Judd Boczko, MD², Naveen Kella, MD³, Brian J. Moran, MD⁴, Fernando J. Bianco, MD⁵, E. David Crawford, MD⁶, Thaylon Davis, BS⁷, Rajesh Kaldate, MS⁷, Kirstin M. Roundy, MS⁷, Michael K. Brawer, MD⁷, Mark L. Gonzalgo, MD, PhD⁸

¹Carolina Urologic Research Center; ²WESTMED Medical Group; ³The Urology and Prostate Institute; ⁴Prostate Cancer Foundation of Chicago; ⁵Urological Research Network; ⁶University of Colorado Health Science Center; ⁷Myriad Genetic Laboratories, Inc.; ⁸University of Miami Miller School of Medicine

Presented By: Neal Shore
Poster #10
ANATOMIC VARIABLES OF THE PELVIC FLOOR IDENTIFIED ON MAGNETIC RESONANCE IMAGING: IMPACT ON EARLY URINARY CONTINENCE RECOVERY POST–RADICAL PROSTATECTOMY
Jose Flores, MD, Ayman Soubra, MD, Travis Pagliara, MD, Isaac Palma, Neil Wasserman, MD, Stephanie Jarosek, PhD, Christopher Warlick, MD, Christopher J. Weight, MD, Nissrine Nakib, MD, Badrinath Konety, MD
University of Minnesota
Presented By: Jose Flores

Concurrent Session 5 of 6

4:30 p.m. - 5:30 p.m.  Adrenal/Kidney/Ureter/Bladder Poster Session
Location: Director's Room
Moderators: R. Houston Thompson, MD
Rochester, MN
Christopher M. Gonzalez, MD, MBA, FACS
Cleveland, OH

Poster #11
POST–OPERATIVE COMPLICATIONS COMPARING ROBOT ASSISTED VERSUS OPEN PARTIAL NEPHRECTOMY: A PROPENSITY SCORE MATCHED PAIRED ANALYSIS
Christian Tabib, BS, Clinton Bahler, MD, Jason Sea, MD, Rudolph Bowens, MD, Jagan Kansal, MD, MBA, Liang Cheng, MD, Richard Bihrle, MD, Thomas Gardner, MD, Chandru Sundaram, MD
Indiana University
Presented By: Clinton Bahler

Poster #12
VENOUS THROMBOEMBOLISM FOLLOWING NEPHRECTOMY: THIRTY DAY INCIDENCE AND RISK FACTORS FROM NATIONAL MULTI–INSTITUTIONAL DATA
Richard Matulewicz, MS, MD, Channa Amarasekera, MD, Yousef Al-Shraideh, MD, Irene Helenowski, PhD, Borko Jovanovic, PhD, Shilajit Kundu, MD
Northwestern University Feinberg School of Medicine
Presented By: Richard Matulewicz

Poster #13
WITHDRAWN

Poster #14
RELIABILITY OF THE RENAL NEPHROMETRY SCORING SYSTEM AMONG RADIOLOGISTS
Natalie Singer, MD¹, Lena Gowharji, MD², Haitham Elsamaloty, MD², Samay Jain, MD², Terrence Lewis, MD², Robert Coombs, MD², Khaled Shahrour, MD²
¹University of South Carolina; ²University of Toledo
Presented By: Khaled Shahrour

Poster #15
APPLICATION OF LONG ACTING PAI-1 DURING SUTURELESS PARTIAL NEPHRECTOMY IN MICE
Khaled Shahrour, MD, Rick Keck, BSc, Jerzy Jankun, PhD
University of Toledo
Presented By: Khaled Shahrour
Poster #16  EVALUATING FOUR METHODS FOR CALCULATING RENAL PARENCHYMAL VOLUME LOSS AFTER PARTIAL NEPHRECTOMY
Clinton Bahler, MD, Hitesh Dube, BS, Kevin Flynn, BS, David Yang, BS, Ryan Zipper, BS, Matthew Tellman, BS, Chandra Flack, BS, Ronald Boris, MD, Kumar Sandrasegaran, MD, Chandru Sundaram, MD
Indiana University
Presented By: Clinton Bahler

Poster #17  ASSESSING THE ACCURACY OF RENAL MASS BIOPSY: ACHIEVING THE PATHOLOGIC “TRIFECTA”
Joshua Roth, MD, Chandra Flack, MD, Aashish Patel, MD, Ronald Boris, MD
Indiana University
Presented By: Joshua Roth

Poster #18  NONTROPICAL CHYLURIA AFTER PARTIAL NEPHRECTOMY: A FREQUENTLY MISSED DIAGNOSIS
Benjamin Sherer, MD, John Richgels, Kaitlyn Weidenbach, MD, John Hibbeln, MD, Kalyan Latchamsetty, MD, Christopher Coogan, MD, Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Benjamin Sherer

Poster #19  DURABILITY OF STOMAL REVISIONS OF CATHETERIZABLE CHANNELS
Travis Pagliara, MS Fin, MD, Daniel Liberman, MD, Sean Elliott, MD
University of Minnesota
Presented By: Travis Pagliara

Poster #20  SUB-NOXIOUS INTRAVESICAL LPS INDUCES BLADDER INFLAMMATION, PELVIC PAIN AND VOIDING DYSFUNCTION IN URO-OVA/OT-I MICE: A MAPP RESEARCH NETWORK ANIMAL MODEL STUDY
Paul Kogan, MD¹, Suming Xu, MS¹, Pengchao Li, MD², Michael A. O'Donnell, MD¹, Susan Lutgendorf, MD¹, Catherine S. Bradley, MD¹, Karl J. Kreder, MD¹, Yi Luo, MD, PhD¹
¹University of Iowa Hospitals and Clinics; ²First Affiliated Hospital with Nanjing Medical University
Presented By: Paul Kogan

Poster #21  INTRAVESICAL FORMALIN FOR HEMORRHAGIC CYSTITIS: A CONTEMPORARY COHORT
Matthew Ziegelmann, MD, Stephen Boorjian, MD, Daniel Joyce, Brian Montgomery, MD, Brian Linder, MD
Mayo Clinic Rochester
Presented By: Matthew Ziegelmann
Poster #22  ANTIBIOTIC PROPHYLAXIS PRIOR TO SIMPLE OFFICE CYSTOURETHROSCOPY: IS THE AUA BEST PRACTICE STATEMENT TOO STRINGENT?
Patrick Cockerill, MD, Cameron Charchenko, MD, Deborah Lightner, MD, Igor Frank, MD
Mayo Clinic
Presented By: Patrick Cockerill

Poster #23  NATIVE NEPHRECTOMY WITH RENAL TRANSPLANTATION DECREASES HYPERTENSION MEDICATION REQUIREMENTS IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE IMPROVES QUALITY OF LIFE
Ethan Ferguson, BS, Clinton Bahler, MD, Chandru Sundaram, MD
Indiana University
Presented By: Clinton Bahler

Poster #24  NOVEL USE OF DUAL ENERGY CT IN GUIDING TREATMENT OF COMPLEX RENAL CYSTS
Julia Fiuk, MD, Shaheen Alanee, MD, Aye Lwin, BA, Brad Schwartz, DO, FACS
Southern Illinois University, School of Medicine
Presented By: Julia Fiuk

Poster #25  INJECTION OF LIDOCAINE, TRIAMCINOLONE, HEPARIN, AND GENTAMICIN SOLUTION INTO THE SUBMUCOSAL LAYER OF THE BLADDER TO TREAT PATIENTS WITH INTERSTITIAL CYSTITIS
Jose Flores, MD, Travis Pagliara, MD, Isaac Palma, Nissrine Nakib, MD
University of Minnesota
Presented By: Jose Flores

Poster #26  UTILITY OF PRE-CRYOABLATION URETERAL STENTING AND PYELOPERFUSION FOR TREATMENT OF RENAL MASSES
Ilya Sobol, MD, Thomas Atwell, MD, Stephen Boorjian, MD, John Knoedler, MD, Grant Schmit, MD, Anil Kurup, MD, John Schmitz, MD, Bradley Leibovich, MD, R.H. Thompson, MD
Mayo Clinic
Presented By: Ilya Sobol
Concurrent Session 6 of 6

4:30 p.m. - 5:30 p.m. **Pediatrics Poster Session**

*Location: Santa Maria 2*

**Moderators:** Emilie K. Johnson, MD, MPH       
Chicago, IL  
Alison Keenan, MD       
Madison, WI

**Poster #27**  
**PREOPERATIVE TESTOSTERONE USE AND RISK OF COMPLICATIONS AFTER PRIMARY HYPOSPADIAS REPAIR**  
Mark Faasse, MD, Bruce Lindgren, MD, Emilie Johnson, MD, Max Maizels, MD, Diana Bowen, MD, Antonio Chaviano, MD, Earl Cheng, MD, Edward Gong, MD, William Kaplan, MD, Dennis Liu, MD, Elizabeth Yerkes, MD  
Ann & Robert H. Lurie Children's Hospital of Chicago  
Presented By: Mark Faasse

**Poster #28**  
**PREPARING ADULT UROLOGISTS TO CARE FOR PEDIATRIC PATIENTS**  
Kristina Suson, MD, Cortney Wolfe-Christensen, PhD, Deborah McWilliams, MSN, RN, CPNP, Patricia Beierwaltes, DNP, RN, CPNP, Yegappan Lakshmanan, MD  
Children's Hospital of Michigan  
Presented By: Kristina Suson

**Poster #29**  
**THE ANGIOGENIC SIGNALING MOLECULE CYR61 INDUCES INCREASED NEO- VASCULARIZATION IN REGENERATED BLADDER TISSUE**  
Jessica Hannick, MD¹, Devon Snow-Lisy, MD², Edward Diaz, MD², Matthew Bury², Natalie Fuller², Nida Ahmad³, Arun Sharma, PhD⁴  
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; ³Loyola University; ⁴Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; Northwestern University Feinberg School of Medicine, Department of Urology; Northwestern University, Simpson Querrey Institute for BioNanotechnology  
Presented By: Jessica Hannick

**Poster #30**  
**TRENDS IN THE TREATMENT OF PEDIATRIC NEPHROLITHIASIS: ANALYSIS OF A POPULATION BASED COHORT FROM OHIO**  
Emily Slopnick, MD, Jonathan Kiechle, MD, Robert Abouassaly, MD, Simon Kim, MD, Jonathan Ross, MD, Shan Dong, MD, Lynn Woo, MD  
Case Western Reserve University  
Presented By: Emily Slopnick

**Poster #31**  
**CONTRALATERAL HYDROCELE REPAIR. TO LOOK OR NOT TO LOOK?**  
Alison Keenan, MD, Benjamin Whittam, MD, MS, William Bennett, MD, Aaron Carroll, MD, MS, Richard Rink, MD  
Indiana University Health  
Presented By: Alison Keenan
Poster #32  EVOLVING TRENDS IN PEDIATRIC NEPHROLITHIASIS
Kristina Suson, MD¹, Cortney Wolfe-Christensen, PhD¹, Larisa Kovacevic, MD¹, Jack Elder, MD², Yegappan Lakshmanan, MD¹
¹Children's Hospital of Michigan; ²Henry Ford Health Systems
Presented By: Kristina Suson

Poster #33  INFANT VERSUS PEDIATRIC ROBOTIC-ASSISTED LAPAROSCOPIC PYELOPLASTY: ARE OUTCOMES DIFFERENT?
Russell Becker, PhD, Prithvi Murthy, Mohan Gundeti, MD
University of Chicago
Presented By: Russell Becker

Poster #34  ULTRASONOGRAPHY FOR PEDIATRIC NEPHROLITHIASIS: DOES TWINKLING OR SHADOWING IMPROVE ACCURACY?
Ruthie Su, MD, Jie Nguyen, MD
University of Wisconsin School of Medicine and Public Health
Presented By: Ruthie Su

Poster #35  NATIONAL TRENDS IN PEDIATRIC TOTAL AND PARTIAL NEPHRECTOMY
M Francesca Monn, MD, MPH, Alison Keenan, MD, Benjamin Whittam, MD
Indiana University School of Medicine Department of Urology
Presented By: M. Francesca Monn

Poster #36  CHARGE COMPARISON BETWEEN OPEN AND VESICOSONOCOPIC INTRAVESICAL BILATERAL URETERAL REIMPLANTATION FOR PRIMARY VESICO–URETERAL REFLUX
Janae Preece, MD, Venkata Jayanthi, MD
Nationwide Children's Hospital
Presented By: Janae Preece

Poster #37  HOSPITAL-ACQUIRED URINARY TRACT INFECTIONS IN NEONATAL ICU PATIENTS: IS VOIDING CYSTOURETHROGRAM NECESSARY?
Aeen M. Asghar, Christopher S. Cooper, Douglas W. Storm, Angela M. Arlen, MD
University of Iowa Hospitals & Clinics
Presented By: Angela Arlen

Poster #38  CYCLICAL VOMITING IN CHILDREN: SHOULD A RENAL ULTRASOUND BE PART OF THE EVALUATION?
W. Robert DeFoor, MD¹, Abbey Franklin, PA-C¹, Lindsay Derus, DO², Paul Noh, MD¹, Pramod Reddy, MD¹, Eugene Minevich, MD¹
¹CCHMC; ²UCMC/CCHMC
Presented By: Lindsay Derus
Poster #39

URETERAL STENTING IN THE PEDIATRIC POPULATION: PRE-OPERATIVE VARIABLES ASSOCIATED WITH URETERAL STENTING AND CORRELATIONS TO SUBSEQUENT STONE PROCEDURES. MELISSA ST.AUBIN, MD; DANE JOHNSON, MD; RUTH SWEDLER; LISA REIN; ANIKO SZABO, PHD; TRAVIS GROTH, MD
Melissa St.Aubin, MD¹, Dane Johnson, MD², Ruth Swedler, MS³, Lisa Rein, MS⁴, Aniko Szabo, PhD⁴, Travis Groth, MD³
¹Medical College of Wisconsin/Children's Hospital of Wisconsin; ²Medical college of Wisconsin Urology Department; ³Children's Hospital of Wisconsin Urology Department; ⁴Medical College of Wisconsin Biostatistics Department
Presented By: Melissa St. Aubin

Concurrent Sessions End

THURSDAY, NOVEMBER 12, 2015

OVERVIEW

7:15 a.m. - 1:30 p.m. Registration/Information Desk Hours
Location: Talbot Registration Desk

7:15 a.m. - 1:30 p.m. Speaker Ready Room Hours
Location: Magnolia

7:30 a.m. - 8:30 a.m. Breakfast
Location: Ritz-Carlton Ballroom

7:30 a.m. - 11:00 a.m. Spouse/Guest Hospitality Suite
Location: Seaside

7:30 a.m. - 12:00 p.m. Exhibit Hall Hours
Location: Ritz-Carlton Ballroom

8:00 a.m. - 1:30 p.m. Scientific Sessions

12:45 p.m. - 5:30 p.m. Group Fishing
Location: Meet in the lobby of the Ritz-Carlton by 12:15 p.m.

1:00 p.m. - 5:30 p.m. NCS Golf Outing
Location: The Golf Club of Amelia Island

1:45 p.m. - 4:30 p.m. Amelia Island River Cruise
Location: Meet in the lobby of the Ritz-Carlton by 1:15 p.m.

6:00 p.m. - 7:00 p.m. Young Urologists Mixer
Location: Courtyard at Ritz-Carlton Amelia Island

7:00 p.m. - 10:00 p.m. President's Reception/ "Farm to Table" Theme Night
Location: Ocean Front Lawn at Ritz-Carlton Amelia Island
**GENERAL SESSION**

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<th>Time</th>
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| 7:00 a.m. - 8:00 a.m. | Industry Sponsored Breakfast  
*Location: Plaza 1*               |              |
| 8:00 a.m. - 8:30 a.m. | State of the Art Lecture: Update from the ABU  
*Guest Speaker: Gerald H. Jordan, MD  
Charlottesville, VA* |              |
| 8:30 a.m. - 9:30 a.m. | Panel Discussion: Medical Malpractice: How to Prevent and Defend  
*Moderator: Christopher L. Coogan, MD  
Chicago, IL*  
*Panelists: Elizabeth Kavaler, MD  
New York, NY  
Darlene K. King, Esq  
Leola, PA* |              |

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**Concurrent Sessions Begin**

**Concurrent Session 1 of 4**

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<tr>
<th>Time</th>
<th>Event</th>
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| 9:30 a.m. - 10:30 a.m. | Prostate-Malignant Podium Session  
*Location: Talbot E*  
*Moderator: Sheila K. Gemar, MD  
Spicer, MN*  
*Discussant: Dennis A. Pessis, MD  
Chicago, IL* |              |
| 9:30 a.m. | #99 PATIENT REPORTED OUTCOMES FOR RADICAL PROSTATECTOMY IN A STATEWIDE SURGICAL COLLABORATIVE: MEASURING TO IMPROVE  
*Khurshid Ghani, MD¹, Tae-Kyung Kim, MS¹, Patrick Hurley, MD², Jay Starr, MD³, Susan Linsell, MS¹, James Peabody, MD⁴, James Montie, MD⁴, David Miller, MD⁵, Michael Cher, MD⁵  
¹University of Michigan; ²Comprehensive Urology; ³Bay Area Urology; ⁴Henry Ford Hospital; ⁵Wayne State University; on behalf of the Michigan Urological Surgery Improvement Collaborative* | Talbot E     |
| 9:34 a.m. | #100 CANCER DETECTION USING MR-TRUS FUSION TECHNOLOGY VS. IN BORE MR-GUIDED BIOPSY  
*Ayman Soubra, MD, Badrinath Konety, MD, MBA, Christopher Weight, MD, Greg Metzger, PhD, Benjamin Spilseth, MD, Christopher Warlick, MD  
University of Minnesota* | Talbot E     |
| 9:38 a.m. | #101 MRI FUSION BIOPSY, A SINGLE INSTITUTION'S INITIAL EXPERIENCE  
*Wei Phin Tan, MD, Leslie Deane, MD, Patrick Whelan, MD, Charles McKiel, MD, Dennis Pessis, MD, Shahid Ekbal, MD, Narendra Khare, MD, Waseem Ahmad, BS, Ajay Nehra, MD  
Rush University Medical Center* | Talbot E     |
9:42 a.m. #102 EFFECT OF TIME FROM BIOPSY TO ROBOTIC RADICAL PROSTATECTOMY ON PERIOPERATIVE OUTCOMES
George Bailey, MD, Rachel Carlson, Eric Bergstralh, Laureano Rangel, Matthew Gettman, MD, Igor Frank, MD, Matthew Tollefson, MD
Mayo Clinic
Presented By: George Bailey

9:46 a.m. #103 TESTOSTERONE LEVELS AND QUALITY OF LIFE IN ACTIVE SURVEILLANCE
Andrew Cohen, MD¹, Brittany Lapin², Chi Wang², David Victorson², Brian Helfand², Kristian Novakovic²
¹University of Chicago; ²Northshore University HealthSystem
Presented By: Andrew Cohen

9:50 a.m. #104 PSA DENSITY BASED ON MRI PROSTATE VOLUME CALCULATION ACCURATELY PREDICTS PATIENTS WHO HAVE CANCER IN THE PRIOR NEGATIVE BIOPSY COHORT UNDERGOING MRI/TRUS FUSION BIOPSY
Grace Yoon¹, Peter Filip¹, Stephanie Kliethermes, PhD², Joseph Yacoub, MD³, Steven Shea, PhD³, Gopal Gupta, MD³
¹Loyola University Chicago Stritch School of Medicine; ²Loyola University Medical Center Clinical Research; ³Loyola University Medical Center Department of Radiology; ⁴Loyola University Medical Center Department of Urology
Presented By: Grace Yoon

9:54 a.m. #105 THE ROLE OF VESICOURETHRAL ANASTOMOSIS BIOPSY IN THE MANAGEMENT OF SUSPECTED LOCAL RECURRENT FOLLOWING RADICAL PROSTATECTOMY
Boris Gershman, MD, Daniel Moreira, MD, Rachel Carlson, BA, Laureano Rangel, MS, Lance Mynderse, MD, Rafael Jimenez, MD, R. Jeffrey Karnes, MD
Mayo Clinic
Presented By: Boris Gershman

9:58 a.m. #106 CONTEMPORARY USE OF ADJUVANT AND SALVAGE RADIOTHERAPY FOLLOWING RADICAL PROSTATECTOMY IN THE STATE OF MICHIGAN
Scott Hawken, BS, Khurshid Ghani, MD, David Miller, MD, MPH, Felix Feng, MD, Susan Linsell, MHSA, Yuqing Gao, MS, James Montie, MD, Michael Cher, MD, Todd Morgan, MD
University of Michigan
Presented By: Scott Hawken

10:02 a.m. #107 USE OF PSA VERSUS PSA DENSITY IN IDENTIFYING CANDIDATES FOR ACTIVE SURVEILLANCE
Joseph Zabell, MD¹, Elizabeth Tacl, BS¹, Michael Risk, MD, PhD²
¹University of Minnesota; ²Minneapolis VA and University of Minnesota
Presented By: Joseph Zabell
10:06 a.m.  #108 IMPACT OF TIMING OF BIOCHEMICAL FAILURE ON THE EVENTUAL DEVELOPMENT OF CLINICAL FAILURE AFTER DEFINITIVE TREATMENT WITH BRACHYTHERAPY OR EXTERNAL BEAM RADIOTHERAPY FOR PROSTATE CANCER
Jay Ciezki, MD, Chandana Reddy, MS, Eric Klein, MD, Kenneth Angermeier, MD, Steven Campbell, MD, Rahul Tendulkar, MD, Kevin Stephens, MD, James Ulchaker, MD Cleveland Clinic Foundation
Presented By: James Ulchaker

10:10 a.m.  #109 INCREASING TRENDS IN RESISTANCE OF ORGANISMS TO CIPROFLOXACIN ON RECTAL SWAB PRIOR TO TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY
Waseem Ahmad¹, Dimitri Papagiannopoulos, MD¹, Stephen Larsen, MD¹, Christopher Coogan, MD¹, Lester Raff, MD², Kalyan Latchamsetty, MD¹
¹Rush University Medical Center; ²UroPartners
Presented By: Waseem Ahmad

10:14 a.m. - 10:30 a.m.  Q&A

Concurrent Session 2 of 4

9:30 a.m. - 10:30 a.m.  Outcomes/Socioeconomic Podium Session
Location: Talbot F-H
Moderator: Gopal N. Gupta, MD
Maywood, IL
Discussant: Philipp Dahm, MD, MHSc, FACS
Minneapolis, MN

9:30 a.m.  #110 RESIDENT IMPACT ON PATIENT & SURGEON SATISFACTION AND OUTCOMES: EVIDENCE FOR HEALTH SYSTEM SUPPORT FOR UROLOGY EDUCATION
Neil Patel, BS, Randy Sulaver, MD, Bradford Stevenson, MD, Jessica Healey, BS, William Severino, MD, Thomas Baron, MD, David Lieber, MD, David Roszhart, MD, Kevin T. McVary, MD, Tobias Kohler, MD
SIU-SOM
Presented By: Neil Patel

9:34 a.m.  #111 A CRITICAL ASSESSMENT OF THE QUALITY OF RANDOMIZED CONTROLLED TRIALS REPORTING IN THE UROLOGICAL LITERATURE
Vikram Narayan, MD¹, Eugene Cone, MD², Daniel Smith, MD², Charles D. Scales, MD, MSHS², Philipp Dahm, MD, MHSc¹
¹Minneapolis Veterans Healthcare System and University of Minnesota, Department of Urology; ²Duke University, Division of Urology; ³University of Minnesota, Department of Urology
Presented By: Vikram Narayan
9:38 a.m.  #112  SUCCESS RATES OF ENDOSCOPIC MANAGEMENT FOR STRicture RECURRENCE AFTER URETHRAL RECONSTRUCTION
Deep Bhatt¹, Sean P. Elliot, MD, MS², Travis Pagliara, MD², Jeremy B. Myers, MD³, Thomas Smith, III, MD⁴, Alex J. Vanni, MD⁵, Bryan B. Voelzke, MD, MS⁶, Christopher A. Tam⁷, Sarah Faris, MD⁷, Bradley Erickson, MD⁷
¹University of Iowa Carver College of Medicine; ²University of Minnesota; ³University of Utah; ⁴Baylor College of Medicine; ⁵Lahey Clinic; ⁶University of Washington; ⁷University of Iowa
Presented By: Deep Bhatt

9:42 a.m.  #113  ENROLLMENT OF BLACK MEN IN PROSTATE CANCER RANDOMIZED CONTROLLED TRIALS
Raymond Ogagarue, MD, MPH¹, Michael Dumas², Kacy Flowers², Molly M. Neuberger³, Folakemi Odedina, PhD⁴, Christopher Warlick, MD, PHD¹, Badrinath Konety, MD, MBA¹, Philipp Dahm, MD, MHSc⁵
¹University of Minnesota, Department of Urology; ²University of Florida; ³Minneapolis Veterans Affairs Health Care System; ⁴University of Florida, Department of Pharmaceutical Outcomes and Policy; ⁵Minneapolis Veterans Affairs Health Care System and University of Minnesota
Presented By: Philipp Dahm

9:46 a.m.  #114  GASTROINTESTINAL AND URINARY EVENTS: KEY DEVIATION DRIVERS FROM AN UNCOMPLICATED RADICAL PROSTATEctomy RECOVERY PATHWAY
Stacie N. Myers, BS¹, James M. Dupree, MD, MPH¹, Rodney L. Dunn, MS¹, Yuqing Gao, MS¹, Susan M. Linsell, BS, MHSA¹, Brian R. Lane, MD, PhD², Khurshid R. Ghani, MD¹, David C. Miller, MD, MPH¹, James E. Montie, MD¹
¹University of Michigan, Michigan Urological Surgery Improvement Collaborative; ²Spectrum Health Medical Group, Michigan Urological Surgery Improvement Collaborative
Presented By: Stacie Myers

9:50 a.m.  #115  CLINICAL ESTIMATION OF BLOOD LOSS IS NOT ACCURATE IN ROBOTIC−ASSISTED RADICAL PROSTATEctomy
Kristin Greco, MD, Belinda Li, MD, Chandy Ellimoottil, MD, Ahmer Farooq, DO
Loyola University
Presented By: Kristin Greco
9:54 a.m. #116 THE IMPACT OF SURGICAL DURATION OF TRANSURETHRAL RESECTION OF BLADDER TUMORS ON POSTOPERATIVE COMPLICATIONS: AN ANALYSIS OF ACS−NSQIP DATA
Richard Matulewicz, MS, MD¹, Vidit Sharma, MD², Daniel Oberlin, MD³, Barry McGuire, MD¹, Kent Perry, MD¹, Robert Nadler, MD¹
¹Northwestern University Feinberg School of Medicine; ²Mayo Clinic
Presented By: Richard Matulewicz

9:58 a.m. #117 THE UTILITY OF ROUTINE POST-OPERATIVE LABORATORY STUDIES FOR SHORT-STAY UROLOGIC SURGERY
Amy Y. Li, MD, Yooni A. Yi, MD, John T. Wei, MD, Anne P. Cameron, MD
University of Michigan
Presented By: Amy Li

10:02 a.m. #118 ADHESIVE BOWEL OBSTRUCTION FOLLOWING UROLOGIC SURGERY: IMPROVED OUTCOMES WITH EARLY INTERVENTION
Robert Blackwell, MD¹, Anai Kothari, MD², Arpeet Shah, MD³, William Gange, BS⁴, Stephanie Kliethermes, PhD⁴, Marcus Quek, MD¹, Fred Luchette, MD², Robert Flanigan, MD³, Paul Kuo, MD, MBA², Gopal Gupta, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Department of Surgery, Maywood, IL; ³Loyola University Medical Center, Stritch School of Medicine, Maywood, IL; ⁴Loyola University Medical Center, Department of Public Health Sciences, Maywood, IL
Presented By: Arpeet Shah

10:06 a.m. #119 STATISTICAL METHODS IN RANDOMIZED CONTROLLED TRIALS IN THE UROLOGICAL LITERATURE
Eugene Cone, MD¹, Vikram Narayan, MD², Daniel Smith, MD³, Philipp Dahm, MD, MHSc², Charles D. Scales, MD, MSHS¹
¹Duke University, Division of Urology; ²Minneapolis Veterans Healthcare System and University of Minnesota, Department of Urology; ³University of Minnesota, Department of Urology
Presented By: Vikram Narayan

10:10 a.m. #120 TRENDS IN PYELOPLASTY PROCEDURES: NSQIP ANALYSIS
Julia Fiuk, MD, Brad Schwartz, DO, FACS
Southern Illinois University, School of Medicine
Presented By: Julia Fiuk

10:14 a.m. #121 COMPLICATIONS FOLLOWING MALE RECONSTRUCTIVE UROLOGIC SURGERY
Sriram Eleswarapu, MD, PhD, Akshay Sood, MD, Firas Abdollah, MD, Jesse Sammon, DO, Wooju Jeong, MD, Dane Klett, MD, James Peabody, MD, Jairam Eswara, MD, Mani Menon, MD, Quoc-Dien Trinh, MD, Ali Dabaja, MD
Vattikuti Urology Institute, Henry Ford Health System
Presented By: Sriram Eleswarapu
10:18 a.m.  #122  PUBLIC RESTROOM HABITS IN PATIENTS AFTER AUS IMPLANTATION
Laura Bukavina, MD/MPH¹, Hemant Chaparala, BS², Ganesh Kartha, MD³, Kenneth Angermeier, MD³, Drogo Montague, MD³, Hadley Wood, MD³
¹Johns Hopkins School of Public Health; ²Case Western Reserve University /Cleveland Clinic Urological Institute; ³Cleveland Clinic Glickman Urological Institute
Presented By: Laura Bukavina

10:22 a.m. - 10:30 a.m.  Q&A

Concurrent Session 3 of 4

9:30 a.m. - 10:00 a.m.  Ask the Expert: Urotrauma - Male External Genital Trauma
Location: Talbot A-D
Moderator:  Edward E. Cherullo, MD
           Cleveland, OH
Guest Speaker:  Gerald H. Jordan, MD
                Charlottesville, VA

Concurrent Session 4 of 4

10:00 a.m.  #123  SATISFACTION WITH URINARY CONTINENCE IN ADULT PATIENTS WITH CONGENITAL NEUROGENIC BLADDER
Jessica Wetterlin, MD, Jessica Hannick, MD, David Hatch, MD Loyola University Medical Center
Presented By: Jessica Wetterlin

10:00 a.m.  #124  NEGATIVE IMPACT OF PRIOR SLING ON AUS DEVICE SURVIVAL
Matthew Ziegelmann, MD, Brian Linder, MD, Marcelino Rivera, MD, Christina Ogle, MD, Daniel Elliott, MD Mayo Clinic Rochester
Presented By: Matthew Ziegelmann

10:04 a.m.  #125  RETROSPECTIVE REVIEW OF FEMALE URINARY RETENTION PRESENTING TO TERTIARY CARE HOSPITAL: PRESENTATION, MANAGEMENT AND RESOLUTION
Jessica Meyers, MD¹, Chloe Bass, BS², Mireya-Insua Diaz, PhD¹, Humphrey Atiemo, MD¹
¹Henry Ford Hospital; ²Wayne State University
Presented By: Jessica Meyers
10:12 a.m. #126 LEAD POSITION DURING PUENDAL NEUROMODULATION: A RADIOGRAPHIC ASSESSMENT
Travis Washington¹, Michael Ehlert, MD², Ajwad Bajwa, MD², Renee Cholyway¹, Kim Killinger, RN, MSN², Burton Ellis, MD², Kenneth Peters, MD²
¹Oakland University William Beaumont School of Medicine, Rochester, MI; ²Beaumont Health System, Royal Oak, MI
Presented By: Travis Washington

10:16 a.m. #127 AUTOLOGOUS TRANSOBTURATOR URETHRAL SLING PLACEMENT FOR FEMALE STRESS URINARY INCONTINENCE
Brian Linder, MD, Daniel Elliott, MD
Mayo Clinic
Presented By: Brian Linder

10:20 a.m. #128 WITHDRAWN

10:25 a.m. - 10:30 a.m. Q&A

Concurrent Sessions End

10:30 a.m. - 10:40 a.m. AUA Update
AUA President: William F. Gee, MD
Lexington, KY

10:40 a.m. - 11:10 a.m. AUA Panel
Moderator: Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
Panelists: William F. Gee, MD
Lexington, KY
Gary M. Kirsh, MD
Cincinnati, OH
Stephen Y. Nakada, MD, FACS
Madison, WI
Dennis A. Pessis, MD
Chicago, IL
Mark D. Stovsky, MD, MBA, FACS
Cleveland, OH
Chandru P. Sundaram, MD
Indianapolis, IN

11:10 a.m. - 11:40 a.m. Break/Visit Exhibits
Location: Ritz-Carlton Ballroom
Concurrent Sessions Begin

Concurrent Session 1 of 5

11:10 a.m. - 11:40 a.m.  Young Urologists Session: Integrating Advanced Practice Providers

Location: Talbot E

Moderator: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL

Guest Speaker: Kenneth Mitchell, MPAS, PA-C
Woodbury, MN

Speaker: Aaron J. Milbank, MD
St Paul, MN

Concurrent Session 2 of 5

11:40 a.m. - 12:30 p.m.  Penis/Testis/Urethra Podium Session

Location: Talbot A-D

Moderator: Teresa D. Beam, MD
Noblesville, IN

Discussant: Bahaa S. Malaeb, MD
Ann Arbor, MI

11:40 a.m.  #129 VARIABLE DEFINITIONS OF URETHRAL STRICTURE RECURRENCE AFTER VISUAL INTERNAL URETHROTOMY (DVIU) AND URETHROPLASTY

Benjamin Sherer, MD, Ryan Farrell, MD, Fahad Chaus, Laurence Levine, MD
Rush University Medical Center
Presented By: Benjamin Sherer

11:44 a.m.  #130 LICHEN SCLEROSUS IS ASSOCIATED WITH SYSTEMIC DISORDERS IN MEN WITH URETHRAL STRICTURE DISEASE

Christopher Tam¹, Benjamin Breyer, MD, MAS², Joshua Broghammer, MD³, Sean Elliott, MD, MS⁴, Jeremy Myers, MD⁵, Alex Vanni, MD⁶, Bryan Voelzke, MD, MS⁷, Bradley Erickson, MD, MS¹
¹University of Iowa; ²University of California, San Francisco; ³University of Kansas; ⁴University of Minnesota; ⁵University of Utah; ⁶Lahey Clinic; ⁷University of Washington
Presented By: Christopher Tam

11:48 a.m.  #131 TRENDS IN THE TREATMENT OF PEYRONIE’S DISEASE: AN ANALYSIS OF CASE LOGS FROM AMERICAN UROLOGISTS

Daniel Oberlin, MD¹, Joceline Liu, MD¹, Matthias Hofer, MD¹, Jaclyn Milrose, MD¹, Sarah Flury, MD¹, Allen Morey, MD², Christopher Gonzalez, MD¹
¹Northwestern University, Feinberg School of Medicine; ²University of Texas Southwestern
Presented By: Daniel Oberlin
11:52 a.m.  #132  VISUAL INTERNAL URETHROTOMY WITH INTRALESIONAL MITOMYCIN C AND SHORT TERM CLEAN INTERMITTENT CATHETERIZATION FOR THE MANAGEMENT OF RECURRENT URETHRAL STRICTURES AND BLADDER NECK CONTRACTURES WITH TWO YEARS OF FOLLOW UP
Michael R. Farrell, MD, MPH, Benjamin Sherer, MD, Laurence Levine, MD
Rush University Medical Center
Presented By: Michael Farrell

11:56 a.m.  #133  PELVIC FLOOR PHYSICAL THERAPY: A CONSIDERATION FOR PATIENTS WITH CHRONIC SCROTAL CONTENT PAIN AND PAIN ON DIGITAL RECTAL EXAM
Michael R. Farrell, MD, MPH, Sheila Dugan, MD, Laurence Levine, MD
Rush University Medical Center
Presented By: Michael Farrell

12:00 p.m.  #134  SEXUAL FUNCTIONAL OUTCOMES WITH DORSAL VS. VENTRAL AUGMENTATION BULBAR URETHROPLASTY
Daniel Liberman, MDCM, MSc¹, Travis Pagliara, MD², Joshua Broghammer, MD³, Thomas Smith, III, MD⁴, Bryan Voelzke, MD, MSc, Bradley Erickson, MD⁵, Christopher McClung, MD⁶, Nejd Alsikafi, MD⁷, Alex Vanni, MD⁸, Jeremy Myers, MD⁹, Sean P. Elliott, MD²
¹University of Minnesota; ²Department of Urology, University of Minnesota Medical School; ³Kansas University Medical Center; ⁴Baylor College of Medicine Medical Center; ⁵University of Washington Department of Urology; ⁶University of Iowa Hospitals and Clinics; ⁷The Ohio State University Medical Center; ⁸Loyola University Health System; ⁹Lahey Hospital and Medical Center; ¹⁰University of Utah Health Care
Presented By: Daniel Liberman

12:04 p.m.  #135  CHANGING PRACTICE PATTERNS IN THE TREATMENT OF URETHRAL STRicture AMONGST AMERICAN UROLOGISTS
Joceline S. Liu, MD¹, Matthias D. Hofer, MD¹, Daniel T. Oberlin, MD¹, Jaclyn Milose, MD¹, Sarah C. Flury, MD¹, Allen F. Morey, MD², Chris M. Gonzalez, MD¹
¹Northwestern University; ²University of Texas Southwestern
Presented By: Joceline Liu

12:08 p.m.  #136  INTERNAL URETHROTOMY IN PATIENTS WITH RECURRENT BULBAR URETHRAL STRicture AFTER URETHROPLASTY
Min Jun, DO, Jonathan Warner, MD, Ibraheem Malkawi, MD, Richard Santucci, MD
Detroit Medical Center
Presented By: Min Jun
12:12 p.m. #137 ANALYSIS OF INTRATESTICULAR LESIONS ON ULTRASOUND: INDICATIONS AND PATHOLOGY
Daniel Mazur, MD¹, James Kashanian, MD¹, Marah Hehemann, MD², Christopher Morrison, MD¹, Robert Brannigan, MD¹
¹Northwestern University Feinberg School of Medicine; ²Loyola University Health Systems
Presented By: Daniel Mazur

12:16 p.m. #138 CRITICAL ANALYSIS OF VOIDING PATIENT REPORTED OUTCOME MEASURES FOR URETHRAL STRICTURE DISEASE
Christopher Tam¹, Joshua Broghammer, MD, FACS², Sean Elliott, MD, MS³, Jeremy Myers, MD⁴, Alex Vanni, MD⁵, Bryan Voelzke, MD, MS⁶, Bradley Erickson, MD, MS¹
¹University of Iowa; ²University of Kansas; ³University of Minnesota; ⁴University of Utah; ⁵Lahey Clinic; ⁶University of Washington
Presented By: Christopher Tam

12:20 p.m. #139 BLADDER OUTLET OBSTRUCTION AFTER PROSTATE CANCER TREATMENT: A POPULATION–BASED ANALYSIS
Daniel Liberman, MDCM, MSc¹, Travis Pagliara, MD², Stephanie Jarosek, PhD, RN², Beth Virnig, PhD³, Haitao Chu, PhD³, Sean P. Elliott, MD, MSc²
¹University of Minnesota; ²Department of Urology, University of Minnesota Medical School; ³Division of Health Policy and Management, School of Public Health,
Presented By: Daniel Liberman

12:25 p.m. - 12:30 p.m. Q&A

Concurrent Session 3 of 5

12:30 p.m. - 1:30 p.m. Endourology/Stone Disease Poster Session
Location: Santa Maria 1
Moderators: James E. Lingeman, MD
Indianapolis, IN
Thomas M. Turk, MD
Maywood, IL

Poster #40 SAFETY OF URETERAL STENT EXTRACTION STRINGS AFTER URETEROSCOPY
Griffin Morrisson, MD, Amy Krambeck, MD
Mayo Clinic
Presented By: Griffin Morrisson

Poster #41 PROFILE OF THE AMMONIUM ACID URATE STONE FORMER BASED ON A LARGE CONTEMPORARY COHORT
Derek Lomas, MD, Phar, MD, Christopher Jaeger, MD, Amy Krambeck, MD
Mayo Clinic
Presented By: Derek Lomas
Poster #42  TO EVALUATE THE COMBINATION OF TWO DIFFERENT ALPHA−1 BLOCKERS WITH ONE PHOSPHODIESTERASE−5 INHIBITOR(PDE−5) AS MEDICAL EXPULSIVE THERAPY FOR DISTAL URETERIC CALCULI
Kumar Jayant, MD, MS, MRCS¹, Swati Agrawal, MD, MS,², Rajendra Agarwal, MS²
¹Sudha Hosp & Med Research Center; ²Sudha Hosp & Med Research Center, Kota, India
Presented By: Kumar Jayant

Poster #43  CALCIUM OXALATE CRYSTALS AND RENAL DAMAGE IN ADULT PIGS FED HIGH OXALATE DIETS
Kristina Penniston, PhD¹, Denise Schwahn, PhD², Thomas Crenshaw, PhD², Stephen Nakada, MD¹
¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Wisconsin-Madison
Presented By: Kristina Penniston

Poster #44  PREDICTING PATIENTS WITH INADEQUATE 24– OR 48–HOUR URINE COLLECTIONS AT TIME OF METABOLIC STONE EVALUATION
Yasin Bhanji, BA, Barry McGuire, MD, Vedit Sharma, MD, Brendan Frainey, BA, Megan McClean, BA, Caroline Dong, BA, Kalen Rimar, MD, Kent Perry, MD, Robert Nadler, MD Northwestern University Feinberg School of Medicine
Presented By: Yasin Bhanji

Poster #45  COMPLICATIONS OF UROLOGIST−DIRECTED PERCUTANEOUS NEPHROLITHOTOMY STRATIFIED BY STONE SIZE: A SINGLE SURGEON’S EXPERIENCE.
Nathaly François, MD¹, Raunak Patel, MD², Casey Lythgoe, MD¹, Danuta Dynda, MD¹, Bradley Schwartz, DO¹
¹Southern Illinois University School of Medicine; ²Ochsner Clinic Foundation/Louisiana State University School of Medicine
Presented By: Nathaly Francois

Poster #46  PANCREATIC ESWL: TECHNIQUES AND OUTCOMES OF OUR CASE SERIES
Randy Sulaver, MD¹, Bradley Schwartz, DO²
¹SIU SOM; ²SIU-SOM
Presented By: Randy Sulaver

Poster #47  ENDOSCOPIC IRRIGATION AND SEAL DEVICES: A COMPARATIVE ANALYSIS
Sarah Tarplin, MD, Michael Byrne, MD, Manoj Monga, MD, Sriharan Sivalingam, MD
Cleveland Clinic Foundation
Presented By: Sarah Tarplin
Poster #48  A RETROSPECTIVE STUDY OF URETEROSCOPY WITH HOLMIUM LASER FOR NEPHROLITHIASIS: A SINGLE CENTER EXPERIENCE
John Richgels, BA¹, Michael Hoeh, MD², Peter Tsambarlis, MD², Kalyan Latchamsetty, MD², Jerome Hoeksema, MD², Christopher Coogan, MD²
¹Rush Medical College; ²Rush University Medical Center
Presented By: Peter Tsambarlis

Poster #49  WITHDRAWN

Concurrent Session 4 of 5

12:30 p.m. - 1:30 p.m.  Incontinence/Infertility/Sexual Dysfunction/Trauma/Transplant Poster Session
Location: Santa Maria 2
Moderators: Stephanie J. Kielb, MD Chicago, IL
Charles R. Powell, II, MD Indianapolis, IN

Poster #50  FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY CANDIDATES ACCOUNT FOR LARGE VOLUME OF FEMALE AND MALE RECONSTRUCTIVE SURGERIES
Joceline S. Liu, MD, Johnathan Doolittle MS, Matthias D. Hofer, MD, Sarah C. Flury, MD, Stephanie J. Kielb, MD Northwestern University
Presented By: Joceline Liu

Poster #51  OBESITY AND ANTHROPOMETRY IN SPINA BIFIDA: WHAT IS THE BEST MEASURE?
Joceline S. Liu, MD, Claudia L. Leung, BS, Caroline Dong, BS, Shubhra Mukherjee, MD, Stephanie J. Kielb, MD Northwestern University
Presented By: Joceline Liu

Poster #52  EFFECTS OF RADIATION THERAPY ON DEVICE SURVIVAL AMONG INDIVIDUALS WITH ARTIFICIAL URINARY SPHINCTERS
Marcelino Rivera, MD, Matthew Ziegelmann, MD, Brian Linder, MD, Boyd Viers, MD, Laureano Rangel, Daniel Elliott, MD Mayo Clinic
Presented By: Marcelino Rivera

Poster #53  A CONTEMPORARY META-ANALYSIS OF URETHRAL BULKING AGENT COMPLICATIONS IN THE TREATMENT OF STRESS URINARY INCONTINENCE
Majdee Islam, MD¹, Ryan Dobbs, MD², Harpreet Wadhwa, MD², Neha Malhotra, MD², Ervin Kocjancic, MD²
¹University of Missouri School of Medicine; ²Department of Urology, University of Illinois at Chicago
Presented By: Ryan Dobbs
Poster #54  DE NOVO URGENCY IN A MINORITY POPULATION FOLLOWING INCONTINENCE SURGERY
Cristina Palmer, DO, Traci Beck, MD, Andrew Drago, Patricia Vidal, MD, Courtney Hollowell, MD
Cook County Hospital
Presented By: Cristina Palmer

Poster #55  WITHDRAWN

Poster #56  PELVIC ORGAN PROLAPSE IN ADULT SPINA BIFIDA PATIENTS
Amanda Vo, MSE, Johnathan Doolittle, MS, Nabeel Hamoui, MD, MBA, Joceline S. Liu, MD, Stephanie J. Kielb, MD
Department of Urology, Northwestern University Feinberg School of Medicine, Chicago, IL
Presented By: Amanda Vo

Poster #57  LESS IS MORE: A NEW INTRADETRUSOR ONABOTULINUMTOXIN A INJECTION TECHNIQUE FOR NEUROGENIC AND IDIOPATHIC DETRUSOR OVERACTIVITY
Bryan S. Sack, MD, Michael A. Avallone, MD, Ahmad M. El-Arabi, Michael L. Guralnick, MD, R. Corey O'Connor, MD
Medical College of Wisconsin
Presented By: Ahmad El-Arabi

Poster #58  INTRADETRUSOR BOTULINUM TOXIN INJECTIONS FOR THE MANAGEMENT OF ANTICHOLINERGIC REFRACTORY, POORLY COMPLIANT NEUROGENIC BLADDERS
Dane Johnson, MD, Michael Guralnick, MD, R. Corey O'Connor, MD
Medical College of Wisconsin
Presented By: Dane Johnson

Poster #59  CATHETER MANAGEMENT OF NEUROGENIC BLADDER AFTER SPINAL CORD INJURY
Giulia I. Lane, MD¹, Kyrollos Tawfik², Kristin Chrouser, MD³
¹University of Minnesota; ²Meharry Medical College; ³VA Medical Center Minneapolis, University of Minnesota
Presented By: Giulia Lane

Poster #60  INFECTION/EROSION RATES FOR ARTIFICIAL URINARY SPHINCTER REVISION AFTER MECHANICAL DEVICE FAILURE OR URETHRAL ATROPHY
Griffin Morrisson, MD, Brian Linder, MD, Laureano Rangel, MS, MSc, Marcelino Rivera, MD, Daniel S. Elliott, MD
Mayo Clinic
Presented By: Griffin Morrisson
Poster #61  TREATMENT OF TRANSPLANT URETER STRICTURES WITH URETERAL DILATION AND URETERONEOCYSTOSTOMY: OUTCOMES OF A 14 YEAR EXPERIENCE
John Stoffel, MD, Randall Sung, MD, Gary Faerber, MD, James Shields, MD, Stuart Wolf, MD, Yihung Huang, MD
University of Michigan
Presented By: John Stoffel

Poster #62  URINARY EXTRAVASATION MAY PREDICT RENAL IMPAIRMENT IN GRADE IV RENAL TRAUMA
Zachary Liss, MD¹, Lindsay Derus, DO², Marion Schulte, RN³, Richard Falcone, MD¹, Pramod Reddy, MD¹, Eugene Minevich, MD¹, Brian VanderBrink, MD¹, Paul Noh, MD¹, W. Robert DeFoor, MD¹
¹CCHMC; ²UCMC/CCHMC
Presented By: Lindsay Derus

Poster #63  DOES MANNITOL USE IMPACT DELAYED GRAFT FUNCTION AND RENAL FUNCTIONAL OUTCOMES IN RECIPIENTS OF LIVING DONOR RENAL TRANSPLANTS?
James Wren, MB, BCh, BAO, Andrew Pfaff, Clint Bahler, Nick Liu, Francesca Monn, William Goggins, Chandru Sundaram
Indiana University
Presented By: James Wren

Poster #64  RADICAL PROSTATECTOMY IN RENAL TRANSPLANT RECIPIENTS (RTRS): COMPARISON OF FEASIBILITY AND PERIOPERATIVE OUTCOMES BASED ON SURGICAL APPROACH
Benjamin Sherer, MD, Krishnan Warrior, Oyedolamu Olaitan, MD, Leslie Deane, MD
Rush University Medical Center
Presented By: Benjamin Sherer

Poster #65  PROSTATE CANCER INCIDENCE IN RENAL TRANSPLANT RECIPIENTS
Benjamin Sherer, MD, Karl Godlewski, Leslie Deane, MBBS
Rush University Medical Center
Presented By: Benjamin Sherer
Concurrent Session 5 of 5

12:30 p.m. - 1:30 p.m.  Prostate Malignant/Benign Poster Session

Location: Director's Room
Moderators:  Christopher L. Coogan, MD  
Chicago, IL  
Jeffrey Branch, MD  
Maywood, IL

Poster #66
INTEROBERVER RELIABILITY IS EXCELLENT AMONGST EXPERIENCED RADIOLOGISTS INTERPRETING PROSTATE MRIS USING THE PIRADS SCORING SYSTEM.
Samay Jain, MD, Barbara Saltzman, PhD, MPH, Terrence Lewis, MD, Khaled Shahrouq, MD, Jacob Bieszczad, MD University of Toledo Medical Center
Presented By: Samay Jain

Poster #67
THE INFLUENCE OF PROSTATE HEALTH INDEX (PHI) ON PROSTATE BIOPSY DECISION MAKING.
Christina Selkirk¹, Chi-Hsiung Wang², Jasmine Nero¹, Jacqueline Petkewicz¹, Martha McCurdy¹, Kristian Novakovic¹, Charles Brendler¹, Michael McGuire¹, Brian Helfand¹
¹John and Carol Walter Center for Urological Health, NorthShore University HealthSystem; ²The Center for Biomedical and Research Informatics, NorthShore University HealthSystem
Presented By: Christina Selkirk

Poster #68
THE INCIDENCE OF CIPROFLOXACIN RESISTANT BACTERIA ON PRE-PROSTATE BIOPSY RECTAL SWAB CULTURE IS INCREASING; A NORTHWEST OHIO STUDY
Bradley Buck, MD, Ryan Flynn, MD, David Fumo, MD, Samay Jain, MD
University of Toledo
Presented By: Bradley Buck

Poster #69
LENGTH OF CORE INVOLVED WITH CANCER IN PROSTATE BIOPSIES IN TRUS GUIDED COMPARED TO MR GUIDED
Ayman Soubra, MD, Christopher Warlick, MD, Christopher Weight, MD, Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Ayman Soubra

Poster #70
FEASIBILITY AND INITIAL RESULTS OF 18FLUOROCHOLINE PET/MRI/TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY
Ian McLaren, MD, Jeffrey S. Montgomery, MD, Matthew Davenport, MD, Lakshmi Kunju, MD, Charles Meyer, PhD, Ganesh Palapattu, MD, Todd Morgan, MD, Alon Z. Weizer, MD, David C. Miller, MD, Brent K. Hollenbeck, MD, Morand Piert, MD
University of Michigan
Presented By: Ian McLaren
Poster #71  COSTS ASSOCIATED WITH HOSPITAL ADMISSION AFTER INFECTIOUS COMPLICATIONS OF PROSTATE BIOPSY
Aram Loeb, MD¹, Emily Martin, MPH, PhD², Richard Evans², Paul LePhart, PhD³, Keith Kaye, MD, MPH¹, Michael Cher, MD¹
¹Wayne State University; ²University of Michigan; ³Detroit Medical Center
Presented By: Aram Loeb

Poster #72  ADJUVANT RADIOTHERAPY FOR PATHOLOGICALLY ADVANCED PROSTATE CANCER IMPROVES BIOCHEMICAL RECURRENCE FREE SURVIVAL COMPARED TO SALVAGE RADIOTHERAPY
Robert Blackwell, MD¹, William Gange², Alexander Kandabarow², Matthew Harkenrider, MD³, Gopal Gupta, MD¹, Marcus Quek, MD¹, Robert Flanigan, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Stritch School of Medicine, Maywood, IL; ³Loyola University Medical Center, Department of Radiation Oncology, Maywood, IL
Presented By: Robert Blackwell

Poster #73  WITHDRAWN

Poster #74  INITIAL EXPERIENCE AND OUTCOMES OF NATURAL ORIFICE TRANSLUMENAL ENDOSCOPIC RADICAL PROSTATECTOMY
Michael S. Borofsky, MD, Jessica A. Mandeville, MD, Naeem Bhojani, MD, Jessica E. Paonessa, MD, Marawan M. El Tayeb, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky

Poster #75  DIFFUSE HYPOINTENSITY ON THE T2 PHASE OF A PROSTATE MRI IN MEN WITH DIFFUSE PROSTATE CANCER CAN BE A SIGNIFICANT CONFOUNDER RESULTING IN A FALSELY LOW PIRADS SCORE.
Samay Jain, MD, Terrence Lewis, MD, Khaled Shahrour, MD, Jacob Bieszczad, MD
University of Toledo Medical Center
Presented By: Samay Jain

Poster #76  PERINEAL BIOPSY IS THE ONLY WAY ACCESS ANTERIOR LESIONS DETECTED BY PROSTATE MRI
Samay Jain, MD, Khaled Shahrour, MD, Terrence Lewis, MD, Jacob Bieszczad, MD
University of Toledo Medical Center
Presented By: Samay Jain
Poster #77  TIME TO BIOCHEMICAL AND RADIOGRAPHIC PROGRESSION IN PATIENTS TREATED WITH ADENOVIRUS PSA VACCINE FOR NONMETASTATIC/EARLY METASTATIC CASTRATE RESISTANT PROSTATE CANCER: PHASE 2 TRIAL RESULTS
Kenneth Nepple, MD, Daniel Vaena, MD, James Brown, MD, Karen Griffith, RN, PhD, Pamela Zehr, RN, David Lubaroff, PhD
University of Iowa
Presented By: Kenneth Nepple

Poster #78  THE LONGITUDINAL EPIDEMIOLOGY OF DEATH DUE TO SEPSIS IN PATIENTS DIAGNOSED WITH PROSTATE CANCER
Shaheen Alanee, MD, MPH, Bradley Holland, Joseph Clemons, Danuta Dynda, MD, Ahmed El-Zawahry, MD
Southern Illinois University School of Medicine
Presented By: Bradley Holland

Poster #79  THE CLINICAL AND ECONOMIC IMPLICATIONS OF SPECIMEN PROVENANCE COMPlications IN DIAGNOSTIC PROSTATE BIOPSIES
Kirk Wojno, MD¹, John Hornberger, PhD², Paul Schellhammer, MD³, Minghan Dai⁴, Travis Morgan⁵
¹Comprehensive Urology; ²Stanford; ³Urology of Virginia; ⁴Cedar Associates; ⁵Strand Diagnostics
Presented By: Kirk Wojno

Poster #80  EVALUATING PI-RADS AND LIKERT SCORES FOR SUSPICIOUS LESIONS ON THE MRI OF PATIENTS UNDERGOING ACTIVE SURVEILLANCE FOR PROSTATE CANCER USING MRI GUIDED BIOPSY
Ayman Soubra, MD, Benjamin Spilseth, MD, Badrinath Konety, MD, MBA, Greg Metzger, PhD, Sidney Walker, MD, Bruce Lindgren, PhD, Christopher Warlick, MD
University of Minnesota
Presented By: Ayman Soubra

Poster #81  LONG-TERM EFFICACY AND TOXICITY OF LOW DOSE RATE 125I PROSTATE BRACHYTHERAPY AS MONOTHERAPY IN LOW, INTERMEDIATE, AND HIGH-RISK PROSTATE CANCER
Jeffrey Kittel, MD, Chandana Reddy MS, Kristin Smith, BS, Kevin Stephans, MD, Rahul Tendulkar, MD, Kenneth Angermeier, MD, Steven Campbell, MD, Andrew Stephenson, MD, Eric Klein, MD, Allan Wilkinson, PhD, Jay Ciezki, MD, James Ulchaker, MD
Cleveland Clinic Foundation
Presented By: James Ulchaker

Concurrent Sessions End
Friday, November 13, 2015

Overview

6:00 a.m. - 3:00 p.m.  Registration/Information Desk Hours  
Location: Talbot Registration Desk

6:00 a.m. - 3:00 p.m.  Speaker Ready Room Hours  
Location: Magnolia

6:30 a.m. - 8:00 a.m.  Breakfast  
Location: Talbot Pre-Function

6:30 a.m. - 3:00 p.m.  Scientific Sessions

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite  
Location: Seaside Room

11:00 a.m. - 12:30 p.m.  Salt of the Earth Custom-Blending Bar Experience  
Location: The Ritz-Carlton Spa

12:05 p.m. - 12:40 p.m.  Annual Business Meeting  
Location: Talbot A-D

6:30 p.m. - 11:00 p.m.  Annual Reception and Banquet  
Location: Salon 1&2

Concurrent Sessions Begin

Concurrent Session 1 of 2

6:30 a.m. - 7:55 a.m.  Video Session  
Location: Talbot E  
Moderator: Mark D. Dabagia, MD  
Fort Wayne, IN

Video #1  
MICROSURGICAL SPERMATIC CORD DENERVATION FOR CHRONIC SCROTAL PAIN: SURGICAL TECHNIQUE AND CASE SERIES.  
Tony Nimeh, MD¹, Whitney Halgrimson, MD², Martin Kathrins ND², Ervin Kocjancic, MD²  
¹UIC; ²University of Illinois at Chicago, Chicago, IL  
Presented By: Tony Nimeh
Video #2

BILATERAL UNDESCENDED TESTES: BEWARE THE UNKNOWN
Diana K. Bowen, MD, Richard S. Matulewicz, Edward M. Gong
Northwestern University
Presented By: Diana Bowen

Video #3

EXCISION OF RECURRENT URETHRAL DIVERTICULUM
Sana Hussain¹, Mahmoud Mohamed, MD¹,², Ayman Mahdy, MD, PhD¹
¹University of Cincinnati; ²Geisinger Health System, Danville, PA
Presented By: Sana Hussain

Video #4

EXCISION OF URETHRAL DIVERTICULUM WITH RECTUS FASCIA SLING
Mahmoud Mohamed, MD¹,² and Ayman Mahdy, MD, PhD¹
¹Division of Urology, University of Cincinnati; ²Geisinger Health System. Danville PA
Presented By: Mahmoud Mohamed

Video #5

A COMPARISON OF TECHNIQUE IN THE APPROACH OF BIPOLAR TRANSURETHRAL RESECTION OF PROSTATE WITH ENucleATION IN LARGE AND SMALL PROSTATES
Jonathan Warner, MD¹, Yooni Yi, MD²
¹University of Michigan Department of Urology; ²University of Michigan
Presented By: Yooni Yi

Video #6

PROSTATIC ENUCLEOVAPORIZATION USING GREENLIGHT LASER FOR TREATMENT OF BENIGN PROSTATIC HYPERPLASIA
Whitney Halgrimson, MD, Harpreet Wadhwa, MD, Nikita Abhyankar, MD, Sam Ohlander, MD, Simone Crivellaro, MD
University of Illinois, Chicago
Presented By: Harpeet Wadhwa

Video #7

USE OF INTRA-OPERATIVE INDOCYAMINE GREEN (ICG) TO FACILITATE ROBOTIC-ASSISTED LAPAROSCOPIC UPPER POLE PARTIAL NEPHROURETERECTOMY
Ryan L. Steinberg, MD, Mark Newton, MD, Chad R. Tracy, MD
Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Ryan Steinberg

Video #8

RESERVOIR PLACEMENT CAN BE SAFE AND EASY: BODY DONOR STUDY OF INFLATABLE PENILE PROSTHESES ECTOPIC AND TRADITIONAL RESERVOIR PLACEMENT
Joshua Ring, MD¹, Casey Lythgoe, MD¹, Daniar Osmanov, MD², Steven Wilson, MD³, Töbias Kohler, MD¹
¹Southern Illinois University School of Medicine; ²UKSH; ³Institute for Urologic Excellence
Presented By: Joshua Ring
Video #9  TWO CASES OF ROBOT ASSISTED URETERAL REIMPLANT IN A DUPLICATED SYSTEM
Jonathan Warner, MD¹, Yooni Yi, MD², Richard A. Santucci, MD³
¹University of Michigan Department of Urology; ²University of Michigan; ³Detroit Medical Center - Michigan State University College of Osteopathic Medicine
Presented By: Yooni Yi

Video #10  ROBOTIC NEPHROURETERECTOMY OF PELVIC KIDNEY WITH TRANSITIONAL CELL CARCINOMA
David Pridmore, MD¹, Sugandh Shetty, MD²
¹Oakland University William Beaumont Hospital; ²William Beaumont Hospital
Presented By: David Pridmore

Video #11  ROBOTIC PARTIAL NEPHRECTOMY FOR MULTIPLE IPSILATERAL RENAL TUMORS
Deepansh Dalela, Ravi Barod, MD, Craig Rogers, MD
Vattikuti Urology Institute
Presented By: Deepansh Dalela

Video #12  MANAGEMENT OF VENOUS TUMOR THROMBUS ENCOUNTERED DURING ROBOT ASSISTED PARTIAL NEPHRECTOMY FOR RENAL CELL CARCINOMA
Firas Petros, MD¹, Edward Nickerson IT², Geoffrey Box, MD¹
¹Department of Urology, The Ohio State University Wexner Medical Center; ²Robotic Surgery Program, The Ohio State University Wexner Medical Center
Presented By: Firas Petros

Concurrent Session 2 of 2
6:30 a.m. - 7:30 a.m.  Men's Health
Location: Talbot A-D
Moderator: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL
Panelist: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL
Edward E. Cherullo, MD
Cleveland, OH
Aaron J. Milbank, MD
St Paul, MN

Concurrent Sessions End
7:55 a.m. - 8:00 a.m.  Announcements
Local Arrangements Chair: James D. Relle, MD
West Bloomfield, MI
8:00 a.m. - 8:30 a.m.  State of the Art Lecture: The Challenge of Recurrent Post-Prostatectomy Bladder Neck Contracture
Guest Speaker: Sender Herschorn, BSc, MDCM, FRCSC
Toronto, ON
Concurrent Session 2 of 2

8:30 a.m. - 9:20 a.m.  
**Endourology/Stone Disease II Podium Session**  
*Location: Talbot E*  
**Moderator:** Bradley F. Schwartz, DO, FACS  
*Springfield, IL*  
**Discussant:** Bodo E. Knudsen, MD, FRCSC  
*Columbus, OH*

8:30 a.m.  
**#140**  
**THE WISCONSIN STONE QUALITY OF LIFE QUESTIONNAIRE: BASELINE RESULTS FROM A PROSPECTIVE, LONGITUDINAL, MULTI-CENTER VALIDATION STUDY**  
Kristina Penniston, PhD¹, Jodi Antonelli, MD², Timothy Averch, MD³, Davis Viprakasit, MD⁴, Roger Sur, MD⁵, Vincent Bird, MD⁶, Vernon Pais, MD⁷, Ben Chew, MD⁸, Stephen Nakada, MD¹  
¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Texas-Southwestern; ³University of Pittsburgh; ⁴University of North Carolina; ⁵University of California-San Diego; ⁶University of Florida-Gainesville; ⁷Dartmouth University; ⁸University of British Columbia-Vancouver  
Presented By: Kristina Penniston

8:34 a.m.  
**#141**  
**PRE- AND POST-OPERATIVE PREDICTORS OF INFECTION RELATED COMPLICATIONS IN PATIENTS UNDERGOING PERCUTANEOUS NEPHROLITHOTOMY**  
Marcelino Rivera, MD, Boyd Viers, MD, Ramila Mehta, Eric Bergstralh, Amy Krambeck, MD  
Mayo Clinic  
Presented By: Marcelino Rivera

8:38 a.m.  
**#142**  
**SALVAGE PERCUTANEOUS NEPHROLITHOTOMY: AN ANALYSIS OF OUTCOMES FOLLOWING INITIAL TREATMENT FAILURE**  
Michael S. Borofsky, MD¹, Marawan M. El Tayeb, MD¹, James E. Lingeman, MD¹, Daniel A. Wollin, MD², Ojas Shah, MD², Thanmaya Reddy, MD³, Dean G. Assimos, MD³  
¹Indiana University School of Medicine; ²New York University School of Medicine; ³University of Alabama - Birmingham  
Presented By: Michael Borofsky

8:42 a.m.  
**#143**  
**DO PATIENTS WHO RELY ON TUBE FEEDING HAVE A HIGHER RISK OF KIDNEY STONES?**  
Kristina Penniston, PhD¹, Emily Klimmek, RD², Margaret Wertheim, MS¹, Stephen Nakada, MD¹  
¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Wisconsin Hospital and Clinics  
Presented By: Kristina Penniston
8:46 a.m.  #144  OUTCOMES OF PERCUTANEOUS NEPHROLITHOTOMY IN SPINAL CORD INJURY PATIENTS
Kristin Greco, MD, Robert H. Blackwell, MD, Eric Kirshenbaum, MD, Anai N Kothari, MD, Paul C Kuo, MD, Thomas MT Turk, MD
Loyola University
Presented By: Kristin Greco

8:50 a.m.  #145  POSTOPERATIVE SYSTEMIC INFLAMMATORY RESPONSE SYNDROME FOLLOWING PERCUTANEOUS NEPHROLITHOTOMY IS NOT A PREDICTOR OF UNPLANNED READMISSION
Deepak Agarwal, MD¹, Rachel Moses, MD, MPH², Vidit Sharma, MD¹, Eric Raffin, MD², Boyd Viers, MD¹, Amy Krambeck, MD¹, Vemon Pais, Jr., MD²
¹Department of Urology, Mayo Clinic, Rochester, MN; ²Section of Urology, Dartmouth Hitchcock Medical Center, Lebanon, NH
Presented By: Deepak Agarwal

8:54 a.m.  #146  CONTEMPORARY IMAGING PRACTICE PATTERNS FOLLOWING URETEROSCOPY FOR STONE DISEASE
Mohamed Omar, MD, Hemant Chaparala, BS, Manoj Monga, MD, FACS, Sri Sivalingam, MD, MSc, FRCSC
Glickman Urological and Kidney Institute, Cleveland Clinic Foundation
Presented By: Sri Sivalingam

8:58 a.m.  #147  PERCUTANEOUS CRYOABLATION OF SMALL RENAL TUMORS: PRIVATE PRACTICE EXPERIENCE
Julia Fiuk, MD¹, Anand Brahma, MDam, DO¹, Tom Tieu, MD¹, Kevin Coakley, MD², David Lieber, MD³
¹Southern Illinois University, School of Medicine; ²Clinical Radiologists, Springfield Clinic; ³Springfield Clinic
Presented By: Julia Fiuk

9:02 a.m.  #148  UROLOGIC SIMULATION: 2-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI-MODALITY WORKSHOP MODEL.
Emily Yura, MD¹, Benjamin Sherer¹, Kalyan Latchamsetty, MD¹, Thomas Turk, MD², Sangtae Park, MD³, Ervin Kocjancic, MD⁴, Scott Eggener, MD³, Christopher Coogan, MD¹
¹Rush University Medical Center; ²Loyola University Medical Center; ³University of Chicago Medical Center; ⁴University of Illinois Chicago Medical Center
Presented By: Benjamin Sherer

9:06 a.m.  #149  PROSPECTIVE EVALUATION OF DISEASE SPECIFIC HEALTH-RELATED QUALITY OF LIFE: CYSTINE STONE-FORMERS COMPARED TO NON-CYSTINE STONE-FORMERS
Necole M. Streeper, Margaret L. Wertheim, Kristina L. Penninston and Stephen Y. Nakada
Madison, Wisconsin
Presented By: Stephen Nakada
8:30 a.m. - 9:20 a.m.  
**Bladder-Malignant Podium Session**

*Location: Talbot A-D*

**Moderator:** Gopal N. Gupta, MD  
*Maywood, IL*

**Discussant:** Cheryl T. Lee, MD  
*Ann Arbor, MI*

8:30 a.m.  
**#151**  
TRENDS IN UTILIZATION OF NEOADJUVANT CHEMOTHERAPY IN ELIGIBLE MUSCLE INVASIVE UROTHELIAL BLADDER CANCER PATIENTS  
Chandra K. Flack, MD¹, Hristos Z. Kaimakliotis, MD¹, Jane S. Cho, MD, MPH¹, M. Francesca Monn, MD, MPH¹, Costantine Albany, MD², K. Clint Cary, MD, MPH¹, Timothy A. Masterson, MD¹, Liang Cheng, MD³, Richard Bihrlle, MD¹, Michael O. Koch, MD¹  
¹Indiana University Department of Urology; ²Indiana University Department of Medicine; ³Indiana University Department of Pathology  
Presented By: Chandra Flack

8:34 a.m.  
**#152**  
ASSESSING PELVIC FLOOR SYMPTOMS IN FEMALE RADICAL CYSTECTOMY PATIENTS WITH ORTHOTOPIC ILEAL NEOBLADDER  
Elizabeth Dray, MD, Robert Blackwell, MD, Bethany Kearns, MD, Elizabeth Mueller, MD, Marcus Quek, MD  
Loyola University Medical Center  
Presented By: Elizabeth Dray

8:38 a.m.  
**#153**  
PATHOLOGICAL SUB-STRATIFICATION BETWEEN T2A AND T2B BLADDER CANCER IS A PREDICTOR OF OUTCOME  
Chandra K. Flack, MD¹, Hristos Z. Kaimakliotis, MD¹, M. Francesca Monn, MD, MPH¹, K. Clint Cary, MD, MPH¹, Jane S. Cho, MD, MPH¹, Timothy A. Masterson, MD¹, Richard Bihrlle, MD¹, Michael O. Koch, MD¹, Liang Cheng, MD²  
¹Indiana University Department of Urology; ²Indiana University Department of Pathology  
Presented By: Chandra Flack

8:42 a.m.  
**#154**  
ROBOTIC AND OPEN CYSTECTOMY: LESSONS FROM A NATIONAL CANCER DATABASE  
Richard Matulewicz, MS, MD¹, Vidit Sharma, MD², Sanjay Mohanty, MD³, David Bentrem, MD¹, Joshua Meeks, MD, PhD¹, Shilajit Kundu, MD¹  
¹Northwestern University Feinberg School of Medicine; ²Mayo Clinic; ³Henry Ford Hospital  
Presented By: Richard Matulewicz
8:46 a.m.  #155  REPEAT USE OF HEXAMINOLEVULINATE FOR PHOTODYNAMIC DIAGNOSIS OF BLADDER CANCER
Giulia I. Lane, MD, Ayman Soubra, MD, Badrinath Konety, MD
University of Minnesota
Presented By: Giulia Lane

8:50 a.m.  #156  DECREASED SURVIVAL WITH PERIOPERATIVE BLOOD TRANSFUSION FOLLOWING RADICAL CYSTECTOMY
Bethany Burge, MD, Robert H. Blackwell, MD, Evan Carlos, Robert C. Flanigan, MD, Gopal N. Gupta, MD, Marcus L. Quek, MD
Loyola University Medical Center
Presented By: Bethany Burge

8:54 a.m.  #157  THE EFFECT OF RECURRENCE TIMING ON THE SUCCESS OF REPEAT INTRAVESICAL BACILLUS CALMETTE-GUERIN-BASED THERAPY FOR NON-MUSCLE INVASIVE BLADDER CANCER
Ryan L. Steinberg, MD, Lewis J. Thomas, MD, Michael A. O'Donnell, MD
Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Ryan Steinberg

8:58 a.m.  #158  NEW ONSET POSTOPERATIVE ATRIAL FIBRILLATION PREDICTS LONG-TERM CARDIOVASCULAR EVENTS FOLLOWING RADICAL CYSTECTOMY
Robert Blackwell, MD¹, Chandy Ellimoottil, MD¹, Petar Bajic, MD¹, Anai Kothari, MD², Matthew Zapf³, Stephanie Kliethermes, PhD⁴, Robert Flanigan, MD¹, Marcus Quek, MD¹, Paul Kuo, MD², Gopal Gupta, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Department of Surgery, Maywood, IL; ³Loyola University Medical Center, Stritch School of Medicine, Maywood, IL; ⁴Loyola University Medical Center, Department of Public Health Sciences, Maywood, IL
Presented By: Robert Blackwell

9:02 a.m.  #159  EFFECT OF URINARY DIVERSION APPROACH ON URETEROENTERIC ANASTOMOTIC STRICTURE INCIDENCE FOLLOWING ROBOTIC-ASSISTED LAPAROSCOPIC RADICAL CYSTECTOMY
Elizabeth Dray, MD³, Robert Blackwell, MD¹, Naphalie Francoise, MD², Gopal Gupta, MD¹, Marcus Quek, MD¹, Alexander Gorbonos, MD¹
¹Loyola University Medical Center; ²Southern Illinois University
Presented By: Elizabeth Dray
9:06 a.m.  #160  EFFICACY AND TOXICITY OF REDUCED DOSE BACILLUS CALMETTE-GUERIN (BCG) PLUS INTERFERON IN PATIENTS WITH PREVIOUS BCG INTOLERANCE
Ryan L. Steinberg, MD, Lewis J. Thomas, MD, Michael A. O'Donnell, MD
Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Ryan Steinberg

9:10 a.m.  #161  UNPLANNED REOPERATION FOLLOWING OPEN AND MINIMALLY INVASIVE RADICAL CYSTECTOMY. ANALYSIS OF THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM (NSQIP) DATABASE
Ahmed Sarhan, MD, MSc, Kamal Pohar, MD, FRCS, Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Ahmed Sarhan

9:15 a.m. - 9:20 a.m.  Q&A

Concurrent Sessions End

9:20 a.m. - 9:45 a.m.  Break
Location: Talbot Pre-Function

9:45 a.m. - 9:55 a.m.  ABU Update
Speaker: Stephen Y. Nakada, MD, FACS
Madison, WI

9:55 a.m. - 10:00 a.m.  AUA Core Curriculum Update
Speaker: Larissa Bresler, MD
Maywood, IL

10:00 a.m. - 10:30 a.m.  State of the Art Lecture: Management of Sling Failures
Guest Speaker: Sender Herschorn, BSc, MDCM, FRSC
Toronto, ON

10:30 a.m. - 11:00 a.m.  Panel Discussion: Management of Sling Complications
Moderator: Sender Herschorn, BSc, MDCM, FRSC
Toronto, ON
Panelists: Sender Herschorn, BSc, MDCM, FRSC
Toronto, ON
Stephanie J. Kielb, MD
Chicago, IL
John T. Stoffel, MD
Ann Arbor, MI

11:00 a.m. - 11:05 a.m.  Award Presentations: Thirlby, Traveling Fellowship, John D. Silbar
Presenter: Christopher L. Coogan, MD
Chicago, IL
11:05 a.m. - 11:35 a.m.  State of the Art Lecture: Reconstruction of the Posterior Urethra Following Pelvic Fracture Urethral Injury
Guest Speaker:           Gerald H. Jordan, MD
Charlottesville, VA

11:35 a.m. - 12:05 p.m.  Presidential Address: Critical Shot: Survival That Made a Presidency, Saved the Nation, and United the World
President:            Patrick H. McKenna, MD, FAAP, FACS
Madison, WI

12:05 p.m. - 12:40 p.m.  Annual Business Meeting

12:40 p.m. - 1:45 p.m.  Industry Satellite Symposium Luncheon
Location: Plaza 1

1:45 p.m. - 2:15 p.m.  Should We StillPrescribe Alpha Blockers for Ureteral Calculi?
Speaker:           Philipp Dahm, MD, MHSc, FACS
Minneapolis, MN

2:15 p.m. - 3:00 p.m.  NCS Resident College Bowl: Round 1
Moderator:           Bradley F. Schwartz, DO, FACS
Springfield, IL
Judges:            Gary M. Kirsh, MD
Cincinnati, OH
Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
Dennis A. Pessis, MD
Chicago, IL
Jeffrey A. Triest, MD
Detroit, MI

6:30 p.m. - 11:00 p.m.  Annual Reception and Banquet
Location: Salon 1&2

SATURDAY, NOVEMBER 14, 2015

OVERVIEW

7:30 a.m. - 12:00 p.m.  Registration/Information Desk Hours
Location: Talbot Registration Desk

7:30 a.m. - 8:30 a.m.  Breakfast
Location: Talbot Pre-Function

7:30 a.m. - 12:00 p.m.  Speaker Ready Room Hours
Location: Magnolia

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite
Location: Seaside

8:00 a.m. - 12:00 p.m.  Scientific Sessions
GENERAL SESSION

8:00 a.m. - 8:25 a.m.  State of the Art Lecture: Challenging Reconstructive Cases
Guest Speaker: Gerald H. Jordan, MD
Charlottesville, VA

8:25 a.m. - 9:10 a.m.  Bizarre and Interesting Cases Podium Session
Moderators: Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
Gary J. Faerber, MD
Ann Arbor, MI

8:25 a.m.  #162  UNFRIENDLY FILTER: AN UNUSUAL CAUSE OF HYDRONEPHROSIS AND HEMATURIA
Wei Phin Tan, MD, Benjamin Sherer, MD, Narendra Khare, MD
Rush University Medical Center
Presented By: Benjamin Sherer

8:28 a.m.  #163  BUCKSHOT COLIC: UTILIZING HOLMIUM LASER FOR URETEROSCOPIC REMOVAL OF A BULLET FRAGMENT WITHIN THE PROXIMAL URETER
Matthew Ziegelmann, MD¹, Alonso Carrasco, MD², John Knoedler, MD², Amy Krambeck, MD²
¹Mayo Clinic Rochester; ²Mayo Clinic - Rochester
Presented By: Matthew Ziegelmann

8:31 a.m.  #164  IMPD K9 SNIFFS OUT SUSPICIOUS PACKAGE
Eric DeRoo, MD, Benjamin Carpenter, MD, Ronald Boris, MD
Indiana University Department of Urology
Presented By: Eric DeRoo

8:34 a.m.  #165  INFANT MALE WITH DIPHALLIA AND CAUDAL DUPLICATION SYNDROME: A CASE REPORT
Meredith Perry, DO¹, Jack Elder, MD²
¹DMC; ²Children’s Hospital of Michigan
Presented By: Meredith Perry

8:37 a.m.  #166  GIANT KIDNEY WORMS WITH METASTATIC RENAL CELL CARCINOMA: AN UNUSUAL CASE OF HEMATURIA
Lindsay Lombardo, DO, Jemima Kuehn, MD, Courtney M.P. Hollowell, MD
Cook County Health and Hospitals System
Presented By: Lindsay Lombardo

8:40 a.m.  #167  STIRRED NOT SHAKEN AND ON THE ROCKS
Ben Carpenter, MD, Michael Borofsky, MD and Ronald Boris, MD
Indiana University
Presented By: Benjamin Carpenter

8:43 a.m.  #168  SPONTANEOUS BLADDER RUPTURE IN A PREMATURE FEMALE NEONATE: A CASE REPORT
Meredith Perry, DO¹, Jack Elder, MD²
¹DMC; ²Children’s Hospital of Michigan
Presented By: Meredith Perry
8:46 a.m.  #169  WITHDRAWN

8:49 a.m.  #170  EXCEPTIONALLY LARGE PARATESTICULAR PSEUDOTUMOR
George Bailey, MD, Christopher Jaeger, MD, Bradley Leibovich, MD
Mayo Clinic
Presented By: George Bailey

8:52 a.m.  #171  AN UNUSUAL IMITATOR OF PENILE CANCER
Matthew Maurice, MD¹, Robert Abouassaly, MD, MS²
¹University Hospitals Case Medical Center and Cleveland Clinic; ²University Hospitals Case Medical Center
Presented By: Matthew Maurice

8:55 a.m.  #172  INNOVATION NEVER SLEEPS BEFORE BRUSHING – NOVEL USE OF A TOOTHBRUSH AS TANCHO’S NODULE
Matt Uhlman, MD, MBA¹, Elizabeth Takacs, MD²
¹Iowa; ²University of Iowa
Presented By: Matthew Uhlman

8:58 a.m.  #173  ENDOSCOPIC RETRIEVAL OF KNOTTED AQUARIUM TUBING IN BLADDER
Jessica Meyers, MD, Frank Penna, MD, Raymond Littleton, MD
Henry Ford Hospital
Presented By: Jessica Meyers

9:01 a.m.  #174  LATE PRESENTATION OF NONTROPICAL CHYLURIA AFTER RADIOFREQUENCY ABLATION (RFA) OF A LEFT RENAL MASS
Benjamin Sherer, MD, John Richgels, Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Benjamin Sherer

9:04 a.m.  #175  BUCKSHOT COLIC
Tim Large, MD, Andrew Strine, MD, Allison Keenan, MD, Michael Koch, MD
Indiana University Purdue University Indianapolis
Presented By: Tim Large

9:07 a.m.  #176  WITHDRAWN

9:10 a.m. - 9:15 a.m.  Urology Care Foundation Update
Speaker: Richard A. Memo, MD
Youngstown, OH

9:15 a.m. - 9:25 a.m.  NCSAUA Foundation Scholar Report
Presenter: Bernadette M. Zwaans, PhD
Royal Oak, MI

9:25 a.m. - 9:40 a.m.  AUA 2015 Choosing Wisely Recommendations
Speaker: John T. Stoffel, MD
Ann Arbor, MI

9:40 a.m. - 10:00 a.m.  Break
Location: Talbot Pre-Function
Concurrent Sessions Begin

Concurrent Session 1 of 2

10:00 a.m. - 11:00 a.m.  Laparoscopy/Robotics Podium Session
Location: Talbot E
Moderator: Shaheen R. Alanee, MD, MPH, MBA
Springfield, IL
Discussant: Chandru P. Sundaram, MD
Indianapolis, IN

10:00 a.m.  #177 RETROPERITONEAL ROBOTIC-ASSISTED PARTIAL NEPHRECTOMY: A SUPERIOR APPROACH TO POSTERIOR RENAL MASSES
Jessica Wetterlin, MD, Robert Blackwell, MD, Stephanie Kliethermes, Marcus Quek, MD, Gopal Gupta, MD
Loyola University Medical Center
Presented By: Jessica Wetterlin

10:04 a.m.  #178 IMPACT OF ANNUAL SURGICAL VOLUME ON OUTCOMES OF ROBOT-ASSISTED PARTIAL NEPHRECTOMY IN A MULTI-INSTITUTIONAL, MULTINATIONAL COHORT
Deepansh Dalela¹, Ravi Barod, MD¹, Akshay Sood, MD¹, Mahendra Bhandari, MD¹, Rajesh Ahlawat, MD², Sudhir Rawal, MD³, Ben Challacombe, MD⁴, Daniel Moon, MD⁵, Nicolo Buffi, MD⁶, Alessandro Larcher, MD⁶, Dipen Parekh, MD⁷, Giacomo Novara, MD⁸, Alex Mottrie, MD⁸, Alessandro Volpe, MD⁹, Ronney Abaza, MD⁹, Francesco Porpiglia, MD¹⁰, Craig Rogers, MD¹
¹Vattikuti Urology Institute; ²Medanta Hospitals, Medicity, Gurgaon; ³Rajiv Gandhi Cancer Center, Delhi; ⁴Guy’s Hospital, London; ⁵Peter MacCallum Cancer Center, Melbourne; ⁶Vita San Raffaele, Milan; ⁷University of Miami, Miami; ⁸OLV Vattikuti Urology Institute, Aalst; ⁹Ohio Dublin Methodist, Dublin; ¹⁰University of Torino, Torino
Presented By: Deepansh Dalela

10:08 a.m.  #179 UTILITY OF PREOPERATIVE MRI IN CHARACTERIZING THE PARENCHYMAL-TUMOR INTERFACE OF RENAL MASSES PRIOR TO SURGICAL INTERVENTION
Shalin Desai, Connor Snarkis, BS, Gopal Gupta, MD
Loyola University Stritch School of Medicine
Presented By: Shalin Desai

10:12 a.m.  #180 MANAGEMENT OF VENOUS TUMOR THROMBUS ENCOUNTERED DURING OPEN AND ROBOT-ASSISTED PARTIAL NEPHRECTOMIES FOR RENAL CELL CARCINOMA
Firas Petros, MD¹, Debra Zynger, MD², Ahmad Shabsigh, MD¹, David Sharp, MD¹, Geoffrey Box, MD¹
¹Department of Urology, The Ohio State University Wexner Medical Center; ²Department of Pathology, The Ohio State University Wexner Medical Center
Presented By: Firas Petros
ROBOTIC RENAL MASS ENUCLEATION MAXIMIZES PRECISION OF EXCISION AND RECONSTRUCTION COMPARED TO TRADITIONAL ROBOTIC PARTIAL NEPHRECTOMY

Robert Blackwell, MD¹, Belinda Li, MD¹, Zhiling Zhang, MD², Juping Zhao, MD², Jessica Wetterlin, MD¹, Marcus Quek, MD¹, Steven Campbell, MD, PhD², Gopal Gupta, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Cleveland Clinic Foundation, Cleveland, OH
Presented By: Belinda Li

COMPARISON OF OPERATIVE AND PERIOPERATIVE OUTCOMES BETWEEN ROBOTIC ASSISTED PROLAPSE REPAIR AND TRANSVAGINAL MESH REPAIR

Priyanka Gupta, MD¹, Michael Ehler, MD¹, Kim A. Killinger, MSN¹, Judith A. Boura, MS¹, Renee Cholyway², Brian Odom², Melissa Fischer, MD¹, Jamie Bartley, MD¹, Jason Gilleran, MD¹, Larry T. Sirls, MD¹
¹Beaumont Health System; ²Oakland University William Beaumont School of Medicine
Presented By: Larry T. Sirls

DETAILED COST ANALYSIS OF ROBOTIC SACROCOLPOPEXY COMPARED TO TRANSVAGINAL MESH REPAIR

Jonathan Park¹, Michael Ehler, MD², Larry Sirls, MD, FACS²
¹Oakland University William Beaumont School of Medicine; ²William Beaumont Health System
Presented By: Jonathan Park

IMPACT OF OBESITY ON OUTCOMES OF ROBOTIC ASSISTED RADICAL CYSTECTOMY

Vishnu Ganesan¹, Homayoun Zargar, MD², Georges-Pascal Haber, MD, PhD²
¹Cleveland Clinic Lerner College of Medicine; ²Cleveland Clinic Glickman Urological and Kidney Institute
Presented By: Vishnuvardhan Ganesan

IMPROVED CONTINENCE WITH MODIFIED POSTERIOR RECONSTRUCTION OF THE RHABDOSPINHINCTER AFTER ROBOTIC–ASSISTED RADICAL PROSTATECTOMY -A RANDOMIZED CONTROLLED TRIAL

Yasin Bhanji, BA, Barry McGuire, MD, Samuel Eaton, MD, Gregory Auffenberg, MD, Mohammed Said, BA, Adarsh Munajath, BA, Caroline Dong, BA, Kent Perry, MD, Robert Nadler, MD
Northwestern University Feinberg School of Medicine
Presented By: Yasin Bhanji
IMPACT OF OBESITY ON WOUND COMPLICATIONS FOLLOWING RADICAL PROSTATECTOMY IS MITIGATED BY ROBOTIC TECHNIQUE
M. Francesca Monn, MD, MPH, Timothy A. Masterson, MD, Matthew J. Mellon, MD, Chandru P Sundaram, MD, Michael O. Koch, MD, Ronald S. Boris, MD
Indiana University School of Medicine Department of Urology
Presented By: M. Francesca Monn

ADDING A NEWLY TRAINED SURGEON INTO A HIGH VOLUME ROBOTIC PROSTATECTOMY GROUP: ARE OUTCOMES COMPROMISED?
Luchen Wang, BS, Mireya Diaz, PhD, Craig Rogers, MD
Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Luchen Wang

ROBOTIC PROSTATECTOMY MORE LIKELY AT ACADEMIC CENTERS
Matthew Maurice, MD¹, Hui Zhu, MD, ScD², Simon Kim, MD, MPH³, Robert Abouassaly, MD, MS³
¹University Hospitals Case Medical Center and Cleveland Clinic; ²Cleveland VA Medical Center and Cleveland Clinic; ³University Hospitals Case Medical Center
Presented By: Matthew Maurice

PREOPERATIVE MULTIPARAMETRIC PROSTATE MRI ALTERS NERVE SPARING DECISION−MAKING WHILE OPTIMIZING ONCOLOGIC OUTCOMES IN HIGH−RISK PATIENTS
Peter Filip Jr.¹, Grace Yoon¹, Stephanie Kliethermes, PhD², Marcus Quek, MD², Robert Flanigan, MD², Ari Goldberg, MD, PhD², Joseph Jacoub, MD², Steven Shea, PhD², Gopal N. Gupta, MD²
¹Loyola University Stritch School of Medicine; ²Loyola University Medical Center
Presented By: Peter Filip Jr.
Concurrent Session 2 of 2

10:00 a.m. - 11:00 a.m.  Adrenal/Kidney/Ureter Podium Session
Location: Talbot A-D
Moderators: Todd M. Morgan, MD
           Ann Arbor, MI
           Bradley F. Schwartz, DO, FACS
           Springfield, IL
Discussant: Bradley C. Leibovich, MD
           Rochester, MN

10:00 a.m. #190  A COST ANALYSIS OF RENAL BIOPSY VS
LAPAROSCOPIC CRYOABLATION FOR INITIAL
MANAGEMENT OF SMALL RENAL MASSES
Michael Kottwitz, MD, Thomas Tieu, MD, Joshua Ring, MD,
Bradley Schwartz, DO
Southern Illinois School of Medicine
Presented By: Michael Kottwitz

10:04 a.m. #191  WITHDRAWN

10:08 a.m. #192  TRICHLOROETHYLENE IS ASSOCIATED WITH
KIDNEY CANCER MORTALITY: A
POPULATION-BASED ANALYSIS
Daniel Sadowski, MD, MPhil, Joseph Clemons, BS, Danuta
Dynda, MD, Shaheen Alanee, MD, MPH
Southern Illinois University School of Medicine
Presented By: Daniel Sadowski

10:12 a.m. #193  EVALUATING PREDICTORS OF RENAL TUMOR
PSEUDOCAPSULE INVASION FOR SMALL RENAL
CELL CARCINOMA: ANALYSIS USING THE
TUMOR CAPSULAR INVASION SCORING SYSTEM
Connor Snarskis Conno¹, Lu Wang, MD², Adam Calaway,
MD³, Maria Picken, MD, PHD², Stephanie Kliethermes,
PHD⁴, Ian Hughes, MD², Muhammed Idrees, MD³,
Dibson Gondim, MD³, Ronald Boris, MD³, Gopal Gupta, MD⁴
¹Loyola University Chicago Stritch School of Medicine;
²Loyola University Medical Center Department of Pathology;
³Indiana University Health Center Department of Urology;
⁴Loyola University Medical Center Department of
Biostatistics; ⁵Loyola University Medical Center Department
of Urology
Presented By: Connor Snarskis
10:16 a.m.   #194  ANATOMY OF THE ENUCLEATED TUMOR AND THE PARENCHYMAL MARGIN IN CLEAR CELL RENAL CELL CARCINOMA AFTER PARTIAL NEPHRECTOMY
Adam Calaway, MD, Dibson Gondim, MD, Chandra Flack, MD, Joseph Jacob, MD, Muhammad Idrees, MD, Ronald Boris, MD
Indiana University
Presented By: Adam Calaway

10:20 a.m.   #195  ANESTHESIA-LESS OFFICE BASED DIAGNOSTIC AND THERAPEUTIC URETEROSCOPY FOR UPPER URINARY TRACT CARCINOMA.
Ahmad Shabsigh, MD
The Ohio State University Wexner Medical Center
Presented By: Ahmad Shabsigh

10:24 a.m.   #196  DELAYED INTERVENTION AND FINAL PATHOLOGY IN PATIENTS WITH SMALL RENAL MASSES (SRM)
Scott Hawken, BS, Naveen Krishnan, BS, Sapan Ambani, MD, Jeffrey Montgomery, MD, Khaled Hafez, MD, BCh, David Miller, MD, MPH, Ganesh Palapattu, MD, Alon Weizer, MD, James Stuart Wolf, MD, Todd Morgan, MD
University of Michigan
Presented By: Scott Hawken

10:28 a.m.   #197  PREDICTORS OF DELAYED INTERVENTION (DI) FOR PATIENTS ON ACTIVE SURVEILLANCE (AS) FOR SMALL RENAL MASSES: DOES RENAL MASS BIOPSY (RMB) INFLUENCE OUR DECISION?
Sapan Ambani, MD¹, Todd Morgan, MD², Adam Gadzinski, MD³, Bruce Jacobs, MD⁴, Khaled Hafez, MD², David Miller, MD², Jeff Montgomery, MD², Ganesh Palapattu, MD², Alon Weizer, MD², J. Stuart Wolf, Jr., MD²
¹University of Michigan; ²University of Michigan Department of Urology; ³University of California-San Francisco Department of Urology; ⁴University of Michigan Department of Urology
Presented By: Sapan Ambani

10:32 a.m.   #198  SURGICAL MORBIDITY IN EXTREMELY OBESE RCC PATIENTS
Matthew D. Grimes, MD¹, Michael L. Blute, Jr., MD², Kristin Zorn², Tracy M. Downs, MD², Fangfang Shi, MS², David F. Jarrard, MD², Sara L. Best, MD², Sean P. Hedican, MD², Stephen Y. Nakada, MD², E. Jason Abel, MD²
¹University of Wisconsin Dept of Urology; ²University of Wisconsin Dept. of Urology
Presented By: Matthew Grimes
10:36 a.m. #199 RECEIPT AND TIMELINESS OF SYSTEMIC THERAPY FOLLOWING CYTOREDUCTIVE NEPHRECTOMY
Boris Gershman, MD, Stephen Boorjian, MD, Daniel Moreira, MD, Christine Lohse, BS, John Cheville, MD, Brian Costello, MD, Bradley Leibovich, MD, R. Houston Thompson, MD
Mayo Clinic
Presented By: Boris Gershman

10:40 a.m. #200 ENUCLEO−RESECTION OF RENAL MASSES, A NEW AVASCULAR PLANE? -EXAMINATION OF TUMOR PSEUDOCAPSULE OF 129 SMALL RENAL MASSES
Connor Snarskis Conno¹, Lu Wang, MD², Ian Hughes, MD², Maria Picken, MD, PHD², Gopal Gupta, MD³
¹Loyola University Chicago Stritch School of Medicine; ²Loyola University Medical Center Department of Pathology; ³Loyola University Medical Center Department of Urology
Presented By: Connor Snarskis

10:44 a.m. #201 RENAL CELL CARCINOMA CONTAINING ENTRAPPED FAT WITH AND WITHOUT OSSEOUS METAPLASIA
Jason Orien, MD¹, Geoffrey Box, MD², Debra Zynger, MD³
¹The Ohio State University Department of Urology; ²Department of Urology; ³Department of Pathology
Presented By: Jason Orien

10:48 a.m. #202 SARCOPENIA IS INDEPENDENTLY ASSOCIATED WITH INCREASED MORTALITY FOLLOWING RADICAL NEPHRECTOMY FOR LOCALIZED RENAL CELL CARCINOMA
Sarah Psutka, MD¹, Michael Moynagh, MD², Grant Schmit, MD², R. Houston Thompson, MD³, Stephen Boorjian, MD³, Suzanne Stewart, MD³, Christine Lohse, MS⁴, John Cheville, MD⁵, Bradley Leibovich, MD⁶, Matthew Tollefson, MD⁶
¹Mayo Clinic; ²Department of Radiology, Mayo Clinic; ³Department of Urology, Mayo Clinic; ⁴Department of Health Sciences Research, Mayo Clinic; ⁵Department of Pathology, Mayo Clinic; ⁶Department Urology, Mayo Clinic
Presented By: Sarah Psutka

10:52 a.m. - 11:00 a.m. Q&A

Concurrent Sessions End

11:00 a.m. - 11:50 a.m. NCS Resident College Bowl: Finals
Moderator: Bradley F. Schwartz, DO, FACS
Springfield, IL
Judges: Gary J. Faerber, MD
Ann Arbor, MI
Chandru P. Sundaram, MD
Indianapolis, IN
11:50 a.m. - 11:55 a.m.  Announcement of Best Bizarre and Interesting Case, Best Video
Presenter:  Patrick H. McKenna, MD, FAAP, FACS
Madison, WI

11:55 a.m. - 12:00 p.m.  Incoming NCS President Remarks
President-Elect:  Gary M. Kirsh, MD
Cincinnati, OH
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CHARCHENKO, CA.M.ERON  
11/11/2015 3:30 p.m. AB #73

CHERULLO, EDWARD  
11/11/2015 7:05 a.m.  
11/12/2015 9:30 a.m.  
11/13/2015 6:30 a.m.

CHI, A.M.ANDA C  
11/11/2015 10:30 a.m. AB #20

CLEMENS, J.QUENTIN  
11/11/2015 6:50 a.m.  
11/11/2015 3:30 p.m.

COHEN, ANDREW  
11/11/2015 4:30 p.m. Poster #1  
11/12/2015 9:46 a.m. AB #103

COOGAN, CHRISTOPHER  
11/12/2015 8:30 a.m.  
11/12/2015 12:30 p.m.  
11/13/2015 11:00 a.m.

COONEY, KATHLEEN  
11/11/2015 1:30 p.m.

COOPER, CHRISTOPHER  
11/11/2015 8:30 a.m.  
11/11/2015 10:30 a.m.

COTTER, KATHERINE  
11/11/2015 4:02 p.m. AB #68

CUZICK, JACK  
11/11/2015 4:30 p.m. Poster #7  
11/11/2015 4:30 p.m. Poster #8

DABAGIA, MARK  
11/13/2015 6:30 a.m.

DAHM, PHILIPP  
11/12/2015 9:30 a.m.  
11/13/2015 1:45 p.m.  
11/12/2015 9:42 a.m. AB #113

DALELA, DEEPANSH  
11/13/2015 6:30 a.m. Video #11  
11/14/2015 10:04 a.m. AB #178

DAUW, CASEY  
11/11/2015 4:02 p.m. AB #81  
11/11/2015 4:10 p.m. AB #83

DEROO, ERIC  
11/14/2015 8:31 a.m. AB #164

DERUS, LINDSAY  
11/11/2015 4:30 p.m. Poster #38  
11/12/2015 12:30 p.m. Poster #62

DESAI, SHALIN  
11/14/2015 10:08 a.m. AB #179

DOBBS, RYAN  
11/11/2015 10:42 a.m. AB #36  
11/12/2015 12:30 p.m. Poster #53

DRAY, ELIZABETH  
11/13/2015 8:34 a.m. AB #152  
11/13/2015 9:02 a.m. AB #159

DUPREE, JA.M.ES  
11/11/2015 10:30 a.m. AB #33  
11/11/2015 10:30 a.m.

EDNEY, MARK  
11/11/2015 8:00 a.m.

EDWARDS, LUKE  
11/11/2015 3:50 p.m. AB #91

EL-ARABI, AHMAD  
11/12/2015 12:30 p.m. Poster #57

ELESWARAPU, SRIRA.M.  
11/11/2015 4:30 p.m. Poster #6  
11/12/2015 10:14 a.m. AB #121

FAASSE, MARK  
11/11/2015 4:30 p.m. Poster #27

FAERBER, GARY  
11/14/2015 8:25 a.m.  
11/14/2015 11:00 a.m.

FARRELL, MICHAEL  
11/12/2015 11:52 a.m. AB #132  
11/12/2015 11:56 a.m. AB #133
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HELFAND, ALEXANDER  
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HERRE, WILLIA.M.  
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HERREL, LINDSEY  
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HOLLAND, BRADLEY  
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HUSSAIN, SANA  
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ISHARWAL, SUMIT  
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JOHNSON, EMILIE  
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11/14/2015  8:00 a.m.

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KADLEC, ADA.M.  
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KAVALER, ELIZABETH  
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KEENAN, ALISON  
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KIM, SIMON  
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KING, DARLENE  
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11/13/2015  8:30 a.m.  AB #140

PELLETIER CA.M.ERON, ANNE
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11/14/2015  8:34 a.m.  AB #165

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11/14/2015  10:12 a.m. AB #180

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POWELL, CHARLES
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PREECE, JANAE
11/11/2015  4:30 p.m.  Poster #36

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PSUTKA, SARAH
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RA.M.SAY, SOPHIE
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11/13/2015  7:55 a.m.

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RIVERA, MARCELINO
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SAND, PETER
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SANTIAGO-LASTRA, YAHIR
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SARHAN, AHMED
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SCHWARTZ, BRADLEY
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11/14/2015  10:00 a.m.
11/14/2015  11:00 a.m.

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SHAH, ARPEET
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11/11/2015  3:38 p.m.  AB #88
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11/12/2015  11:40 a.m. AB #129
11/12/2015  12:30 p.m. Poster #64
11/12/2015  12:30 p.m. Poster #65
11/13/2015  9:02 a.m.  AB #148
11/14/2015  8:25 a.m.  AB #162
11/14/2015  9:01 a.m.  AB #174
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11/11/2015  4:30 p.m.  Poster #26

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11/12/2015  12:30 p.m.  Poster #69  
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11/13/2015  9:06 a.m.  AB #160

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11/12/2015  10:40 a.m.

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SULAEVER, RANDY  
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11/14/2015  11:00 a.m.

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11/12/2015  11:44 a.m.  AB #130

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TRACEY, JA.M.ES  
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TRIEST, JEFFREY  
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11/13/2015  2:15 p.m.

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Podium #1
COMPUTER MODEL PREDICTING BREAKTHROUGH FEBRILE UTI IN CHILDREN WITH PRIMARY VESICOURETERAL REFLUX (VUR)
Siobhan Alexander, Moshe Wald, Angela Arlen, Christopher Cooper, MD, FAAP, FACS
University of Iowa
Presented By: Christopher Cooper

Introduction: We developed and investigated the accuracy of a new multi-variable computational model for predicting breakthrough fUTIs in children with VUR.
Methods: Children with primary VUR and detailed clinical and voiding cystourethrogram (VCUG) data were identified. Patient age, gender, VCUG findings including grade, laterality, bladder volume at onset of VUR, UTI history, and presence of bladder/bowel dysfunction were assessed to determine likelihood of breakthrough fUTI. Median follow-up was 24 months (interquartile range 12 to 52 months). The dataset was randomized into a training set of 288 and a separate representational cross-validation set of 96. Various model types and architectures were investigated using neUROn++, a set of C++ programs.

Results: Two hundred fifty children (208 girls, 47 boys) diagnosed with primary VUR at a mean age of 3.1 years (± 2.6) met all inclusion criteria; 384 VCUGs were analyzed. Sixty-eight children (26.7%) experienced 90 breakthrough fUTI events. A 2-hidden node neural network model had the best fit with an ROC area of 0.755 for predicting breakthrough fUTI. A prognostic calculator using this model can be deployed for availability on the internet, allowing input variables to be entered to calculate the odds of developing a breakthrough fUTI.

Conclusion: This is the first computational model using multiple variables including bladder volume at onset of VUR. It provides improved individualized prediction of children at risk for breakthrough fUTI. A web-based prognostic calculator based on this model will provide a useful tool for assessing the risk of breakthrough fUTI in children with primary VUR.

Podium #2
THE IMPLICATIONS OF FELLOWSHIP EXPANSION ON PEDIATRIC UROLOGIST CASE VOLUMES
Sophie Ramsay, MD¹, Travis W Groth, MD¹, Christopher S Cooper, MD², William A See, MD¹, John V Kryger, MD¹
¹Medical College of Wisconsin; ²University of Iowa Carver College of Medicine
Presented By: Sophie Ramsay

Introduction: The objective of this study is to predict the effect of the current number of pediatric urology fellowships in the United States on future per-surgeon case volumes using a mathematical model previously developed at the Medical College of Wisconsin.

Methods: An approximation of the future workforce was obtained by combining the current number of pediatric urology fellowships and the current pediatric urology manpower, and by adjusting for a yearly retirement rate of 3.33% based on an assumed 30-year career. Annual numbers for 5 index cases (orchiopexy, hypospadias repair, pyeloplasty, posterior urethral valve ablation, and bladder
augmentation) were estimated from the literature, and future numbers were estimated by adjusting for the US population birth rate. Future per–surgeon case volumes were then predicted according to 2 models.

**Results:** Assuming no interval changes in the number of pediatric urology fellowships, there is a possibility to increase the number of practicing board–certified pediatric urologists in the next 30 years from approximately 330 to 900. This will significantly decrease per–surgeon case volumes. Indeed, the ratio of future–to–current per–surgeon case volumes is predicted to be 0.53 and 0.88 according to our 2 models.

**Conclusion:** Without readjustement in the current number of pediatric urology fellowships, there will ultimately be an oversupply of pediatric urologists, which will decrease the per–surgeon case volume, and potentially cause a compromise of skill maintenance and a drastic change in the practice of pediatric urology.

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**Podium #3**

**MULTI-INSTITUTIONAL ANALYSIS AND VALIDATION OF THE VESICOURETERAL REFLUX INDEX (VURX)**

Angela M. Arlen, MD¹, Michael Garcia-Roig², Aaron D. Weiss², Traci Leong², Christopher S. Cooper¹, Andrew J. Kirsch²

¹University of Iowa Hospitals & Clinics; ²Children's Healthcare of Atlanta/Emory University

Presented By: Angela Arlen

**Introduction:** VURx is a novel tool (Figure 1A) designed to predict spontaneous reflux resolution in children <2 years of age. We performed a multi–institutional validation study to confirm the discriminatory power of VURx in predicting VUR resolution rates.

**Methods:** Children diagnosed with primary VUR before 24 months of age with ≥2 VCUGs were identified. Demographics, VUR grade and timing, ureteral anomalies, and radiographic outcomes were evaluated.

**Results:** Three hundred and sixty–nine children (219 girls, 150 boys) met inclusion criteria. One hundred and one patients (27.4%) had early to mid–filling, 214 (58%) late filling and 54 (14.6%) had voiding only VUR. Eighty–seven children (23.6%) had high–grade reflux. Ureteral anomalies were observed in 50 children (13.6%). VURx 1 to 5–6 had improvement/resolution rates of 88.2%, 77.3%, 62.3%, 32.1% and 14.3%, respectively (Figure 1B). Children with filling phase VUR (p<0.001), grade 4–5 reflux (p<0.001), and ureteral anomalies (p=0.003) had significantly longer median times to resolution. Median time to spontaneous resolution was 12.6, 12.7, 15.1, 25.6 and >31 months for VURx 1 to 5–6, respectively. C–index was 0.305 (95% CI, 0.252–0.357).

**Conclusion:** VURx is a simple tool that reliably predicts significant improvement and spontaneous resolution of primary reflux in children diagnosed at <2 years. VURx provides valuable prognostic information, facilitating individualized patient care.
Podium #4  
WNT−5A OVEREXPRESSING STEM CELLS ENHANCE BLADDER TISSUE REGENERATION IN A BLADDER AUGMENTATION MODEL
Jessica Hannick, MD¹, Edward Diaz, MD², Devon Snow-Lisy, MD², Matt Bury², Natalie Fuller², Nida Ahmad³, Arun Sharma, PhD⁴  
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; ³Loyola University; ⁴Ann & Robert H. Lurie Children’s Hospital of Chicago, Division of Pediatric Urology; Northwestern University Feinberg School of Medicine, Department of Urology; Northwestern University, Simpson Querrey Institute for BioNanotechnology  
Presented By: Jessica Hannick

Introduction: Attempts at bladder tissue regeneration have been hindered by inadequate tissue growth. Wnt signaling plays a critical role in embryologic development and possibly in vessel, muscle, and nerve regeneration. We examined the impact of scaffolds seeded with mesenchymal stem cells (MSCs) overexpressing (OE) Wnt−5a on bladder tissue regeneration.

Methods: Human MSCs were modified to overexpress Wnt−5a and seeded on poly(1,8−octanediol−cocitrate) (POC) scaffolds. Baseline urodynamics and capillarioscopy were performed in the nude rat model (n=5). Following 50−60% partial cystectomy, the bladders were augmented with the composites. Bladders were analyzed at four weeks for muscle content, vessel number, percentage vasculature, and urothelial width. Nerve regeneration was assessed using immunofluorescence.

Results: Obtained: We compared the Wnt−5a OE grafts to previous control models with POC−only grafts and unmanipulated MSC−seeded POC grafts. Mean native vasculature was comparable in all groups. Mean vasculature in the regenerated Wnt−5a OE group was increased compared to the regenerated POC−only and MSC groups (206.4±9.7 vessels/mm² and 4.79±0.51%; 63.8±5.4 and 1.07±0.10%; and 83.4±15.8 and 1.46±0.16%). Capillarioscopy of the regenerated Wnt−5a tissues demonstrated functional capillaries. Relative to POC−only grafts (19.3±1.9%) and MSC grafts (38.4±1.0%), the Wnt−5a OE grafts (51.5±1.7%) demonstrated superior musculature. Urodynamics in the Wnt−5a bladders mirrored native bladders. Regenerated nerves were evident in Wnt5−a bladder tissue and absent in MSC and POC−only tissues. Compared to POC−only (19.47±3.27%) and MSC grafts (33.07±1.3%), the Wnt−5a OE grafts (77±7.05%) showed greater urothelial width.
Conclusion: Overexpression of Wnt−5a in MSCs in rat bladder augmentation yields marked vessel, muscle, nerve, and urothelium regeneration.

Podium #5
TESTICULAR MICROLITHIASIS IN ASYMPTOMATIC BOYS. WHAT IS THE APPROPRIATE FOLLOW−UP?
Alison Keenan, MD, Benjamin Whittam, MD, MS, William Bennett, MD, Aaron Carroll, MD, MS, Richard Rink, MD
Indiana University Health
Presented By: Alison Keenan

Introduction: The widespread use of scrotal ultrasound (US) in boys with genital complaints has led to increased identification of testicular microlithiasis (TM). We aimed to compare the risks, costs, and benefits of four distinct follow−up strategies for TM, and use decision science to identify the best strategy.

Methods: Using standard decision modeling techniques, including Markov chain modeling, we constructed a decision tree using TreeAge Pro ™ decision analysis software to evaluate four follow−up protocols for healthy boys incidentally discovered to have TM: (1) TSE only, (2) a single follow up ultrasound in 1 year, (3) yearly ultrasounds until age 18, or (4) twice yearly ultrasounds until age 18.

Results: For each strategy, we obtained the following simulated total cost and mortality in a cohort of 100,000 patients. (1) TSE only – US$0 with 11 deaths from malignancy (27 overall deaths), (2) a single follow up ultrasound in 1 year – US$27 million with 11 deaths from malignancy (27 overall deaths), (3) yearly ultrasounds until age 18 – US$188.7 million with 11 deaths from malignancy (27 overall deaths), and (4) twice yearly ultrasounds until age 18 – US$ 431.5 million with 10 deaths from malignancy (26 overall deaths).

Conclusion: Ultrasound screening for malignancy in patients with TM results in minimal mortality benefit (1 life is saved in 100,000 at a high cost (US$431 million). Pediatric urologists should consider TSE alone as a safe, cost−effective strategy for children with incidental TM.

Podium #6
USE OF SEMEN ANALYSIS IN ADOLESCENTS WITH VARICOCELE: AN UPDATE
Ayad Khourdaji, MD¹, Emily Blum, MD², Gregory McLennan, MD³, Charity Chen MS², Evan Kass, MD⁴
¹Beaumont Health System; ²Beaumont Health System, Royal Oak, MI; ³Mercy Hospital, Saint Louis, MO; ⁴Oakland University William Beaumont School of Medicine, Rochester, MI
Presented By: Ayad Khourdaji

Introduction: The goal of varicocelectomy is preservation of fertility. We present our experience of using semen analysis (SA) in adolescents with varicocele.

Methods: Retrospective chart review was performed of adolescents with Grade 2 or 3 varicocele who provided a SA. Variables included age, grade, operative management, and testicular volumes from ultrasound or orchidometer. The SA was considered abnormal when at least one parameter was abnormal.

Results: 93 patients were included (average age at diagnosis; 15.2 ± 2.3 years). The average age at SA was 18.5 ± 1.4 years. 61 patients were followed non−operatively and 32 underwent varicocelectomy prior to SA. There was no
significant association with prior surgery and an abnormal SA. The percentage of patients with abnormal motility improved from 25% in non-operative patients to 3% in patients after varicocelectomy \( (p = 0.009) \). 10% and 20% left volume loss cut-offs were not significantly associated with abnormal SA. Grade of the varicocele was not associated with abnormal SA. There was no significant difference observed between subjects with normal or abnormal SA and left or right testicular volumes.

**Conclusion:** Our initial experience shows that left volume loss may not always predict semen abnormalities. Further studies with pre/post-operative SA and fertility outcomes are necessary.

**Podium #7**

**FARMLAND, FERTILIZER AND HYPOSPADIAS**

Randy Sulaver, MD¹, Ranijv Mathews, MD²

¹SIU SOM; ²SIU-SOM

Presented By: Randy Sulaver

**Introduction:** Hypospadias is a common congenital anomaly among boys. The etiology is multifactorial and potentially includes environmental factors. Recent reports from Indiana indicated increased incidence of hypospadias in rural communities. Illinois shares similar characteristics, we sought to identify similar link.

**Methods:** We retrospectively reviewed all boys evaluated for diagnosis of hypospadias at our institution. Home county and township for patients were identified. Number of patients per county were compared to the USDA, National Agricultural Statistics Census of Agriculture, providing amount of farmland, fertilizer use, and irrigation use per county.

**Results:** A total of 315 patients from 46 counties were identified. Proportion of farmland per county ranged from 1.4–99.2% with an average 77.7% (SD 18.2%). There was a trend toward significance in the incidence of hypospadias and % of farmland per county with \( r=0.24 \) and \( p=0.10 \). Proportion of county land fertilized ranged from 0.07–71.6% with an average 50.4% (SD 15.9). Incidence of hypospadias and proportion of county land fertilized reached a statistically significant association with \( r=0.28 \) and \( p=0.05 \).

**Conclusion:** Based on the above overview, there appears to be an association between hypospadias and the amount of fertilizer used on farmland. Although not reaching statistical significance there may be correlation with overall farmland and hypospadias. Ongoing accrual of patients, and extension to other farming communities, will permit identification of potential environmental factors that may predispose to the development of hypospadias.

*Our thanks to Dr Martin Kaefer, Indiana University School of Medicine, with whom we are collaborating on this ongoing project.*
Podium #8
IMPACT OF INITIATING A PRACTICE WIDE LOWER URINARY TRACT DYSFUNCTION PROGRAM
Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley MS, Glen E. Leverson, PhD, Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: Patrick McKenna

Introduction: In 2012 our group initiated a protocol based, practice-wide incontinence program. Referring primary care providers were educated on the protocol. It consisted of initial extensive patient education focused on elimination education. If no improvement occurred, then non-invasive screening was initiated. There was delayed use of medications and treatment was based on the non-invasive screening. We assessed our practice before and after initiating the program in regards to urinary tract infections (UTIs), surgical treatment of vesicoureteral reflux (VUR), and prescribing of medication.

Methods: A retrospective chart review was performed on 4−18 y.o. patients with LUTD who were treated in the protocol driven program (N=341) and who were treated previously (N=415). Rates of UTIs, VUR surgery, and prescribing of medications were assessed in each program using the methods of Kaplan & Meier and compared between programs with a logrank test. P−values < 0.05 were considered significant.

Results: By 3 months post 1st clinic visit, UTI rates were significantly less in the protocol program (p<.01). By 12 months post 1st clinic visit, VUR surgery rates were significantly less in the protocol program (p<.01). By 12 months post 1st clinic visit, prescribing of medication rates were significantly less in the protocol program (p<.001).

Conclusion: The data suggest that the protocol driven program successfully decreased rates of UTIs, surgical treatment of VUR and prescribing of medication in children with LUTD since its initiation in 2012. This non-invasive and less pharmaceutically inclined program could be a useful model for other continence programs.

Funding Source: None

Podium #9
NATIONAL TRENDS OF SURGICAL MANAGEMENT FOR TESTICULAR TORSION AND LOSS
Akshay Sood, MD¹, Hanhan Li, MD¹, Firas Abdollah, MD¹, Jesse Sammon, DO¹, James Peabody, MD¹, Mani Menon, MD¹, Yegappan Lakshmanan, MD², Quoc-Dien Trinh, MD³, Jack Elder, MD¹
¹Henry Ford Hospital; ²Children's Hospital of Michigan; ³Brigham and Women's Hospital
Presented By: Hanhan Li

Introduction: Testicular torsion can have long-term psychological and physical sequelae. We present age-specific incidence and national trends of testicular torsion and loss.

Methods: Patients from the Nationwide Inpatient Sample (1998–2010; age≤17years) undergoing surgical management (salvage surgery versus orchiectomy) of testicular torsion were identified (n=17,478). Census-normalized incidences were generated. Multivariable regression analyses were used to evaluate predictors of testicular loss.
Results: Incidence of testicular torsion was 3.4/100,000 in a bimodal distribution with high incidence in infants (4.9/100,000) and 12–17 year-olds (7.4/100,000). The incidence of torsion decreased significantly but testicular loss patterns did not change over time (p>0.05). 38.5% of all patients presenting with torsion lost the testis. Risk factors for testicular loss included age (bimodal risk), low-volume hospitals (p=0.04), higher comorbidities (OR=5.54; p=0.039), Medicaid insurance (OR=1.49; p<0.001) and weekday presentation (p=0.002).

Conclusion: Although the incidence of torsion is decreasing, the patterns of testicular loss have remained stable for the past decade. Interventions promoting improved parent–child communication and screening for known risk factors for torsion in at–risk groups may lead to a reduction in testicular loss.

Financial disclosures: none

Podium #10
READMISSION CHARACTERISTICS OF ELECTIVE PEDIATRIC CIRCUMCISION
Joshua Roth, MD, William Bennett, MD, Benjamin Whittam, MD, MS, Alison Keenan, MD, Aaron Carroll, MD, MS, Richard Rink, MD, Mark Cain, MD
Indiana University Health
Presented By: Joshua Roth

Introduction: Elective circumcisions are safe and common. Little data exists reporting readmission and re–operation rates. We aimed to define these rates in the initial postoperative period to counsel families regarding procedural risks.

Methods: The Pediatric Health Information System (PHIS) was interrogated from 2004 – 2013 for all ambulatory, elective circumcisions (ICD–9–CM code 640). We performed logistical regression analysis with dependent variable of readmission within 7 days and independent variables of age, race, insurance status, readmission diagnosis, and seasonal readmission variation.

Results: We identified 93,092 ambulatory circumcisions. 3,619 (3.9%) patients had subsequent additional encounters. 2,608 (2.8%) were ER visits, and 680 (0.73%) required readmission. 90 patients (< 0.1%) required an additional procedure. Figure 1 graphs readmissions by post–operative day. There were no differences between race, insurance, or season. Compared to children less than 1 year, children 2–5 years old had increased likelihood of additional encounters (OR 1.4 (p = 0.02)) and children > 5 years old had the greatest likelihood of additional encounters (OR 1.7 (p < 0.001)).

Conclusion: Elective circumcision is safe, with readmission rates of <1%, and re–operative rates of <0.1%. 2.8% of patients will have a secondary encounter within the first seven days. This is useful data when counseling patients.

Podium #11
IS GLANS PENIS WIDTH PREDICTIVE OF COMPLICATIONS AFTER HYPOSPADIAS REPAIR?
Diana Bowen, MD, Elizabeth Yerkes, MD, Emilie Johnson, MD, Bruce Lindgren, MD, Max Maizels, MD, Antonio Chaviano, MD, Earl Cheng, MD, Edward Gong, MD, William Kaplan, MD, Dennis Liu, MD, Mark Faasse, MD
Ann & Robert H. Lurie Children's Hospital of Chicago
Presented By: Diana Bowen

Introduction: Few studies have examined whether penile characteristics other
than meatal location independently predict outcomes of hypospadias repair and should therefore be included in prognostic models. We aim to specifically evaluate glans penis width as a predictor of postoperative complications.

**Methods:** We reviewed clinical data recorded at the time of pre−pubertal primary hypospadias repairs between July 2011 and August 2014, as well as postoperative follow−up. Urethroplasty complications were defined as meatal stenosis, dehiscence, fistula, or urethral stricture or diverticulum. The subset of meatal stenosis and dehiscence were regarded as glanular complications. We performed logistic regression to determine association between glans width and complications, with stratification by preoperative testosterone use.

**Results:** Glans width was measured on 159 patients (median, 15 mm; range, 10−22 mm). Median postoperative follow−up was 6 months (IQR, 1−9 months). Twenty−two patients (14%) had one or more urethroplasty complications, including 10 (6%) with glanular complications. Glans width was not significantly predictive of urethroplasty complications overall (P = 0.23) or glanular complications, in particular (P = 0.77). Lack of significant association between glans width and complications was noted both in patients who did and did not receive testosterone preoperatively (see Table).

**Conclusion:** Glans penis width was not predictive of complications after hypospadias repair, regardless of preoperative testosterone use.

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**Table. Odds Ratios (95% CI) for Association of Glans Width (mm) and Complications after Hypospadias Repair**

<table>
<thead>
<tr>
<th></th>
<th>All Urethroplasty Complications</th>
<th>Glanular Complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall (n=159)</td>
<td>1.13 (0.93−1.37)</td>
<td>1.04 (0.79−1.38)</td>
</tr>
<tr>
<td>With Preoperative T (n=84)</td>
<td>1.03 (0.78−1.34)</td>
<td>1.04 (0.72−1.51)</td>
</tr>
<tr>
<td>Without Preoperative T (n=75)</td>
<td>1.17 (0.84−1.64)</td>
<td>0.87 (0.49−1.54)</td>
</tr>
</tbody>
</table>

T = testosterone

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**Podium #12 REPEAT BIOPSY RATES FOR PREMALIGNANT LESIONS IN A STATEWIDE QUALITY IMPROVEMENT COLLABORATIVE**

Frank Burks, MD¹, Dinesh Telang, MD¹, Alice Liu, BS², Yuqing Gao, BS², Susan Linsell, BS², James Montie, MD², David Miller, MD², Khurshid Ghani, MD²

¹Oakland University William Beaumont School of Medicine; ²University of Michigan

Presented By: Frank Burks

**Introduction:** Current guidelines recommend repeat biopsy within 6 months for patients with multi−focal high−grade prostatic intraepithelial neoplasia (HGPIN) or atypical small acinar proliferation (ASAP) on prostate biopsy. We examined utilizations of repeat biopsy of these premalignant lesions within the Michigan Urological Surgery Improvement Collaborative (MUSIC).

**Methods:** From March 2012 through September 2014, standard clinical (e.g., age, race, PSA) and pathological data was collected for patients undergoing first−time prostate biopsy with at least 7 months follow−up, at 32 MUSIC practices. We identified all patients whose pathology revealed multi−focal HGPIN
and/or ASAP. For this subgroup, we examined the frequency of repeat biopsy across MUSIC practices and cancer detection.

**Results:** Among 3,203 men undergoing biopsy with no report of cancer at pathology, pre-malignant lesions were reported in 364 patients. Patients with multi-focal HGPIN (n=157), ASAP (n=168) or multi-focal HGPIN+ASAP (n=39) had repeat biopsy rates of 17%, 38% and 49%, respectively. The median time to repeat biopsy was 201 days (range 8–1,015). In total, 30% of patients with multi-focal HGPIN and/or ASAP underwent a repeat biopsy; rates across MUSIC practices varied from 9% to 54% (p<0.001). The cancer detection rate at re-biopsy was 42%. There were no differences in detection rates among multi-core HGPIN, ASAP and multi-focal HGPIN+ASAP patients. Higher-grade cancers accounted for 27%, 29% and 50% of diagnoses, respectively.

**Conclusion:** Repeat biopsies are performed infrequently in patients with pre-malignant pathology. This data suggests poor compliance with guideline-based care. It may be argued that an aggressive re-biopsy strategy be reserved for patients with both multi-focal HGPIN and ASAP.

Podium #13
THE ASSOCIATION OF PROSTATE CANCER FAMILY HISTORY WITH MORTALITY AMONG MEN UNDERGOING RADICAL PROSTATECTOMY
Mary Elizabeth Westerman, MD¹, Boris Gershman, MD¹, Laureano Rangel², Stephen A. Boorjian, MD¹
¹Mayo Clinic Department of Urology; ²Mayo Clinic Department of Health Sciences Research
Presented By: Mary Westerman

**Introduction:** Family history (FH) of prostate cancer has been associated with increased disease incidence for men, while conflicting data exist regarding the oncologic importance of FH. Herein, we evaluated the association of FH with clinicopathologic outcomes among men undergoing radical prostatectomy (RP).

**Methods:** We identified 16,483 men who underwent RP between 1987–2012. Patients were considered to have a positive FH if at least one first degree relative had been diagnosed with prostate cancer. Survival was estimated using the Kaplan–Meier method. The associations of FH with clinicopathologic features and survival were evaluated using logistic and Cox regression.

**Results:** Overall, 5,326 (32.3%) men had a FH of prostate cancer. Median follow-up was 10.5 years (IQR 6.2, 16.1). Patients with a FH were significantly more likely to be classified as D’Amico low-risk (47.7% vs 43.0%, p<0.0001), and were significantly less likely to have pN+ disease at RP (3.5% vs 4.8%, p=0.001). Men with a prostate cancer FH had a significantly higher 10-year cancer-specific (99% vs 97%, p=<0.001) and overall survival (92% vs 85%, p<0.001) than men without FH. Moreover, on multivariable analysis, the presence of a FH of prostate cancer remained independently associated with decreased cancer-specific (HR 0.63, p=0.0003) and all-cause mortality (HR 0.68, p=0.0001).

**Conclusion:** In this surgical population, men with a FH of prostate cancer have clinically lower risk disease at presentation, more favorable pathology at RP, and significantly better CSS and OS compared to those without FH of CaP. These results may be included with patient risk-stratification and counseling.
Podium #14
TRIPTOLIDE INHIBITS ANDROGEN DEPENDENT, CASTRATION RESISTANT AND ENZALUTAMIDE RESISTANT PROSTATE CANCER GROWTH BY DECREASING ANDROGEN RECEPTOR FULL LENGTH AND SPLICE VARIANTS EXPRESSION
Sumit Isharwal, MD, Shrey Modi, MD, Usman Barlass, MD, Ayman Soubra, MD, Rohit Chugh, MD, Sulagna Banerjee, PhD, Vikas Dudeja, MD, Ashok Saluja, PhD, Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Sumit Isharwal

Introduction: Developing novel chemotherapeutic agents for enzalutamide resistant and castration resistant prostate cancer (CRPC) treatment is critical to improve survival in men with metastatic PCa. Hence, we assessed therapeutic potential of a novel chemotherapeutic agent “Triptolide” on androgen dependent, CRPC and enzalutamide resistant cancer both in-vitro and in-vivo.

Methods: Androgen dependent (LNCaP), CRPC (C4-2) and enzalutamide resistant CRPC (22RV1) tumor cells were treated with triptolide with subsequent viability and apoptosis markers measured. Expression of AR full length and splice variants at mRNA and protein levels were measured. AR promoter activity, and AR downstream target PSA and NKX3.1 were also measured. Nude mice with subcutaneous enzalutamide resistant (22RV1) tumors received daily intraperitoneal injection of Minnelide (a Triptolide prodrug) and tumor volume was measured weekly until tumor size reached 2cm3.

Results: Triptolide treatment resulted in dose- and time-dependent cell death via apoptosis in androgen dependent, CRPC and enzalutamide resistant tumor cells. Triptolide treatment decreased AR full length and splice variants at the mRNA and protein levels. In addition, triptolide treatment decreased AR promoter activity and AR downstream target such as PSA, NKX3.1 at mRNA levels. Mice receiving daily injection of Minnelide had significantly smaller tumor volume and weight than controls as early as the second week of treatment.

Conclusion: Triptolide inhibits growth of androgen dependent, CRPC and enzalutamide resistant PCa cells by reducing AR full length and splice variants expression including AR-V7.

Financial Funding: NIH grant CA12473 (AKS) and gift funds from the Institute for Prostate and Urologic Cancer

Podium #15
BUILD A NOMOGRAM WITH PREOPERATIVE PREDICTORS TO PREDICT EARLY URINARY CONTINENCE RECOVERY AFTER RADICAL PROSTATECTOMY
Jose Flores, MD, David Vock, PhD, Ayman Soubra, MD, Neil Wasserman, MD, Stephanie Jarosek, PhD, Isaac Palma, Christopher Warlick, MD, Christopher J. Weight, MD, Nissrine Nakib, MD, Badrinath Konety, MD
University of Minnesota
Presented By: Jose Flores

Introduction: Urinary incontinence after a radical prostatectomy has a negative impact on the quality of life. Our objective was to establish a nomogram with preoperative predictors for patients with prostate cancer to predict early (6 months) urinary continence recovery after radical prostatectomy.

Methods: 166 patients were evaluated. All clinical characteristics, preoperative
oncological status, pelvic MRI measurements and urinary continence recovery up to 6 months were assessed. A backward stepwise Cox models were performed to find the model. This was fitted to evaluate the discrimination, calibration, sensitivity, specificity, predictive values and accuracy. A nomogram was built according to the methodology described by Losanos and Yang et al. A P value < 0.05 considered statistically significant.

**Results:** The Cox model based on membranous urethra length (MUL), prostate volume, thickness of the levator ani muscle and age was the model that was statistically significant (P= 0.047). In this model, MUL had the highest Hazard ratio (HR=1.1; 95%CI, 1.03 – 1.17. P = 0.003). The area under the ROC curve obtained was 0.703, c−index 0.58, sensitivity 82.3%, specificity 53.2%, positive predictive value 78.8% and accuracy 73.3%.

**Conclusion:** We have developed a pre−operative nomogram that could potentially identify patients with low probabilities for early urinary continence recovery following radical prostatectomy.

Source of funding: None

**Podium #16**
**ACTIVE SURVEILLANCE ACCEPTANCE RATE AMONG AFRICAN AMERICAN MEN WITH LOW−RISK PROSTATE CANCER AT A TERTIARY CARE CENTER**

Ibraheem Malkawi, MD¹, Scott Hughes, DO², Roy Miller Osteopathic Medicine Student³, Ranko Miocinovic, MD
¹DMC Urology/Michigan State University; ²Michigan State University School of Osteopathic Medicine - Detroit Medical Center - Urology; ³Michigan State University School of Osteopathic Medicine

Presented By: Ibraheem Malkawi

**Introduction:** Current acceptance rate for active surveillance (AS) in men diagnosed with low risk prostate cancer (PCa) across urologic practices in Michigan is estimated at 50%, according to the Michigan Urological Surgery Improvement Collaborative (MUSIC). However, it is unknown whether this rate differs among the predominantly African American men (AAM) at Detroit Medical Center (DMC), Michigan.

**Methods:** We evaluated a prospective cohort study of majority AAM diagnosed with low−risk PCa between 2012–2013 at DMC. Criteria for consideration of AS
were based on PSA<10 ng/ml, Gleason score 6, ≤3 positive cores for PCa – each core < 50% involved, and clinical stage T1. Criteria for inclusion and continuation on AS required a repeat biopsy within 1 year.

**Results:** A total of 145 men were diagnosed with PCa during this time period, 66 (46%) had Gleason 6 disease. Of the 66 men, 51 fit the consideration criteria and were offered AS, of whom 41 (80%) accepted. Subsequent repeat biopsy was performed in 19 (46%) patients, of which 6 (32%) showed Gleason 7 disease. Median age was 62 (44–73). 59% (n=24) men had Charlson Comorbidity score >2.

**Conclusion:** Initial acceptance of AS is high among the AAM at DMC, however, long–term safety of such approach in this “higher–risk”population remains to be determined.

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**Podium #17**

**HIGH GRADE INTRAEPITHELIAL NEOPLASIA (HGPIN) IN AFRICAN AMERICAN MEN: SHOULD IMMEDIATE RE–BIOPSY BE RECOMMENDED?**

Ibraheem Malkawi, MD¹, Min Jun, DO², Lira Chowdhury, DO², Ranko Miocinovic, MD²

¹DMC Urology/Michigan State University; ²Michigan State University School of Osteopathic Medicine - Detroit Medical Center - Urology

Presented By: Ibraheem Malkawi

**Introduction:** High Grade Intraepithelial Neoplasia (HGPIN) is a precursor to prostatic cancer (PCa) and has been suggested to be highly predictive of future cancer diagnosis in the African American men (AAM). We evaluated the rate of progression of HGPIN to PCa in AAM at a single tertiary care center.

**Methods:** Retrospective chart review was performed on 600 men who underwent prostate biopsy between 2008–2013. Pathology of initial biopsy was included if it showed the presence of HGPIN only. Of the 57 men with HGPIN, 49 were AAM and included in study (8 Caucasians were excluded). The rate of progression was evaluated.

**Results:** Of 49 AAM with HGPIN at initial biopsy, 16 were lost to follow up and 33 had two or more re–biopsies. The median age and PSA at initial biopsy were 61 years (IQR: 55–66) and 5.8 ng/ml (IQR: 4.9–7.3), respectively. All patients had ≥12 cores at initial biopsy, median number of positive cores with HGPIN being 2 (IQR: 2–4). The median number of time elapsed between first and second biopsy was 5 months (IQR: 2–18). Subsequently, 13 (39%) men were found to have PCa after re–biopsy, of which 7 (54%) had Gleason 6 and 6 (46%) had Gleason 7 disease.

**Conclusion:** Given the major under–representation of AAM in PCa studies, our results further shed light on HGPIN in this high–risk population, where approximately 40% of men were diagnosed with PCa after re–biopsy, suggesting the need for a more prompt re–biopsy in this population.

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**Podium #18 - WITHDRAWN**
Podium #19
MRI–GUIDED TRANSURETHRAL ULTRASOUND ABLATION IN PATIENTS WITH LOCALIZED PROSTATE CANCER: 12–MONTH OUTCOMES OF A PROSPECTIVE MULTI–NATIONAL PHASE I CLINICAL TRIAL
James Relle, MD¹, Jason Hafron, MD², Kiran Nandular, MD², Sascha Pahernik³, Matthias Roethke³, Heinz–Peter Schlemmer³, Mathieu Burtnyk⁴, Michele Billia⁵, Joseph Chin, MD⁵
¹William Beaumont Hospital, Royal Oak MI; ²Department of Urology and Radiology, Beaumont Health System, Royal Oak MI, United States; ³Department of Radiology, German Cancer Research Center DKFZ, and Department of Urology, University Hospital, Heidelberg, Germany; ⁴Profound Medical Inc., Toronto ON, Canada; ⁵Departments of Urology, Western University UWO, London Health Sciences Center, London Victoria Hospital, London ON, Canada
Presented By: James Relle

Introduction: MRI–guided transurethral ultrasound ablation (MRI–TULSA) is a new minimally invasive modality using real–time temperature feedback and MRI monitoring to ablate prostate tissue. This multi–center Phase I clinical study is designed to determine safety and feasibility of MRI–TULSA for the treatment of prostate cancer.

Methods: Patients with low–risk prostate cancer (cT1c–T2a; PSA≤10ng/ml; GS≤6) were enrolled. The TULSA device (TULSA–PRO, Profound Medical Inc.) was positioned in the prostatic urethra under MRI guidance. Treatment planning included a 3mm safety margin, with 10% residual viable prostate expected around the capsule. Ultrasound treatment was delivered under continuous MRI thermometry feedback control. Primary endpoints are safety and feasibility. Clinical follow–up includes serial PSA, 12–month prostate biopsy and MRI.

Results: Median (5%–95%) treatment time was 36 (24–54) min and prostate volume 44 (30–89) cc. Spatial precision of ablation was ±1.3mm, with the conformal non–perfused volume confirmed on CE–MRI. Complications (CTCAEv4) included hematuria (14pts Grade1; 2pts G2), UTI (10pts G2), retention (3pts G1; 5pts G2), and epididymitis (1pt G3). There were no rectal injuries or intraoperative complications. PSA decreased from 5.8 (2.8–8.9) ng/ml to 0.8 (0.1–3.2) at 1mo (n=30), remaining stable at 0.8 (0.1–2.2) to 12mo (n=21). MRI and biopsy at 12mo show diminutive prostate volumes, averaging 47% fibrosis (n=20). Positive biopsies demonstrate 62% reduction in total cancer length.

Conclusion: MRI–TULSA provides precise, real–time thermal prostate ablation in an outpatient setting. Well–tolerated side–effect profile was observed. Data are sufficiently compelling to recommend initiating a larger trial for prostate cancer local treatment.

Podium #20
BOWEL PREPARATION AND PERIOPERATIVE ANTIBIOTIC USE IN UROLOGIC SURGERY: PRACTICE PATTERN AMONGST UROLOGISTS
Amanda C. Chi, MD, Barry McGuire, MD, Kent T. Perry, MD, Robert B. Nadler, MD
Northwestern University
Presented By: Amanda Chi

Introduction: There is a poor understanding of oral mechanical bowel preparation (OMBP) and perioperative antibiotics practice patterns. We aim to
examine the bowel preparation and perioperative antibiotic administration patterns in urology.

**Methods:** A 31-question survey was built to assess surgeon characteristics including practice type, years in practice, predominant practice, OMBP and antibiotics regimens. OMBP includes magnesium citrate or polyethylene glycol. Survey link was e-mailed to American Urological Association (AUA) members through the AUA directory. Associations were assessed with Fisher’s exact test using SAS v9.4.

**Results:** We received 709 responses (response rate of 10%). 686 were practicing urologists. Of the 612 (89%) adult urologists, 36% are in academics. Academic urologists are less likely to use OMBP for MI pyeloplasty (36% vs 49%, P=0.0498), MI prostatectomy (44% vs 57%, P=0.03), open cystectomy (62% vs 82%, P<0.001), MI cystectomy (52% vs 68%, P=0.04), open kidney surgery (25% vs 36%, P=0.02), and MI kidney surgery (38% vs 53%, P=0.005). Antibiotics are commonly used beyond the 24-hr perioperative period. Figure 1 summarizes the results.

**Conclusion:** A wide range of OMBP practice pattern exists. Patient outcome, economic impact of various practices should be further investigated to reach a consensus on bowel preparation practices and on whether antibiotic guidelines should be followed.

**Financial Disclosure:** None

**Podium #21**

**SEVERE URINARY ADVERSE EVENTS AFTER HIGH VS. LOW DOSE RATE PROSTATE BRACHYTHERAPY: A POPULATION-BASED ANALYSIS**

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**Introduction:** We have shown that at 10 years post–prostate cancer treatment, severe urinary adverse events (UAEs) occur in 20% after brachytherapy (BT) and 28% after BT plus external beam radiotherapy (BT+EBRT). Severe UAEs include surgical treatment of urethral stricture, urinary incontinence and radiation cystitis. Our objective is to compare the incidence of UAEs after low dose rate BT
(LDR) and high dose rate BT (HDR) as well as LDR+EBRT and HDR+EBRT.

**Methods:** From a SEER–Medicare cohort of men aged ≥65 years diagnosed with non–metastatic prostate cancer (1998–2007) we identified men treated with LDR (n=12801), HDR (n=685), LDR+EBRT (8518) and HDR+EBRT (n=2392). Propensity–weighted Cox proportional hazards models were used to compare the adjusted hazard of U.AEs.

**Results:** Median follow–up was 4.3 years. At 8 years, the propensity weighted cumulative UAE incidence was highest after HDR+EBRT (28%) and lowest after LDR (17%; see Figure). Compared to LDR as the reference, the adjusted hazard of severe U.AEs was not elevated with HDR (HR 0.9; CI 0.6–1.4). HDR+EBRT (HR 1.6; CI 1.4–1.8) and LDR+EBRT (HR 1.4, CI 1.3–1.5) were associated with a statistically significant increased risk of severe U.AEs compared to LDR demonstrated that when compared to LDR; but HDR+EBRT and LDR+EBRT were not different from each other.

**Conclusion:** There is no difference in severe UAE risk between HDR vs. LDR or between HDR+EBRT vs. LDR+EBRT. However, combination radiotherapy (either HDR+EBRT or LDR+EBRT) increases the risk of severe U.AEs compared to HDR alone or LDR alone.

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**Podium #22**

**INCIDENCE OF CONTRAST REACTION DURING NON-INTRAVENOUS URINARY TRACT IMAGING**

Robert Blackwell, MD¹, Eric Kirshenbaum, MD¹, Matthew Zapf, BS², Anai Kothari, MD³, Paul Kuo, MD, MBA³, Robert Flanigan, MD¹, Gopal Gupta, MD¹

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Presented By: Eric Kirshenbaum

**Introduction:** Adverse reactions to intravenous (IV) contrast dye range from mild urticaria to life–threatening anaphylaxis. Contrast dye is used within the urinary tract routinely with a perceived minimal risk of adverse reaction. We seek to characterize the incidence of adverse reactions in patients receiving contrast within the urinary tract.

**Methods:** The Healthcare Cost and Utilization Project State Inpatient Databases for California and Florida years 2007–2011 were used. Patients were identified as having received urinary tract contrast dye by ICD9 codes for retrograde pyelogram, percutaneous pyelography, retrograde/other cystogram, and ileal conduitogram. To exclude reactions from intravenous contrast, patients with a concomitant ICD9 code for angiography, CT scan, or intravenous pyelogram were excluded, as were patients with new adverse newly documented antibiotic allergies. Adverse contrast reactions were identified by a composite endpoint of diagnoses not present on admission, including shock, iatrogenic hypotension, urticaria, angioedema, laryngospasm, laryngeal edema, and/or a new diagnosis of contrast reaction.

**Results:** Between 2007–2011, 117,370 patients underwent urinary tract imaging, of whom 51,579 were excluded (as above). Of the 65,791 remaining patients, 267 (0.41%) developed an adverse reaction. On multivariate analysis controlling for patient characteristics and medical comorbidities, compared to non–contrast control procedures (cystoscopy with/without biopsy), receipt of contrast in the lower urinary tract (OR 1.8, p=0.38), or upper urinary tract by retrograde pyelogram (OR 1.6, p=0.039) or antegrade pyelography (OR 2.0, p=0.006)
increased the risk of adverse reaction.

**Conclusion:** The use of contrast dye in the urinary tract is associated with a low, but present risk of adverse reaction.

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**Podium #23**

**EQUITABLE COMMUNITY UTILIZATION OF PARTIAL NEPHRECTOMY NATIONALLY FOR MANAGEMENT OF T1A RENAL TUMORS**

Dhruti Patel, MD¹, Elizabeth Ferry, MD², Robert Abouassaly, MD, MSCE²

¹UH Case Medical Center Urology Institute; ²University Hospitals Case Medical Center Urology Institute

Presented By: Dhruti Patel

**Introduction:** Previously NIS and SEER data indicated continued underuse of partial nephrectomy as a management strategy for T1a renal masses. It was partly attributed to poor diffusion of partial nephrectomy into community hospitals, which we evaluated with the National Cancer Database (NCDB).

**Methods:** National utilization of partial nephrectomy for localized T1a renal masses from 1998 to 2011 was evaluated based on hospital: Comprehensive Community Cancer Centers (CCCC) or Academic Cancer Centers (ACC) with multivariate linear regression and chi−square analysis.

**Results:** 240,309 cases were identified with 52% undergoing partial nephrectomy. At both hospital types, utilization of partial nephrectomy annually has statistically significantly (p<0.0001) increased. Multivariate regression analysis showed younger age, white race, private insurance, male gender, hospital type and year affect the utilization of partial nephrectomy with c statistic of 0.75. The likelihood of partial nephrectomy is still higher at ACC compared to CCCC (p<0.0001), though a significant number are performed at each hospital type. Both hospital types have similar length of stay, positive surgical margin, 30 day mortality and readmission rates.

**Conclusion:** There has been in a clear shift in the management of T1a renal masses with continued increases in the utilization of partial nephrectomy in the community hospital setting. This shift may be indicative of the rigorous residency training across the country.
Podium #24
STANDARD AND TRANSCORPORAL ARTIFICIAL URINARY SPHINCTER PLACEMENT WITH IN-SITU INFLATABLE PENILE PROSTHESIS – SURGICAL AND FUNCTIONAL OUTCOMES
Deep Bhatt¹, William O. Brant, MD², Sean P. Elliot, MD, MS³, Lee C. Zhao, MD, MS⁴, Nejd Alsikafi, MD⁵, Christopher D. Mcclung, MD⁶, Bradley A. Erickson, MD, MS⁷
¹University of Iowa Carver College of Medicine; ²University of Utah; ³University of Minnesota; ⁴New York University; ⁵Loyola University Chicago; ⁶Ohio State University; ⁷University of Iowa
Presented By: Deep Bhatt

Introduction: The purpose of this study was to evaluate outcomes of artificial urinary sphincter(AUS) placement in the setting of a previously placed inflatable penile prosthesis (IPP). We hypothesize that surgical and functional outcomes will be worse when compared to men without IPP in place.

Methods: We retrospectively reviewed records from a prospectively maintained AUS outcomes database for cases of AUS placement in which an IPP had already been placed. The outcomes of interest were post-operative infection, erosion and incontinence as measured by pads per day (ppd; dry=≤1ppd). Comparisons were made between a cohort of men with standard placement (taken from three surgeons). A secondary analysis was then made comparing the outcomes in patients in which the AUS was placed in a transcorporal(TC) manner versus standard placement with IPP in place.

Results: 20 men had an AUS placed with in situ IPP, of which 8 were placed TC. An additional 68 men without in situ were included for comparison. Outcomes are shown in Table 1. Erosion and infection rates did not statistically vary among the groups, though 25% of TC−AUS placements were ultimately removed; patients reporting being dry significantly more often with standard AUS placement.

Conclusion: AUS placement with in situ IPP leads to similar surgical outcomes versus standard placement, though functional outcomes appear worse.

Podium #25
INCREASING SYMPTOM MANAGEMENT SELF-EFFICACY IN LOCALIZED PROSTATE CANCER USING A NEW EHEALTH SYMPTOM MANAGEMENT TOOL: FINDINGS FROM A PILOT TRIAL
Nathaniel Sufrin, BA¹, David Victorson, PhD², James Burns MS², Robert Nadler, MD², Sarah Buono, BA², Jacqueline Petkewicz, MA¹, Charles Brendler, MD¹
¹NorthShore University HealthSystem; ²Northwestern University
Presented By: Nathaniel Sufrin

Introduction: Engaging in symptom monitoring and self-management is associated with the prevention of side−effects in clinically localized prostate cancer (PC). Self−efficacy to manage symptoms and side effects is believed to play an important role. We developed and piloted an eHealth symptom management support tool called iManage−PC for men with localized PC. This study examines the association between participants’ use of the iManage−PC tool over a 4−week period and changes in their symptom management self−efficacy.

Methods: After developing the iManage−PC tool through a user−centered design approach involving patient and provider stakeholders and beta testing with patient end users, we piloted the iManage−PC tool for a 4−week period. We
enrolled 92 men with clinically localized PC at Northwestern University and NorthShore University HealthSystem. Symptom management self-efficacy was measured with single item scales for management of overall symptoms, physical setbacks, and emotional difficulties.

Results: Over the 4–week period we observed statistically significant (p<.001) increases in symptom management self-efficacy across all three domains, with medium effect sizes (Cohen’s d between .29–.37). These significant increases remained after controlling for age, marital status, and confidence using the internet.

Conclusion: Participating in a brief online symptom management intervention can increase men’s self-perceptions of self-efficacy to manage their symptom side effects, physical side effects, and emotional side effects.

Funding: American Cancer Society – Illinois Division and the John and Carol Walter Center for Urological Health.

Podium #26

USING ANALYTIC MORPHOMICS TO UNDERSTAND SHORT-TERM CONVALESCENCE AFTER RADICAL CYSTECTOMY

Amy Luckenbaugh, MD, Brent Hollenbeck, MD, Jeffrey Montgomery, MD, Cheryl Lee, MD, Rodney Dunn, MD, Michael Englesbe, MD, Stewart Wang, MD, PhD, John Hollingsworth

University of Michigan

Presented By: Amy Luckenbaugh

Introduction: Studies suggest that morphometric measures can predict perioperative risk. In this context, we examined how preoperative imaging data relates to short-term convalescence following radical cystectomy.

Methods: We calculated psoas muscle area (PMA) from staging CT scans using analytic morphomic techniques for patients with bladder cancer who underwent radical cystectomy at our institution (2008–2013). We assessed postoperative recovery among these patients with the validated Convalescence and Recovery Evaluation (CARE) questionnaire (4 domains: activity, cognitive, gastrointestinal symptoms, and pain). We fitted nested linear regression models to evaluate associations between PMA and changes in postoperative CARE scores.

Results: While recovery in men was independent of PMA, women with higher PMA had smaller decreases in their pain and activity scores postoperatively and returned to their baseline faster than those with lower PMA (Figure). After adjusting for patient age, there was a trend towards quicker convalescence in postoperative pain among women with increasing PMA (P=.059).

Conclusion: PMA may be a useful preoperative predictor of recovery for women undergoing radical cystectomy.
Introduction: Community (CU)– and academic (AU)–based urologists were surveyed to identify how current evidence is integrated into management of patients with metastatic castration–resistant prostate cancer (mCRPC).

Methods: The survey included three case–based studies: primary high–risk prostate cancer, asymptomatic mCRPC, and symptomatic mCRPC. Questions covered management choices, referral patterns, patient management barriers, perceptions of mCRPC therapies, and educational needs. Respondents were a random sample of 96 CUs and 29 AUs who routinely see patients with mCRPC.

Results: For rising prostate–specific antigen following prostatectomy and radiotherapy, AUs were more likely than CUs to withhold therapy and continue observation (41% vs 24%, respectively). For both mCRPC scenarios, AUs and CUs were almost equally divided between referral to a medical oncologist or initiating oral antineoplastic therapy with standard hormonal therapies post–progression. In both settings, AUs were significantly more likely to refer symptomatic patients to clinical trials (41% vs 16%, respectively; p=0.010). CUs were significantly more concerned than AUs with side effects of antineoplastic therapies, and significantly more likely to identify patient comorbidities (p=0.002) and formulary/reimbursement considerations (p=0.010) as patient management barriers. Less than 25% of AUs and 5% of CUs reported familiarity with emerging agents.

Conclusion: The approaches of AUs and CUs identified in this survey may reflect awareness of current evidence and factors that influence treatment choices and referral patterns. This information will be used to develop high–impact educational activities to improve urologists' knowledge and skills and, ultimately, improve patient care in mCRPC.

Financial Disclosure: Study was funded by Astellas Pharma, Inc.
Podium #28
DEFINING THE PUBLICATION SOURCE OF HIGH QUALITY EVIDENCE IN UROLOGY: AN ANALYSIS OF EVIDENCEUPDATES
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Presented By: Vikram Narayan

Introduction: Keeping up-to-date with newly published, high-quality evidence is critical to the practice of evidence-based urology. This study attempted to identify the publication source of such research using EvidenceUpdates, a second-order peer review service by McMaster University.

Methods: We downloaded all EvidenceUpdates citations and ratings for clinical relevance and newsworthiness (scales: 1–7) for the two urology–relevant categories (Surgery – Urology and Oncology – Genitourinary) since 2003 into a dedicated database and categorized them by study topic, study design, year and journal of publication as well as journal category.

Results: We identified 757 unique citations published between 2005 and 2014. Major topics were oncology (47.3%), voiding dysfunction (21.0%) and transplantation (5.5%). Main study designs were randomized controlled trials (41.5%), systematic reviews (39.1%) and observational studies (18.4%). The figure summarizes the relative contribution of articles by journal category in 2-year intervals. In 2013/14, 148 high-quality studies were published in leading non-urology journals, with the Cochrane Library (53/148; 35.8%) being the largest single contributor. In terms of mean scores, urology journals scored highest for clinical relevance (6.0 ± 0.76) and high impact general medical journals scored highest for newsworthiness (5.4 ± 0.93).

Conclusion: Urologists should engage in active knowledge management strategies, given the large proportion of high-quality studies published outside the urology literature.

Podium #29
REDUCING ANXIETY, URINARY, BOWEL & SEXUAL SIDE EFFECTS IN LOCALIZED PROSTATE CANCER: RESULTS FROM A PILOT STUDY OF A NEW EHEALTH SYMPTOM MANAGEMENT SUPPORT TOOL “IMANAGE−PC”
David Victorson, PhD¹, James Burns, MS¹, Robert Nadler, MD¹, Sarah Buono, BA¹, Jacqueline Petkewicz, MA², Nat Sufrin, BA², Charles Brendler, MD²
¹Northwestern University; ²NorthShore University Health System
Presented By: David Victorson

Introduction: Treatment for clinically localized prostate cancer (PC) can cause physical and functional problems like bowel, urinary, and sexual dysfunction, in addition to increased anxiety. Much of the excess burden may be prevented or more actively managed through patient initiated behaviors. We evaluated whether a new eHealth symptom management support tool called iManage−PC could help men with localized PC reduce associated anxiety, bowel, urinary, and sexual side effects.

Methods: We created the iManage−PC tool using a standard technology development approach that centered around patient and provider stakeholder input and beta testing. We piloted the new tool over a consecutive 4-week period with a sample of 92 men diagnosed with clinically localized PC who were
recruited from Northwestern University and NorthShore University Health System.

**Results:** After controlling for socio-demographic and baseline characteristics, we observed significant (p<.001) decreases in urinary, bowel, sexual dysfunction and anxiety over time. The magnitude of these changes was small for sexual (d=.13), medium for anxiety and urinary problems (d = .32 and .39, respectively) and large for bowel (d=.52).

**Conclusion:** Providing men with online symptom management support can be a feasible and effective way to increase patient engagement and management of common side effects associated with clinically localized PC and its treatment.

**Funding:** American Cancer Society – Illinois Division and the John and Carol Walter Center for Urological Health.

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**Podium #30**

**USE OF THE, MDRD EQUATION FOR ESTIMATING GLOMERULAR FILTRATION RATE IN THE UROLOGIC LITERATURE**

Joseph Zabell, MD¹, Grant Larson², Jonathan Koffel, MSI¹, Danni Li, PhD¹, James Kyle Anderson, MD¹, Christopher Weight, MD, MS¹

¹University of Minnesota; ²University of North Dakota School of Medicine and Health Sciences

Presented By: Grant Larson

**Introduction:** The Modification of Diet in Renal Disease (MDRD) equation is a commonly used formula to calculate estimated glomerular filtration rate (eGFR). Despite its common use in the urologic literature, this equation carries a margin of error in healthy patients. The aim of this study was to evaluate the use of MDRD in the urologic literature.

**Methods:** 7 Urology journals were queried via Medline for use of the MDRD equation. 47 manuscripts were reviewed independently by 2 authors. Each manuscript was graded on the appropriateness of its use of MDRD to estimate GFR. Inappropriate use was defined as using MDRD to make comparisons with eGFR values >60 ml/min per 1.73m². Grade 1 papers appropriately used MDRD, Grade 2 papers used MDRD inappropriately, but the primary claims of the paper did not rely on these results, and Grade 3 papers inappropriately used MDRD for the primary claim. We also evaluated whether each manuscript acknowledged the limitations of the MDRD equation.

**Results:** 36% of manuscripts were Grade 1, 43% were Grade 2, and 21% were Grade 3. 34% of the manuscripts acknowledged the limitations of MDRD. Of the Grade 3 manuscripts, 40% acknowledged the limitations of the MDRD equation.

**Conclusion:** The majority of manuscripts using the MDRD equation did so using patients with normal kidney function, thereby limiting the accuracy of the claims. Urologists should reconsider the use of MDRD for estimating GFR in published manuscripts, especially in healthy patients, and should discuss the limitations of any estimating equation that is used.
Podium #31
RECOVERY OF URINARY FUNCTION AFTER ROBOTIC-ASSISTED LAPAROSCOPIC PROSTATECTOMY VERSUS RADICAL PERINEAL PROSTATECTOMY FOR EARLY STAGE PROSTATE CANCER
Kaivan Salehpour, BS¹, Michael Ehlert, MD², John Lavin, MD², Larry Sirls, MD³
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Presented By: Kaivan Salehpour

Introduction: Robotic-assisted laparoscopic prostatectomy (RALP) has largely replaced open radical prostatectomy in many markets. Radical perineal prostatectomy (RPP) is an alternative, less invasive approach that has been widely ignored. There is little data on the recovery of urinary function between RALP and RPP.

Methods: Retrospective review of a prospective radical prostatectomy database at Beaumont Health System. Urinary modules from the Expanded Prostate Cancer Index Composite–Urinary Function (EPIC–UF) questionnaire was used to determine preoperative baseline urinary symptom summary score, and subscale scores of urinary incontinence, bother, irritative/obstructive, and function and at 6, 12, 18, and 24 months after surgery.

Results: 508 of 733 men had complete EPIC–UF data. Baseline clinical and prostate cancer data were similar between groups. Overall urinary symptom score recovery was greater for RALP than RPP at 6 months (p=.028), but there was no difference at 12, 18, and 24 months. Post RALP urinary incontinence and function were also improved but only at 6 months (p=.021, p=.006). There was no difference between RALP and RPP at any time point for urinary bother or irritative/obstructive symptoms.

Conclusion: RALP had more rapid recovery of EPIC–UF data at 6 months vs. RPP. However, at 12–24 months RALP and RPP had similar recovery of urinary function in all urinary subdomains.

Podium #32
INTRAVESICAL SILVER NITRATE IN THE MANAGEMENT OF HEMORRHAGIC CYSTITIS: A CONTEMPORARY SERIES
Brian Montgomery, MD, Stephen Boorjian, MD, Brian Linder, MD
Mayo Clinic
Presented By: Brian Montgomery

Introduction: To evaluate the effectiveness and complications associated with intravesical silver nitrate use for hemorrhagic cystitis.

Methods: We identified nine patients with intractable hemorrhagic cystitis treated with intravesical silver nitrate between 2000–2015. All patients had failed previous continuous bladder irrigation with normal saline and clot evacuation. Treatment success was defined as requiring no additional therapy beyond normal saline irrigation after silver nitrate instillation.

Results: Median patient age at treatment was 80 years (IQR 73, 82). 89% of patients (8/9) had radiation induced hemorrhagic cystitis. Two patients underwent high dose (0.1%–0.4%) silver nitrate under anesthesia, while the remaining seven were treated with doses from 0.01% to 0.1% via continuous bladder irrigation for a median of 3 days (IQR 2, 3). All nine patients (100%) had
persistent hematuria despite intravesical silver nitrate therapy, requiring additional interventions and red blood cell transfusion during the hospitalization. There were no identified complications related to intravesical silver nitrate.

**Conclusion:** We found that intravesical silver nitrate was ineffective for bleeding control, suggesting a limited role for this agent in the management of patients with hemorrhagic cystitis.

**Podium #33**

**TESTOSTERONE LEVELS FOR YOUNG MEN IN A POPULATION−BASED, NATIONALLY REPRESENTATIVE SURVEY**

James Dupree, MD, MPH¹, Chang He¹, Dana Ohl, MD¹, Larry Lipshultz, MD², Aruna Sarma, PhD¹

¹University of Michigan; ²Baylor College of Medicine

Presented By: James Dupree IV

**Introduction:** The traditional low testosterone cutoff of 300 ng/dl was developed from regional samples of typically older men. Despite frequent patient inquiries, there are no nationwide, population−based, average values for testosterone levels in young men. Our objective was to describe population−based average testosterone levels in men <45 year old using a large, nationally representative survey.

**Methods:** The National Health and Nutrition Examination Survey (NHANES) is maintained by the Centers for Disease Control. NHANES consists of a nationally representative sample of US residents, weighted to represent the US population. We analyzed demographic and serum testosterone data from the 2011−2012 NHANES for males aged 20−44 years.

**Results:** 999 men were included in the study, with a mean age of 31 years. The mean testosterone level was 426.4 ng/dl, and the mean body mass index (BMI) was 26.7 kg/m². The population−based average testosterone values, by age subgroup, are listed in the table.

**Conclusion:** The mean testosterone for men aged 20−44 in this nationwide, population−based sample was 426.4 ng/dl. This represents the only nationally representative data available on population−based average testosterone levels for young men. Further studies examining symptoms of hypogonadism (a component required to guide therapy and not available in NHANES) in this age group are warranted.
Podium #34
WORSENED URINARY STORAGE SYMPTOMS AND DECREASED QUALITY OF LIFE PREDICTS LOW TESTOSTERONE IN MALE CARDIOLOGY PATIENTS
Michael Kottwitz, MD, Randy Sulaver, MD, Georgia Mueller, MS, Kohler Tobias, MD
Southern Illinois School of Medicine
Presented By: Michael Kottwitz

Introduction: Previous data from the CUPPID trial have demonstrated the increased prevalence of low testosterone (T) in male cardiology patients. Here we sought to assess relationships between low T and lower urinary tract symptoms (LUTS).

Methods: Cross sectional analysis of men within a cardiology clinic. We assessed patient characteristics including calculated free testosterone (CFT), IPSS and IIEF scores, and patient comorbidities. We performed Spearman correlations to explore the association between CFT, urinary complaints and quality of life from the IPSS. Next, we performed a regression model to predict storage symptoms with low CFT adjusting for comorbidities and IIEF6 total score.

Results: 200 patients with mean CFT of 5.4ng/dl. Prevalence of low CFT was 79%. Prevalence of moderate to severe LUTS was 62%. Decreasing CFT predicted worse LUTS (p = 0.02). Nocturia (p=0.0008), urgency (p=0.0186), intermittency (p=0.007) and quality of life score (p=0.0183) each were significantly inversely related to CFT with correlation coefficients of −0.24, −0.17, −0.19, and −0.17 respectively. There was an association between CFT and frequency, which neared significance (p=0.062, r=−0.24). Worse storage symptom scores predicted low CFT after adjusting for covariates (p=.0015, R2 = .15). Our model showed a 4 point worsening in storage symptoms resulted in a 0.88 ng/dl decrease in CFT. Only age (p = < 0.001), BMI (p = 0.0007) and storage symptoms (p = 0.0015) were statistically significant variables.

Conclusion: In our cohort, worsened storage symptoms including nocturia, urgency, intermittency, frequency and decreased quality of life was associated with low CFT.

Podium #35
PENILE IMPLANTS: WHY ARE MEN DISSATISFIED?
Tobias Kohler, MD, MPH, Gerard Henry, Anthony Bella, Edward Karpman, Bryan Kansas, Leroy Jones, Nelson Bennett, Mohit Khera, Brian Christine, Will Brant
Southern Illinois University
Presented By: Tobias Kohler

Introduction: Current data on penile implant satisfaction (85–95%) are subject to biases inherent to retrospective, single institution case series. We sought to assess dissatisfaction rates and the reasons why patients did not utilize their device at annual follow up in a prospective multi-center study.

Methods: Per the previously described PROPPER (Prospective Registry of Outcomes with Penile Prostheses for Erectile Restoration) protocol, patients filled out satisfaction surveys annually. Optional survey questions included: (1) If not using the device, why not? (2) If using the device, but not as often as desired, or if dissatisfied with the device, indicate why.

Results: To date, 1000 men were enrolled and implanted with the AMS 700 penile prosthesis at a total of 11 sites with 453 patients having annual follow up
satisfaction data. Rates of dissatisfaction and device non-use were 12% at both 1 and 2 years. Statistical analysis revealed no difference in 1 year dissatisfaction rates when comparing devices with least to most rear tip extenders utilized (p=.398). The most common reasons given for implant non-use included device problems (most often pump) and dissatisfaction (most often length). Health decline and partner status were the most frequently cited reasons for implants used less often than desired.

**Conclusion:** Our data reveals an approximate 12% overall IPP dissatisfaction rate, implant non-use and less frequent use than desired rate at both 1 and 2 year time-points. These data aid in pre-operative counseling and provide a realistic expectation to patient and provider.

**Disclosure:** Study funded by American Medical Systems

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**Podium #36**

**EFFECTS OF AROMATASE INHIBITION WITH ANASTROZOLE ON SPERM AND HORMONAL PARAMETERS IN PATIENTS WITH MALE INFERTILITY**

Ryan Dobbs, MD¹, Saturnino Luján, MD², Martin Kathrins, MD¹, Tony Nimeh, MD¹, Laurel Sofer, MD¹, Craig Niederberger, MD¹

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Presented By: Ryan Dobbs

**Introduction:** Aromatase inhibitors have been used to increase endogenous testosterone production and treat male factor infertility through blockade of peripheral aromatization. We sought to assess the hormonal efficacy of anastrozole therapy in infertile men with hypoandrogenism with a larger subset of azoospermic patients than has been previously reported in the literature to date.

**Methods:** We performed a retrospective, IRB-approved query of our infertility clinic database from 2009 to 2014. We identified patients treated with anastrozole 1 mg daily for hypoandrogenism (bioavailable testosterone (BT) <154 ng/dL or, if BT unavailable, total testosterone (TT) <300 ng/dL) and elevated serum estradiol (E2) (E2>50 pg/dL and/or ratio TT:E2 <10). Patients were categorized as azoospermic (Cohort 1) or non-azoospermic (Cohort 2). A morning hormone assay was performed after two weeks of treatment. A SA was performed after 4 months of adequate androgenization.

**Results:** 49 patients met inclusion criteria. Both cohorts demonstrated significant improvements in TT, E2 and T/E2 ratio. Cohort 2 demonstrated improvements in sperm motility, total motile count and BT. Two patients in cohort 1 demonstrated cryptospermia following treatment.

**Conclusion:** Both cohorts demonstrated improvements in hormonal parameters following treatment. Nonazoospermic patients demonstrated improvements in semen parameters. These results may be helpful in counseling patients regarding expectations with anastrozole treatment.
ACHIEVING PREGNANCY IN MEN WITH ISOLATED ASTHENOSPERMIA

Kevin Zeeck, MD, Christopher M. Deibert, MD, MPH, Jay I. Sandlow, MD
Medical College of Wisconsin
Presented By: Kevin Zeeck

Introduction: Men with isolated asthenospermia present a clinical challenge regarding treatment. To date no studies have evaluated the clinical outcomes for couples with isolated asthenospermia.

Methods: This is an IRB-approved retrospective review of infertile men who presented to our Reproductive Medicine Center with isolated asthenospermia, defined as motility <40% and otherwise normal parameters, from July 2012 to July 2014. We identified 127 men who fit these criteria. Men following vasectomy reversal were excluded. Chart review and telephone contact were used to determine follow up. Minimum follow up was 6 months. Men who were evaluated by a male fertility specialist and found to have varicoceles were offered repair. The outcomes reported include clinical pregnancy and live birth rates following varicocele repair and assisted reproductive techniques (IUI, IVF). Men were grouped based on degree of total motility: 0–30% and 30–40%.

Results: Mean male age (34 and 35), female age (31 and 31), duration of infertility (29 and 24 months) and varicocele rate (53 and 51%) were not statistically significant between the 2 groups. Pregnancy rates were 17% and 30% for spontaneous conception (p=0.15), IUI (6% and 22%, p=0.33), IVF (67% and 41%, p=0.63) and cumulative (28% and 45%, p=0.06). The live birth rates were 23% and 32% (p=0.18) over follow up of 17.1 and 18.3 months (p=0.38).

Conclusion: Couples with isolated asthenospermia can be counseled that all reproductive options have similar pregnancy rates based on initial total motility. Differences between treatment options may exist based on individual factors.

Podium #38 - WITHDRAWN
Podium #39
PREVALENCE OF HYPOGONADISM IN VETERANS WITH DEFINITIVELY TREATED LOW-RISK PROSTATE CANCER
Marah Hehemann, MD¹, Abigail Silva, PhD, MPH², Maguy Chiha, MD³, Lily Agrawal, MD, FACE⁴, Ahmer Farooq, DO⁵, Larissa Bresler, MD⁵
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Presented By: Marah Hehemann

Introduction: Since PSA screening began, prostate cancer (PCa) prevalence has risen, leading to aggressive treatment of low-risk disease. This population has been subject to morbidity associated with PCa treatment including exclusion from therapy for symptomatic hypogonadism per current conventions. Contemporary literature supports TRT for symptomatic hypogonadal disease-free PCa survivors. We seek to define the prevalence of symptomatic hypogonadism in men with definitively treated low-risk PCa. We hypothesize the prevalence may be high enough to urge prospective trials to determine safety of TRT in this population.

Methods: We performed a prospective cross-sectional study from 2013−2014 at one Veterans Administration (VA) hospital. Participants included males with history of NCCN very-low or low-risk PCa treated definitively >12 months ago, currently receiving VA-based medical care. Participants completed a validated Androgen Deficiency in the Aging Male (ADAM) questionnaire and provided one blood sample for hormonal assay. Per Endocrine Society Guidelines, patients with total testosterone < 250 ng/dL were identified as hypogonadal.

Results: Among 52 participants, overall prevalence of hypogonadism was 33%. Mean ADAM score was 4.7. 40.6% of hypogonadal men were symptomatic, indicated by ADAM scores >3. Obese patients were more likely to have hypogonadism than non-obese patients (57.6% vs 8.0%, p<0.001).

Conclusion: Urologists provide longitudinal care for prostate cancer survivors. The prevalence of symptomatic hypogonadism is high in definitively treated low-risk PCa patients. This study serves as a preliminary investigation leading to prospective trial defining safety of TRT in this patient population.

Podium #40
HOW IS DELAYED EJACULATION DEFINED AND TREATED IN NORTH AMERICA?
Daniel Sadowski, MD, MPhil¹, Michael Butcher, DO¹, Charles Welliver, MD², Albert Botchway, PhD³, Tobias Kohler, MD, MPH⁴
¹Southern Illinois University School of Medicine; ²Albany Medical College and Urological Institute of Northeastern New York
Presented By: Daniel Sadowski

Introduction: Delayed ejaculation (DE) is an uncommon disorder that is difficult to treat because it is poorly understood. The aim was to evaluate the current opinion and clinical management of DE by practitioners in sexual medicine.

Methods: Members of the Sexual Medicine Society of North America (SMSNA) were invited by email to participate in a web-based survey. The questionnaire consisted of 8 questions pertaining to DE. Questions addressed patient volume, qualification of patient bother, ranking of etiologies, perceived success,
treatments used, quantification of symptom resolution, and broad characterization of practitioner type.

**Results:** A total of 94 respondents completed the survey with 73% of those being urologists. Fifty-nine percent of the respondents saw ≤2 patients a month with DE and 89% of practitioners felt that DE was moderately or severely bothersome to the patients. Etiology was felt to be from medications and psychological factors primarily. Despite treatment modality, “seldom” success was obtained 49% of the time and “never” for 11%. Carbergoline was the most common selected medication for DE. Academic and private urologists reported “never” or “seldom” success with sexual counseling compared to other practitioners, respectively (p=0.008 and p=0.001). Respondents who saw ≤2 patients per month often reported normalization of hypogonadism “never” or “seldom” corrected DE (p=0.047).

**Conclusion:** Delayed ejaculation is still a poorly understood disorder with inconsistent practice patterns seen among members of the SMSNA. A better understanding of this vexing disorder is needed with efforts placed on research and practitioner education.

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**Podium #41**

**COMPARATIVE COST-EFFECTIVENESS ANALYSIS OF MODIFIED TWO-LAYER VERSUS FORMAL TWO-LAYER VASOVASOTOMY**

Yaw Nyame, MD, MBA, Paurush Babbar, MD, Nima Almassi, MD, Alan Polackwich, MD, Edmund Sabanegh, MD

Cleveland Clinic

Presented By: Yaw Nyame

**Introduction:** This study aims to determine the cost benefits of a modified two-layer compared to a formal two-layer vasovasostomy.

**Methods:** A prospective analysis was performed of a single surgeon experience of vasovasotomy utilizing a two-layer or modified two-layer technique performed between 2010 and 2014. The primary end points of analysis were total operative time, number, cost and type of suture used, and sperm concentration on post-surgical 6-week semen analysis. Bivariate analysis was performed for these continuous variables utilizing t-test.

**Results:** 86.2% (94/109) of the men had a formal two-layer and 13.8% (15/109) had a modified two-layer repair. The average cost of suture used in the formal two-layer closure at $659.9 (SD $262.9) and $56.1 (SD $29.7) for modified two-layer (p <0.001). An average of 10.8 (SD 4.4) 10–0 sutures were used for the formal two-layer repair. There was no statistical difference in the number of 9–0 sutures used for the two techniques. The mean operative time was significantly shorter for the modified two-layer (mean 125.9 min, SD 19.0 min), compared to the formal two-layer (mean 171.6 min, SD 27.8) repair (p < 0.001). This results in a cost differential of $2111.34 for operating room and $2129.6 in anesthesia charges. There was no difference in semen concentration, between the modified two-layer (mean 33.0 million/mL, SD 32.1) and formal two-layer (mean 33.7 million/mL, SD 23.5).

**Conclusion:** Modified Two-layer vasovasostomy resulted in shorter operative times and lower cost when compared to formal two-layer repair without compromise of post-procedure patency.

**Financial Disclosure Statement:** None
Introduction: Post–Finasteride Syndrome (PFS) primarily refers to sexual side effects that persist for at least three months in men who have taken the 5–alpha reductase type II inhibitor. PFS symptoms can persist even after drug discontinuation. No studies exist that examine this syndrome in finasteride–exposed women.

Methods: Under the Freedom of Information Act (FOIA), a list of all finasteride related adverse events from April 2011 to October 2014 were obtained from the FDA Adverse Event Reporting System (FAERS). Female cases were identified and reported outcomes were examined.

Results: Out of 3034 total reports, 105 women (3.5%) were identified with reported adverse events after taking finasteride. Mean age at time of reporting was 38.9 (18–84) years old. Thirty five women (33.3%) were taking Propecia (finasteride 1 mg), 20 were taking Proscar (19.0%), and 50 (47.6%) took finasteride of an unknown dose. Adverse effects are outlined in Table 1. Notably, no sexual side effects were reported.

Conclusion: Although some adverse events have been reported with finasteride use in women, no classic PFS sexual side effects such as low libido exist.
a surgical algorithm that recommended tunica albuginea plication (TAP), plaque excision and grafting (PEG) or inflatable penile prosthesis (IPP).

**Methods:** Between 2007 and 2013, 389 patients were evaluated for, and ultimately underwent PD surgery according to our pre-determined surgical algorithm (See Figure). Primary outcomes included post-operative satisfaction with rigidity, curvature, and ability to engage in intercourse.

**Results:** Of 389 patients, 114 (29%) underwent TAP, 158 (41%) PEG, 114 (30%) IPP placement. Post-operatively, the three surgical modalities showed no significant difference in patient satisfaction with rigidity, bothersome residual curvature, or ability to engage in intercourse. In total, 87.4% of men were able to engage in penetrative intercourse, while only 70% were satisfied with rigidity and 81% were satisfied with curvature correction.

**Conclusion:** Patient experience with post-surgical rigidity, ability to engage in intercourse, and residual bothersome curve was not statistically different across the three groups, supporting the use of this surgical algorithm.

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**Podium #44**

**DURABLE SYMPTOM IMPROVEMENT AFTER HOLMIUM LASER ENUCLEATION OF THE PROSTATE: ANALYZING OUTCOMES AT TEN YEARS**

Michael S. Borofsky, MD, Marawan M. El Tayeb, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky

**Introduction:** A majority of surgical treatment options for benign prostatic hypertrophy (BPH) demonstrate improvement in symptoms at short-term follow-up. However, long-term outcomes are under-reported, especially at ten years post-operatively. In the case of holmium enucleation of the prostate (HoLEP), there is only one published report of ten-year treatment responses and none from the United States. Such information is critical for determining comparative efficacies and establishing a gold standard in surgical care of BPH.

**Methods:** Patients enrolled in a prospectively maintained, IRB approved database were sent surveys ten years after undergoing HoLEP. All surgeries were performed by a single surgeon at a single institution between the years 2002–2004.
Results: Surveys were completed by 85 patients. At ten years post-operatively (Table 1), mean AUA symptom score decreased from 21.9 to 4.24. Over 95% of patients reported being satisfied or very satisfied and fewer than 5% reported being on alpha-blocker therapy. Only 2 patients required ancillary procedures, one for a urethral stricture, the other related to perioperative bleeding. Patients were equally likely to report improved degrees of incontinence as they were worsened degrees.

Conclusion: Symptom improvements seen after HoLEP are profound and sustainable for at least a decade.

<table>
<thead>
<tr>
<th>Variable (number of pts. with response)</th>
<th>Baseline</th>
<th>10 years post-op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years) (85)</td>
<td>75.7 (40-98)</td>
<td>75.7 (40-88)</td>
</tr>
<tr>
<td>AUA symptom score (85)</td>
<td>22.6 (4-35)</td>
<td>20.5 (4-35)</td>
</tr>
<tr>
<td>TRUS volume (cm$^3$) (58)</td>
<td>84.1 (33.3-242.8)</td>
<td>14.4 (33.3-242.8)</td>
</tr>
<tr>
<td>Specimen weight (g) (58)</td>
<td>79.6 (2-201)</td>
<td>79.6 (2-201)</td>
</tr>
<tr>
<td>Enucleation time (min) (58)</td>
<td>77.4 (0-245)</td>
<td>77.4 (0-245)</td>
</tr>
<tr>
<td>Morcellation time (min) (58)</td>
<td>19.5 (3-55)</td>
<td>19.5 (3-55)</td>
</tr>
<tr>
<td>Total energy used (J/L) (85)</td>
<td>162.6 (32.4-518.1)</td>
<td>162.6 (32.4-518.1)</td>
</tr>
<tr>
<td>AUA symptom score (53)</td>
<td>21.9</td>
<td>4.24</td>
</tr>
<tr>
<td>BPH symptom index (50)</td>
<td>7.7</td>
<td>0.60</td>
</tr>
<tr>
<td>Ancillary urologic procedures (84)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Satisfaction with HoLEP (83)</td>
<td>1 - Very satisfied 51 (62.2%), 2 - Satisfied 28 (34.1%), 3 - Mixed 3 (3.6%), 4 - Dissatisfied 1 (1.2%), 5 - Very dissatisfied 0</td>
<td></td>
</tr>
<tr>
<td>Taking alpha-blocker (92)</td>
<td>42 (50.5%), 4 (4.7%)</td>
<td></td>
</tr>
<tr>
<td>Any degree of incontinence (53)</td>
<td>21 (40%), 26 (49%)</td>
<td></td>
</tr>
<tr>
<td>New/worse incontinence</td>
<td>12 (22.8%), 9 (17.3%)</td>
<td></td>
</tr>
<tr>
<td>Newly wearing pads</td>
<td>6 (9.6%)</td>
<td></td>
</tr>
<tr>
<td>Improved/newly incontinence</td>
<td>12 (22.8%), 4 (7.6%)</td>
<td></td>
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</tbody>
</table>

Podium #45
TRANSURETHRAL BIPOLAR ENUCLEATION OF THE PROSTATE - A NOVEL TECHNIQUE FOR PATIENTS IN URINARY RETENTION
James Tracey, MD, Jonathan N. Warner, MD
University of Michigan
Presented By: James Tracey

Introduction: – Transurethral Bipolar Enucleation (TuBE) of the prostate is a novel procedure being utilized for the treatment of BPH and its sequela. We hypothesize that TuBE will produce acceptable results for patients in urinary retention as evidenced by their ability to void, PVRs, IPSS total and QOL scores. Methods: – A retrospective database analysis was used to identify early 6 week post-operative outcomes after TuBE. Inclusion criteria for this analysis included patients in urinary retention defined by an episode of urinary retention requiring catheterization or PVR’s>250cc with formation of bladder stones. A comparison was made between pre and post-operative factors. Prostate size was measured using TRUS. Fisher’s exact test was used to compare categorical data and student t-test to compare continuous data.

Results: – All patients in retention pre-operatively (N=13) were no longer in retention post-operatively (p<0.01). The change in mean PVR’s was −307cc’s (pre mean= 351cc’s and post mean=44cc’s, p<0.01). 32% of the pre-operative prostate volume (mean=57gms) was enucleated (mean=18gms). Total IPSS score change pre to post-operatively was −11.07 points (pre mean = 19.92, post mean = 8.85, p=0.02). IPPS QOL score change pre to post-operatively was
−2.85 points (pre mean = 4.4, post mean = 1.55, p<0.01). 2 patients had UTI’s, and one patient had meatal stenosis requiring urethroplasty post-operatively.

Conclusion: TuBE is a novel procedure utilizing common equipment to urologic practices that produces acceptable results for patients in urinary retention secondary to BPH as evidenced in our small, early six week post-operative experience.

Podium #46
EVALUATION OF SURGICAL EFFECTIVENESS AND SAFETY OF XPS GREENLIGHT LASER: OUTCOMES OF A MULTICENTER RETROSPECTIVE STUDY
Mahmood Hai, MD, FICS¹, Ricardo R. Gonzales, MD², Gregg R. Eure, MD³, Lewis S. Kriteman, MD⁴, Kevin C. Zorn, MD⁵
¹Comprehensive Urology; ²Methodist Hospital, Houston, TX; ³Urology of Virginia, Virginia Beach, VA; ⁴Georgia Urology, Roswell, GA; ⁵University of Montreal, Canada
Presented By: Mahmood Hai

Introduction: AND OBJECTIVES: GreenLight laser used for the treatment of Benign Prostatic Obstruction (BPO) for over 15 years with well-established outcomes. With the introduction of the XPS/MoXy 180 watt system in 2010, we noticed marked improvement in all outcomes. In a large multi-center retrospective study the overall efficacy and safety of this advanced procedure was evaluated.

Methods: A total of 956 patients were evaluated at five GreenLight XPS centers. Baseline, intra-operative and post-operative data were collected over a period of three years and evaluated for efficacy and adverse events.

Results: Average age 69 years. Pre-operatively the mean prostatic volume (PV) was 76.0cc; PSA mean value 4.9 ng/ml; IPPS mean 19.8 ; Qmax mean 8.7 ml/sec; PVR mean 204.3 cc. Intra-operatively the energy use was a mean 275.8 KJ and mean lazing time was 33.2 min. At six months post-procedure, mean percentage improvements in PSA, IPPS, Qmax and PVR were 36%, 60%, 241% and 49% respectively. Adverse events: retention 5.1%, clot retention1.2%, urinary tract infection 3.2%, bladder neck obstruction 1.5% urethral stricture 0.6%.

Conclusion: GreenLight XPS laser produces excellent relief of obstruction in patients with BPO with minimal morbidity. It can safely be used in patients who are anticoagulated. Long-term results will soon be available.

Podium #47
SIMPLE ROBOTIC ASSISTED LAPAROSCOPIC PROSTATECTOMY FOR THE TREATMENT OF BLADDER OUTLET OBSTRUCTION. A FURTHER MODIFICATION OF TECHNIQUE
Christopher Knoedler Jr., BA¹, Robert Gaertner, MD²
¹Tulane University School of Medicine; ²Metro Urology
Presented By: Robert Gaertner

Introduction: Retrospective review of our series of 27 patients (11 previously reported on) treated for bladder outlet obstruction, by a single surgical team using a Simple Robotic Assisted Laparoscopic Technique (SRALP). We describe the clinical outcomes and a further variation of the technique.
Methods: Between 2009 and 2015, 27 patients underwent SRALP of treatment of BPH. As previously reported, the reconstructed bladder neck is anastomosed directly to the urethral stump, thus bypassing the prostatic fossa. A recent modification is described using a posterior approach similar to during a radical procedure, developing and completing the posterior plane prior to enucleating the gland anteriorly in the standard fashion.

Results: Average post operative hemoglobin was 11.6; average adenoma weight was 136 gm. No patients required a pelvic drain, suprapubic tube or continuous bladder irrigation. One patient required a transfusion. All patients were continent post operatively.

Conclusion: SRALP continues to be a viable alternative for the treatment of BPH in the patient with the large (>100gm) gland. Using a modified posterior approach appears to allow for a relatively quick and bloodless development of the posterior plane prior to the anterior and lateral enucleation done in the standard fashion.

Podium #48
WOLF PIRANHA VERSUS LUMENIS VERSACUT PROSTATE MORCELLATION DEVICES: A PROSPECTIVE, CONTROLLED, RANDOMIZED TRIAL
Marawan M. El Tayeb, MD, Michael S. Borofsky, MD, Jessica E. Paonessa, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky

Introduction: Holmium laser enucleation of the prostate (HoLEP) for the management of benign prostatic hyperplasia (BPH) involves 2 steps: enucleation and morcellation. There are few prostate morcellation devices (PMDs) available. Our aim is to compare the Richard Wolf® Piranha and Lumenis® Versacut™ PMDs.

Methods: After IRB approval and patient consent, a prospective, randomized trial of 74 patients who had symptomatic BPH requiring HoLEP was done, HoLEP was performed by a single surgeon (JEL) at IU Health Methodist Hospital using either the Wolf® or Lumenis® PMD for the morcellation. Patient’s demographics, preoperative, intraoperative, and postoperative data, as well as morcellation related complications, were documented, assessed, and analyzed.

Results: Seventy four patients were enrolled. Age, PSA, and gland size were comparable for both groups (Table 1). Intraoperative, postoperative characteristics and cost analysis are demonstrated in Table 2. Morcellation rates (gm/min) were: Piranha 6.5 (1.4−18) and Versacut™ 5.3 (0.3−9.5), p=0.14. The average cost of disposable instruments (USD/patient) were: Piranha 471 and Versacut™ 241, p=<0.001.

Conclusion: The morcellation rates for the Wolf® Piranha PMD and the Lumenis® Versacut™ were similar. However, the Piranha appears better at morcellating tougher more dense prostatic tissues. The blades for the Piranha PMD are disposable making it more expensive to use.
Table 1: Patient's demographics and pre-operative characteristics

<table>
<thead>
<tr>
<th></th>
<th>Richard Wolf® Piranha (n = 37)</th>
<th>Lumenis® Versacut™ (n = 37)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total patients</td>
<td>37</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Age (years), average (range)</td>
<td>68.1 (50-84)</td>
<td>69.9 (45-88)</td>
<td>0.67</td>
</tr>
<tr>
<td>Pre-Hol.LP PSA (ng/ml), mean (range)</td>
<td>9.5 (0.39-32)</td>
<td>9.6 (0.9-30.67)</td>
<td>0.59</td>
</tr>
<tr>
<td>Prostate volume (g), mean (range)</td>
<td>10.4 (3.0-23.9)</td>
<td>10.3 (2.6-21.1)</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Table 2: Patients undergoing hOL.P intraoperative, postoperative characteristics and cost analysis

<table>
<thead>
<tr>
<th></th>
<th>Richard Wolf® Piranha (n = 37)</th>
<th>Lumenis® Versacut™ (n = 37)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endocavitary time (min), average (range)</td>
<td>58.5 (15-98)</td>
<td>68.3 (18-133)</td>
<td>0.06</td>
</tr>
<tr>
<td>Vascularization time (min), average (range)</td>
<td>13.4 (2-44)</td>
<td>18.6 (3-106)</td>
<td>0.16</td>
</tr>
<tr>
<td>Pathological Hol.P specimen weight (g), average (range)</td>
<td>70.4 (2.9-151)</td>
<td>102.9 (4-325)</td>
<td>0.07</td>
</tr>
<tr>
<td>Enucleation rate (g/min), average (range)</td>
<td>1.2 (0.2-2.7)</td>
<td>1.4 (0.2-3.5)</td>
<td>0.4</td>
</tr>
<tr>
<td>Enucleation rate (g/min), average (range)</td>
<td>6.5 (1.4-18)</td>
<td>5.3 (3.9-6.5)</td>
<td>0.14</td>
</tr>
<tr>
<td>Vasculat or bladder injury (mucosal)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1</td>
</tr>
<tr>
<td>Bacterial staining</td>
<td>2 (9.1)</td>
<td>0 (0)</td>
<td>0.46</td>
</tr>
<tr>
<td>Difficulty visualization</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>1</td>
</tr>
<tr>
<td>Difficulty enucleation</td>
<td>2 (6.4)</td>
<td>2 (6.4)</td>
<td>1</td>
</tr>
<tr>
<td>Vasculat or bladder injury (mucosal)</td>
<td>1 (2.7)</td>
<td>0 (0)</td>
<td>1</td>
</tr>
<tr>
<td>Duration of catheterization (hours), average (range)</td>
<td>14.4 (9-19.3)</td>
<td>15.3 (5.5-33.6)</td>
<td>0.27</td>
</tr>
<tr>
<td>LOS (hours), average (range)</td>
<td>31.2 (21-50)</td>
<td>40.8 (22-333)</td>
<td>5.3</td>
</tr>
<tr>
<td>Cost of disposable instruments (US$,/patient, average)</td>
<td>471</td>
<td>241</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Podium #49
RANDOMIZED PROSPECTIVE ANALYSIS OF PREOPERATIVE PATIENT EDUCATION USING A 3D VIRTUAL REALITY BPH MODEL
Giulia I. Lane, MD¹, Salah J. El Haddi¹, Ken Haberman, MD, Kristin Chrouser, MD, MPH², Robert Sweet, MD¹
¹University of Minnesota; ²VA Medical Center Minneapolis, University of Minnesota
Presented By: Giulia Lane

Introduction: The medical and surgical management of benign prostatic hyperplasia (BPH) is complex and can be both confusing and anxiety inducing for patients. This study analyzes whether a three-dimensional (3D) virtual reality (VR) model of BPH increases patient understanding of BPH management and decreases perioperative anxiety.

Methods: Patients presenting to the Minneapolis Veterans Affairs Medical Center or the University of Minnesota with evidence of urinary obstruction amenable to surgical therapy were invited to participate. Consenting patients were randomized to perioperative education using 3DVR model or traditional counseling. Primary outcome was score on test of BPH physiology, surgical options, and perioperative complications. Patients and providers were not blinded.

Results: 69 patients were enrolled, 34 were randomized to 3DVR and 35 to usual counseling. Groups were similar in terms of education, age, counseling time, and perioperative anxiety. Mean objective knowledge score was 8.6/18 (48%) overall with no statistically significant difference between groups (8.6 vs. 8.7 p=0.83). There was poor correlation between knowledge score and state—trait anxiety inventory score (r = −0.1). 88% of patients assigned to 3DVR method thought it was useful for perioperative education.

Conclusion: While most patients in the 3DVR group thought the model was helpful, all patients had poor knowledge of BPH after counseling regardless of model utilized. Furthermore, patient knowledge of BPH did not correspond to decreased preoperative anxiety.

Funding source: None
COMPETING RISKS OF DEATH FOR PATIENTS FOLLOWING RADICAL CYSTECTOMY

Boris Gershman, MD, Matthew Tollefson, MD, Igor Frank, MD, Daniel Moreira, MD, Prabin Thapa MS, Robert Tarrell, MS, R. Houston Thompson, MD, Stephen Boorjian, MD
Mayo Clinic
Presented By: Boris Gershman

Introduction: Bladder cancer occurs predominantly in an elderly population for whom competing risks of death merit consideration. We evaluated cancer-specific mortality (CSM) and other-cause mortality (OCM) among patients undergoing radical cystectomy (RC).

Methods: We identified 2650 patients who underwent RC between 1980 and 2008 at Mayo Clinic. Competing risks regression models were used to estimate 5-year CSM and OCM after grouping patients into strata according to age, pathologic tumor stage, and then further by Charlson comorbidity index (CCI).

Results: Median postoperative follow-up among survivors was 10.4 years (IQR 7.0–15.6). When grouped into age/stage strata (Figure), 5-year CSM ranged from 10.4% for pT1 disease to 64.9% for pN+ disease, while 5-year OCM ranged from 4.7% for age <60 to 28.9% for age ≥80. Notably, OCM exceeded CSM only for patients ≥80 years with pT1 disease. When further grouped into age/stage/Charlson strata, 5-year CSM ranged 5.8%–88.9% and 5-year OCM ranged 3.2%–50.0%. 5-year OCM exceeded CSM for the following patient strata: pT1/<60 yrs/CCI 1–5, pT1/70–79 yrs/CCI 0–5, pT1/≥80 yrs/CCI any, pT2/≥70 yrs/CCI 1–5, and pT3–4/≥80 yrs/CCI 1–5.

Conclusion: OCM is an important consideration following RC, and for select groups, may exceed CSM. Specific estimates of CSM and OCM may be used to aid patient counseling and individualize management.
Podium #51
RECEIPT OF INTRAVESICAL THERAPY AND ASSOCIATION WITH PATHOLOGIC AND CLINICAL OUTCOMES AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boris Gershman, MD, Stephen Boorjian, MD, Matthew Tollefson, MD, Daniel Moreira, MD, Prabin Thapa, MS, Robert Tarrell, MS, R. Houston Thompson, MD, Igor Frank, MD
Mayo Clinic
Presented By: Boris Gershman

Introduction: For patients with non–muscle invasive bladder cancer (NMIBC), treatment with multiple courses of intravesical agents may delay cystectomy and result in inferior outcomes. We evaluated the association of intravesical therapies with pathologic and clinical outcomes among patients undergoing radical cystectomy (RC).

Methods: We identified 398 patients who received intravesical therapy for NMIBC prior to undergoing RC at Mayo Clinic between 1990 and 2008. The associations of the number of complete intravesical therapy courses with pathologic outcomes, cancer–specific survival (CSS), and overall survival (OS) were evaluated.

Results: A total of 215 (54.0%), 98 (24.6%), 54 (13.6%), and 31 (7.8%) patients received 1, 2, 3, or ≥4 courses of intravesical therapy. Median time from diagnosis to cystectomy was 2.0 years (IQR 0.8, 4.6), and median follow–up after RC among survivors was 10.1 years (IQR 7.2, 13.4). The number of intravesical courses was not associated with higher pathologic stage (pT3/4 or pN+ disease) at cystectomy (OR 1.65, p=0.08; OR 1.87, p=0.10; and OR 1.45, p=0.41 for 2, 3, and ≥4 courses vs 1 course). Similarly, the number of intravesical courses was not associated with 5–year CSS (p=0.15) or 5–year OS (p=0.10) estimated by the Kaplan Meier method, nor using univariable or multivariable Cox models.

Conclusion: For patients with NMIBC who progress to RC, we found no association between the number of courses of intravesical therapy and pathologic outcomes, CSS, or OS. These findings suggest that multiple courses of intravesical therapy may be considered in properly selected patients.

Podium #52
LONG TERM HEALTH RELATED QUALITY OF LIFE OUTCOMES FOLLOWING RADICAL CYSTECTOMY AND URINARY DIVERSION
Paul Gellhaus, MD, K. Clint Cary, MD MPH, M. Francesca Monn, MD, MPH, Timothy A. Masterson, MD, Thomas A. Gardner, MD, Richard Bihrle, MD, Michael O. Koch, MD
Indiana University
Presented By: Paul Gellhaus

Introduction: Long–term health related quality of life (HRQoL) outcomes in patients undergoing radical cystectomy (RC) and urinary diversion are limited.

Methods: 300 living patients that underwent RC with urinary diversion 5 or more years ago were identified in The Indiana University Cystectomy Database and were mailed the validated bladder cancer Index QoL questionnaire. Higher mean domain scores indicate improved HRQoL outcome. 117 returned the survey for a 39% response rate. Clinicopathologic findings and mean urinary, bowel, and sexual domain scores were compared across urinary diversion types ileal conduit (IC), Indiana pouch (IP), neobladder (NB) using ANOVA.
Results: 37 (32%) were IC, 32 (27%) IP, and 48 (41%) NB. Median follow-up from RC to survey for IC, IP, and NB was 8.3, 11.4, and 9.1 years, p=0.48 and mean age was 67.8, 61.6, and 58.0 years old, p<0.001. No differences in pathologic stage between groups, p=0.43. IP (44%) was more common in females compared to IC (24%) and NB (4%), p<0.001. IC demonstrated the highest urinary and IP demonstrated highest sexual domain; however, not significant different when adjusted for age and sex.

Conclusion: At approximately 10 years of follow-up, IC demonstrated a non-significant trend towards improved urinary QoL compared to IP and NB. These long-term results may aid counseling and decision-making.

Podium #53
THE ASSOCIATION OF STATIN THERAPY WITH CLINICOPATHOLOGIC OUTCOMES AND SURVIVAL AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boyd Viers, MD, Matthew Tollefson, MD, Ilya Sobol, MD, R. Houston Thompson, MD, Robert Tarrell, Prabin Thapa, R. Jeffrey Karnes, MD, Igor Frank, MD, Stephen Boorjian, MD
Mayo Clinic
Presented By: Boyd Viers

Introduction: Although statins have been found to demonstrate antitumor activity in vitro for urothelial carcinoma, clinical evidence of a role for these medications in bladder cancer patients is limited. Herein, we evaluated the association of statin therapy with outcomes among bladder cancer (BCa) patients undergoing radical cystectomy (RC).

Methods: We reviewed 1317 patients who underwent RC between 1995–2008. Of these, 315 (24%) were taking statins within 3 months of surgery. Recurrence-free (RFS), cancer-specific (CSS) and overall (OS) survival were estimated using the Kaplan–Meier method. The associations of statin use with clinicopathologic outcomes and survival were evaluated with logistic regression and multivariable Cox proportional hazard models.

Results: We found that patients taking statins were significantly more likely to have lymph node involvement at RC (OR 1.53; p=0.03), although other pathologic features did not differ according to statin use. Median postoperative follow-up was 9.6 years. Compared to patients not on statin therapy, patients taking statins at surgery had similar 5-year RFS (61% vs 59%; p=1.0), CSS (63% vs 65%; p=0.7) and OS (52% vs 55%; p=0.1). On multivariable analysis, statin use was not significantly associated with the risks of disease recurrence (HR 0.92, 95% CI 0.73–1.16; p=0.5), death from BCa (HR 0.99, 95% CI 0.79–1.23; p=0.9) or all-cause mortality (HR 1.05, 95% CI 0.89–1.25; p=0.5).

Conclusion: We found no independent association between preoperative statin therapy and survival among patients with BCa undergoing RC. These data do not support a current anti-cancer role for statin therapy in such patients.
Podium #54
UNDERSTANDING READMISSION AFTER RADICAL CYSTECTOMY: WHAT HAPPENED AFTER DISCHARGE?

Naveen Krishnan¹, Ben Li², Johnathan Helm, PhD³, Chang He, MS², Bruce Jacobs, MD⁴, Sapan Ambani, MD², Brent Hollenbeck, MD², Todd Morgan, MD², Khaled Hafez, MB, BCh², Alon Weizer, MD², Jeffrey Montgomery, MD², Cheryl Lee, MD², Mariel Lavierl, PhD², Ted Skolarus, MD²
¹University of Michigan Medical School; ²University of Michigan; ³University of Indiana; ⁴University of Pittsburgh
Presented By: Naveen Krishnan

Introduction: Radical cystectomy has one of the highest readmission rates of any surgery. However, what happens after hospital discharge and prior to readmission is largely unknown.

Methods: We conducted a retrospective chart review of 328 patients treated with radical cystectomy between 2007 and 2012 at a single academic institution. The readmission rate was 22.3% within 30 days of discharge. We categorized readmitted and non–readmitted patients according to: time to first communication, time to first symptom concern, type of concern, and source of concern. We examined differences among readmitted and non–readmitted patients with respect to these factors.

Results: There were no differences in age, gender, race, BMI, or diversion type among the two patient groups. The time to first concern was greater for non–readmitted patients (16.8 vs. 7.0 days, p<0.01). Source of concern varied across the groups with patients infrequently contacting the health system regardless of readmission status (Figure). While gastrointestinal concerns were common among both groups, infection concerns were more frequently reported among readmitted patients (33.8% vs. 10.1%, p<0.01).

Conclusion: Our findings indicate readmitted patients have earlier contacts with the health system and different concerns compared with non–readmitted patients. Further study is warranted to better understand patient experiences after discharge.
Podium #55
THE ASSOCIATION OF ABO BLOOD TYPE WITH DISEASE RECURRENCE AND MORTALITY AMONG PATIENTS UNDERGOING RADICAL CYSTECTOMY
Boris Gershman, MD, Matthew Tollefson, MD, Igor Frank, MD, Daniel Moreira, MD, MHS, Prabin Thapa, MS, Robert Tarrell, MS, R. Houston Thompson, MD, Stephen Boorjian, MD
Mayo Clinic
Presented By: Boris Gershman

Introduction: The association of blood type with survival for patients undergoing radical cystectomy (RC) remains understudied. Herein, we evaluated clinicopathologic outcomes and mortality among patients treated with RC, stratified by ABO blood type.

Methods: We identified 2086 consecutive patients who underwent RC between 1980 and 2008. Postoperative recurrence-free (RFS) and cancer-specific (CSS) survival was evaluated using the Kaplan Meier method and Cox regression models.

Results: A total of 912 (44%), 882 (42%), 216 (10%), and 76 (4%) patients had blood type O, A, B, and AB. Median follow-up among survivors was 10.3 years (IQR 7.1, 15.4). Non-O blood type was associated with significantly worse 5-year RFS (65% versus 69%; p=0.03) and CSS (64% versus 70%; p=0.02). In particular, among patients with ≤pT2 disease, the 5-year RFS for those with non-O versus O blood type was 75% versus 82% (p=0.002), while CSS was 77% versus 85% (p=0.002). On multivariate analysis (Table), blood type A remained independently associated with an increased risk of cancer-specific mortality (HR 1.24; p=0.007).

Conclusion: Non-O blood type, particularly blood type A, is associated with a significantly increased risk of death from bladder cancer among patients undergoing RC. As such, the utility of adjuvant systemic therapy and/or more frequent postoperative surveillance in this cohort warrants further study.

<table>
<thead>
<tr>
<th>Disease Recurrence</th>
<th>Cancer-Specific Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient age at RC (years)</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>90-2000</td>
<td>1.00 (0.99-1.01)</td>
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<tr>
<td>2001-2008</td>
<td>1.04 (0.96-1.12)</td>
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<tr>
<td><strong>Gender (ref=Female)</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>Male</td>
<td>1.15 (0.94-1.40)</td>
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<tr>
<td><strong>ECOG performance status</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>0-1</td>
<td>1.16 (1.02-1.33)</td>
</tr>
<tr>
<td><strong>BMI (kg/m2)</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>&lt;30</td>
<td>1.00 (0.96-1.05)</td>
</tr>
<tr>
<td><strong>Number of lymph nodes removed</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>&lt;60</td>
<td>0.86 (0.87-0.90)</td>
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<tr>
<td>pT Stage (ref=pT1)</td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>pT2</td>
<td>1.96 (1.58-2.42)</td>
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<tr>
<td>pT3</td>
<td>3.17 (2.43-3.62)</td>
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<tr>
<td>pT4+</td>
<td>5.06 (1.26-1.95)</td>
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<tr>
<td>Positive surgical margin</td>
<td>1.11 (0.72-1.70)</td>
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<td>Receipt of perioperative chemotherapy (ref=Yes)</td>
<td>1.22 (0.90-1.52)</td>
</tr>
<tr>
<td><strong>Blood type (ref=O)</strong></td>
<td><strong>HR (95% CI)</strong></td>
</tr>
<tr>
<td>A</td>
<td>1.16 (0.96-1.37)</td>
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<td>B</td>
<td>1.04 (0.80-1.35)</td>
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<tr>
<td>AB</td>
<td>1.11 (0.75-1.63)</td>
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Podium #56
EMETINE DIHYDROCHLORIDE PREFERENTIALLY INHIBITS HIF1α AND HIF2α EXPRESSION IN BLADDER CANCER CELLS
Kimberly Foreman, PhD¹, Deval Patel, BS², Valerie Davidson, BS¹, Paul Kuo, MD¹, Robert Flanigan, MD¹, Gopal Gupta¹
¹Loyola Medical Center; ²Stritch School of Medicine
Presented By: Gopal Gupta

Introduction: Aberrant hypoxia signaling through a transcription factor, hypoxia inducible factor (HIF), is considered a significant tumor-promoting event. Previous reports suggest HIF’s aberrant overexpression in bladder cancer. We recently reported that low nanomolar concentrations of emetine dihydrochloride act synergistically with cisplatin and gemcitabine to inhibit bladder cancer cell proliferation in vitro. Here, we examined the effect of emetine on HIF1α and HIF2α expression in bladder cancer cell lines its mechanism of action.

Methods: UMUC3, HT1376, and T24 invasive bladder cancer cell lines were cultured under standard conditions. As indicated, cells were treated with emetine, MG132 (a proteasome inhibitor), or cycloheximide (a protein synthesis inhibitor). Western blot was performed using nuclear extracts from treated cells and antibodies directed against HIF1α, HIF2α, and HIF1β.

Results: Treatment of bladder cancer cells with emetine decreased expression of HIF1α and HIF2α, but not HIF1β in a dose dependent manner. Using reverse transcriptase quantitative PCR, we demonstrated that emetine did not modulate HIFα at the transcriptional level. HIFα was modulated primarily at the level of protein synthesis with proteasome degradation playing a minor role.

Conclusion: Emetine is known to inhibit protein synthesis at micromolar concentrations. However, we found nanomolar concentrations of emetine inhibit expression of HIF1α and HIF2α. The decrease in HIFα expression was due partly to protein synthesis inhibition and proteasomal degradation played a minor role. Given the important role of HIF in promoting tumor growth and progression, patients may benefit from treatment with a HIFα inhibitor, like emetine, in addition to standard therapy.

Podium #57
ADDITION OF INTERLEUKIN-2 AND GRANULOCYTE MACROPHAGE COLONY STIMULATING FACTOR TO BACILLUS CALMETTE-GUERIN (BCG)/INTERFERON IN THE TREATMENT OF BCG FAILURE PATIENTS WITH NON-MUSCLE INVASIVE BLADDER CANCER
Kyla Velaer, BS¹, Ryan L. Steinberg, MD², Lewis J. Thomas, MD², Michael A. O'Donnell, MD², Kenneth G. Nepple, MD²
¹University of Iowa Carver College of Medicine; ²Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Kyla Valaer

Introduction: In patients who fail Bacillus Calmette-Guerin (BCG) therapy, BCG/Interferon (IFN) combination therapy is successful in ~45% of patients at 2 years. We hypothesize that further immunostimulation with Interleukin-2 (IL-2) and Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) improves the response to BCG/IFN therapy.

Methods: A single institution, retrospective review was performed from 1/2009 to 7/2014. After undergoing transurethral resection or bladder biopsy, patients were treated with 6 weekly instillations of one-third dose BCG, 50 million units (MU)
IFN, and 22 MU IL−2, along with 250 mcg of intramuscular GM−CSF. Surveillance began 4−6 weeks after treatment completion. If no recurrence was identified, patients received 3 week mini−cycle maintenance therapy at 3, 9, and 15 months after induction. Success was defined as no bladder or extravesical recurrence and no cystectomy. Analysis was performed by Kaplan−Meier method (p<0.05).

Results: Fifty three patients, median age 70 years (50−88), received treatment. Median treatment follow−up was 9.6 months (3.4−80.9) and overall follow−up was 33.5 months (4.9−82.1). Thirty seven patients had carcinoma in situ (CIS), while 9 had Ta and 7 had T1 disease. Forty five patients had 1 prior BCG course and 7 had 2+ prior courses. Treatment success at first surveillance, 1 year, and 2 year was 70%, 52%, and 47%, respectively. Fourteen patients underwent cystectomy and 3 had disease progression (1 T2, 2 T3). None had positive lymph nodes.

Conclusion: BCG/IFN/IL−2/GM−CSF combination therapy is effective and durable in some BCG failure patients. Further evaluation is needed to compare this to similar regimens.

Podium #58
RESINIFERATOXIN INDUCES NON-APOPTOTIC CELL DEATH IN UROTHELIAL CARCINOMA CELLS
William Herre, MD, Fanghong Chen, PhD, Guanjian Zhang, PhD, Gopit Shah, PhD, William See, MD
Medical College of Wisconsin
Presented By: William Herre

Introduction: To evaluate the cytotoxicity of Resiniferatoxin (RTX), an analog of capsaicin previously used to treat painful bladder syndrome, and its ability to induce non−apoptotic cell death through the release of high molecular group box protein 1 (HMGB1). HMGB1 has previously been shown to be a requisite for urothelial carcinoma (UC) cells to respond in vivo to bacillus Calmette−Guérin (BCG).

Methods: The human UC cell lines 253J and T24 were treated with varying concentrations of RTX and RTX with BCG. Cell viability was measured at 24 and 48 hours using Calcein AM fluorescence. Cytotoxicity was measured at 24 hours using LDH enzyme assays. HMGB1 was quantitatively determined using enzyme immunoassays.

Results: RTX showed dose dependent cytotoxic effect against both UC cell lines. When compared to BCG alone group, BCG with RTX exposure resulted in greater cytotoxicity and elevated levels of HMGB1 release in the cell culture supernatant.

Conclusion: RTX is directly cytotoxic to UC cells and acts through the non−apoptotic, necrosis pathway as evidenced by HMGB1 release. RTX potentiates the UC cell response to BCG. This synergy may improve the treatment efficacy of BCG while allowing for lower doses and lessened side effects.
Podium #59
SARCOPENIA ASSESSMENT IN A CYSTECTOMY COHORT
Aeen Asghar, BS¹, Lewis Thomas, MD², Eric Askeland, MD², Mark Newton, MD², Kenneth Neppe, MD²
¹University of Iowa; ²University of Iowa Department of Urology
Presented By: Aeen Asghar

Introduction: Sarcopenia (loss of skeletal muscle) in cystectomy cohorts has shown varying ability to predict complications and survival. We sought to further assess the predictive ability of sarcopenia using two validated measurements.

Methods: A review of cystectomy patients from 6/2007–4/2010 at one institution was performed. The Hounsfield Unit Average Calculation (HUAC), a measure of muscle density, and Total Psoas Index (TPI), a measure of muscle size were quantified on pre-operative CT. Sarcopenia was defined as the lowest gender specific quartile for each measure. Outcomes investigated were ICU admission, length of stay, 30-day significant complications (Clavien-Dindo ≥3), and overall survival.

Results: Ninety-nine patients with pre-operative CT were identified. Median follow-up was 51 months. Results are shown in Table 1. Overall, sarcopenic patients were older. HUAC sarcopenic patients had higher revised cardiac risk indices (RCRI) than non-sarcopenic patients. Of those defined as sarcopenic by TPI (n=25), only 2 were defined as sarcopenic by HUAC. HUAC sarcopenia was correlated with an increased risk of post-operative ICU admission, but not associated with hospital stay, complications, or survival. TPI sarcopenia did not correlate with any outcomes.

Conclusion: Assessments of psoas muscle density and size identify different sarcopenia populations. Our cystectomy cohort failed to validate sarcopenia assessment for prediction of complications or mortality.

Funding: ACS IRG–77–004–34

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Podium #60
THE PROTECTIVE IMPACT OF BODY MASS INDEX ON PRIMARY ARTIFICIAL URINARY SPHINCTER OUTCOMES AMONG MALES WITH STRESS URINARY INCONTINENCE
Boyd Viers, MD, Brian Linder, MD, Marcelino Rivera, MD, Laureano Rangel, Matthew Ziegelmann, MD, Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd Viers

Introduction: Although obesity remains a risk factor for complications following urological surgery, its impact on artificial urinary sphincter (AUS) survival is
unknown. Herein, we evaluated the association between body mass index (BMI) and primary AUS device outcomes.

**Methods:** From 1999–2012, 970 AUS procedures were performed; of which, 552 men, with available BMI, underwent primary AUS implantation. Overall device, mechanical failure, non–mechanical failure and erosion/infection–free survival were estimated using the Kaplan–Meier method. The association of BMI, as a continuous feature, with device outcomes was evaluated with multivariable hazard regression models.

**Results:** In total, 97 (18%), 258 (47%) and 197 (36%) men with a BMI of <25, 25–29.9 and ≥30 underwent primary AUS placement. Median device survival was 6.1 years with 122 men requiring AUS revision. Relative to those with a BMI 25–29.9 and ≥30, men with a BMI <25 had significantly worse 5–year non–mechanical (58% vs 74% vs 72%; p=0.01) and erosion/infection–free survival (83% vs 88% vs 94%; p=0.03). Meanwhile, there was no difference in mechanical failure–free (82% vs 85% vs 78%; p=0.9) or overall device survival (51% vs 84% vs 58%; p=0.1). On multivariable analysis, greater BMI was independently associated with a reduced risk of non–mechanical failure (HR 0.94; p=0.03) and erosion/infection (HR 0.91; p=0.03).

**Conclusion:** We found that greater BMI was protective among men undergoing primary AUS placement. That is, for every 1–unit increase in BMI, there was a 6% and 9% risk reduction in non–mechanical failure and infection/erosion. Accordingly, BMI may be useful in perioperative risk stratification.

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**Podium #61**

**BASELINE RISK CHARACTERISTICS IN 500 CONSECUTIVE PATIENTS WITH POSTOPERATIVE URINARY RETENTION (POUR)**

Benjamin Sherer, MD, Peter Tsambarlis, MD, Karl Godlewski, Rebecca Deal, MD, Leslie Deane, MBBS

Rush University Medical Center

Presented By: Benjamin Sherer

**Introduction:** As part of an Institutional Quality and Safety Initiative to reduce POUR and improve patient safety indicators (PSIs), we sought to identify the prevalence of baseline risk characteristics in patients with POUR.

**Methods:** We retrospectively reviewed our electronic surgical database to identify 500 consecutive cases of POUR. POUR was defined as inability to void postoperatively with symptoms of fullness, bladder scan volumes >450ml, and subsequent need for catheterization with output >450ml. Perioperative records were then individually reviewed for sixteen known independent risk factors for POUR (see Table 1).

**Results:** Of 500 patients with POUR, the most prevalent risk factor for was use of opioid analgesia (97%), followed by operative IVF rate >500ml/hr (68.4%), anticholinergic anesthetic use (67.2%), major surgery (60.2%), alpha agonist use (58.8%), operative time >180mins (57%), age >65 (56.4%), and postoperative immobilization (52.6%) (See Table 1 for additional results). At the time of void trial, all (100%) of patients with POUR had a mean of 6.88 risk factors (Median 7, Range 1–12) for urinary retention.

**Conclusion:** Multiple, easily identifiable risk factors are present in most patients with POUR. Attention to risk profiles may help optimize timing of postoperative void trials that will reduce trauma, improve patient comfort, and ultimately improve quality indicators (PSIs).
LONG TERM CONTINENCE OUTCOMES AND RETREATMENT RATES FOLLOWING ARTIFICIAL URINARY SPHINCTER PLACEMENT: AN ANALYSIS OF 1082 CASES AT MAYO CLINIC

Brian Linder, MD, Matthew Ziegelmann, MD, Marcelino Rivera, MD, Joshua Piotrowski, Daniel Elliott, MD
Mayo Clinic

Presented By: Brian Linder

Introduction: To evaluate the long–term continence and reoperation rates following artificial urinary sphincter (AUS) placement.

Methods: We identified 1802 male patients with stress urinary incontinence that underwent AUS placement from 1983–2011. Of these, 1082 (60%) were primary implantations and comprise the study cohort. Clinical and surgical factors were evaluated for potential association with undergoing secondary surgery. Patient follow–up was obtained through office examination, written or telephone correspondence.

Results: Median age at surgery was 71 (IQR 66.76) and median follow–up was 4.1 years (IQR 0.8,7.7). Overall, 338/1082 patients (31.2%) underwent secondary surgery. No patient related risk factors were independently associated with an increased risk of secondary surgery on multivariable analysis. Repeat surgery free survival was 90% at 1 year, 74% at 5 years, 57% at 10 years, and 41% at 15 years. At a median follow–up of 8.3 years (IQR 5.9,11.4), 59% (88/148) of patients reported social continence (0–1 pads/day).

Conclusion: Artificial urinary sphincter placement is associated with excellent long–term continence and retreatment rates. Recognition of long–term success is important for preoperative patient counseling.
Podium #63
A COMPARISON OF ARTIFICIAL URINARY SPHINCTER DEVICE OUTCOMES AMONG PATIENTS WITH AND WITHOUT DIABETES
Boyd Viers, MD, Brian Llnder, MD, Marcelino Rivera, MD, Laureano Rangel, Matthew Ziegelmann, MD, Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd Viers

Introduction: Patients with diabetes are at increased risk of adverse surgical outcomes. However, to date, little is known regarding the impact of diabetes on artificial urinary sphincter (AUS) survival. Herein, we assess the association between diabetes and primary AUS outcomes.

Methods: From 1999–2012, 970 AUS procedures were performed; of which, 556 men underwent primary AUS implantation. Overall device, mechanical failure, non–mechanical failure and erosion/infection–free survival were estimated using the Kaplan–Meier method. The association of diabetes with device outcomes was evaluated using multivariable hazard regression models controlling for age, history of radiation, smoking status, hypertension and coronary artery disease.

Results: In total, 89 (16%) men undergoing primary AUS had diabetes. Median device survival was 6.1 years with 122 men requiring AUS revision. Diabetes was associated with greater body mass index and an increased incidence of hypertension, cerebrovascular event and coronary artery disease (all p<0.05). Relative to non–diabetics, men with diabetes had similar 5–year overall device (59% vs 60%; p=0.5), mechanical failure (78% vs 82%; p=0.6), non–mechanical failure (78% vs 69%; p=0.7) and erosion/infection–free survival (89% vs 89%; p=0.5). On multivariable analysis, diabetes was not independently associated with increased risks of all–cause device failure (HR 1.37; p=0.2), non–mechanical failure (HR 0.95; p=0.9) or erosion/infection (HR 1.28; p=0.6).

Conclusion: We found no independent association between diabetes and device outcomes among men undergoing primary AUS. These findings suggest that diabetes should not be a contraindication to AUS placement among men seeking anti–incontinence surgery.

Podium #64
CONSISTENT LONG–TERM SAFETY AND EFFICACY OF ONABOTULINUMTOXINA FOR NEUROGENIC DETRUSOR OVERACTIVITY IN PATIENTS WHO COMPLETED 4 YEARS OF TREATMENT
Sender Herschorn, MD¹, Eric Rovner, MD², Alfred Kohan, MD³, Emmanuel Chartier-Kastler, MD⁴, Klaus-Peter Juenemann, MD⁵, Giulio Del Popolo, MD⁶, Tamer Aboushwareb, MD, PhD⁷, Quanhong Ni, PhD⁸, Victor Nitti, MD⁹
¹University of Toronto; ²Medical University of South Carolina, Charleston, SC, USA; ³Advanced Urology Centers of New York, Bethpage, NY, USA; ⁴Pitié-Salpétrière Academic Hospital, University Paris 6, Paris, France; ⁵Klinik für Urologie und Kinderurologie, Universitätsklinikum Schleswig-Holstein, Kiel, Germany; ⁶Careggi University Hospital, Florence, Italy; ⁷Allergan, Inc., Irvine, CA, USA; ⁸Allergan, Inc., Bridgewater, NJ, USA; ⁹New York University School of Medicine, New York, NY, USA
Presented By: Tamer Aboushwareb

Introduction: We assessed efficacy/safety outcomes in patients with neurogenic detrusor overactivity (NDO) who completed 4 years of onabotulinumtoxinA treatment.
Methods: NDO patients who completed a 52-week, phase 3 trial of onabotulinumtoxinA were eligible to enter a 3-year extension study in which they could receive multiple onabotulinumtoxinA treatments (200U or 300U). 227 patients completed the entire 4-year study; this analysis reports data from patients treated with 200U only (n=122). Outcomes (assessed by year of treatment) included mean change from baseline (at week 6) in UI episodes/day and Incontinence–Quality of Life (I–QOL) total score, proportions of patients with ≥50%/100% reduction in UI episodes/day, duration of effect, AEs, and initiation of de novo CIC.

Results: Patients reported 4.3 UI episodes/day at baseline and received an average of 1.5, 1.4, 1.5, and 1.5 onabotulinumtoxinA treatments/year (years 1–4). UI reductions with onabotulinumtoxinA were consistent across years 1–4 (−3.4, −3.6, −3.8, and −3.7 UI episodes/day, respectively). 88–90% of patients achieved ≥50% UI reduction; 44–52% achieved 100% UI reduction in each year of treatment. I–QOL improvements with onabotulinumtoxinA were consistent and clinically relevant over 4 years. Overall median duration of effect was 9.2 months. UTI was the most common AE across all groups with no increased incidence over time. De novo CIC rates were 39% (18/46 patients), 11% (3/28), 8% (2/25) and 0% (0/23) (years 1–4).

Conclusion: NDO patients who completed 4 years of onabotulinumtoxinA treatment experienced long-term benefit, with consistent improvements in UI and QOL each year and no new safety signals. Funded by Allergan, Inc.

Podium #65
PREDICTORS OF LONGTERM SACRAL NERVE STIMULATION (SNS) FAILURES
Kevin Zeeck, MD, Morgan Schubbe, BS, Robert O’Connor, MD, Michael Guralnick, MD
Medical College of Wisconsin
Presented By: Kevin Zeeck

Introduction: This study investigates which patients have return of symptoms despite a functioning SNS system (longterm failures).

Methods: A retrospective chart review of patients who underwent SNS for the management of refractory voiding dysfunction. Data collected included: primary indication for SNS (over active bladder (OAB), urinary retention (UR) and pelvic pain (PP)), presence of mixed urinary incontinence (MUI), hypersensate bladder (HB), and detrusor overactivity (DO) on urodynamics, as well as demographic variables such as age, sex, diabetes, prior pelvic/incontinence surgery, and neurogenic disorder/spine surgery. Patients who had successful test stimulation and implant were analyzed. We then compared patients who had ongoing symptom improvement to those who failed (failure of SNS was return of symptoms despite reprogramming and surgical revision).

Results: 113 patients have been analyzed with a mean follow up time of 47 months. 68 patients have ongoing symptom improvement where 45 are considered failures. We found no significant differences between success and failures with respect to indication, demographic variables and urodynamic findings except for the presence of urodynamic DO (significantly more SNS failures had urodynamic DO, p=0.007).

Conclusion: After 4 years, about 40% of SNS patients lost efficacy. The presence of urodynamic DO might be a risk factor for long term failure.
ONABOTULINUMTOXINA REDUCES URINARY INCONTINENCE AND URGENCY AND IMPROVES QUALITY OF LIFE IN PATIENTS WITH OVERACTIVE BLADDER REGARDLESS OF INCONTINENCE SEVERITY AT BASELINE

Courtenay Moore¹, Marcus Drake, MD², David Ginsberg, MD³, Jennifer Gruenenfelder, MD⁴, Albert Kaufmann, MD⁵, Tamer Aboushwareb, MD, PhD⁶, Andrew Magyar, PhD⁷, Sender Herschorn, MD⁸

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Presented By: Courtenay Moore

Introduction: We evaluated the effect of onabotulinumtoxinA on overactive bladder (OAB) symptoms and quality of life (QOL) by severity of urinary incontinence (UI) at baseline.

Methods: Post-hoc analysis of pooled data from two phase 3 studies of onabotulinumtoxinA 100U versus placebo was performed by baseline UI severity: ≤2 (n=188), >2–≤5 (n=435), and >5 (n=482) UI episodes/day. Assessments included mean change from baseline in UI and urgency episodes/day and Incontinence-QOL (I-QOL) total score, % change in UI, proportion of patients with 100% reduction in UI episodes, and AEs.

Results: At baseline, mean UI episodes/day were 1.5, 3.6, and 8.9, and mean urgency episodes were 7.7, 7.5 and 10.4 in the onabotulinumtoxinA ≤2, >2–≤5, and >5 UI groups, respectively. Although mean reduction in UI episodes/day with onabotulinumtoxinA increased with increasing baseline UI severity (−0.7 vs +0.1, −1.9 vs −0.7, and −4.5 vs −1.5 episodes/day versus placebo in ≤2, >2–≤5, and >5 UI groups), the % UI reduction was similar (43.8–52.1%) in all onabotulinumtoxinA groups. Higher proportions of onabotulinumtoxinA patients achieved 100% UI reduction versus placebo (41.4 vs 20.2%; 31.2 vs 9.2%; and 17.5 vs 3.3%). Greater urgency reductions were observed with onabotulinumtoxinA versus placebo in all subgroups (−2.7 vs −1.2, −3.0 vs −1.1, and −3.8 vs −1.4 episodes/day). I–QOL improvements with onabotulinumtoxinA were clinically meaningful and greater than placebo in all subgroups. UTI and dysuria were the most common AEs across all groups.

Conclusion: OnabotulinumtoxinA provided substantial improvements in OAB symptoms and QOL regardless of baseline UI severity

Funding: Allergan, Inc.

OSSABAW PIG AS A LARGE ANIMAL MODEL FOR HYPOACTIVE DETRUSOR IN METABOLIC SYNDROME PILOT STUDY

CR Powell, MD¹, Albert Kim, MS², Mouhamad Alloosh, MD³, Babak Ziaie, PhD², Mike Sturek, PhD³

¹Indiana University School of Medicine, Department of Urology; ²Purdue University Biomedical Engineering; ³Indiana University Department of Cellular and Integrative Physiology

Presented By: Charles Powell II

Introduction: Metabolic syndrome (MetS) is common and has detrimental
effects on the bladder including hypoactive detrusor. The progression and mechanism are poorly understood. A large animal model for diabetic cystopathy was developed to explore this process. The primary hypothesis is that a longitudinal decrease in bladder pressure will occur as MetS progresses. Future directions include defining biomarkers to drive early intervention.

**Methods:** Five Ossabaw MetS pigs underwent dietary modification consisting of a hypercaloric, atherogenic diet for 10 months and were compared to 3 lean pigs (normal diet). Urodynamic studies were performed at 7 and 10 months of MetS diet. Five indices of MetS were checked periodically (Table 1).

**Results:** During the final 3 months of MetS diet, five pigs demonstrated decreased bladder pressure at maximum capacity (63.8±12.8* vs. 38.3±13.3*cc, p=0.04) and trended toward increased compliance (22.2±6.3* vs. 42.8±10.9*cc/cmH2O, p=0.056). A trend toward increased compliance was also noted in the MetS animals when compared with the 3 lean pigs (42.8±10.9*vs. 28.4±8.8*cc/cmH2O, p=0.14) after 10 months on MetS diet. MetS was confirmed (Table 1; data are mean + SEM).

**Conclusion:** Bladder underactivity trended toward significance in this pilot study, suggesting the model exhibits hypoactive detrusor seen in diabetic cystopathy, justifying further investigation for a longer duration.

<table>
<thead>
<tr>
<th></th>
<th>Metabolic animals</th>
<th>Lean animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Weight (kg)</td>
<td>105±5</td>
<td>64.7±3</td>
</tr>
<tr>
<td>BP-Systolic (mmHg)</td>
<td>151±2 ±6.8*</td>
<td>110 ±2.6</td>
</tr>
<tr>
<td>BP-Diastolic</td>
<td>88.2 ±1.9*</td>
<td>95 ±2</td>
</tr>
<tr>
<td>Fasting Blood Glucose</td>
<td>114.3 ±6*</td>
<td>87.3 ±4.7</td>
</tr>
<tr>
<td>Tct.cholesterol</td>
<td>535.6 ±18*</td>
<td>57 ±5.5</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>56.0 ±11.8*</td>
<td>28.7 ±3.2*</td>
</tr>
</tbody>
</table>

Table 1. Ossabaw pig demonstrates systemic MetS indices after 10 months.

This project was supported by: A Project Development Team within the (GTS) NIH/NCCR Grant Number RRO25/71 (Powell, PI) and NIDDK DiaComp Pilot & Feasibility project, 13GHSU260(Powell, PI) and NIH grant HL002552 (Surek, PI).

**Podium #68**

**NATURAL HISTORY OF NEUROGENIC BLADDER IN ADULTS WITH CEREBRAL PALSY**

Katherine Cotter, MD¹, Robert Goldfarb, MD², Daniel Liberman, MD², Yunhua Fan, Sean Elliott, MD²

¹University of Minnesota Urology Department; ²University of Minnesota

Presented By: Katherine Cotter

**Introduction:** Cerebral palsy (CP) in adulthood remains poorly understood. We describe the clinical characteristics and outcomes in adult CP patients in a specialty clinic dedicated to longitudinal care of adults with congenital NGB.

**Methods:** Charts of adult CP patients between 2011–2014 were retrospectively reviewed. Catheterization was avoided unless there was risk of renal deterioration, recurrent infections, or bothersome incontinence. Outcomes included initiation of catheterization, hydronephrosis, stones, or surgery (Figure
Results: Of the 118 patients, median age was 31.6 years, and average follow-up was 65 months. 106 patients (89.8%) were voiding without catheterization at initial visit. Catheterization was initiated in 23 patients (21.7%). Hydronephrosis was detected in 21 patients (18%). Stones were found in 29 patients (25%), with surgical intervention performed in 5 patients. 8 patients underwent bladder reconstructive surgery, which includes appendicovesicostomy, continent cutaneous ileal cecocystoplasty, and simple cystectomy with ileal conduit.

Conclusion: NGB in adults with CP is initially approached with the goal of conservative management without catheterization. Over 75% of patients avoided catheterization throughout the study period. While hydronephrosis and stones were detected in 18 and 25 percent of patients, respectively, most did not require major intervention. Major bladder reconstruction was rarely performed, and a non-operative approach should be pursued barring compelling indications.

Podium #69 - WITHDRAWN

Podium #70
OUTCOMES OF SACRAL NEUROMODULATION IN PATIENTS WITH PRIOR SURGICAL TREATMENT OF STRESS URINARY INCONTINENCE AND PELVIC ORGAN PROLAPSE
Verity Ramirez, MSIII¹, Jamie Bartley, DO², Kim Killinger, MSN³, Judy Boura, MS², Priyanka Gupta, MD³
¹Oakland University William Beaumont School of Medicine, Rochester, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI; ³Beaumont Health System, Royal Oak, MI
Presented By: Verity Ramirez

Introduction: To evaluate prior stress urinary incontinence (SUI) or pelvic organ prolapse (POP) surgery’s impact on sacral neuromodulation (SNM) outcomes.

Methods: Women enrolled in our prospective database that had SNM and urinary incontinence (UI) were grouped by history/no history of SUI/POP surgery. Outcomes, measured at 3, 6, 12 and 24 months with voiding diaries, Interstitial Cystitis Symptom/Problem indices (ICSI−PI), Overactive Bladder Symptom Severity (OAB−q SS)/Health related quality of life (HRQOL), and Global Response Assessment (GRA) were analyzed with Pearson’s Chi-square, Fisher’s Exact, and Wilcoxon rank sum tests.

Results: Of 108 of 210 women with prior SUI/POP procedures, more had prior hysterectomy (p<0.001). Stage 2 implant rates were similar between groupsICSI−PI, OAB−q SS and HRQOL did not differ between groups at any
time point. ICSI−PI scores improved over time (p<0.0001 for both groups). On diaries, SUI/POP group had more UI episodes/day at 1 year (p=0.027) and lower volume/void at 2 years (p=0.041). A higher proportions of SUI/POP patients leaked urine at 6 (92% vs. 73.2%; p=0.009) and 12 months (92% vs. 67%; p=0.002). On GRA, a lower proportion (40% vs. 60%; p=0.037) had improved urgency at 6 months. Fewer SUI/POP patients reported moderately/markedly improved symptoms at 12 (51% vs. 71%; p=0.045) and 24 months (42% vs. 66%; p=0.031). Satisfaction rates were similar between groups and the majority in each group would undergo SNM again.

**Conclusion:** Although SNM improves voiding symptoms in women with prior SUI/POP procedures, underlying voiding/pelvic floor dysfunction may limit level of improvement.

**Podium #71**

**VARIATION IN DEFINITIONS OF URINARY TRACT INFECTION IN SPINAL CORD INJURY PATIENTS: A SYSTEMATIC REVIEW**

Yahir S. Lastra, MD, Anne P. Cameron, MD
University of Michigan
Presented By: Yahir Santiago-Lastra

**Introduction:** Urinary tract infections are a source of morbidity among patients with spinal cord injury (SCI). However, there is no standard definition of UTI in this population. We evaluated the uniformity of the literature criteria that authors use to define UTI.

**Methods:** We queried Medline and Embase and used the American Academy of Neurology 2004 guidelines to rate evidence and the PRISMA guidelines for systematic reviews.

**Results:** We identified 1652 publications, of which 365 articles met inclusion criteria. These publications spanned a time frame from 1957 to 2014. All of the included publications had SCI patients as part of the population. Of the selected articles, 117 (32%) provided an explicit definition of UTI. A urine culture, alone or with associated symptoms, was included in the definition of UTI in 66 of 117 articles (56.6%). The most common symptoms included in the definition of UTI were pain (abdominal, suprapubic, and/or flank pain), foul−smelling urine, urinary incontinence, and increased spasticity. In 51 articles (43.5%), UTI was defined by criteria that did not include a positive urine culture. These definitions included usage of billing codes, antibiotic usage and patient−reported questionnaires.

**Conclusion:** UTI is a poorly−defined measure in studies examining outcomes in the SCI patient population. Many studies reporting rates of UTI do not explicitly provide a definition, affecting the reliability of the reported data. This makes it difficult to assess the true incidence of UTI in this group of patients. Future clinical studies would benefit from a standardized definition of UTI.
Introduction: Here we present the final results from an extension study examining the effects of long-term onabotulinumtoxinA (onabotA) treatment (3.5 years) in patients with overactive bladder.

Methods: Patients who completed either of 2 phase 3 trials were eligible to enter a 3-year extension study in which they received multiple onabotA (100U) treatments. Data were analyzed within discrete subgroups of patients who needed exactly 1 (n=105), 2 (n=118), 3 (n=117), 4 (n=83), 5 (n=46), or 6 (n=33) treatments during study participation. Assessments included mean change from baseline in UI episodes/day and proportion of patients reporting improvement on the Treatment Benefit Scale (TBS) at week 12 (co-primary endpoints), median time to request retreatment (duration of effect [DOE]), and adverse events (AEs).

Results: 543 patients received onabotA 100U; 51.2% completed the study. Discontinuations due to AEs/lack of efficacy were low (5.3/2.8%); other reasons were not treatment related. Mean reductions in UI episodes/day were consistent among patients who received 1 (−3.1), 2 (−2.9, −3.2), 3 (−4.1 to −4.5), 4 (−3.4 to −3.8), 5 (−3.0 to −3.6), or 6 (−3.1 to −4.1) treatments. A consistently high proportion of patients reported improvement on the TBS across all treatments (70.0−93.5%). Median DOE was ≤6 months for 34.2%, 6−12 months for 37.2%, and >12 months for 28.5% of pts. Most common AE was UTI, with no changes in safety profile over time.

Conclusion: Long-term onabotulinumtoxinA treatment resulted in consistent reductions in UI and high proportions of patients reporting improvement after each treatment, with no new safety signals.

Podium #73
NATURAL HISTORY OF RESIDUAL FRAGMENTS FOLLOWING URETEROSCOPIC STONE EXTRACTION
Cameron Charchenko, MD¹, Courtney Yong, MS-3², Bodo Knudsen, MD², Amy Krambeck, MD¹
¹Mayo Clinic; ²Ohio State University
Presented By: Cameron Charchenko

Introduction: In the era of CT scans roughly 50% of patients will have residual fragments following ureteroscopy. The fate of these stones is relatively unknown as are the factors predisposing to stone growth, symptoms, and intervention. We sought to better define this population and the significance of residual fragments following ureteroscopy.

Methods: Data was combined from 2 high volume academic institutions. Following review of 2454 ureteroscopic cases, 89 were identified with residual radiopaque fragments, repeat imaging, and longitudinal follow up. Outcomes of
interest included symptoms, complications, fragment growth, and rates of intervention.

**Results:** Patients were separated into 2 categories based on size of their largest residual fragment following ureteroscopic stone extraction – <4mm and ≥4mm. Patient comorbidities, stone burden and location, prior stone history, and genitourinary abnormalities were equal between the groups. Of the fragments <4mm (n=42), classically referred to as insignificant, only 2 (4.8%) developed symptoms, 11 passed fragments (26.2%), and 6 (14.3%) required surgical intervention with median follow up of 2.32 years. Stone fragments ≥4mm displayed a higher rate of symptoms (34%), grade II complications (14.9%), emergency visits (14.9%), hospitalizations (8.5%), and surgical intervention (31.9%) despite more aggressive stone prevention strategies (p≤.05). On multivariate analysis male sex, fragment growth, and symptomatic fragments were associated with the need for intervention.

**Conclusion:** Post ureteroscopic fragments <4mm follow a relatively benign course with the majority being asymptomatically retained. These fragments can be observed and if asymptomatic rarely require intervention.

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Podium #74

**MANAGEMENT OF FAILED PYELOPLASTY: A RETROSPECTIVE REVIEW OF 43 PATIENTS.**

Ryan Swearingen, MD, Sapan N. Ambani, MD, Gary J. Faerber, MD, David A. Bloom, MD, J. Stuart Wolf, MD

University of Michigan

Presented By: Ryan Swearingen

**Introduction:** Failure after pyeloplasty for UPJ obstruction can be difficult to manage. We report our experience.

**Methods:** We reviewed a single surgeon (JSW) case log, (August 1996 to August 2014) to identify patients undergoing surgical procedures after failed pyeloplasty. Failure was defined as need for additional definitive intervention.

**Results:** Of 68 endopyelotomies, 247 laparoscopic pyeloplasties and 305 simple laparoscopic nephrectomies, 43 were performed after previous failed pyeloplasty and had follow−up exceeding 1 year (Figure).

Secondary procedures: Of 29 secondary endopyelotomies, 11 (38%) succeeded. All 5 laparoscopic re−operative pyeloplasties were successful. Nine patients underwent nephrectomy.

Tertiary procedures: Of the 18 failures after secondary endopyelotomy, 4 patients underwent tertiary endopyelotomy, 12 underwent tertiary pyeloplasty (5 laparoscopic / 7 open) and 2 required nephrectomy. Tertiary endopyelotomy success rate was 75%, compared to 100% for re−operative pyeloplasty (8 known successes with 4 patients lost to follow up). Median time to failure was 5 months for endopyelotomy. Median follow up for patients free from intervention was 25 months.

**Conclusion:** Endopyelotomy after failed pyeloplasty had only 42% (14/33) success overall. Overall, salvage pyeloplasty was more successful (100%, 13/13), suggesting that this is the better re−operative procedure in selected patients.
Introduction: CT scans expose patients to ionizing radiation which is associated with risks of secondary malignancy. We sought to evaluate the performance of reduced dose CT scans in patients evaluated for renal colic in the emergency room.

Methods: Over a three month period, all patients evaluated in the ER for renal colic were offered participation in this study. Patients received a scout image for dose planning. The proposed dose was then divided into two scans at 90% and 10% doses. Two staff urologists together read the 10% scans followed by the corresponding 90% scans. Reviewers, subsequently unblinded, compared the 10% to the 90% scans to determine the source of error.

Results: 40 stones were seen on high dose scans in 27 patients. The 10% dose scans had a sensitivity of 70.4% and specificity of 38.5% compared to the 90% scans. When unblinded, 93% (14/15) of the low dose misread scans accurately showed the calcification seen on the 90% scans. The cause for error in all cases was misplacement of the calcification in relation to the ureter, due to poor visualization.

Conclusion: Ultra-low dose CT scans accurately demonstrate calcifications, but the loss of soft-tissue image quality makes evaluation of ureteral stones inferior to high-dose scans. We do not feel these scans are fit for use in the ER, however, we contemplate their use for intrarenal stones, such as in a post-operative or clinic setting.
Podium #76
PROCALCITONIN: A HIGHLY SPECIFIC PREDICTOR OF INFECTION AND SEPSIS IN THE SETTING OF ACUTE OBSTRUCTIVE URETEROLITHIASIS
Dimitri Papagiannopoulos, MD, Patrick Whelan, MD, Waseem Ahmad, BS, James Rybak, MD, Dino Rumoro, MD, Leslie Deane, MD, Ajay Nehra, MD
Rush University Medical Center
Presented By: Dimitri Papagiannopoulos

Introduction: Infection in the presence of obstructing ureteral calculi requires urgent genitourinary decompression. Procalcitonin (PCT) has shown promise in predicting the presence and degree of infection. The objective of this study is to determine if PCT is a relevant, surrogate biomarker for predicting infections in obstructive ureterolithiasis.

Methods: This is a prospective single-institution observational pilot study examining adult patients who presented to the Emergency Room with acute obstructing ureterolithiasis. In total 22 patients were enrolled. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated for WBC count (nl 4−10K/microliter), PCT (nl < 0.2ng/mL), CRP (nl <8 mg/L), and ESR (nl <17 mm/hr) in predicting sepsis and positive cultures.

Results: Of the 22 patients presenting with obstructing ureteral stones, 3 patients met the criteria for sepsis. 2 patients had positive blood cultures, and 6 patients had positive urine cultures. PCT proved to be the most specific test for predicting sepsis and positive culture (see Table)

Conclusion: PCT has a superior specificity in predicting sepsis and positive cultures compared to WBC count, ESR and CRP. As such, in clinically borderline presentations, patients with elevated PCT values may benefit from genitourinary decompression and an extended course of antibiotics prior to definitive management of their stones.

Podium #77
OUTCOMES OF URETEROSCOPIC STONE TREATMENT IN SPINAL CORD INJURED PATIENTS
Duncan R. Morhardt, MD/PhD, J. Stuart Wolf, Jr., MD, Gary J. Faerber, MD, William W. Roberts, MD, John T. Stoffel, MD, He Chang, MS, Anne P. Cameron, MD
University of Michigan Health System
Presented By: Duncan Morhardt

Introduction: Spinal cord injury (SCI) results in immobility, infection, lower urinary tract dysfunction, and changes in body habitus that contribute to stone formation. Surgical positioning issues and the complexity of stone burden require repeated interventions and complications often necessitate intensive care unit admissions. In the era of flexible ureteroscopy, evidence guiding safe and effective treatment in this cohort remains scarce and would be instructive for directing appropriate surgical stone management.

Methods: Records from 7000 consecutive stone procedures from 1996–2013 were retrospectively reviewed for patients with SCI. Patients without stones on
post-operative imaging were considered stone free. We performed bivariate analysis to determine associative factors.

**Results:** 47 SCI patients underwent a total of 95 ureteroscopic procedures. Overall complication rate was ~15%. Based on post-operative imaging, 16% of patients were stone free. On bivariate analysis, cervical injury was associated with higher risk of complication (p<0.0001). Sacral injury was associated with stone free status (p<0.0001), as was post-operative stenting (P = 0.018) and ASIA A class (“complete injury”, p = 0.028). There was a trend of lower level SCI with improved stone clearance. Pre-operative fluorourodynamic study parameters were not significantly associated with outcomes. Interestingly, COPD (p=0.94) and respiratory comorbidities were not associated with complications. Contractures, use of sheath, stone size (p=0.09), and bladder management method were not associated with stone free status.

**Conclusion:** Both stone clearance and complications of ureteroscopy are associated with level of injury in SCI patients. Lower level SCI and complete SCI are associated with stone free status.

**Podium #78**

**UPPER TRACT UROTHELIAL CARCINOMA: PARADIGM SHIFT IN RECURRENCE AND TREATMENT MODALITIES**

Julia Fiuk, MD, Josh Ring, MD, Brad Schwartz, DO, FACS
Southern Illinois University, School of Medicine
Presented By: Julia Fiuk

**Introduction:** Nephro-ureterectomy remains the gold standard treatment for upper tract urothelial carcinoma (UTUC); however, ureteroscopic and percutaneous tumor ablation have shown acceptable success rates in small series. We sought to determine survival outcomes in a large series of UTUC patients treated endoscopically.

**Methods:** We retrospectively stratified treatment outcomes by modality on 65 patients with UTUC treated between January 2005 and April 2014.

**Results:** Of the 65 patients with UTUC, 24.6% (n=16) had prior bladder transitional cell carcinoma, 9.2 % (n=6) had concurrent disease, and 21.5% (n=14) developed bladder recurrence after UTUC treatment. Twenty six patients initially received nephro-ureterectomy, 24 underwent ureteroscopic fulguration, 13 underwent percutaneous ablation, and 2 received no treatment at our institution. Four patients initially treated ureteroscopically and 4 patients treated percutaneously subsequently received nephro-ureterectomy. The average time from diagnosis to nephro-ureterectomy was 4.5 months (0~32 months). To date, 9 patients died of UTUC and 18 died of other causes, yielding an overall survival of 55% and a cancer specific survival of 85%.

**Conclusion:** Excellent cancer specific survival can be achieved using personally tailored treatment approaches for UTUC. Upper tract recurrence after primary bladder tumor is more common than previously believed.
PERCUTANEOUS NEPHROLITHOTOMY IN PATIENTS WITH SPINAL CORD NEUROPATHY: A CONTEMPORARY SERIES
Julia Fiuk, MD, Josh Ring, MD, Brad Schwartz, DO, FACS
Southern Illinois University, School of Medicine
Presented By: Julia Fiuk

Introduction: Prevalence of urolithiasis in the spinal cord neuropathy population is high, with greater recurrence rates than in the general population. Stone burden tends to be larger, necessitating a percutaneous approach. Percutaneous nephrolithotomy (PCNL) is believed to have higher complication rates in this population, ranging between 6 – 30%.

Methods: We retrospectively reviewed 59 PCNLs performed on 47 patients between 2004–2012 in a single surgeon, high volume series of spinal cord neuropathy patients

Results: A total of 59 PCNLs (with surgeon obtained access) were performed on 47 spinal cord neuropathy patients. Mean patient age was 56 years (30–73). Mean stone burden was 2.49 cm (0.3–5.0 cm), with 47 procedures for stone burden greater than 2 cm. Thirty seven upper pole and 22 lower pole punctures were performed. Nine procedures required a second puncture. There were no deaths or solid organ injuries. Three patients had pneumothorax (5%), 4 patients required transfusion (6.8%), 11 had postoperative fever (18.6%). There were 6 ICU admissions (10.2%). All patients underwent postoperative CT. Any sized residual fragments precluded stone free status. Initial stone free rate (SFR) was 81.4, 98.3% subsequent SFR. Of the patients who were not stone free, one had an upper pole approach. Mean hospital stay was 6.47 days (2–27)

Conclusion: PCNL is a safe and effective modality for treatment of urolithiasis in the spinal cord neuropathy population, with excellent stone free rates and low complication rates. Upper pole access does not decrease the stone free rate.
Podium #80
ADHERENCE RATES FOR SELECTIVE MEDICAL THERAPY AMONG PATIENTS WITH KIDNEY STONES
Yooni Yi, MD¹, Casey Dauw, MD², Maggie Bierlein¹, AF Alruwaily, MD², Khurshid Ghani, MD², J. Stuart Wolf, MD², John Hollingsworth, MD²
¹University of Michigan; ²University of Michigan Department of Urology
Presented By: Yooni Yi

Introduction: and Objective: Medical therapy plays an important role in the secondary prevention of kidney stones. Understanding adherence to different regimens and factors associated with it are important.

Methods: With medical claims data from 2002 to 2006, we identified patients with a physician-coded diagnosis of kidney stones. Using National Drug Codes, we determined the subset with one or more prescription fills for a selective medical therapy agent. We then used the proportion-of-days-covered (PDC) formula to measure adherence within the first 6 months. We fitted logistic regression models to evaluate patient factors associated with adherence.

Results: Our cohort consisted of 22,102 adults with kidney stones who were prescribed selective medical therapy. Just over half (55.1%) adhered to their regimen (defined by a PDC greater than or equal to 80%). Adherence rates were highest for thiazides (60.7%) followed by allopurinol (54.9%) and citrates (19.5%). On multivariate analysis, patient factors that were independently associated with lower odds of medication adherence included female gender and geographic region of residence (Table). In contrast, patients who were salaried employees, with lower Charlson scores, and those taking multiple agents had higher odds of adherence.

Conclusion: Adherence to selective medical therapy is low. Our findings suggest possible targets for quality improvement in the secondary prevention of kidney stones.

<table>
<thead>
<tr>
<th>Table. Patient Characteristics Associated with Adherence</th>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
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<tr>
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<tr>
<td>1.00</td>
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<tr>
<td>0.86 (0.80−0.92)</td>
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<tr>
<td><strong>Employment Classification</strong></td>
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<td>1.00</td>
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<tr>
<td>Salaried</td>
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<tr>
<td>1.17 (1.08−1.27)</td>
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<tr>
<td><strong>Regimen</strong></td>
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<td>Multiple agents</td>
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<td>1.80 (1.68−2.00)</td>
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<td><strong>Region</strong></td>
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<td>1.00</td>
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<tr>
<td>Northeast</td>
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<tr>
<td>0.84 (0.75−0.93)</td>
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<tr>
<td>South</td>
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<tr>
<td>0.76 (0.67−0.85)</td>
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<tr>
<td>West</td>
</tr>
<tr>
<td>0.81 (0.74−0.89)</td>
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<td><strong>Charlson Comorbidity Index</strong></td>
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</tr>
<tr>
<td>1.15 (0.90−1.49)</td>
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<td>3</td>
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<tr>
<td>1.41 (1.09−1.86)</td>
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Podium #81
CONSEQUENCES OF NON-ADHERENCE TO SELECTIVE MEDICAL THERAPY AMONG PATIENTS WITH KIDNEY STONES
Casey Dauw, Yooni Yi, MD, Maggie Bierlein, MS, Abdul Alruwaily, MBChB, Khurshid Ghani, MBChB, J. Stuart Wolf, Jr., MD, John Hollingsworth, III, MD
University of Michigan
Presented By: Casey Dauw

Introduction: Rates of adherence to selective medical therapy among patients with kidney stones tend to be low. This may reduce the effectiveness of secondary prevention efforts.
Methods: Using claims data from 2002 to 2006, we identified patients over age 18 with a physician-coded diagnosis for kidney stones. Next, we determined the subset of patients with a prescription fill for a selective medical therapy agent (i.e., a thiazide diuretic, alkali citrate therapy, or allopurinol). We then measured adherence to selective medical therapy using the validated proportion of days covered (PDC) formula. Finally, we fitted regression models to compare two-year rates of ED visit, hospitalization, and stone surgery between adherent and non-adherent patients.

Results: There were 8950 patients who were prescribed a selective medical therapy agent. More than half (56.6%) were adherent to medical therapy. Rates of ED visit, hospitalization, and stone surgery were significantly lower among adherent patients (Figure). After controlling for several factors, those who were adherent to medical therapy had 25% lower incidence of ED visits, 30% lower incidence of hospital admission, and 13% lower incidence of stone-directed surgery.

Conclusion: Our data highlight the consequences of low selective medical therapy adherence rates among patients with kidney stones.

Podium #82
URIC ACID UROLITHIASIS AND THE METABOLIC SYNDROME: INDEPENDENT ASSOCIATION WITH GLOMERULAR FILTRATION RATE
Adam Kadlec, MD¹, Arpeet Shah, MD², Christopher Haydek, MD², Thomas Turk, MD²
¹Loyola University Medical Center; ²Loyola
Presented By: Adam Kadlec

Introduction: The metabolic syndrome is associated with a higher risk of urolithiasis and a higher propensity to form uric acid stones. We hypothesize that glomerular filtration rate (GFR) is a key factor in the common pathway toward uric acid urolithiasis.

Methods: We queried an institutional database to identify patients with a calcium oxalate, calcium phosphate, or uric acid stone. All stones had been removed by ureteroscopy or percutaneous nephrolithotomy. GFR was estimated using the MDRD equation. A multivariate regression analysis was used to determine which of the following factors was independently associated with differences in stone composition: diabetes, hypertension (HTN), BMI, and GFR.

Results: 151 cases were identified, 25 of whom (16.6%) had a primarily uric acid stone. Uric acid stone formers were more likely to have HTN (60% vs 33% vs
22%, p <0.05) than those with calcium phosphate and calcium oxalate stones, respectively. Mean GFR (56 vs 118 vs 74 ml/min, p < 0.05) was lower and mean BMI (37 vs 26 vs 31) was higher in uric acid stone formers. In the multivariate analysis, GFR was the only factor independently associated with differences in stone composition (p = 0.006).

**Conclusion:** Uric acid stone formers have a lower mean GFR than calcium–based stone formers. GFR is independently associated with differences in stone composition when factors such as diabetes, hypertension, and obesity are co–analyzed. Further work exploring the mechanisms for uric acid stone formation in metabolic syndrome patients should examine renal function as an independent variable.

**Podium #83**

**HOW MUCH INFORMATION IS LOST WHEN ONLY ONE 24–HOUR URINE IS COLLECTED AS PART OF THE INITIAL METABOLIC EVALUATION?**

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Presented By: Casey Dauw

**Introduction:** During the initial metabolic evaluation, the need for one versus two 24–hour urine collections is debated. Specifically, it remains unknown how much, if any, information is lost when one versus two urine specimens are collected.

**Methods:** Using files from Litholink (1995–2014), we identified adults with kidney stones who underwent metabolic testing. We determined the subset of patients that collected two 24–hour urine samples with urine creatinine varying by 10% or less during a seven–day time window. We then analyzed the urinary biochemistry profiles by calculating the mean absolute value of the difference in urine calcium, citrate, oxalate, uric acid, and volume.

**Results:** We identified 32,138 patients meeting our eligibility criteria. The overall means for individual urine parameters did not vary significantly between samples; however, the mean absolute difference did. The Table shows the percentage of patients with a given percent difference between samples for each urine parameter. Nearly one in three patients had a 30% or more difference in urine calcium and volume between two consecutive samples. We noted that inconsistencies between samples often involved multiple parameters with more than a quarter of patients showing a 20% difference in two or more parameters.

**Conclusion:** We observed substantial differences between consecutive 24–hour urine samples that could affect provider decision–making.
Introduction: To better inform decision-making around management of incidental kidney stones, we conducted a systematic review and meta-analysis. Methods: We searched MEDLINE, Embase, Scopus and Web of Science for all studies with asymptomatic kidney stones in adults managed with observation. We pooled data from 12 studies (1712 patients). Our outcomes included the proportion of patients who developed symptoms, required surgical intervention, and had spontaneous stone passage. We fitted random-effects models to calculate pooled incidence rates using the Freeman-Tukey double arcsine transformation to stabilize variances. Results: Pain was the most common symptom. For every year of follow-up, 10% (95% CI, 7 to 13%) of patients experienced pain. Frequency, gross hematuria, and infection occurred in 6% (3 to 10%), 3% (2 to 4%), and 1% (0 to 5%), respectively, per year. The proportion of patients undergoing surgical intervention over time was 23% (95% CI: 17 to 29%; Figure) or 7% for every year of follow-up (95% CI: 5 to 9%). Fourteen percent (11 to 17%) and 6% (3 to 10%) of patients experienced stone growth or spontaneous passage for every year of follow-up, respectively. Conclusion: Monitoring is a reasonable approach for asymptomatic stones. While stones are more likely to grow than be passed, surgery is needed in only a quarter of patients.
Podium #85
METABOLIC SYNDROME INCREASES RISK OF POSTOPERATIVE MYOCARDIAL INFARCTION FOLLOWING PERCUTANEOUS NEPHROLITHOTOMY
Robert Blackwell, MD¹, Petar Bajic, MD¹, Kristin Greco, MD¹, Anai Kothari, MD², Paul Kuo, MD, MBA², Thomas Turk, MD¹
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Presented By: Petar Bajic

Introduction: Percutaneous nephrolithotomy (PCNL) is the gold standard treatment for upper tract stone burdens greater than 2cm. Metabolic syndrome (MetS) is a constellation of conditions (diabetes mellitus, hypertension, dyslipidemia, and obesity) and is a risk factor for nephrolithiasis. Our objective was to investigate perioperative outcomes of PCNL in patients with comorbid MetS diagnoses.

Methods: Data from the Healthcare Cost and Utilization Project State Inpatient Database for Florida was used to identify PCNL patients (ICD9: 55.03, 55.04) between 2007 and 2011. Patients were categorized having zero, 1–2, or 3–4 components of MetS. Postoperative myocardial infarction (MI) and in-hospital mortality outcomes were identified. Multivariate logistic regression was used to control for patient characteristics (age race, primary insurance provider) and medical comorbidities were performed.

Results: PCNL was performed on 16,346 patients, of whom 7,038 (43.1%) had no MetS conditions, 8,078 (49.4%) had 1–2 MetS conditions, and 1,230 (7.5%) had 3–4 MetS conditions. With increasing MetS conditions, patients had increased incidence of postoperative MI (zero: 0.5%; 1–2: 1.2%; 3–4: 2.9%, p<0.001). On multivariate analysis, the presence of MetS comorbidities predicted MI (1–2: OR 1.5, 95%CI 1.0–2.2, p=0.049; 3–4: OR 3.4, 95%CI 2.1–5.6, p<0.001). On univariate analysis there was a trend toward increasing in-hospital mortality with increasing MetS comorbidities (zero: 1.8%; 1–2: 2.7%, 3–4: 2.9%, p=0.001), however this did not remain significant on multivariate analysis.

Conclusion: MetS patients have an increased risk of MI following PCNL given their pre-existing comorbidities. Routine preoperative cardiac testing may benefit this population prior PCNL.

Podium #86
EFFICIENCY, SATISFACTION AND COSTS OF REMOTE VIDEO–VISITS IN UROLOGY: A RANDOMIZED CONTROLLED TRIAL
Boyd Viers, MD, Deborah Lightner, Marcelino Rivera, Matthew Tollefson, Stephen Boorjian, R. Jeffrey Karnes, R. Houston Thompson, Daniel O'Neil, Rachel Hamilton, Matthew Gardner, Mary Bundrick, Sandhya Pruthi, Sarah Jenkins, Igor Frank, Matthew Gettman
Mayo Clinic
Presented By: Boyd Viers

Introduction: Telemedicine in an ambulatory surgical population remains incompletely evaluated. We investigate patient encounters in the outpatient setting using video–visit technology (VV) compared to traditional office–visits (OV).

Methods: From June 2013–March 2014, 55 pre–screened men with a history of prostate cancer were prospectively randomized. VV, with the patient at home or
work, were infolded onto the urologists’ outpatient clinic calendar. An equivalence analysis was utilized to assess the primary outcome; visit efficiency as measured by time studies. Secondary outcomes were patient/provider satisfaction and costs.

**Results:** There were 28 VV and 27 OV. VV, relative to OV, were equivalent in efficiency, as measured by patient–provider face time (mean 14.5 vs 14.3 minutes; p=0.96), patient wait time (18.4 vs 13.0 minutes; p=0.20), and total time devoted to care (17.9 vs 17.8 minutes; p=0.97). There were no significant differences in patients’ perception of visit confidentiality, efficiency, education quality, or overall satisfaction. VV incurred less costs, including distance traveled (median 0 vs 95 miles), travel time (0 vs 95 minutes), missed work (0 vs 1 days) and money spent on travel ($0 vs $48) (all p<0.0001). There was a high level of urologist satisfaction among both VV (88%) and OV (90%). The major limitation was sample size.

**Conclusion:** We found equivalent efficiency, similar satisfaction but significantly reduced costs to patients participating in VV. As such, VV in the ambulatory surgical setting may have a future role in healthcare delivery models. Further prospective analyses are warranted.

**Podium #87**

**IMPACT OF APOLOGY LAWS ON LITIGATION LENGTH**

Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley, MS, Christina J. Sauder, MS

UW Madison School of Medicine and Public Health

Presented By: Patrick McKenna

**Introduction:** Thirty-seven states have apology laws which allow defendants to exclude statements or expressions of sympathy regarding medical errors in liability lawsuits. Most states with apology laws simply protect physicians from expressions of sympathy (partial apology law), while a few go further and protect physicians against admission of fault (full apology law). Apology laws are meant to improve communication between patient and physician regarding medical errors. This should reduce patient anger, decrease litigation, and speed up settlements. We assessed whether state apology laws impact litigation length using data from the National Practitioner Databank Public Use Data File (NPDB), which contains information on all malpractice cases from 1991 to 2014.

**Methods:** Using data from the NPDB, litigation length was compared between states with and without apology laws. In states with apology laws, litigation length was compared before and after the laws were enacted and between states with partial and full laws.

**Results:** Litigation length was 3.3±2.0 years in states with (N=38,940) and 5.6±3.7 years in states without (N=102,528) apology laws (p<.001). In states with apology laws, litigation length was 4.4±3.3 years before the law was enacted (N=165,556) and 3.3±2.0 years afterwards (N=38,940) (p<.001). Litigation length was 2.6±1.4 years in states with full apology laws (N=2281) and 3.3±2.0 in states with partial laws (N=36,659) (p<.001).

**Conclusion:** Apology laws appear to expedite resolution of medical malpractice cases. Full apology laws appear to be more effective at this than partial laws. States benefit the most with implementation of full apology laws.

**Funding Source:** None
Podium #88
INDEMNITY PAYMENTS BASED ON SEVERITY OF PATIENT INJURY IN CLOSED UROLOGIC MALPRACTICE CLAIMS
Benjamin Sherer, MD, Christopher Coogan, MD
Rush University Medical Center
Presented By: Benjamin Sherer

Introduction: We sought to determine if the dollar amounts of urologic malpractice payouts correlate with the severity of patient injuries in closed urologic claims.

Methods: We analyzed claims data from 22 member companies of the Physician Insurers Association of America from 2003–2013 (2,343 closed claims). Data was aggregated based on procedure type, patient condition, and error implicated. Closed claims were categorized based on severity of injury.

Results: In the past decade, errors resulting in major permanent injury or grave injury have resulted in the highest payouts. A patient death was implicated in 18% of closed claims. The average payout resulting from a patient death was $379,566, which was 25% less than payouts for grave injuries ($505,540). Claims involving emotional injury only represented 3% of closed claims and rarely (10%) resulted in an indemnity payment (average payment of $18,417). The number of closed claims related to a patient death were similar among patients with prostate cancer (39), bladder cancer (33), renal/ureteral calculi (32), and renal neoplasms (30).

Conclusion: Overall, indemnity payments increase based on the reported severity of injury caused to the patient, regardless of the type of urologic error or patient presenting condition.

Podium #89
IMPACT OF USING MEDICAL SCRIBES IN AN ACADEMIC UROLOGY PRACTICE
John Stoffel, MD, Tracy Troilan, BS, Bahaa Malaeb, MD, Ann Oldendorf, MD, Quentin Clemens, MD, Malissa Eversole, MS
University of Michigan
Presented By: John Stoffel

Introduction: We investigated the impact of using medical scribes on patient throughput, clinical productivity and physician satisfaction during urology clinics.

Methods: Professional scribes were employed during clinic sessions to summarize outside records and document history/physical exam. The same scribe was used by each provider. Patient throughput was measured by length of
patient visit, check in to check out. Clinical productivity was measured by average professional revenue per session and by number of patients seen/hour. Physician satisfaction with scribes was measured with questionnaires.

**Results:** During the 6 week scribe program, 4 physicians held 23 clinical sessions and saw 429 patients. Mean length of new patient visits were similar (106 vs. 107 vs. 110 minutes, p = 0.8) and return patient visits increased over time (77 vs. 77 vs. 88 minutes, p = 0.02) during the program. There was no difference in mean professional revenue generated/clinical session during the scribe program ($2129 vs. $1564 vs. $1706, p = 0.21). The average number of nonprocedural patients did not improve for 3 of 4 physicians All 4 physicians reported scribe documentation as “always perfect/near perfect”and spent 15−60% less time documenting. Physicians also reported improvements in provider–patient interactions, provider–staff interactions, and “quality of life” when using a scribe in clinical sessions.

**Conclusion:** Physicians using scribes during clinical sessions increased mean length of visit times for returning patients and had no changes in professional revenue generated/clinical session. However, physicians reported less time documenting/session and improvements in patient and staff interactions when using scribes.

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**Podium #90**

**DETERMINING RESIDENT SLEEP DURING AND AFTER CALL WITH COMMERCIAL SLEEP MONITORING DEVICES**

Duncan Morhardt, MD, PhD, Amy Luckenbaugh, MD, Cathy Goldstein, MD, MS, Julian Wan, MD, Gary Faerber, MD

University of Michigan

Presented By: Amy Luckenbaugh

**Introduction:** Resident call schedules have become instrumental in work–hour restriction compliance. Previous studies assessing impact of resident call on resident sleep and post–call tasks after call have included alertness self–reporting and operative complications. To date, studies that have directly monitored resident sleep with a device are limited. The advent of wearable activity devices that estimate sleep presents the opportunity to evaluate resident sleep patterns while on–call.

**Methods:** We outfitted 10 residents with Fitbit devices while on–call for a total of 56 call/post–call night pairs. Residents were surveyed with the Stanford Sleepiness scale (SSS), a validated single–question survey. Time in bed (TIB) was a reported “time to bed” to “rise for day”. Fitbit accelerometers register activity as: 1)not moving, 2)minimal movement/restless, or 3)above threshold for accelerometer to register steps. Sleep efficiency (SE) was (level 1 sleep)/TIB. Total sleep time (TST) was SE x TIB. Residents were on a “home call” schedule.

**Results:** While on call, residents on average reported TIB as 347 minutes, had a SE of 47%, and TST was 165 minutes. After call, on average they reported feeling “not fully alert”, the equivalent of 3 on the SSS. When we looked at post–call sleep, we found that TIB, SE, TST, and sleepiness changed by +23%, +15%, +44%, −22%, respectively.

**Conclusion:** Fitbit devices can be used to resident monitor sleep. Comparison of sleep with other call schedule systems may help optimize the work/sleep balance in resident training.
Podium #91

USMLE STEP 1 SCORES AS A PREDICTOR OF RESIDENT PERFORMANCE ON SUBSEQUENT UROLOGY IN-SERVICE EXAMINATIONS

Luke Edwards, MD, Jay Hollander, MD, Mike Ehlert, MD, Ken Peters, MD
Beaumont Urology
Presented By: Luke Edwards

Introduction: USMLE Step 1 performance is included on residency applications and contributes to an applicant’s evaluation by prospective programs. We examined whether a correlation exists between performance on Step 1 and subsequent In−Service examinations.

Methods: Urology residents graduating from four separate programs were evaluated. Step 1 score was compared to each In−Service examination, as well as a mean for each resident.

Results: 88 graduated residents were evaluated. The mean USMLE Step 1 score was 233.7, SD of 17.58. The mean In−service score in our study was 62.83, SD of 18.95. When Step 1 scores were compared to in−service scores using Spearman correlations, the strongest positive correlation was found with the in−service examinations from 2nd and 3rd years of Urologic training (p value <.001). A significant positive correlation also existed in the 1st and 4th year. Comparing step 1 to the mean of In−service examinations taken by residents also revealed a significant positive correlation (p value <.001). Linear regression models demonstrated USMLE Step 1 to be a significant predictor of In−service scores. (p value <.001) while accounting for effect of institution.

Conclusion: This study demonstrates USMLE Step 1 scores to be a strong predictor of future performance as a resident on Urologic In−Service examinations. This data supports current practice where consideration is given to Step 1 scores.

Podium #92

IMPACT OF TORT REFORM ON LOSSES INCURRED BY MALPRACTICE INSURERS

Patrick H. McKenna, MD, FACS, FAAP, Thomas W. Bentley, MS, Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: Patrick McKenna

Introduction: In 2010, the Pacific Research Institute assigned states a Medical Tort Rank (MTR) based on their success at reforming medical−tort laws to mitigate medical−tort costs. A state with a high MTR should have lower medical−tort costs than a state with a low MTR. We aimed to assess whether MTR affects medical−tort costs by evaluating each state’s malpractice Insurance Loss and Direct Defense and Cost Containment Ratio (LR) − the ratio of losses incurred by an insurer to total premiums earned by that insurer.

Methods: States were split into quintiles based on MTR. LRs were compared between quintiles for each year (2010−2013) using ANOVAs. A repeated measures ANOVA was used to assess change of LRs over time.

Results: No significant differences in LRs between quintiles were found in 2010, 2012, and 2013. There was a significant difference between the 1st (top 10 MTR states) and 5th quintile (lowest 10 MTR states) in 2011 (p=.022). There was no significant difference in LRs over time (p=.104).

Conclusion: These results suggest that medical tort reform does not necessarily
Podium #93
USING LEAN METHODOLOGY FOR PATIENT CALL CENTER IMPROVEMENT AT AN ACADEMIC UROLOGY CLINIC
Thomas Tieu, MD¹, Bradford Stevenson, MD¹, Teri Baldini, RN¹, Tobias Kohler, MD, MPH¹, Chris Gonzalez, MD, MBA², Kevin McVary, MD¹
¹Southern Illinois University SOM; ²Northwestern Feinberg SOM
Presented By: Thomas Tieu

Introduction: Call Center problems often go unrecognized. These problems can cost a practice revenue. Problematic interactions between patients and call centers lead to unsatisfied patients and loss of market share. We used a LEAN/Six Sigma approach to identify problems in our call center, implement changes, and measure outcomes.

Methods: Lean/Six Sigma tenets used to elucidate problems: 1) Focus on customer value, 2) Identify waste, 3) Real time observation and data collection, 4) Formation of process improvement team, 5) Use of value stream mapping, impact matrix, and data charts. Analysis of call center revealed: 1) Mismatch between call center staffing and call flow, 2) Lack of performance standards for call center personnel, 3) Excessive call transfers.

Results: Changes made: 1) Reorganization of call center staffing hours, 2) Creation of call center performance standards, 3) Call center protocols based on patient acuity, 4) Triage nurse hired to direct patient calls. Quantitative metrics used to define improvement after implementing changes. 1) Time to answer went from 70–136 secs to 5–41 secs, 2) Abandoned call ratio went from always being above threshold goal of 5% to below the threshold every time, 3) Service level – threshold goal of 80% which was previously never met, now meeting goal 90% of the time.

Conclusion: Call center efficiency is vital to patient satisfaction and customer retention. LEAN/Six Sigma methods can uncover serious issues and guide practitioners towards solutions that attack root causes. Implementation of appropriate changes resulted in improved call center metrics.

Podium #94
TRENDS IN THE DELIVERY OF UROLOGIC PROCEDURAL CARE BY ADVANCED PRACTICE PROVIDERS
Matt Uhlman, MD, MBA¹, Thomas Gruca, PhD, MBA², Bradley Erickson, MD, MS³
¹Iowa; ²University of Iowa, College of Business; ³University of Iowa
Presented By: Matthew Uhlman

Introduction: As the general population continues to age and the number of practicing urologists continues to decrease, advanced practice providers (APP)
will be expected to play a larger role delivering urologic care. There is considerable debate regarding the role of APPs in urologic procedural care (UPC). We examined how APPs are currently being utilized to deliver UPC in a state with a low urologist density.

Methods: We analyzed data from the Iowa Hospital Association (IHA) database, which tracks all outpatient hospital procedural data within Iowa, for procedures being performed by APPs. We analyzed number and type of procedure being performed by urologists and APPs over the corresponding time period.

Results: The number of APPs increased (171 to 231) over the study period. A total of 5517 procedures were performed by APPs, increasing 56% from 2010 to 2013. This rise was statistically higher than the corresponding rise seen by urologists (16.6%), the rise in population over 65 (6%) and represented 6.7% of all procedures performed in the state. The most common procedures were catheter placement, post–void residual measurement, urodynamics and wound I&D. More technical procedures were performed less often.

Conclusion: APPs deliver a significant percentage of the total UPC in our state. The numbers of procedures are increasing faster than those provided by urologists and remain non–complex in nature. In states with large rural populations and low urologic provider densities, we expect that the utilization of APPs will continue to increase.

Podium #95

A COMPARISON OF WAIT TIMES FOR TRANSURETHRAL RESECTION OF BLADDER TUMORS BETWEEN ACADEMIC AND PRIVATE PRACTICES UTILIZING THE SAME FACILITIES

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Presented By: Nathaly Francois

Introduction: Our aim was to compare surgical wait times between academic (Southern Illinois University, SIU) and private (Springfield Clinic, SC) practices for transurethral resection of bladder tumors (TURBT). These two systems comprise all but one urologist in the county and use similar facilities.

Methods: We conducted a retrospective review of patients that underwent TURBT from July 2007 to July 2013. Patients were identified by diagnosis code from hospital records. Primary outcome was time from urology referral for hematuria to operating room (OR) for TURBT. Potentially influential factors like hospital for surgery, year care provided, attending surgeon, gender and insurance carrier (private vs public) were collected and analyzed.

Results: A total of 844 patient records were identified. The mean age of patients was 70 years. The mean time from urology referral to TURBT was 49 days. The largest portion of this was OR request to TURBT (20 days) followed by clinic visit to OR request (16 days) and referral to clinic visit (13 days). The only factor found to influence time from referral to TURBT was hospital where surgery was performed (33 vs 52 days, p=0.003); no difference between SC and SIU (49 and 48 days, respectively) or insurance type (45 days for private, 51 for public, p=0.3). In comparison of surgeon specific intervals, only one comparison was significant; these were both academic attendings.

Conclusion: Academic vs private practice and patient insurance type do not affect time to care for initial bladder cancer. Future analysis will look to compare
Podium #96
HEALTH LITERACY IN THE NEPHROLITHIASIS POPULATION
Luke R. Frederick, MD, Bradley Schwartz, DO
SIU School of Medicine
Presented By: Luke R. Frederick

Introduction: Low health literacy has been shown to lead to more hospitalizations, greater use of emergency care, poorer overall health and higher mortality rates in the elderly. Poor health literacy has also been associated with poorer glycemic control and higher rates of retinopathy in the diabetic population. Nephrolithiasis is a chronic disease with high stone recurrence rates. The burden of treatment lies on the patient’s ability to make diet and lifestyle changes. Our goal was to assess health literacy in our nephrolithiasis population and check its effect on stone rates.

Methods: We used a validated health literacy questionnaire to survey our nephrolithiasis patients. We also collected information on education level and looked at number of stone episodes in relation to health literacy.

Results: Fifty three people completed the survey. Average age was 51. Twenty eight percent had less than or equal to a high school degree, 28% had some college, 26% had a college degree, and 18% had postgraduate training. The average health literacy score was showed adequate literacy, however, 9% of our cohort were found to have limited health literacy. Number of stone episodes was available on 42 patients. We found no correlation between health literacy score and number of stone episodes.

Conclusion: Our cohort had a large percentage of patients that showed limited health literacy. This highlights a gap in patient care and education that can be crucial when managing patients with nephrolithiasis.

Podium #97
INVESTIGATING THE ETIOLOGY OF KIDNEY CANCER DISPARITIES IN ILLINOIS
Daniel Sadowski, MD, MPhil, Georgia Mueller, MS, Whitney Zahnd, MS, Shaheen Alanee, MD, MPH, Kevin McVary, MD
Southern Illinois University School of Medicine
Presented By: Daniel Sadowski

Introduction: Kidney cancer (KCa) mortality rates are higher in rural Illinois compared to urban, but incidence differences have yet to be fully explored. We aim to determine if rural status is associated with KCa incidence in Illinois after controlling for known risk factors, including African American race, obesity, smoking and hypertension.

Methods: Rural Urban Continuum Codes designated Illinois’ 102 counties as urban, rural adjacent and rural nonadjacent to a metropolitan area. County–level demographics were obtained from the US Census Bureau. Behavioral Risk Factor Surveillance System data were used for obesity, smoking, and hypertension prevalence. Age–adjusted KCa incidence rates (per 100,000) from 1991–2010 were calculated from Illinois State Cancer Registry data. ANOVA, correlation and ANCOVA analyses were performed.

Results: Mean incidence rates for urban, rural adjacent and rural nonadjacent to
a metropolitan area were 14.8, 14.8, and 14.2 per 100,000 (p=0.48). Correlation
analysis found only hypertension was significantly associated with KCa incidence. After controlling for known risk factors, we found a higher incidence of
KCa among urban compared to rural counties. The model–adjusted incidence
rates for urban, rural adjacent and rural nonadjacent to a metropolitan area were
15.6, 14.5, and 13.4 (p<0.01).

**Conclusion:** Our results demonstrate a paradox of higher KCa incidence in
urban counties alongside higher mortality rates for rural counties. These results
may reflect a higher number of nonlethal, incidentally diagnosed cases of KCa in
the urban cohort. Also, we found that known risk factors explain only 12% of
incidence rates in our model, suggesting unidentified factors exist.

**Podium #98**

**UTILIZATION AND OUTCOMES OF INPATIENT UROLOGICAL CARE AT
SAFETY NET HOSPITALS**

Lindsey Herrel, MD, Zaojun Ye, MS, David Miller, MD, MPH
University of Michigan
Presented By: Lindsey Herrel

**Introduction:** Because proposed funding cuts in the Affordable Care Act (ACA)
may impact care for urological patients at safety–net hospitals (SNHs), we
examined utilization, outcomes and cost of inpatient urological surgery at SNHs
vs non–SNHs prior to ACA implementation.

**Methods:** Using the Nationwide Inpatient Sample, we performed a retrospective
cohort study of patients undergoing inpatient urological surgeries from 2007
through 2011. We defined the “safety–net burden” of each hospital based on the
proportion of Medicaid and self–pay discharges. We examined the distribution of
urologic procedures performed, and compared in–hospital mortality, prolonged
length of stay and costs at SNHs (i.e., highest quartile of burden) vs non–SNHs
(lowest quartile).

**Results:** The distribution of urological procedures differs by safety–net status,
with less BPH (9.1% SNH vs 11.4% non– SNH) and major cancer surgery
(26.9% vs 34.3%), and more reconstructive surgery (8.1% vs 5.5%), at SNHs
(p–values<0.001). Higher mortality at SNHs was seen for nephrectomy (OR 1.68,
95% CI 1.15–2.45) and TURP (OR 2.17, 95% CI 1.22–3.87). Patients in SNH
had a higher likelihood of prolonged LOS after endoscopic stone surgery (OR
1.20, 95% CI 1.01–1.41). Costs were similar across procedures except radical
prostatectomy and cystectomy, where the average admission was significantly
more expensive at non–SNHs (prostatectomy $9,610 vs $11,457 and cystectomy
$24,048 vs $27,875, p–values <0.001).

**Conclusion:** Reductions in funding to SNHs with healthcare reform could
adversely impact access to care for patients with a broad range of urological
conditions, and potentially exacerbate existing disparities for vulnerable
populations served by these facilities.
PATIENT REPORTED OUTCOMES FOR RADICAL PROSTATECTOMY IN A STATEWIDE SURGICAL COLLABORATIVE: MEASURING TO IMPROVE

Khurshid Ghani, MD¹, Tae-Kyung Kim, MS¹, Patrick Hurley, MD², Jay Starr, MD³, Susan Linsell, MS¹, James Peabody, MD⁴, James Montie, MD¹, David Miller, MD¹, Michael Cher, MD⁵

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Presented By: Khurshid Ghani

Introduction: We present early results of web-based patient-reported outcomes (PRO) for radical prostatectomy (RP) from the Michigan Urological Surgery Improvement Collaborative (MUSIC).

Methods: MUSIC-PRO is a validated survey of urinary function (range 0–21), erectile function (range 0–30), and quality of life. MUSIC sends an email to the patient requesting online survey completion at baseline, and 3, 6, 12, and 24 months after surgery. Patients not completing the survey within two weeks receive an email reminder, and if necessary a telephone reminder. Patients who opt out of the web-based system are provided paper questionnaires.

Results: During the first six months at five pilot practices, 466 patients were scheduled for RP. MUSIC-PRO questionnaires were received by 86%. Of these, 94% were completed at baseline. At three- and six-months, 89% and 98% completed MUSIC-PRO, respectively. Paper questionnaires were used in 31%, 29% and 28% at baseline, three- and six-months, respectively. Overall, telephone reminders were needed for 21%. Mean erectile function scores changed from 19.2, to 8.3, and 9.4 at three- and six-months, respectively. Urinary function outcomes are demonstrated in the figure.

Conclusion: Adoption of a multi-institutional web-based PRO system has proved successful. However, a quarter of patients require paper surveys at the start.

Source of funding: Blue Cross Blue Shield of Michigan

![Urinary Function](image_url)
Podium #100
CANCER DETECTION USING MR-TRUS FUSION TECHNOLOGY VS. INBORE MR-GUIDED BIOPSY
Ayman Soubra, MD, Badrinath Konety, MD, MBA, Christopher Weight, MD, Greg Metzger, PhD, Benjamin Spilseth, MD, Christopher Warlick, MD
University of Minnesota
Presented By: Ayman Soubra

Introduction: MRI−TRUS fusion systems introduce another layer of complexity in performing targeted biopsies compared to direct MR−GB systems. In this study we aim to compare the cancer detection rates between two such systems.

Methods: We identified all patients who underwent MRI−TRUS fusion biopsy at our institution using the UroNav system and matched them by biopsy indication with a comparison group of patients who had a MR−GB biopsy using the DynaTrim direct MR−GB platform. We used the pathology results for targeted lesions only to compare the cancer detection rate, choosing subjects in the comparison group either randomly (group 1), from our early experience (group 2), or from our late experience (group 3).

Results: All groups had 25 patients, including 9 patients on active surveillance and 16 patients undergoing their first biopsy or repeat for a previous negative TRUS biopsy. The per patient cancer detection rate of MRI−TRUS fusion was higher (64%) compared to that of groups 1(48%), 2(40%) and 3(40%) but the difference was not statistically significant. However, the cancer detection rate of Gleason 7 and above was higher in groups 1 (36%) and 3 (36%) compared to the fusion biopsy (28%), they didn’t reach statistical significance. The cancer detection rate per lesion was not statistically different between fusion biopsy (35%) and groups 1 (25%), 2 (23%) and 3 (22%), for any cancer and for Gleason 7 and above.

Conclusion: Despite requiring a more complex algorithm for targeting lesions, there is no loss in cancer detection rates using the fusion system.

Podium #101
MRI FUSION BIOPSY, A SINGLE INSTITUTION’S INITIAL EXPERIENCE
Wei Phin Tan, MD, Leslie Deane, MD, Patrick Whelan, MD, Charles McKiel, MD, Dennis Pessis, MD, Shahid Ekbal, MD, Narendra Khare, MD, Waseem Ahmad, BS, Ajay Nehra, MD
Rush University Medical Center
Presented By: Wei Phin Tan

Introduction: Magnetic Resonance Imaging fusion biopsy (MRIFB) has been proven to enhance the detection of clinically relevant prostate cancer. Our objective was to evaluate our consecutive series of patients who underwent an MRIFB protocol in our outpatient setting.

Methods: Fifty consecutive patients (median age 66, range 51–83) underwent MRIFB between February 2014 to February 2015. All patients underwent a triple phase MRI (3.0 Tesla). Indications for MRI include an abnormal digital rectal exam, PSA velocity >0.75ng/dl/year, questionable 12 core biopsies. Using a 3−dimensional model, 3 biopsies were performed on each prostate lesion under local anesthesia in the outpatient clinic.

Results: 28 of 50 patients (Median PSA 6.46ng/ml, range 2.7–34.02) were diagnosed with prostate cancer and 10 patients underwent a robotic assisted laparoscopic prostatectomy (table 1), 4 patients underwent cryoablation of the
prostate, 5 patients were placed on active surveillance, 1 patient underwent brachytherapy, 1 patient underwent external beam radiation therapy with hormone therapy, 4 patients sought second opinion at other hospitals and 3 patients were scheduled for RALP.

**Conclusion:** Prostate lesions seen on MRI can be targeted accurately in the office setting. Our initial experience shows that MRIFB findings of prostate cancer correlated with actual cell block from the prostatectomy specimen.

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**Podium #102**

**EFFECT OF TIME FROM BIOPSY TO ROBOTIC RADICAL PROSTATECTOMY ON PERIOPERATIVE OUTCOMES**

George Bailey, MD, Rachel Carlson, Eric Bergstralh, Laureano Rangel, Matthew Gettman, MD, Igor Frank, MD, Matthew Tollefson, MD

Mayo Clinic

Presented By: George Bailey

**Introduction:** Some urologists wait 4–6 weeks after biopsy before performing robotic assisted radical prostatectomy (RARP) to allow for resolution of biopsy associated inflammation.

**Methods:** We reviewed RARPs from 2001–2012 in a prospective, single institution database. Outcomes were compared between men with short (< 6 weeks) and long (> 6 weeks) biopsy to prostatectomy interval (BPI). Multivariable models evaluated the effect of BPI on perioperative outcomes.

**Results:** We identified 3090 patients. 147 (4.8%) had a short BPI. Men with short BPI had higher rates of stage T3 (27.4% vs. 13.1%), and T4 (1.4% vs. 0.2%) disease, p−value < 0.01. Men with short BPI had a longer operative time (295 vs. 210 minutes, p−value = < 0.01) and were more likely to have a postoperative urine leak (12.3% vs. 6.1%, p−value = <0.01). Multivariate models, adjusting for clinical and pathological factors and keeping all the factors constant, showed that BMI, earlier year of surgery, and short BPI were associated with increased operative time. Additionally, multivariate models showed blood loss, prostate volume, earlier year of surgery, and short BPI were associated with an increased risk of postoperative urine leak.

**Conclusion:** Men with BPI < 6 weeks had more adverse tumor features. This may reflect a sense of urgency to operate quickly for concerning cancer features. A longer operative time in men with BPI < 6 weeks may reflect a more challenging dissection secondary to biopsy inflammation. A higher rate of urine leak may reflect biopsy related tissue inflammation adversely affecting anastomotic healing.
Podium #103
TESTOSTERONE LEVELS AND QUALITY OF LIFE IN ACTIVE SURVEILLANCE
Andrew Cohen, MD¹, Brittany Lapin², Chi Wang², David Victorson², Brian Helfand², Kristian Novakovic²
¹University of Chicago; ²Northshore University HealthSystem
Presented By: Andrew Cohen

Introduction: Low testosterone levels contribute to reduced quality of life in men. Little is known regarding the effect of testosterone levels on patient centered outcomes for men with prostate cancer on active surveillance.

Methods: Eligible patients included those with Gleason score <7, ≤3 cores positive, single core with <50% involvement, clinical stage ≤T2a, or tumor volume ≤5% of total biopsy volume. Basic demographics were recorded at enrollment. Patient's were surveyed with the Expanded Prostate Cancer Index Composite–26 (EPIC−26), Patient Reported Outcomes Measurement Information System(PROMIS), and Memorial Anxiety Scale for Prostate Cancer(MAX−PC). There were also asked regarding treatment−outlook satisfaction.

Results: The cohort consisted of 164 patients, 96 of which (58.5%) had testosterone level <400ng/dL. The mean age was 66.2 ± 7.3 years with 86.6% Caucasian. Mean PSA did not differ among groups. Mean BMI was higher for men with testosterone levels ≥ 400 ng/dL (p<0.001). PROMIS responses in the domains of Health, Quality of Life, and Physical Health were higher for those men with testosterone ≥400 ng/dL. For men with testosterone ≥400ng/dL, self assessment of treatment outcome was also improved 1.88 ± 0.90 vs. 2.21 ± 0.83 (p=0.008). Total testosterone levels were positively correlated with EPIC−26 Hormonal and Urinary Incontinence Domains as well as PROMIS Global Quality of Life score.

Conclusion: Men with testosterone levels ≥400 ng/dL reported some improved measures of quality of life including optimism regarding expected treatment outcome. These findings are hypothesis generating in the controversial area of exogenous testosterone administration in men on active surveillance.

Podium #104
PSA DENSITY BASED ON MRI PROSTATE VOLUME CALCULATION ACCURATELY PREDICTS PATIENTS WHO HAVE CANCER IN THE PRIOR NEGATIVE BIOPSY COHORT UNDERGOING MRI/TRUS FUSION BIOPSY
Grace Yoon¹, Peter Filip¹, Stephanie Kliethermes, PhD², Joseph Yacoub, MD³, Steven Shea, PhD³, Gopal Gupta, MD⁴
¹Loyola University Chicago Stritch School of Medicine; ²Loyola University Medical Center Clinical Research; ³Loyola University Medical Center Department of Radiology; ⁴Loyola University Medical Center Department of Urology
Presented By: Grace Yoon

Introduction: Multiparametric MRI and ultrasound (mpMRI/US) fusion target biopsy may be a potentially beneficial imaging tool in detecting prostate cancer in individuals with prior negative transrectal ultrasound (TRUS) biopsies. PSA density (PSAD) based on MRI prostate volume calculation has also significant prognostic benefit and may reduce unnecessary repeat biopsies.

Methods: A retrospective review was performed on patients with previous negative 12 core TRUS biopsies prior to presentation to Loyola. Patients underwent endorectal coil mpMRI, and any lesion identified were further
examined with mpMRI/US fusion target biopsy.

**Results:** 40 out of 45 patients had suspicious lesions based on MRI, and MRI/US fusion target biopsy confirmed malignancies in 12 (30%), including 2 with high risk (gleason score 9, 8), and 4 with intermediate (gleason 7). Cancer positive group had overall higher mean PSA, PSAD, and prostate volume compared to cancer negative. PSAD was significant between the groups based on MRI volume calculations.

**Conclusion:** mpMRI in conjunction with MRI/US fusion biopsy platform is a valuable diagnostic tool for detecting prostate cancer in individuals with initially negative TRUS biopsies. MRI and MRI/US fusion biopsy upstaged 30% of cases with fewer cores, limiting the number of iterative biopsies. PSAD based on MRI prostate volume calculation were predictive of subsequent cancer positivity. Further study is warranted.

**Podium #105**

**THE ROLE OF VESICOURETHRAL ANASTOMOSIS BIOPSY IN THE MANAGEMENT OF SUSPECTED LOCAL RECURRENCE FOLLOWING RADICAL PROSTATECTOMY**

Boris Gershman, MD, Daniel Moreira, MD, Rachel Carlson, BA, Laureano Rangel, MS, Lance Mynderse, MD, Rafael Jimenez, MD, R. Jeffrey Karnes, MD

**Mayo Clinic**

**Presented By:** Boris Gershman

**Introduction:** Vesicourethral anastomosis (VUA) biopsy is employed in the evaluation of suspected local recurrence following radical prostatectomy (RP), but there is little data on whether it alters subsequent management or oncologic outcomes. We evaluated the association of VUA biopsy with receipt of secondary treatments and survival.

**Methods:** 89 patients underwent VUA biopsy from 1994−2009 for suspected local recurrence following RP. Patients who received salvage radiation (RT) or androgen deprivation therapy (ADT) prior to VUA biopsy were excluded. The association of VUA biopsy with receipt of RT/ADT was evaluated using Cox proportional hazards regression, and survival was estimated using the Kaplan−Meier method.

**Results:** Median time from RP to VUA biopsy was 4.7 years, and 63 (70.8%) patients had a positive biopsy. Overall, 85 (95.5%) patients received either RT (69, 77.5%) or ADT (53, 59.6%) post−biopsy. On stepwise multivariable analysis, positive VUA biopsy (HR 2.12, p=0.02), log2 pre−VUA biopsy PSA (HR 1.24, p=0.03), and time from RP to biopsy (HR 0.99, p=0.002) were independently associated with receipt of RT or ADT. Among those receiving secondary treatment, patients with a positive VUA biopsy had non−significantly lower 10−year CSS (82% vs 100%, p=0.13) and OS (43% vs 90%, p=0.14).

**Conclusion:** Positive VUA biopsy is independently associated with subsequent receipt of secondary treatments, and among those receiving secondary
Podium #106
CONTEMPORARY USE OF ADJUVANT AND SALVAGE RADIOTHERAPY FOLLOWING RADICAL PROSTATECTOMY IN THE STATE OF MICHIGAN
Scott Hawken, BS, Khurshid Ghani, MD, David Miller, MD, MPH, Felix Feng, MD, Susan Linsell, MHSA, Yuqing Gao, MS, James Montie, MD, Michael Cher, MD, Todd Morgan, MD
University of Michigan
Presented By: Scott Hawken

Introduction: We used data from the Michigan Urologic Surgery Improvement Collaborative (MUSIC) to investigate the use of adjuvant and early salvage radiotherapy (aXRT, sXRT) among patients with high-risk pathology following radical prostatectomy (RP).

Methods: For patients with pT3a disease or higher (pT3+) and/or positive surgical margins (PSM), we examined variation in postoperative XRT administration. We excluded patients that failed to achieve a post-operative PSA nadir ≤0.1 or had lymph node metastasis. Using claims data, we externally validated radiation treatment assignment in the MUSIC registry.

Results: Among 2,342 patients undergoing RP, 671 (28.7%) had high-risk pathology. Of these patients, 29 (4.3%) received aXRT and 14 (2.1%) underwent sXRT. Use of aXRT varied by surgical pathology: 3/229 (1.3%) for pT2/PSM+, 10/253 (4.0%) for pT3+/PSM−, 16/189 (8.5%) for pT3+/PSM+ (p=0.002), and was associated with higher pT stage (p<0.001). Across practices, aXRT administration varied widely (p<0.001, Figure). Of the 622 patients receiving no treatment to date, 35 (5.6%), 21 (3.4%), and 12 (1.9%) have reached PSA levels above 0.2, 0.5, and 1.0 ng/ml, respectively. There was excellent concordance between registry and claims data (κ=0.90).

Conclusion: Utilization of aXRT and early sXRT is infrequent and variable across MUSIC practices.
Podium #107

USE OF PSA VERSUS PSA DENSITY IN IDENTIFYING CANDIDATES FOR ACTIVE SURVEILLANCE

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¹University of Minnesota; ²Minneapolis VA and University of Minnesota
Presented By: Joseph Zabell

Introduction: Our study sought to examine the utility of PSA alone and PSA density (PSAD) in predicting pathologic and clinical outcomes in potential candidates for active surveillance.

Methods: We reviewed the records of 368 patients at the Minneapolis VA who underwent radical prostatectomy (RRP) for Gleason 6 prostate cancer from 2000–2013. Risk factors including PSA, PSAD, DRE, family history, Agent Orange exposure, and prostate biopsy history were recorded. We assessed the pathologic and clinical outcomes following RRP, and examined predictors of these outcomes.

Results: Of 368 patients with Gleason 6 disease on prostate biopsy, 40 (11%) had a PSA>10 and 9 (2.4%) had a PSA>20. Following prostatectomy, 127(35%) had a pathologic Gleason score >7, 35(9.5%) were pT3, and 47(12.8%) experienced biochemical recurrence at median follow-up of 89 months. PSAs of >10 and>20 were weakly predictive of pathologic T3 disease (pT3, p=0.065 and 0.024, respectively) and biochemical recurrence (BCR, p<0.001 for both), but not predictive of Gleason upgrading (GL>6, p-value NS). PSAD>0.15 was predictive of GL>6, pT3 disease and BCR. On multivariate analysis, absolute PSA was no longer predictive of these factors, with only PSAD>0.15 remaining significant.

Conclusion: PSAD is more predictive of adverse pathology at RRP and biochemical recurrence than standard PSA cut-offs, and thus should inform decisions regarding active surveillance in those with Gleason 6 prostate cancer.

Funding: none

Podium #108

IMPACT OF TIMING OF BIOCHEMICAL FAILURE ON THE EVENTUAL DEVELOPMENT OF CLINICAL FAILURE AFTER DEFINITIVE TREATMENT WITH BRACHYTHERAPY OR EXTERNAL BEAM RADIOTHERAPY FOR PROSTATE CANCER

Jay Ciezki, MD, Chandana Reddy, MS, Eric Klein, MD, Kenneth Angermeier, MD, Steven Campbell, MD, Rahul Tendulkar, MD, Kevin Stephans, MD, James Ulchaker, MD
Cleveland Clinic Foundation
Presented By: James Ulchaker

Introduction: We assessed the influence of the timing of biochemical failure (bF) after definitive brachytherapy (BT) or external beam radiotherapy (EBRT) for prostate cancer on its frequency and association with clinical failure (cF).

Methods: Patients with prostate cancer treated (1996 and 2009) with at least 5 years of follow-up (N= 2293; 1060 EBRT, 1233 BT) were studied in the context of an IRB–approved inception cohort study. Patients had a bF (<5 years after treatment) vs. > 5 years after treatment (bF>5)) and occurrence of cF post–bF.

Results: 477 (21%) had a bF− 244 (11%) bF<5 vs. 233 (10%) bF>5. The median follow-up after bF for the bF< 5 group is 41 months while in the bF> 5 group it is 22 months. In the BT group, 94 (8%) failed < 5 years and 87 (7%) failed > 5
years. In the EBRT group, 150 (14%) failed < 5 years and 146 (14%) failed > 5 years. Overall, 53.3% of patients in the bF<5 group developed cF while 27% of patients in the bF>5 group developed a cF. The detection of bF and cF was closely linked to PSA testing frequency (p= <0.0001).

**Conclusion:** Risk of bF does not appear to decrease >5 years post treatment. Late bF (i.e. >5 years after treatment) may still result in cF. While cF is less common after bF > 5 years post definitive therapy, it still affects 27% of those with bF and is strongly associated with PSA testing frequency.

Podium #109

**INCREASING TREND IN RESISTANCE OF ORGANISMS TO CIPROFLOXACIN ON RECTAL SWAB PRIOR TO TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY**

Waseem Ahmad¹, Dimitri Papagiannopoulos, MD¹, Stephen Larsen, MD¹, Christopher Coogan, MD¹, Lester Raff, MD², Kalyan Latchamsetty, MD¹

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Presented By: Waseem Ahmad

**Introduction:** Fluoroquinolones are the mainstay drug of choice prior to transrectal ultrasound guided prostate biopsy (TRUSBx). We investigated the incidence of ciprofloxacin resistant organisms found on rectal swab prior to patients undergoing a TRUSBx.

**Methods:** A retrospective study of patients who underwent a transrectal swab at UroPartners between January 2013 and December 2014 was performed. Rectal swabs were analyzed for growth of gram negative rods resistant to ciprofloxacin. Statistical analysis was performed using a two−tailed Fisher exact test to determine significance (p=0.05). If resistance was found, the organisms were further identified.

**Results:** The overall incidence of patients who grew organisms resistant to ciprofloxacin during the duration of the study was 22.04% (1357/6156). There was a significant trend in resistance of organisms by year as it was 20.57% (589/2863) in 2013 and 23.32% (768/3293) in 2014 (p=0.0096). 90.27% (1225/1357) of resistant cases were due to Escherichia coli.

**Conclusion:** Patients undergoing a TRUSBx are found to have an increasing incidence of organisms resistant to prophylactic ciprofloxacin. While this has been previously demonstrated, our study delineates the statistically significant trend even in just the past two years. These findings indicate the need to use a targeted approach in antibiotic prophylaxis based on pre−biopsy rectal swab findings.

Podium #110

**RESIDENT IMPACT ON PATIENT & SURGEON SATISFACTION AND OUTCOMES: EVIDENCE FOR HEALTH SYSTEM SUPPORT FOR UROLOGY EDUCATION**

Neil Patel, BS, Randy Sulaver, MD, Bradford Stevenson, MD, Jessica Healey, BS, William Severino, MD, Thomas Baron, MD, David Lieber, MD, David Roszhart, MD, Kevin T. McVary, MD, Tobias Kohler, MD

SIU-SOM

Presented By: Neil Patel

**Introduction:** Studies describe resident impact on surgery times and
complication rates, but few examine resident involvement on patient and physician satisfaction. We assessed these outcomes from a urology group previously not covered by residents.

**Methods:** Urologic procedures completed in our institution by attending surgeons without residents from January 2010 to December 2011 were compared to the same surgeons working with the assistance of Urology residents for a two year period. Surgical case times, post-operative complications, readmission rate, length of stay, Press-Gainey consumer assessments, attending reports of job satisfaction, quality of life, and perceptions of patient care were collected.

**Results:** 2,243 cases were measured. 1,015 were in pre-resident periods and 1,228 were in post-resident periods. With resident coverage there was an increase in OR times for select procedures. Readmission rate increased for surgical and non-surgical cases (p = 0.0370 and p=0.0447). There was no difference in complications for surgical and non-surgical cases (p=0.2269 and p=1.000, respectively). Importantly, patients' satisfaction scores were higher in every category and they more often reported that they ‘always’ received quality care (78.6 % vs 82.5%). Faculty perceptions of job satisfaction, quality of life, and perception of patient care were all substantially improved with the addition of residents.

**Conclusion:** There was increased OR time and re-admittance rates with resident involvement, but no impact on complications. Residents offered measurable improvement in attending job satisfaction, perception of patient satisfaction and QOL. Such metrics have positive impact on health delivery, which justifies an increase in resident education support.

**Podium #111**

A CRITICAL ASSESSMENT OF THE QUALITY OF RANDOMIZED CONTROLLED TRIALS REPORTING IN THE UROLOGICAL LITERATURE

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Presented By: Vikram Narayan

**Introduction:** Transparent reporting of randomized controlled trials (RCTs) is vital to their critical appraisal. As an extension of a prior study (Scales CD et al, JU 2008), we formally assessed the quality of RCT reporting in 2013.

**Methods:** All human subjects RCTs published in 4 leading urology journals in 2013 were identified for formal review. Two reviewers abstracted data using a standardized evaluation form based on the Consolidated Standards of Reporting Trials (CONSORT) statement. We calculated a summary reporting score (range 0 – 22) for each study and compared mean summary scores for 1996, 2004 and 2013 using SPSS version 23.0.

**Results:** A total of 82 RCTs published in 2013 met inclusion criteria and were compared to 65 and 87 studies from 1996 and 2004, respectively. The mean ± SD CONSORT summary scores in 2013 were 16.8 ± 3.6 compared to 12.0 ± 2.5 in 2004 and 10.2 ± 2.3 in 1996 (p <0.001). Provision of a flow diagram improved from 3.1% (1996) to 19.5% (2004) to 73.0% (2013; p<0.001). In an analysis stratified by journal, the mean scores in 2013 were 18.3 ± 2.6, 17.3 ± 4.1, 16.5 ± 4.2 and 15.3 ± 2.5 for European Urology, BJU International, Urology and Journal of Urology, respectively (p=0.023).
**Conclusion:** RCTs reporting quality has improved since the introduction of the CONSORT criteria but continues to vary by journal and checklist item warranting further educational efforts of their importance.

**Podium #112  
SUCCESS RATES OF ENDOSCOPIC MANAGEMENT FOR STRicture RECURRENCE AFTER URETHRAL RECONSTRUCTION**

Deep Bhatt¹, Sean P. Elliot, MD, MS², Travis Pagliara, MD³, Jeremy B. Myers, MD³, Thomas Smith, III, MD⁴, Alex J. Vanni, MD⁵, Bryan B. Voelzke, MD, MS⁶, Christopher A. Tam⁷, Sarah Faris, MD², Bradley Erickson, MD⁷

¹University of Iowa Carver College of Medicine; ²University of Minnesota; ³University of Utah; ⁴Baylor College of Medicine; ⁵Lahey Clinic; ⁶University of Washington; ⁷University of Iowa

Presented By: Deep Bhatt

**Introduction:** The purpose of this study was to evaluate success rates of initial endoscopic management of stricture recurrence after urethroplasty for anterior urethral stricture disease.

**Methods:** We retrospectively analyzed a multi-institutional prospectively maintained urethroplasty database for cases of urethral stricture recurrence. The outcome of interest was success after initial endoscopic management, defined as the ability to pass 17F cystoscope through the reconstructed urethra at one-year. Comparisons were made between urethroplasty characteristics (location, type of repair, length of repair), stricture recurrence length, and endoscopic management strategy (urethral dilation (UD) vs visual urethrotomy (VU)).

**Results:** We identified 52 anatomic recurrences that underwent endoscopic management. VU was significantly more successful than UD (49% vs 8%; p < 0.001) in achieving an unobstructed urethra at one year. Success rates for both types of endoscopic management were higher in cases where buccal mucosa was used in the primary repair as compared to pure excision (EPA) repairs (42% vs 14%, p=0.0012). The location of the stricture recurrence did not affect outcomes as penile and bulbar recurrences had similar success rates (38% vs 40% respectively, p = 0.2). The mean length of recurrence was shorter in successfully managed cases versus those that failed (0.6 ± 0.4cm vs 2.0 ± 4.5, p = 0.06).

**Conclusion:** Endoscopic management of stricture recurrence after urethroplasty results in anatomically normal (>17F) urethra in nearly half of cases. Predictors of success include the use of urethrotomy (versus dilation), failure at a buccal graft anastomotic site and shorter lengths of the recurrent stricture.
Podium #113
ENROLLMENT OF BLACK MEN IN PROSTATE CANCER RANDOMIZED CONTROLLED TRIALS
Raymond Ogagarue, MD, MPH¹, Michael Dumas², Kacy Flowers², Molly M. Neuberger³, Folakemi Odedina, PhD⁴, Christopher Warlick, MD, PHD¹, Badrinath Konety, MD, MBA¹, Philipp Dahm, MD, MHSc⁵
¹University of Minnesota, Department of Urology; ²University of Florida; ³Minneapolis Veterans Affairs Health Care System; ⁴University of Florida, Department of Pharmaceutical Outcomes and Policy; ⁵Minneapolis Veterans Affairs Health Care System and University of Minnesota
Presented By: Philipp Dahm

Introduction: Black men experience the highest prostate cancer burden in the United States and globally. We performed this study to assess the current status of Black men’s participation in RCTs for prostate cancer.

Methods: We performed a protocol-driven systematic review for all published prostate cancer RCTs over a 22-year time period (1992–2013) searching PUBMED and the Cochrane CENTRAL database. We only included RCTs of patients with an established diagnosis of prostate cancer and excluded studies of screening and diagnosis.

Results: We identified 530 unique RCTs with a median sample size of 122.5 patients (IQR: 60.0–292.5). A majority of these trials investigated new drugs (68.7%). Of these trials, 18.5% (n=98) reported the enrollment of Black men. In the subset of studies that reported the inclusion of Black men, the median number of patients was 17 (IQR: 8–31), which represented 10.5% (IQR: 6.8%–19.5%) of the study population. Among trials exclusively conducted in the United States (n=183), 41.0% (n=75) reported the inclusion of Black men; the reported median number of Black men was 15 (IQR: 7.0–29.0) representing 12.0% (IQR: 7.0%–20.1%) of the study population. There was no difference in the median percentage of Black men in publicly funded (16.5%) versus non-publically (13.0%) funded US-trials (p=0.180).

Conclusion: A majority of prostate cancer trials even if publically funded and conducted in the US do not report the inclusion of Black men. Increased efforts at the community, federal regulatory and funding agency levels appear warranted addressing prostate cancer research disparities.

Podium #114
GASTROINTESTINAL AND URINARY EVENTS: KEY DEVIATION DRIVERS FROM AN UNCOMPPLICATED RADICAL PROSTATECTOMY RECOVERY PATHWAY
Stacie N. Myers, BS¹, James M. Dupree, MD, MPH¹, Rodney L. Dunn, MS¹, Yuqing Gao, MS¹, Susan M. Linsell, BS, MHSA¹, Brian R. Lane, MD, PhD², Khurshid R. Ghani, MD¹, David C. Miller, MD, MPH¹, James E. Montie, MD¹
¹University of Michigan, Michigan Urological Surgery Improvement Collaborative; ²Spectrum Health Medical Group, Michigan Urological Surgery Improvement Collaborative
Presented By: Stacie Myers

Introduction: To improve patient outcomes following radical prostatectomy (RP), the Michigan Urological Surgery Improvement Collaborative (MUSIC) developed a novel metric, Notable Outcomes and Trackable Events after Surgery (NOTES), that defines an uncomplicated recovery pathway. Herein, we evaluated events
driving pathway deviations.

**Methods:** For men undergoing RP, trained abstractors prospectively record clinical and peri-operative data in an electronic registry. We identified cases with peri-operative deviations from the NOTES pathway of no rectal injury, estimated blood loss ≤ 400ml (90th percentile), drain placement ≤ 2 days, length of stay (LOS) ≤ 2 days, catheter placement ≤ 16 days, no 30–day readmission, and no 30–day mortality. When a deviation occurred, the precipitating events were described by abstractors and analyzed by the authors.

**Results:** From April – December 2014, 33 MUSIC practices performed 822 RPs. 169 cases were identified with ≥ 1 NOTES deviation. Gastrointestinal (GI) and urine leak events were contributing factors in 22.5% and 21.3% of all deviated cases, respectively (Table 1). GI events drove 36.7% of readmissions and 45.2% of LOS deviations.

**Conclusion:** Reducing GI and urine leak events represent high-value opportunities for quality improvement initiatives aimed at better RP recovery.

**Funding:** Blue Cross Blue Shield of Michigan

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**Podium #115**

**CLINICAL ESTIMATION OF BLOOD LOSS IS NOT ACCURATE IN ROBOTIC-ASSISTED RADICAL PROSTATECTOMY**

Kristin Greco, MD, Belinda Li, MD, Chandy Ellimoottil, MD, Ahmer Farooq, DO

Loyola University

Presented By: Kristin Greco

**Introduction:** The surgeon’s estimation of intraoperative blood loss (EBL) is a commonly used outcome measure. We hypothesized that the estimation of blood loss in robotic surgery may be less accurate than in open surgery due to unrecognized blood loss. Our objective was to compare differences in actual blood loss (ABL) to EBL in both robotic-assisted radical prostatectomy (RARP) and open radical retropubic prostatectomy (RRP).

**Methods:** We conducted a retrospective review of all patients who underwent either RARP or RRP at our institution between 2010 and 2014. The Gross formula which takes into account hemoglobin change and isovolemic administration of crystalloid fluids was used to calculate ABL. Pearson coefficient of correlation was used to evaluate the correlation between EBL and ABL in robotic and open surgery.

**Results:** The average EBL and ABL in the RARP group were 164 mL and 697 mL, respectively. The average EBL and ABL in the RRP group were 632 mL and...
1125 mL, respectively. ABL and EBL were much better correlated in the RRP group (0.7589, p < 0.001) than in the RARP group (0.3541, p < 0.001).

**Conclusion:** While significantly lower blood loss in RARP compared to RRP was confirmed, clinical underestimation of blood loss in both techniques remains an important problem. EBL assessment is less accurate in RARP as compared to RRP. EBL is widely used in the literature to report surgical outcomes; however, our findings suggest that EBL is not an accurate tool for comparing surgical interventions.

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**Podium #116**

**THE IMPACT OF SURGICAL DURATION OF TRANSURETHRAL RESECTION OF BLADDER TUMORS ON POSTOPERATIVE COMPLICATIONS: AN ANALYSIS OF ACS–NSQIP DATA**

Richard Matulewicz, MS, MD¹, Vidit Sharma, MD², Daniel Oberlin, MD¹, Barry McGuire, MD¹, Kent Perry, MD¹, Robert Nadler, MD¹

¹Northwestern University Feinberg School of Medicine; ²Mayo Clinic

Presented By: Richard Matulewicz

**Introduction:** Transurethral resection of bladder tumor (TURBT) is a common procedure used in the diagnosis and treatment of bladder cancer. Despite how often it is performed, not much is known about the risk factors for complications. Traditional surgery has an increase in morbidity and mortality with increasing operative duration. We assess the effect of operative duration on TURBT complications.

**Methods:** The years 2006 to 2012 of the American College of Surgeons National Surgical Quality Improvement Program (ACS–NSQIP) were queried for patients undergoing TURBT. We separated patients into four groups based on operative time: <30 minutes, 30.1 to 60 minutes, 60.1 to 90 minutes, and greater than 90 minutes. Standard statistical analysis including multivariate regression was performed to determine predictors of complications.

**Results:** 10,599 TURBTs were included in our analysis. The overall complication rate for TURBT was 5.8% and there was an increase in the rate of complications seen as operative duration increased which remained after controlling for age, comorbidity, and ASA classification. Increased operative duration was associated with a greater risk of postoperative renal insufficiency, urinary tract infection (UTI), sepsis or septic shock, pulmonary embolism/deep venous thrombosis, re-intubation or failure to wean, myocardial infarction, and death. Larger tumors were related to an increased odds of requiring blood transfusions.

**Conclusion:** Using a contemporary multicenter cohort of TURBTs from the ACS–NSQIP database, we demonstrate that increased operative duration is associated with serious post–operative complications. This association was found to persist even after adjusting for patient age, comorbidities, and functional status.
Podium #117
THE UTILITY OF ROUTINE POST-OPERATIVE LABORATORY STUDIES FOR SHORT-STAY UROLOGIC SURGERY
Amy Y. Li, MD, Yooni A. Yi, MD, John T. Wei, MD, Anne P. Cameron, MD
University of Michigan
Presented By: Amy Li

Introduction: Patients who have urologic surgery that requires only overnight observation often have routine labs post-operatively (post-op). There is minimal data on if these labs change clinical decisions. Our aim was to understand the utilization/impact of routine post-op lab draws after short-stay urologic surgery.

Methods: This is a retrospective chart review of patients admitted for one night observation (01/2012–12/2013) from six surgeons at an academic institution. Patient, operative & hospitalization details were abstracted, as well as events that prompted a for-cause lab study. Any interventions were defined as: none, minor (lab redraw, electrolytes, antibiotics) & major (longer hospitalization, transfusion).

Results: Of 202 consecutive cases (procedures: percutaneous nephrolithotomy, transurethral prostate surgery, & robotic prostatectomy), 169 (84%) patients had routine post-op labs: 125 (74%) had no intervention, 42 (25%) patients had a minor intervention (mostly electrolyte repletion), & none had major interventions. The decision to order labs routinely was surgeon specific. Seventeen patients (8%) had labs drawn for symptoms (see table). Of these, 11 (65%) had a minor intervention & 1 (6%) a major intervention (transfusion). No complications were discovered with routine labs.

Conclusion: Most urologic patients observed overnight at our institution have routine post-op labs that only resulted in electrolyte repletion. This suggests that routine post-op labs may not be warranted.
Podium #118
ADHESIVE BOWEL OBSTRUCTION FOLLOWING UROLOGIC SURGERY: IMPROVED OUTCOMES WITH EARLY INTERVENTION
Robert Blackwell, MD¹, Anai Kothari, MD², Arpeet Shah, MD¹, William Gange, BS³, Stephanie Kliethermes, PhD⁴, Marcus Quek, MD¹, Fred Luchette, MD², Robert Flanigan, MD¹, Paul Kuo, MD, MBA², Gopal Gupta, MD¹
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Presented By: Arpeet Shah

Introduction: Literature regarding adhesive bowel obstruction (ASBO) following urologic surgery is limited. General surgery literature suggests perioperative outcomes are improved with early surgery (ES). We describe the long-term incidence of ASBO following major urologic surgery, and the effect of ES on perioperative outcomes.

Methods: The Healthcare Cost and Utilization Project State Inpatient Database for California (2007–2011) was used to identify radical cystectomy (RCx), radical prostatectomy (RP), and kidney surgery (KS: radical/partial nephrectomy, nephroureterectomy) patients. Subsequent ASBO admissions were identified and Kaplan–Meier time-to-event analysis performed.

On ASBO admission, ES was defined as occurring on–or–before hospital–day three. The effect of ES on postoperative minor/moderate complications (wound infection, UTI, DVT, pneumonia), major complications (MI, PE, sepsis), death, and postoperative length–of–stay (P–LOS) was assessed by univariate and multivariate analysis.

Results: 70,200 patients underwent major urologic surgery (RP, n=43,548; RCx, n=4,753; KS, n=21,899) and the 5-year cumulative incidence of ASBO readmission was 0.9%, 13.4%, and 3.5%, respectively. During ASBO readmission, 71.6% of patients were managed conservatively and 28.4% surgically, with ES performed in 73.5%. ES had decreased rates of minor/moderate complications (6.8% vs 17.2%, p<0.001), major complications (0.9% vs 2.3%, p=0.006), hospital mortality (2.9% vs 7.3%, p<0.001), and median P–LOS (6 vs 9 days, p<0.001). These findings remained significant when controlling for patient characteristics, medical comorbidity, and initial urologic procedure, with ES decreasing the odds of minor/moderate (OR 0.39, p<0.001) and major complications (OR 0.46, p=0.039), death (OR 0.47, p=0.001), and P–LOS (coefficient −6.2, p<0.001).

Conclusion: ASBO is a significant long-term sequela of urologic surgery. Early surgical management of ASBO is associated with improved perioperative outcomes.
INTRODUCTION: The appropriate use of statistical methods is a critical aspect of all clinical research, especially randomized controlled trials (RCTs). As an extension of a prior study (Scales CD et al, JU 2008), we formally assessed the reported statistical methods of RCTs published in 2013 compared to 2004 and 1996.

METHODS: All randomized controlled trials involving human subjects published in 4 leading urology journals in 2013 were identified for formal review. Two independent reviewers abstracted data using a standardized evaluation form that was based on the Consolidated Standards of Reporting Trials (CONSORT) statement.

RESULTS: A total of 82 RCTs published in 2013 met inclusion criteria and were compared to 65 and 87 studies from 1996 and 2004, respectively. Similar to earlier years, the majority of RCTs were two-armed (84.1%), parallel group design (91.5%) studies. The median sample size (IQR) per arm increased from 32 (18.8, 93.5) in 1996 to 45.5 (25.0, 116) in 2004 and 61.5 (36.1, 138.0) in 2013 (p<0.001). Sample size justifications were provided by 18.5%, 47.1% and 68.3% (p<0.001) and effect size estimates for primary or secondary outcomes by 4.6%, 12.6% and 45.6% (p<0.001) of studies in 1996, 2004 and 2013, respectively.

CONCLUSION: The quality of statistical reporting in the urological literature has improved over the last 2 decades. However, considerable deficiencies remain and should be addressed by educational efforts in applied statistics for authors, reviewers and journal editors.

INTRODUCTION: The NSQIP database of surgical complications is widely used to track national outcomes. Urology has been a late addition to the database, with only a small fraction of participating centers reporting their urologic outcomes. Despite this, pooling national data allows for powerful analyses of surgical trends. We examine pyeloplasty as a model for NSQIP analysis of other urologic procedures.

METHODS: Data were obtained from the ACS NSQIP for 2009 through 2012. All patients undergoing pyeloplasty were identified via CPT code and culled from the dataset. Outcomes analysis was performed.

RESULTS: Seventy open and 326 MIS pyeloplasties were captured by NSQIP between 2009 and 2012. Baseline comorbidities of both groups were comparable, including diabetes (7.6% vs 9.5%) and active smokers (20.3% vs 18.7%). As seen in Table 1, the number of MIS pyeloplasties increased annually while the number of open procedures remained relatively stable. The overall
complication rate of open pyeloplasty was 6.3% (2.5% major, 3.8% minor), while that of MIS pyeloplasty was 1.8% (0.9% major, 0.9% minor). Resident participation was higher in MIS procedures than open procedures (46.6% vs 19.0%).

**Conclusion:** Transitioning from open to MIS pyeloplasty has not increased complication rates. Increased urologic participation in NSQIP will allow for future high powered outcomes analyses.

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**Podium #121**

**COMPLICATIONS FOLLOWING MALE RECONSTRUCTIVE UROLOGIC SURGERY**

Sriram Eleswarapu, MD, PhD, Akshay Sood, MD, Firas Abdollah, MD, Jesse Sammon, DO, Wooju Jeong, MD, Dane Klett, MD, James Peabody, MD, Jairam Eswara, MD, Mani Menon, MD, Quoc-Dien Trinh, MD, Ali Dabaja, MD

Vattikuti Urology Institute, Henry Ford Health System

Presented By: Sriram Eleswarapu

**Introduction:** To evaluate 30-day morbidity rates following urethroplasty, inflatable penile prosthesis (IPP) placement, artificial urinary sphincter (AUS) placement, and male sling placement; further, to identify procedure-specific predictors of complications.

**Methods:** Using the ACS-NSQIP (2005-2012) database, patients undergoing urethroplasty, IPP, AUS, and male sling were identified. Rates for wound, UTI, renal, septic, DVT/PE, pulmonary, cardiac, and neurological complications were recorded. Procedure-specific multivariable logistic regression analyses (MVA) evaluated the independent effect of age, BMI, race, smoking, alcohol use, preoperative creatinine and hematocrit, comorbidities, and ASA score on complications.

**Results:** Overall, 1,832 patients were identified [urethroplasty (n=472), IPP (n=52), AUS (n=689), and male sling (n=619)]. The overall complication rates for IPP, urethroplasty, AUS, and male sling were 9.6%, 6.4%, 5.5%, and 2.6%, respectively. Wound and cardiopulmonary complications were the most prevalent complications following IPP, while UTI was the leading complication following urethroplasty and AUS placement. Procedure-specific MVA for predictors of overall complications revealed increasing age (OR=1.05, p<0.001) and hypertension (OR=1.54, p=0.027) to be predictors after AUS; DM (OR=3.05, <0.001), cardiopulmonary comorbidities (OR=5.46, p=0.013), and ASA score ≥4 (OR=3.98, p=0.013) after urethroplasty; and elevated creatinine (OR=3.27, p=0.044) and cardiopulmonary comorbidities (OR=2.30, p=0.003) after male sling. Small patient number in the IPP cohort precluded performance of MVA.

**Conclusion:** Among male reconstructive urologic procedures, IPP placement had the highest rate of complications. Identifying predictors of complications may be useful in guiding urologists in risk stratifying patients for elective procedures.
Podium #122
PUBLIC RESTROOM HABITS IN PATIENTS AFTER AUS IMPLANTATION
Laura Bukavina, MD/MPH¹, Hemant Chaparala, BS², Ganesh Kartha, MD³, Kenneth Angermeier, MD³, Drogo Montague, MD³, Hadley Wood, MD³
¹Johns Hopkins School of Public Health; ²Case Western Reserve University /Cleveland Clinic Urological Institute; ³Cleveland Clinic Glickman Urological Institute
Presented By: Laura Bukavina

Introduction: Post−prostatectomy incontinence is a significant burden on patients' emotional health and ability to perform activities of daily living. The objective of our study was to investigate public restroom habits with secondary outcomes evaluating HRQoL outcomes in our patients whom underwent AUS implantation following prostatectomy.

Methods: Between June 2012 and January 2014, we identified 50 men who had undergone AUS placement for post−prostatectomy incontinence.

Results: The pad score decreased significantly from 3 (median=3 ppd, IQR= 2) during minimal activity prior to surgery to 1 (median=1.0 ppd, IQR=0.5) after surgery (p <0.001). QoL analysis revealed a score increase of 16.5 points (p<0.007) in EPIC−UD, and an increase of 23.93 (p<0.022 ). QoL analysis revealed no correlation with urinary habits, and comfort with public restroom use in either QoL assessment, (UDI−6 R=0.026, p=0.891, EPIC−UD R=0.064, p=0.734) and (R=0.035, p=0.85) respectively. Men with lower ppd prior to AUS placement, were more likely to report higher public restroom urinal use (R=0.366, p<0.043), and increased public restroom comfort level (R=0.342, p<0.060).

Conclusion: EPIC−UD and UDI−6 scores improved significantly and demonstrated high levels of correlation to self−reported ppd; however, both failed to show any correlation to patients' comfort level with public restrooms. The single predictor of patients' comfort was self−reported ppd with minimal activity.
Introduction: Significant effort is put forth to help children with neurogenic bladder achieve urinary continence. Little is known about the long-term ramifications of urinary continence management as children enter adulthood. Our study evaluated long-term methods of bladder emptying, degree of urinary continence, and impact on quality of life in this population.

Methods: Three questionnaires (RAND Short Form 36 Health Survey [SF-36]), the International Consultation on Incontinence Modular Questionnaire [ICIQ] and a non-validated Method of Bladder Emptying questionnaire) were mailed to patients age 14 or older with spina bifida, posterior urethral valves, Prune Belly Syndrome, bladder extrophy, or neurogenic bladder.

Results: Questionnaires were mailed to one-hundred and twenty patients; twenty-one questionnaires were completed. Nineteen patients had a diagnosis of spina bifida, one had bladder extrophy, and one had unspecified neurogenic bladder. There was no significant correlation between mean quality of life (SF-36) and continence (ICIQ) scores. Eight patients had undergone urologic surgery; compared to those patients with no prior urologic surgery, there was no significant difference in mean quality of life or continence scores. A majority used clean intermittent catheterization as their method of bladder emptying. All but one patient reported satisfaction with their bladder management.

Conclusion: Most adult patients with congenital neurogenic bladder are satisfied with their current method of bladder emptying regardless of surgical intervention or degree of continence. The decision to offer surgery to patients with neurogenic bladder should be individualized, and regular follow-up should be continued into adulthood to ensure satisfaction with urinary continence is maintained.
(22%) required a secondary AUS surgery, including explant for erosion (n=3, 8.1%) or infection (n=2, 5.4%), and revision for atrophy (n=2, 5.4%) or cuff leak (n=1, 2.7%). Device survival was 94% at 3 months, and 80% at 1 year.

**Conclusion:** Primary AUS placement after MUS can be performed successfully, although the revision rate may be higher than previously published for patients without prior MUS.

**Podium #125**  
**RETROSPECTIVE REVIEW OF FEMALE URINARY RETENTION PRESENTING TO TERTIARY CARE HOSPITAL: PRESENTATION, MANAGEMENT AND RESOLUTION**  
Jessica Meyers, MD¹, Chloe Bass, BS², Mireya-Insua Diaz, PhD¹, Humphrey Atiemo, MD¹  
¹Henry Ford Hospital; ²Wayne State University  
Presented By: Jessica Meyers

**Introduction:** Urinary retention (UR) is a burdensome condition that is understudied in the female population. We described the presentation and initial management of female UR, and investigated resolution rates.

**Methods:** With Institutional Review Board (IRB) approval, a retrospective chart review was performed on adult women diagnosed with urinary retention (ICD-9 788.20) at a tertiary care hospital between 1992 and 2012.

**Results:** There were 387 females diagnosed with UR with a mean of 16.6 month follow up, of which 234 (60.5%) were in acute, symptomatic UR and 154 (39.5%) were in chronic UR. Patients presented in the inpatient and outpatient settings in 49.4% and 51.6% of cases, respectively. Patients were initially managed with timed voiding, (13.2%) intermittent straight catheterizations, (ISC, 18.3%) or indwelling catheter. (68.9%) Of patients diagnosed with acute and chronic urinary retention requiring catheterization, 132/230 (57.4%) and 19/106 (17.9%; P<0.001) were found to have resolution of UR, respectively, as defined as no longer requiring catheterization.

**Conclusion:** This is one of the largest retrospective reviews of females with UR. Patients who present with acute UR are more likely to have resolution of their disease.

**Financial Disclosure:** None

**Podium #126**  
**LEAD POSITION DURING PUDENDAL NEUROMODULATION: A RADIOGRAPHIC ASSESSMENT**  
Travis Washington¹, Michael Ehlert, MD², Ajwad Bajwa, MD², Renee Cholyway¹, Kim Killinger, RN, MSN², Burton Ellis, MD², Kenneth Peters, MD²  
¹Oakland University William Beaumont School of Medicine, Rochester, MI; ²Beaumont Health System, Royal Oak, MI  
Presented By: Travis Washington

**Introduction:** Sacral neuromodulation has been approved for treatment of incontinence. To date, no standardized location exists for lead placement at the pudendal nerve. We categorize lead location in a large series of pudendal neuromodulation patients.

**Methods:** Intra−operative fluoroscopy and pelvic radiographs were examined from patients undergoing pudendal lead placement between 2004−2013.
Posterior–anterior imaging measurements were taken: lead–tip to pelvic sidewall, and pubic tuberosity, and lead angle from vertical. Corrections for image rotation and magnification were recorded. Lateral measurements from lead–tip to sacrum, posteriorly and cranially were taken. Group averages, standard deviations, and extremes were calculated.

**Results:** 173/231 (74.9%) had images adequate for measurement. 149 had intra–operative fluoroscopy images and radiographs were taken a median of 4.5 months post–op. There was considerable variation in lead placement, with distance from the pelvic sidewall varying from 0.01–4.69 cm (mean 2.3 cm ± 0.82). Lead depth measured from the pubic tubercle varied from −6.6 cm below to 4.22 cm cephalad (mean −1.6 cm ± 2.07). Most leads were angled toward the sidewall (mean 11.3 degrees ± 8.7). 136 patients had images adequate for lateral measurements. Mean distances to the sacrum were 4.3 cm ± 1.5 posteriorly and 8 cm ± 2.1 cephalad.

**Conclusion:** Pudendal lead location for sacral neuromodulation varies considerably. Without definite landmarks, intra–operative EMG is required to confirm nerve stimulation. Correlation with lead voltages and outcomes is needed to assess for optimal positioning.

**Podium #127**

**AUTOLOGOUS TRANSOBTURATOR URETHRAL SLING PLACEMENT FOR FEMALE STRESS URINARY INCONTINENCE**

Brian Linder, MD, Daniel Elliott, MD

Mayo Clinic

Presented By: Brian Linder

**Introduction:** To describe and evaluate a transobturator approach to urethral sling placement with autologous rectus fascia for female stress urinary incontinence.

**Methods:** We performed a feasibility study of ten autologous transobturator (ATO) mid–urethral sling placements for stress urinary incontinence. The procedure includes an anterior vaginal dissection and harvest of rectus fascia. A trocar is passed through the obturator foramen for placement of the fascial stay sutures. The sling is then tensioned and sutures tied. Patient outcomes were measured by 24–hour pad weight test and ICIQ–FLUTS score.

**Results:** Median patient age was 57 (IQR 48;69.5) with a median body mass index of 30.3 kg/m2 (IQR 25.2;32.4). Median follow–up was 4 months (range 3–5). All patients demonstrated reduction of leakage, with 80% being completely dry (zero grams on 24–hr pad test). Overall, there was significant improvement in pre– versus post–operative 24–hour pad weight (p=0.02). Likewise, all subscores of the ICIQ–FLUTS were significantly improved following surgery: frequency (p=0.006), voiding (p=0.04), and incontinence (p=0.002). One patient performed intermittent self–catheterization for 24 hours following sling placement.

**Conclusion:** ATO sling placement is technically feasible with excellent short term outcomes. Longer follow up and larger series are needed for validation.

**Podium #128 - WITHDRAWN**
Podium #129

VARIABLE DEFINITIONS OF URETHRAL STRICTURE RECURRENCE AFTER VISUAL INTERNAL URETHROTOMY (DVIU) AND URETHROPLASTY

Benjamin Sherer, MD, Ryan Farrell, MD, Fahad Chaus, Laurence Levine, MD
Rush University Medical Center

Presented By: Benjamin Sherer

Introduction: In 2009–2010, experts and international panels called for uniformity in defining "recurrence" after procedural intervention for urethral strictures. We evaluated how urethral stricture recurrence after both DVIU and urethroplasty is being evaluated and defined in subsequent contemporary series.

Methods: We performed a systematic review of all studies reporting outcomes of both DVIU and urethroplasty in the past 5 years. A PubMed/Medline and Embase search from 2009–2014 was performed using the terms urethroplasty, internal urethrotomy, and additional search terms related to surgical outcomes/recurrence. Studies reporting number of patients treated, follow up period, follow up methods, and definition of stricture recurrence were included for review.

Results: Among 39 contemporary studies meeting inclusion criteria (Urethroplasty n=26, DVIU n=14) definitions of recurrence fell into 6 major categories: Need for repeat procedure/instrumentation (30%, n=14), inability to pass a cystoscope (various sizes) (20.5%, n=8), decreased Q max on Uroflow (10.2%, n=4), stricture visible on an imaging study (5.1%, n=2), subjective symptoms (5.1%, n=2), or a combination of aforementioned modalities (12.8%, n=5). Overall, among the 39 studies, there were 18 unique definitions of stricture recurrence reported. Timing, frequency, and duration of followup also varied widely.

Conclusion: There remains wide variability in the reporting of outcomes after treatment of urethral strictures. This makes any direct or longitudinal comparison between studies difficult. There is an ongoing need to establish uniform parameters for evaluating outcomes and defining urethral stricture recurrence after surgical intervention.

Podium #130

LICHEN SCLEROSUS IS ASSOCIATED WITH SYSTEMIC DISORDERS IN MEN WITH URETHRAL STRICTURE DISEASE

Christopher Tam¹, Benjamin Breyer, MD, MAS², Joshua Broghammer, MD³, Sean Elliott, MD, MS⁴, Jeremy Myers, MD⁵, Alex Vanni, MD⁶, Bryan Voelzke, MD, MS⁷, Bradley Erickson, MD, MS¹
¹University of Iowa; ²University of California, San Francisco; ³University of Kansas; ⁴University of Minnesota; ⁵University of Utah; ⁶Lahey Clinic; ⁷University of Washington

Presented By: Christopher Tam

Introduction: Lichen sclerosus (LS) is a chronic, inflammatory skin condition of the genitalia of unknown origin that accounts for nearly 10% of urethral strictures. The purpose of this study is to determine systemic comorbidities associated with LS in men.

Methods: We analyzed data from 1151 men who were enrolled in a multi-institutional prospective study to assess urethroplasty outcomes. Individuals were split into etiologies of lichen sclerosus (N=81), idiopathic
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Podium #131
TRENDS IN THE TREATMENT OF PEYRONIE'S DISEASE: AN ANALYSIS OF CASE LOGS FROM AMERICAN UROLOGISTS

Daniel Oberlin, MD¹, Joceline Liu, MD¹, Matthias Hofer, MD¹, Jaclyn Milrose, MD¹, Sarah Flury, MD¹, Allen Morey, MD², Christopher Gonzalez, MD¹

¹Northwestern University, Feinberg School of Medicine; ²University of Texas Southwestern

Presented By: Daniel Oberlin

Introduction: Advances in the management of Peyronie’s disease (PD) have led to a diversity of surgical treatment options. We reviewed contemporary trends in the treatment of PD in the United States with emphasis on practice patterns, demographics, and temporal changes.

Methods: Six month case log data of American urologists (re)certifying between 2003 and 2013 was obtained from the American Board of Urology. The CPT codes were used to identify surgical procedures, including plaque injection.

Results: A total of 6,564 urologists were included in the surgical cohort logging 8,195 surgical procedures for PD. Only 15.4% (1012/6564) of urologists reported operating on PD; andrologists accounted for 5.3% (54/1012) of these urologists but performed 18.5% of all PD procedures (p=0.0001). The frequency of plaque injections increased from 499 in 2004 to 797 in 2013, a 59% increase while surgical correction remained stable. Urologists performed four–times as many injections as surgical corrections of PD (p=0.001). Andrologists were significantly more likely to attempt injection than surgical correction when compared to non–specialists (p=0.045). 73.2% of all surgeries were corrections of angulation without plaque excision, 20.5% were excisions of plaque less than 5cm, and

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(N=602), and other (N=468) and their baseline demographics and medical histories were retrospectively compared with univariate statistics. A logistic regression model was run to control for age and adjusted odds ratios were calculated to predict LS from individual comorbidities.

Results: Men with LS strictures had a significantly higher (p < 0.0001) body mass index of 34.59 ± 7.92 compared to the idiopathic (29.87 ± 6.88) and other (29.14 ± 6.32) groups. Hypertension and use of chewing tobacco were significant predictors of LS (Table 1).

Conclusion: LS in men with urethral stricture disease shows association with systemic disorders (obesity) and inflammation (hypertension). As LS strictures are historically difficult to treat, these data may suggest that systemic therapies may offer a chance to improve outcomes.

Table 1 – Comparison of Lichen Sclerosus and Other Etiologies with Baseline Characteristics

<table>
<thead>
<tr>
<th>Condition</th>
<th>Lichen Sclerosus</th>
<th>Other Etiologies</th>
<th>Adjusted Odds Ratio (95% CI)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index</td>
<td>-</td>
<td>-</td>
<td>1.089 (1.050, 1.130)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Hypertension</td>
<td>43 (53)</td>
<td>325 (30)</td>
<td>2.028 (1.206, 3.411)</td>
<td>0.0007</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>25 (31)</td>
<td>107 (18)</td>
<td>1.456 (0.838, 2.527)</td>
<td>1.0058</td>
</tr>
<tr>
<td>Coronary Artery Disease</td>
<td>17 (21)</td>
<td>127 (12)</td>
<td>1.705 (0.948, 3.067)</td>
<td>0.0746</td>
</tr>
<tr>
<td>Peripheral Vascular Disease</td>
<td>11 (14)</td>
<td>91 (9)</td>
<td>1.047 (0.457, 2.248)</td>
<td>0.9067</td>
</tr>
<tr>
<td>Smoker</td>
<td>7 (10)</td>
<td>33 (4)</td>
<td>3.222 (1.359, 7.639)</td>
<td>0.0079</td>
</tr>
</tbody>
</table>

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6.2% were excisions of plaque greater than 5cm. There was a 313% increase in plication compared to complex repair (0.92 in 2003 to 2.91 in 2013).

**Conclusion:** Peyronie’s disease is treated by a minority of urologists, including a disproportionate number specializing in andrology. Most surgeons favor conservative treatment approaches over surgical interventions, of which the majority are corrections of angulation without plaque excision.

**Podium #132**  
**VISUAL INTERNAL URETHROTOMY WITH INTRALESIONAL MITOMYCIN C AND SHORT TERM CLEAN INTERMITTENT CATHETERIZATION FOR THE MANAGEMENT OF RECURRENT URETHRAL STRICTURES AND BLADDER NECK CONTRACTURES WITH TWO YEARS OF FOLLOW UP**  
Michael R. Farrell, MD, MPH, Benjamin Sherer, MD, Laurence Levine, MD  
Rush University Medical Center  
Presented By: Michael Farrell

**Introduction:** To evaluate our longitudinal experience using visual internal urethrotomy (VIU) with intralesional mitomycin C (MMC) and short−term clean intermittent catheterization (CIC) for urethral strictures and bladder neck contractures (BNC) following failure of endoscopic management.  
**Methods:** This case series involved review of our prospectively developed database of all men who underwent VIU with MMC and CIC in a standardized fashion for urethral stricture or BNC between 2010 and 2013 at our tertiary care medical center. Etiology was identified as radiation induced stricture (RIS) or non−RIS. Cold knife incisions were made in a tri/quadrant fashion followed by intralesional injection of MMC and one month of once daily CIC.  
**Results:** All 37 patients (RIS n=11, non−RIS n=26) previously underwent at least one intervention (mean 2.7, range 1−6) for urethral stricture/BNC prior to VIU with MMC and CIC. Mean age was 56 years (range 22−80), mean stricture length was 2.0 cm (Range 1−6cm, SD 1.0 cm). Over the median follow−up period of 24 months (range 12−39), 75.7% of patients required no additional surgical intervention (RIS 54.5%, non−RIS 84.6%, p=0.051). In those that did recur, median time to stricture recurrence was 8 months (range 2−28). One patient with recurrence required urethroplasty. There were no serious adverse events.  
**Conclusion:** VIU with MMC followed by short−term CIC provides a minimally invasive and widely available tool to manage complex, recurrent urethral strictures (<3cm) and BNC without significant morbidity. This approach may be most attractive for patients who are poor candidates for open surgery.  
**Financial Disclosure:** None

**Podium #133**  
**PELVIC FLOOR PHYSICAL THERAPY: A CONSIDERATION FOR PATIENTS WITH CHRONIC SCROTAL CONTENT PAIN AND PAIN ON DIGITAL RECTAL EXAM**  
Michael R. Farrell, MD, MPH, Sheila Dugan, MD, Laurence Levine, MD  
Rush University Medical Center  
Presented By: Michael Farrell

**Introduction:** We describe our experience with pelvic floor physical therapy (PT) for patients with chronic scrotal content pain (CSCP).
Methods: Retrospective chart review of all men with CSCP who presented to our tertiary care medical center and underwent pelvic floor physical therapy between 2010 and 2014. Patients with pain/tightness noted on evaluation of the pelvic floor with 360 degree digital rectal exam (DRE) were referred to a physiotherapist for pelvic PT. CSCP was defined as primary unilateral or bilateral pain of the testicle, epididymis and/or spermatic cord that was constant or intermittent, lasted greater than 3 months, and significantly interfered with daily activities. Long-term follow-up was conducted by office visit and PT chart review.

Results: Thirty patients with mean age of 42 years (Range 18–75 years) were followed for a median of 13 months (Range 3–48 months). The mean pre−PT pain score was 6/10 (Range 2−10). Physical exam elicited unilateral or bilateral pain in the testicle (43.3%), epididymis (50.0%), and spermatic cord (43.3%). After a mean of 12 PT sessions (SD 9.1), pain improved in 51.7% of patients with a median decrease in pain of 4.5/10 attributed to PT. Complete resolution of pain occurred in 13.8% of patients. Pain elicited on 2 or fewer scrotal content structures during initial physical exam was associated with increased odds of pain improvement following PT (OR=14.0, p<0.05).

Conclusion: For men with CSCP and a positive pelvic floor exam with DRE, we recommend PT as an effective and conservative treatment consideration.

Financial Disclosure: None

Podium #134
SEXUAL FUNCTIONAL OUTCOMES WITH DORSAL VS. VENTRAL AUGMENTATION BULBAR URETHROPLASTY
Daniel Liberman, MDCM, MSc¹, Travis Pagliara, MD², Joshua Broghammer, MD³, Thomas Smith, III, MD⁴, Bryan Voelzke, MD, MSc⁵, Bradley Erickson, MD⁶, Christopher McClung, MD⁷, Nejd Alsikafi, MD⁸, Alex Vanni, MD⁹, Jeremy Myers, MD¹⁰, Sean P. Elliott, MD²
¹University of Minnesota; ²Department of Urology, University of Minnesota Medical School; ³Kansas University Medical Center; ⁴Baylor College of Medicine Medical Center; ⁵University of Washington Department of Urology; ⁶University of Iowa Hospitals and Clinics; ⁷The Ohio State University Medical Center; ⁸Loyola University Health System; ⁹Lahey Hospital and Medical Center; ¹⁰University of Utah Health Care
Presented By: Daniel Liberman

Introduction: Sexual dysfunction (SD) after augmentation bulbar urethroplasty may include erectile dysfunction (ED) and ejaculatory dysfunction (EjD). We sought to describe the incidence of ED and EjD with augmentation bulbar urethroplasty and compare incidence between the ventral vs. dorsal approach.

Methods: Patients who underwent a dorsal or ventral buccal onlay urethroplasty for a bulbar urethral stricture from 2009–2014 were retrospectively reviewed from six centers in the Trauma and Urologic Reconstruction Network of Surgeons (TURNS). The pre-operative scores were compared to the post-operative scores for the Sexual Health Inventory for Men (SHIM, for ED) and Male Sexual Health Questionnaire (MSHQ, for EjD).

Results: A total of 194 men underwent buccal graft onlay urethroplasty: 120 (61.9%) ventral and 74 (39.1%) dorsal. Clinical characteristics were similar between both groups when comparing stricture etiology, stricture location, smoking, diabetes, coronary artery disease and previous urethroplasty (all p>0.05). Pre-op MSHQ was 14.0 in both the dorsal and ventral groups (p>0.05).
Pre-op SHIM was 22.5 in the ventral group vs. 24.0 in the dorsal group (p>0.05). There was no significant change in SHIM or MSHQ scores in either group post-operatively (p>0.05). Individual items in each questionnaire were also examined and showed no change after surgery when examined at the group level. **Conclusion:** Validated patient reported outcome measures do not detect an effect on either erectile or ejaculatory function with augmentation bulbar urethroplasty. Further, there is no difference between ventral vs. dorsal approach.

**Podium #135**

**CHANGING PRACTICE PATTERNS IN THE TREATMENT OF URETHRAL STRICTURE AMONGST AMERICAN UROLOGISTS**

Joceline S. Liu, MD¹, Matthias D. Hofer, MD¹, Daniel T. Oberlin, MD¹, Jaclyn Milose, MD¹, Sarah C. Flury, MD¹, Allen F. Morey, MD², Chris M. Gonzalez, MD¹

¹Northwestern University; ²University of Texas Southwestern

Presented By: Joceline Liu

**Introduction:** We examine surgical case volume characteristics among certifying urologists associated with treatment of urethral stricture to compare practice patterns of recent graduates to recertifying urologists and trends over time. **Methods:** Six month case log data of certifying urologists (2003–2013) was obtained from the American Board of Urology (ABU). Cases specifying a CPT code for urethral dilation, direct vision internal urethrotomy (DVIU), urethroplasty and graft harvest in males ≥18 years were analyzed for surgeon-specific variables. **Results:** Among 6320 urologists (2287 newly certifying and 4597 recertifying) logging at least one reconstructive urology procedure, 95,747 (86.2%) urethral dilations, 10,986 (10.0%) DVIU and 4349 (3.9%) urethroplasties were identified, with 99 (0.9%) utilizing graft tissue. Overall the ratio of urethral dilation/DVIU to urethroplasty was 24.5:1. More recent log year and new certification correlated with a downward trend in the ratio of dilation/DVIU to urethroplasty (p<0.001), but stable use of graft (p=0.2). The ratio of dilation/DVIU to urethroplasty for new certification was 7.9:1, as compared to first (24.4:1), second (63.3:1) and third recertification cycles (99.5:1), (p<0.001). Newly certifying urologists performed urethroplasty 4.5 times more often than those recertifying. Academically-affiliated urologists were eight times more likely to manage stricture with urethroplasty (p<0.001), twice as likely to choose a staged procedure (p=0.001), and 2.5 times as likely to utilize graft as their counterparts (p<0.001). **Conclusion:** Historically, a high proportion of strictures are treated with dilation/DVIU; we show a changing paradigm favoring urethroplasty in urologists with more recent log year, recent residency training and academic affiliation.
Podium #136
INTERNAL URETHROTOMY IN PATIENTS WITH RECURRENT BULBAR URETHRAL STRICTURE AFTER URETHROPLASTY
Min Jun, DO, Jonathan Warner, MD, Ibraheem Malkawi, MD, Richard Santucci, MD
Detroit Medical Center
Presented By: Min Jun

Introduction: We evaluate ideal management of failed urethroplasty for bulbar urethral strictures.

Methods: We retrospectively evaluated patients with bulbar urethral strictures who failed after urethroplasty (buccal or anastomotic). Pre-DVIU factors, rate of recurrence after DVIU, and preoperative factors associated with time to recurrence were investigated with appropriate statistical models.

Results: 45 patients failed urethroplasty: 11 anastomotic and 34 buccal. 4 patients underwent redo urethroplasty while 41 underwent DVIU. Repeat urethroplasty had no recurrence, while 18/41 treated with DVIU did not recur (56%).

Patients treated with DVIU showed no statistically significant difference in original stricture length (p=0.8), recurrent stricture length (p=0.9), number of preoperative dilations or DVIUs (p=0.15), or age (p=0.3). There was no significant difference in recurrence rates between anastomotic and buccal urethroplasty (p=0.75). Kaplan Meier results are shown in Figure 1. There was no significant difference in time to recurrence after salvage DVIU based on anastomotic versus buccal (p=0.3), initial stricture length (p=0.6), recurrent stricture length (p=0.1), total prior dilations or DVIUs (p=0.08), and age (p=0.6). Secondary salvage includes 11 urethroplasties (successful in 8/11(72%)) and 5 redo DVIUs (successful in 2/5 (40%)).

Conclusion: DVIU is appropriate initial treatment of recurrent bulbar urethral stricture after urethroplasty. When this fails, redo urethroplasty has a high success rate.

Podium #137
ANALYSIS OF INTRATESTICULAR LESIONS ON ULTRASOUND: INDICATIONS AND PATHOLOGY
Daniel Mazur, MD¹, James Kashanian, MD¹, Marah Hehemann, MD², Christopher Morrison, MD¹, Robert Brannigan, MD¹
¹Northwestern University Feinberg School of Medicine; ²Loyola University Health Systems
Presented By: Daniel Mazur

Introduction: Scrotal ultrasounds (US) are used to aid in the evaluation of
testicular pathology. We aimed to correlate the indications for US demonstrating intratesticular masses to orchietomy pathology.

**Methods:** With IRB approval, we completed a retrospective review of all scrotal US performed at our institution from 2002–2014. We examined the indication for the US, US findings, and available testicular pathology.

**Results:** 259/18,593 (1.4%) of all scrotal US revealed an intratesticular mass concerning for malignancy. Pathology was available for 206/259 (79.5%). 166/206 (80.6%) were performed for a palpable mass. 140/166 (84.3%) revealed malignant pathology, 3/166 (1.8%) intratubular germ cell neoplasia (ITGCN), and 23/166 (13.9%) benign pathology. 23/206 (11.2%) were performed for pain. 15/23 (65.2%) demonstrated malignant pathology and 8/23 (34.8%) benign pathology. 17/206 (8.2%) were performed for other indications. 7/17 (41.2%) demonstrated malignant pathology, 1/17 (5.9%) ITGCN, and 9/17 (52.9%) benign pathology.

**Conclusion:** Overall, the finding of an intratesticular mass on scrotal US for all indications is low. In this series, the likelihood of malignancy in an intratesticular mass found on US was related to the indication for the US, with 84.3%, 65.2%, and 41.2% of lesions being malignant when performed for a palpable mass, pain, and other indications respectively (p<0.05).

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Podium #138

**CRITICAL ANALYSIS OF VOIDING PATIENT REPORTED OUTCOME MEASURES FOR URETHRAL STRICTURE DISEASE**

Christopher Tam¹, Joshua Broghammer, MD, FACS², Sean Elliott, MD, MS³, Jeremy Myers, MD⁴, Alex Vanni, MD⁵, Bryan Voelzke, MD, MS⁶, Bradley Erickson, MD, MS¹

¹University of Iowa; ²University of Kansas; ³University of Minnesota; ⁴University of Utah; ⁵Lahey Clinic; ⁶University of Washington

Presented By: Christopher Tam

**Introduction:** The purpose of this study was to critically evaluate the use of commonly utilized voiding patient reported outcome measures (PROMs) in a large urethral stricture disease cohort to monitor for stricture recurrence.

**Methods:** This study included 289 men that had undergone anterior urethroplasty and were enrolled in a multi–institutional outcomes study. Data analyzed included pre– and post–operative answers to the International Prostate Symptom Score (IPSS) and the Core Lower Urinary Tract Symptom Score (CLSS) in addition to findings from a same–day cystoscopy. PROM scores from
men found to have cystoscopic recurrence were then compared to scores from successful repairs and receiving operating characteristic (ROC) curves were plotted to illustrate the predictive ability of PROMs to screen for cystoscopic recurrence.

**Results:** Mean post-operative scores were lower (fewer symptoms) in successful repairs (Table 1). ROC curves demonstrated the highest area under curve (AUC) for IPSS question #5 (weak−stream, 0.79) which alone outperformed the complete IPSS questionnaire (0.76).

**Conclusion:** A single question on the IPSS asking about a patient’s “weak−stream” was more useful when screening for recurrence than an entire questionnaire, highlighting the need to continue development of a disease−specific, validated PROM.

**Source of Funding:** none

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**Podium #139**

**BLADDER OUTLET OBSTRUCTION AFTER PROSTATE CANCER TREATMENT: A POPULATION−BASED ANALYSIS**

Daniel Liberman, MDCM, MSc¹, Travis Pagliara, MD², Stephanie Jarosek, PhD, RN², Beth Virnig, PhD³, Haitao Chu, PhD³, Sean P. Elliott, MD, MSc²

¹University of Minnesota; ²Department of Urology, University of Minnesota Medical School; ³Division of Health Policy and Management, School of Public Health,

**Presented By:** Daniel Liberman

**Introduction:** Bladder outlet obstruction (BOO), in the form of urethral stricture or bladder neck contracture, occurs in 20−38% of elderly men after prostate cancer therapy (PCT).

**Objective:** To describe the burden of BOO after PCT by detailing the type of procedures performed and how often those procedures are repeated in men with recurrent BOO.

**Methods:** Using SEER−Medicare linked data (1992−2007) with follow−up through 2009, we identified 12,676 men who underwent at least one BOO procedure after PCT (n=3,994, 1,485, 1,847, 4,736, 369 and 245 receiving external beam radiotherapy (EBRT), brachytherapy (BT), BT+EBRT, radical prostatectomy (RP), RP+EBRT, and cryotherapy, respectively. Histogram, incidence rates and Cox proportional hazards models with repeated events analysis were used to describe the burden of repeat BOO treatments, stratified
by PCT type. We described the type of BOO surgery, grouped by level of invasiveness.

**Results:** With a median follow-up was 8.8 years, 44.6% of men received 2 or more BOO procedures. Men treated with BT (HR=1.2; p<0.05) and BT+EBRT (HR=1.32; p<0.05) were at increased adjusted risk of repeated BOO treatment when compared to RP men. After stricture incision, RP− and RP+EBRT−treated men were most likely to undergo dilation (34.7–35.0%) whereas stricture resection/ablation was more common after BT, EBRT or BT+EBRT (28.9–41.2%).

**Conclusion:** Almost half of men with BOO after PCT undergo more than one procedure. Further, men with BOO after radiotherapy, undergo more invasive endoscopic therapies and have a higher risk of requiring multiple treatments than men with BOO after RP.

**Podium #140**

**THE WISCONSIN STONE QUALITY OF LIFE QUESTIONNAIRE: BASELINE RESULTS FROM A PROSPECTIVE, LONGITUDINAL, MULTI−CENTER VALIDATION STUDY**

Kristina Penniston, PhD¹, Jodi Antonelli, MD², Timothy Averch, MD³, Davis Viprakasit, MD⁴, Roger Sur, MD⁵, Vincent Bird, MD⁶, Vernon Puis, MD⁷, Ben Chew, MD⁸, Stephen Nakada, MD¹

¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Texas-Southwestern; ³University of Pittsburgh; ⁴University of North Carolina; ⁵University of California-San Diego; ⁶University of Florida-Gainesville; ⁷Dartmouth University; ⁸University of British Columbia-Vancouver

Presented By: Kristina Penniston

**Introduction:** The Wisconsin Stone Quality of Life (WiSQoL) questionnaire is a stone−specific measure. To test its generalizability, a consortium of North American stone centers offering medical management used the WiSQoL to assess health−related QOL in their patients.

**Methods:** Under local ethical review, adult patients were recruited from clinics, the ER, or at a surgical procedure. Patients completed the WiSQoL at enrollment/baseline and agreed to longitudinal surveys to capture changes in HRQOL. WiSQoL scores were calculated and compared within cohort.

**Results:** Anticipated ethnic/race distribution is 15% black, 14% Hispanic/Latino, 11% Asian, and 2% Pacific Islander/other. Patients (n=458; data are from 7 sites) completed WiSQoL questionnaires. 1st−time stone formers comprise 21% of patients; women, 49%. BMI, age, prior stone events, and is not different between sites (31.1±8.5), nor is age (54±14 y), number of stone duration of stone disease is similar across sites. Most (58%) had stones at enrollment, of which 40% cited symptoms. Patients with stones had lower HRQOL than those without, P<0.0001; those “not sure”of their stone status did worse than those who reported no stones, P=0.002. Women scored lower than men. Items with significant gender differences were missed work/family time, sleep perturbations, urinary urgency, and reduced freedom/ability to participate in social events (P≤0.005 for all).

**Conclusion:** Stone symptoms and BMI were predictors of HRQOL. Based on these data, we predict the WiSQoL instrument is generalizable and valuable to clinical practice, clinical trials, and research by providing a way to assess HRQOL at various stages of stone disease.
Podium #141
PRE- AND POST-OPERATIVE PREDICTORS OF INFECTION RELATED COMPLICATIONS IN PATIENTS UNDERGOING PERCUTANEOUS NEPHROLITHOTOMY
Marcelino Rivera, MD, Boyd Viers, MD, Ramila Mehta, Eric Bergstralh, Amy Krambeck, MD
Mayo Clinic
Presented By: Marcelino Rivera

Introduction: We aim to describe pre- and post-operative predictors of infection related complications in individuals undergoing PCNL.

Methods: Patients treated with PCNL from 2009 to 2013 were reviewed. Patients with positive urine or stone cultures received extended antimicrobial treatment. All others received 7 days of empirical therapy preoperatively and postoperatively. Pre- and post-operative predictors of infectious complication were identified.

Results: 227 patients underwent PCNL with infectious complications occurring in 37 (16%): 11 (5%) UTI/pyelonephritis, 21 (9%) SIRS, and 2 (0.9%) sepsis. There were no significant differences between those with and without infectious complication with regards to age, gender, stone size, presence of diabetes, or procedure duration. Those with infectious complication were more likely to have a positive stone culture (p=0.01), struvite stone composition (p<0.01), staghorn calculi (p<0.001) and multiple stones (p=0.02). Preoperatively, on multivariable analysis, only the presence of a staghorn calculus remained independently associated with increased risks of fever/SIRS/sepsis (OR 3.14; p=0.02) and total infectious complications (OR 2.53; p=0.02) following PCNL. After controlling for pre- and post-PCNL risk factors, again, only staghorn calculi remained significantly associated with fever/SIRS/sepsis (OR 3.41; p=0.01) and total infectious complications (OR 2.91; p=0.01), with presence of multiple stones approaching significance (OR 4.2, CI: 0.96−18.6, p=0.06).

Conclusion: In individuals undergoing PCNL on pre-operative antibiotics, risk of SIRS/sepsis was low. The presence of a staghorn calculus confers a greater than 3 fold increased risk of post-operative infection with multiple stones approaching a significant risk. Patients with large stone burdens should be counseled appropriately regarding these risks.

Podium #142
SALVAGE PERCUTANEOUS NEPHROLITHOTOMY: AN ANALYSIS OF OUTCOMES FOLLOWING INITIAL TREATMENT FAILURE
Michael S. Borofsky, MD¹, Marawan M. El Tayeb, MD¹, James E. Lingeman, MD¹, Daniel A. Wollin, MD², Ojas Shah, MD², Thanmaya Reddy, MD³, Dean G. Assimos, MD³
¹Indiana University School of Medicine; ²New York University School of Medicine; ³University of Alabama - Birmingham
Presented By: Michael Borofsky

Introduction: Percutaneous nephrolithotomy (PNL) has high potential for morbidity and failure. No studies to date have assessed PNL outcomes among patients with prior unsuccessful percutaneous attempts at stone removal.

Methods: Patients referred to three high volume endourologists after prior unsuccessful PNL were identified. Retrospective chart review was performed analyzing reasons for initial failure and outcomes of the salvage PNL. Outcomes
were compared to a prospectively maintained database of over 1200 patients undergoing primary PNLs.

**Results:** Thirty-one patients underwent salvage PNL. Unsuitable access was the leading reason for prior failure (80.6%). Other reasons included infection, bleeding, and inadequate instruments (6.5% each). Access in the prior failures was obtained exclusively by interventional radiologists in 73.3% of cases, urologists in 20% and both in 6.7%. Compared to patients undergoing primary PNL, those undergoing salvage were more likely to have staghorn calculi (61.3% vs. 31.4%, p<0.001), larger maximum stone diameter (3.7 cm vs. 2.5 cm, P<0.001), and require secondary procedures (65.5% vs. 42.1%, p<0.05). Patient demographics and perioperative outcomes were otherwise similar (Table 1).

**Conclusion:** Despite the more challenging nature and prior unsuccessful attempts at treatment, outcomes of salvage PNL were no different from primary PNL when treated by experienced surgeons.

**Table 1 – Patient demographic and operative variables in salvage and primary PNL cohorts. Significant variables in bold.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Salvage PNL n</th>
<th>Primary PNL n</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31 (35.5%)</td>
<td>1253</td>
<td>0.147</td>
</tr>
<tr>
<td>Female</td>
<td>20 (64.5%)</td>
<td>634</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>31</td>
<td>1253</td>
<td>0.421</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>32.5 (7.3)</td>
<td>1510</td>
<td>0.497</td>
</tr>
<tr>
<td>Mean Stone Max Diameter (cm)</td>
<td>19.4 (9.3)</td>
<td>1347</td>
<td>0.401</td>
</tr>
<tr>
<td>Multiple Access</td>
<td>15 (48.4%)</td>
<td>1253</td>
<td>0.082</td>
</tr>
<tr>
<td>Mean access/case</td>
<td>5.6 (0.6)</td>
<td>1228</td>
<td>0.229</td>
</tr>
<tr>
<td>Surgery Time (min)</td>
<td>142.0 (48.9)</td>
<td>856</td>
<td>0.146</td>
</tr>
<tr>
<td>Length of stay (days)</td>
<td>3.1 (1.2)</td>
<td>1225</td>
<td>0.540</td>
</tr>
<tr>
<td>Need for secondary procedure</td>
<td>46.5%</td>
<td>1253</td>
<td>0.004</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>144.5 (77.3)</td>
<td>1510</td>
<td>0.472</td>
</tr>
<tr>
<td>Complication</td>
<td>9 (26.5%)</td>
<td>1253</td>
<td>0.007</td>
</tr>
<tr>
<td>Change in 24-h Cr (mg/dL)</td>
<td>-0.18 (0.22)</td>
<td>1172</td>
<td>0.086</td>
</tr>
<tr>
<td>Change in 24-h HGB (g/dL)</td>
<td>-2.0 (1.4)</td>
<td>1188</td>
<td>0.748</td>
</tr>
<tr>
<td>Positive stone culture</td>
<td>7 (22.6%)</td>
<td>1250</td>
<td>0.100</td>
</tr>
</tbody>
</table>

**Podium #143
DO PATIENTS WHO RELY ON TUBE FEEDING HAVE A HIGHER RISK OF KIDNEY STONES?**

Kristina Penniston, PhD¹, Emily Klimmek, RD², Margaret Wertheim, MS¹, Stephen Nakada, MD¹

¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Wisconsin Hospital and Clinics

Presented By: Kristina Penniston

**Introduction:** An association between urolithiasis after enteral nutrition (EN) support is noted. We identified characteristics of patients at our institution who formed stones after initiating tube feeding.

**Methods:** With IRB approval, 90 of 230 patients on EN had stone events stones after starting EN. Dates of stone events, 24-h urine analyses, stone composition, and EN details were collected. Indications for EN and relevant information from patients’ medical history were identified.

**Results:** Patients were 61% male; age at gastric or jejunum tube placement was 35±22 y (range, infancy to 77 y). Dysphagia and poor oral nutrient intake for other reasons were indications for EN. Comorbidities included cerebral palsy, seizures, and conditions requiring intubation. There was no history of stones prior to EN in 71%. The first post-EN stone event occurred at 5 y (range, 0.02 to 22
Podiums

Podiums

The prevalence of new stone events after EN was 28%. A majority of patients (62%) were prescribed antibiotics within 1 y of their post–EN stone event. Of 45 stone analyses, calcium oxalate was predominant (≥50%) in 36%, calcium phosphate in 31% (brushite predominated in 7% of these), and struvite in 11%. Most prevalent urinary risk factors were low citrate, low volume, and high oxalate.

**Conclusion:** While underlying comorbidities may contribute to stone formation in this cohort, oxalate–containing stones were prevalent, suggesting a possible dietary influence. The oxalate content of EN formulas should be evaluated. Those with lower oxalate content may be more suitable for patients at a high risk for stone formation.

Podium #144
**OUTCOMES OF PERCUTANEOUS NEPHROLITHOTOMY IN SPINAL CORD INJURY PATIENTS**
Kristin Greco, MD, Robert H. Blackwell, MD, Eric Kirshenbaum, MD, Anai N Kothari, MD, Paul C Kuo, MD, Thomas MT Turk, MD
Loyola University
Presented By: Kristin Greco

**Introduction:** Nephrolithiasis is a common problem encountered by spinal cord injury (SCI) patients. Percutaneous nephrolithotomy (PCNL) is the gold standard treatment for stone burdens greater than 2 cm. Our objective was to compare perioperative outcomes of PCNL in SCI patients, as compared to a matched cohort of non–SCI patients.

**Methods:** Data from the Healthcare Cost and Utilization Project State Inpatient Database for Florida were used to identify PCNL patients (ICD9: 55.03, 55.04) between 2007 and 2011. SCI was identified by a chronic comorbidity of paralysis. SCI patients were matched one to one by propensity scores to non–SCI patients based on age, race, gender, presence of preoperative UTI and several major medical comorbidities. Comparison of outcomes on the matched set was performed using paired t−tests and McNemar’s test, for continuous and categorical variables, respectively.

**Results:** PCNL was performed on 16,346 patients, of whom 675 (4.13%) had documented SCI. After matching, there was no difference in baseline clinical characteristics. SCI patients had worse perioperative outcomes, including significantly longer length of stay (15 vs 9.5 days, p< 0.001), increased major postoperative complications (myocardial infarction, sepsis, PE) (10.82% vs 6.25%, p= 0.005) and increased minor and moderate complications (UTI, DVT, pneumonia or wound infection) (10.82% vs 5.79%, p= 0.002). There was no difference in overall mortality.

**Conclusion:** PCNL in SCI patients is associated with higher perioperative complication rates and longer hospital stays compared to matched non–SCI patients. SCI patients represent a high risk population and strategies to decrease complications should be explored.
INTRODUCTION: We evaluated the significance of postoperative Systemic Inflammatory Response Syndrome (SIRS) in otherwise healthy patients following percutaneous nephrolithotomy (PCNL).

METHODS: We retrospectively reviewed consecutive PCNL patients in two endourologic practices. SIRS was defined as >2 of: white blood cell count >12,000, temperature >38 degrees C, heart rate >90, and respiratory rate >20 within 24 hours following PCNL.

RESULTS: Of 382 PCNL patients, 42% (162/382) met criteria for SIRS within 24 hours of surgery. Age > 65 years, preoperative oral antibiotics, positive intraoperative stone culture, multiple PCNL accesses, and struvite stones were statistically significant factors associated with SIRS. On multivariate analysis, multiple PCNL accesses was the only significant factor associated with SIRS (OR 2.382; CI:1.18 to 4.8, p=0.016). Readmission within 90 days was required in 7.1% of all patients. Postoperative SIRS was not associated with readmission (3.7% +SIRS vs 1.8% −SIRS, p=0.335).

CONCLUSION: Nearly half of patients undergoing PCNL met criteria for SIRS. Yet, there was no correlation between SIRS and 90 day readmission indicating that discharge home is safe and possible.
<.0001), and inaccuracy of US (57% vs. 44%, p= <0.02). These urologists were less likely to have completed an endourology fellowship (7% vs. 23%, p= <.0001). The most compelling predictors of routine postoperative imaging were post-op pain and fever (median 5, IQR 1), residual stones (median 5, IQR 1), ureteral perforation (median 5, IQR 2), and a solitary kidney (median 4.5, IQR 2). **Conclusion:** Imaging preferences were guided by the presence of residual fragments, ureteral perforation, solitary kidney, and postoperative pain or fever.

Podium #147
PERCUTANEOUS CRYOABLATION OF SMALL RENAL TUMORS: PRIVATE PRACTICE EXPERIENCE
Julia Fiuk, MD¹, Anand Brahma, MDam, DO¹, Tom Tieu, MD¹, Kevin Coakley, MD², David Lieber, MD³
¹Southern Illinois University, School of Medicine; ²Clinical Radiologists, Springfield Clinic; ³Springfield Clinic
Presented By: Julia Fiuk

**Introduction:** Percutaneous cyroablation is increasingly utilized as an alternative treatment option for management of small renal tumors. Reported treatment success rates range from 75–96%, with minimal decline in renal function and low (<10%) complication rates. We sought to compare our single institution outcomes to those in the known literature.

**Methods:** We retrospectively evaluated 116 patients who underwent percutaneous cryoablation for small renal masses by a joint single surgeon, single interventional radiologist team between May 2006 and September 2013. Demographic, clinical and radiologic data were assessed to determine treatment outcomes, complications, and recurrence of disease.

**Results:** All cause mortality during the study period was 3, yielding an overall survival of 97.4%. The cancer specific survival was 99.1%. One patient with previously resected renal cell carcinoma expired from metastatic disease. Two local recurrences occurred in the 78.4% of patients with follow up imaging (1.7%). The overall complication rate was 15.5% ; most frequent being self limiting hemotoma (8.6%), followed by persistent flank pain (3.44%), gross hematuria, small pneumothorax, ureteral hemotoma requiring stent placement, and collecting system perforation requiring monitoring (each 0.9%). Patient renal function remained stable, with a mean creatinine increase of 0.1 (from 1.2 to 1.3) and a mean GFR decrease of 6.9 (from 68.6 to 61.7).

**Conclusion:** Percutaneous cyroablation at our institution yields cancer treatment efficacy and changes in renal function in line with reported values. Complications required minimal to no intervention.
Podium #148
UROLOGIC SIMULATION: 2-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI-MODALITY WORKSHOP MODEL.
Emily Yura, MD¹, Benjamin Sherer¹, Kalyan Latchamsetty, MD¹, Thomas Turk, MD², Sangtae Park, MD³, Ervin Kocjancic, MD⁴, Scott Eggener, MD³, Christopher Coogan, MD⁴
¹Rush University Medical Center; ²Loyola University Medical Center; ³University of Chicago Medical Center; ⁴University of Illinois Chicago Medical Center
Presented By: Benjamin Sherer

Introduction: A multi-modality, multi-institutional urologic simulation workshop was instituted by the Chicago Urologic Society for resident education. This study assesses the role of resident feedback in improving educational quality of simulation and reveals resident perceptions of specific urologic simulators.

Methods: Residents from local urology programs rotated through seven simulator station with expert faculty teaching assistance at each station. A non-validated, de-identified exit questionnaire elicited resident perceptions towards the workshop. Modifications to the workshop were made using feedback from the previous year.

Results: 28 resident participants completed exit questionnaires. All (100%) residents viewed the lab as a beneficial experience. Overall resident satisfaction with the course improved from 8.4/10 to 9.5/10 over two years. Residents rated the quality of faculty instruction as 8.9/10. Table 1 summarizes prior simulator experience and usefulness. Residents present at both workshops indicated that the addition of simulators, extended time allowed at each simulator, and increased faculty instruction were valuable improvements from the previous workshop.

Conclusion: This workshop model is a valuable training experience for residents. Residents highly rated this model for its broad exposure to simulators not typically utilized in residency education and for faculty instruction at each station. Participant feedback was instrumental in improving the usefulness of simulation training for residents.

Podium #149
PROSPECTIVE EVALUATION OF DISEASE SPECIFIC HEALTH-RELATED QUALITY OF LIFE: CYSTINE STONE-FORMERS COMPARED TO NON-CYSTINE STONE-FORMERS
Necole M. Streeper, Margaret L. Wertheim, Kristina L. Penniston and Stephen Y. Nakada
Madison, Wisconsin
Presented By: Stephen Nakada

Introduction: Cystinuria is rare, comprising <1% of all stone formers with the median age of onset at 12 years of age. However, it has a high rate of stone recurrence, increased fluid recommendations and poorly tolerated medication.
Podium #150 - WITHDRAWN

Podium #151
TRENDS IN UTILIZATION OF NEOADJUVANT CHEMOTHERAPY IN ELIGIBLE MUSCLE INVASIVE UROTHELIAL BLADDER CANCER PATIENTS
Chandra K. Flack, MD¹, Hristos Z. Kaimakliotis, MD¹, Jane S. Cho, MD, MPH¹, M. Francesca Monn, MD, MPH¹, Costantine Albany, MD², K. Clint Cary, MD, MPH¹, Timothy A. Masterson, MD¹, Liang Cheng, MD³, Richard Bihrle, MD¹, Michael O. Koch, MD¹
¹Indiana University Department of Urology; ²Indiana University Department of Medicine; ³Indiana University Department of Pathology
Presented By: Chandra Flack

Introduction: Despite Level 1 evidence indicating survival advantage of neoadjuvant chemotherapy (NACT) for muscle invasive bladder cancer (MIBC), utilization remains low. We sought to examine NACT utilization among eligible patients at a high-volume institution.

Methods: Our institutional bladder cancer database was queried for patients undergoing radical cystectomy for MIBC between 2010 and 2013. NACT regimen that may have a higher level of impact on quality of life as compared to patients with other stone compositions. The objective of this study is to compare the health-related quality of life (HRQOL) of patients who form cystine stones to patients with other etiologies of stone formation using the disease-specific Wisconsin Stone Quality of Life (WiSQoL) questionnaire.

Methods: With IRB approval, we identified patients with cystine stones through our stone clinics and performed a matched case-control study of non-cystine stone-formers, matched by gender, age, and co-morbidities. Patients were asked prospectively to complete the WiSQoL questionnaire and a medical/stone history form that included questions about disease age of onset, number of stone episodes, date of last stone episode and number of surgical interventions.

Results: Cystine patients (n=9, 3 male: 6 female) with an average age of 54.1±17.6 were control-matched with non-cystine stone-formers (n=9, 3 male: 6 female) with an average age of 58.0±16.1. No difference was seen in the overall WiSQoL scores between cystine vs non-cystine stone-formers. Cystine stone-formers reported greater difficulty returning to sleep (p=0.04). There were 3 cystine patients and 3 non-cystine patients that reported currently having stones. Those currently having pain related to kidney stones (n=5, 3 cystine: 2 non-cystine) were more likely to have decreased energy, fatigue, poor sleep quality, and nausea compared to patients without pain (n=8, 5 cystine: 3 non-cystine, p<0.05). There was a trend for patients having pain to have a worse overall WiSQoL score compared to patients without pain (91 vs 119.8, p=0.06). Patients with higher WiSQoL scores were found to have fewer stone episodes (5.0 vs 25.4, p=0.04), fewer surgical procedures (2.4 vs 12.2, p=0.01), and a trend towards greater time since last stone episode (4.6 vs 0.8 years; p=0.1).

Conclusion: Cystine stone-formers were found to have worse HRQOL due to greater difficulty returning to sleep compared to non-cystine stone-formers. Identifying areas of decreased quality of life in these cystine stone-formers may assist in improving preventative strategies and may require use of a cystine-specific WiSQoL questionnaire.

Category: Quality of Life
eligibility was determined using the following criteria: normal renal function (creatinine <1.5; CrCl >60ml/min), Charlson Comorbidity Index ≤5, Eastern Cooperative Oncology Group performance status <2 and nonaggressive variant (micropapillary, sarcomatoid, plasmacytoid).

**Results:** A total of 133 patients met eligibility criteria for NACT. Overall utilization among eligible patients was 36.1% and increased over time (Figure 1, p = 0.198). On regression analysis, the odds of receiving NACT increased each year with an odds ratio (OR) of 1.77 in 2013 compared to 2010 (95% CI 0.62–5.01, p=0.284).

**Conclusion:** Although adoption of Level 1 evidence into general practice has been shown to take over a decade, our institutional data indicates increasing utilization of NACT over the past 4 years. Patient and physician preferences may account for eligible patients not receiving NACT and continued efforts should be undertaken to increase adoption of NACT use.

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**Podium #152**

**ASSESSING PELVIC FLOOR SYMPTOMS IN FEMALE RADICAL CYSTECTOMY PATIENTS WITH ORTHOTOPIC ILEAL NEOBLADDER**

Elizabeth Dray, MD, Robert Blackwell, MD, Bethany Kearns, MD, Elizabeth Mueller, MD, Marcus Quek, MD
Loyola University Medical Center
Presented By: Elizabeth Dray

**Introduction:** The aim of our study was to determine the impact that radical cystectomy (RadCx) and orthotopic neobladder (ONB) had on pelvic floor symptoms in women and to query whether concomitant sacrocolpopexy (SCPXY) improved pelvic floor symptoms

**Methods:** All women who underwent RadCx with ONB at our institution between 1995−2014 were included in this IRB−approved retrospective review. Patients who were alive were mailed the Pelvic Floor Distress Inventory short form (PFDI−20), a validated questionnaire used to assess bother from urinary, colorectal and prolapse symptoms. Student’s T−test and Pearson’s Chi square test were used to compare continuous and categorical variables.

**Results:** Of 36 women who were mailed questionnaires, fifteen patients responded (60%), 9 of whom (60%) underwent SCPXY. Overall PFDI for patients who had SCPXY was 70 compared to 88 for control patients. Fewer women developed urinary retention requiring catheterization at any point in the SCPXY group compared to control (33% vs 66%), but by 24 months these rates were low in both groups (17% vs 25%). Urinary incontinence at 24 months was significantly decreased in the SCPXY group (11% vs 54%, p=0.04).

**Conclusion:** Pelvic floor dysfunction is a significant problem for women who have undergone ONB. Average PFDI scores from our subset are comparable to those of women with severe pelvic floor dysfunction in the general population. Our analysis shows a trend towards improved PFDI scores, decreased need for CIC, and a statistically significant reduction in UI at 24 months in patients who received SCPXY at the time of RadCx.
Podium #153

PATHOLOGICAL SUB-STRATIFICATION BETWEEN T2A AND T2B BLADDER CANCER IS A PREDICTOR OF OUTCOME

Chandra K. Flack, MD¹, Hristos Z. Kaimakliotis, MD¹, M. Francesca Monn, MD, MPH¹, K. Clint Cary, MD, MPH¹, Jane S. Cho, MD, MPH¹, Timothy A. Masterson, MD¹, Richard Bihrle, MD¹, Michael O. Koch, MD¹, Liang Cheng, MD²

¹Indiana University Department of Urology; ²Indiana University Department of Pathology

Presented By: Chandra Flack

Introduction: Survival outcomes in a contemporary cohort of patients undergoing radical cystectomy were evaluated to determine the prognostic value of T2 substaging.

Methods: Using our institutional database, we identified patients undergoing radical cystectomy for muscle invasive disease that were identified as being pT2 on final specimen. Patients with variant histology or receiving neoadjuvant chemotherapy at any time were excluded.

Results: Twenty-five patients were pT2aN0Mx and 43 were pT2bN0Mx. There were no significant demographic differences between the groups. Incidence of Cis, positive margins, and lymphovascular invasion was also similar between substages. Median follow-up was 32 months (IQR 9 – 59). Unadjusted 5-year recurrence free survival was 83.3% for pT2a and 52.3% for pT2b (log-rank p = 0.312). Unadjusted 5-year overall survival for pT2a was 71.0% compared to 42.9% for pT2b tumors (log-rank p=0.133). After adjusting for age, sex, and presence of carcinoma-in-situ (Cis) at cystectomy, there was an increased risk of mortality in patients with pT2b tumors (HR 3.52, 95% CI 1.28 – 9.70, p = 0.015)

Conclusion: Pathologic sub-stratification of T2 urothelial bladder cancer may be a predictor of outcome. However, because prognostic differences based on a 50% invasion cutoff have not been reliably validated, experimentation with alternative cutoffs for depth of invasion may further improve prognostic benefit.

Podium #154

ROBOTIC AND OPEN CYSTECTOMY: LESSONS FROM A NATIONAL CANCER DATABASE

Richard Matulewicz, MS, MD¹, Vidit Sharma, MD², Sanjay Mohanty, MD³, David Bentrem, MD¹, Joshua Meeks, MD, PhD¹, Shilajit Kundu, MD¹

¹Northwestern University Feinberg School of Medicine; ²Mayo Clinic; ³Henry Ford Hospital

Presented By: Richard Matulewicz

Introduction: Significant controversy exists on the merits of robotic assisted radical cystectomy (RARC) in the management of bladder cancer as retrospective analysis and prospective studies comparing it to open radical cystectomy (ORC) have conflicting conclusions.

Methods: Years 2010 and 2011 of the ACS’s National Cancer Database were queried for patients undergoing RARC and ORC. Univariate and multivariate regression models were used to determine the impact of surgical approach on positive surgical margins, lymph node (LN) yield, length of stay (LOS), 30-day readmission, and 30-day mortality.

Results: 8448 cases were included in the analysis: 81.7% (6906) ORC and 18.3% (1542) RARC. There were no differences in age or comorbidity score
between the two groups but patients who underwent RARC were more likely to be male, be treated at an academic hospital, and have a higher income and private insurance. RARC patients were also less likely to have aggressive disease. Initial analysis showed a significant improvement in 30-day mortality and positive margin rates, as well as higher LN yield with RARC; however, after controlling for age, comorbidities, and tumor characteristics, there was no difference in mortality or positive margin rate. LN yield was significantly higher (+4.3 nodes) and length of stay significantly shorter (~0.96 days) for RARC on multivariate analysis (p=<0.001).

**Conclusion:** There are significant demographic differences in the index patient undergoing RARC and ORC. While there was no significant difference seen in mortality or positive margin rate, LN yield was significantly higher in RARC and LOS was shorter.

**Podium #155**
**REPEAT USE OF HEXAMINOLEVULINATE FOR PHOTODYNAMIC DIAGNOSIS OF BLADDER CANCER**
Giulia I. Lane, MD, Ayman Soubra, MD, Badrinath Konety, MD
University of Minnesota
Presented By: Giulia Lane

**Introduction:** Photodynamic Diagnosis (PDD) using Hexaminolevulinate (HAL) is approved as an adjunct to white light cystoscopy (WLC) for single use. The objective of this study is to examine the tolerability of repeated WLC+PDD.

**Methods:** A 25 month retrospective review of all cases of WLC+PDD at one institution by a single surgeon was performed. All patients had a diagnosis of urothelial cell carcinoma (UCC). Patients served as their own controls and incidence of side effects following the first and subsequent WLC+PDD were compared. Postoperative reactions or complications and positive urine cultures within 30 days of the procedure were reviewed.

**Results:** 21/76 patients underwent 2+ WLC+PDD an average of 192 days apart. Average age was 65 and 16/21 of patients were. Nineteen patients had 2 WLC+PDD, 1 had 3, and 1 had 4. 7/21 patients reported side effects after first WLC+PDD and 5/21 after second WLC+PDD. The most common side effect was urinary tract infection (3/21 initial WLC+PDD and 1/21 after second WLC+PDD). One patient had angina responsive to nitroglycerine, one had dysuria and perineal tenderness and a third reported urethral pruritus after first WLC+PDD. One patient had eye swelling and two others reported bladder pain/spasm after second WLC+PDD. One patient reported urinary frequency after both WLC+PDD. No photosensitivity or life-threatening side effects were reported after any WLC+PDD.

**Conclusion:** Repeated HAL instillation for PDD appears to be safe and well tolerated without significant increase in side effects or photosensitivity.
Introduction: Perioperative blood transfusion (PBT) is associated with adverse outcomes in patients with various malignancies. Radical cystectomy (RC) can require PBT. We report the effects of PBT on overall, disease-specific, and recurrence-free survival following RC for primary bladder cancer.

Methods: From 1996 to 2014, 521 patients underwent RC at a single center. Patients were categorized into those who did and did not receive PBT. Student’s T-test was used for continuous variables and Pearson’s Chi-squared test for categorical variables. The effect of PBT on overall survival, disease-specific survival, and recurrence-free survival were estimated using the Kaplan-Meier method and compared with the log-rank test.

Results: Data was available for 487 patients (93.5%), with mean follow up of 30 months. 243 (49.8%) received PBT. Cohorts were matched on cancer-specific variables, with no differences between pathologic tumor stage, nodal stage, presence of lymphovascular invasion, primary histology, or presence of positive margins. PBT patients were older than control patients (mean age 69.1 vs 66.7, p<0.05).

Disease-specific and overall survival were decreased in PBT patients compared to controls, with median 77.8 months vs. 111.1 months (p=0.002) and 54.5 months vs. 80.3 months (p=0.002), respectively (Figures A and B). There was a trend toward decreased recurrence-free survival in the PBT cohort compared to the control group (64.4 months vs 100.4 mos, p=0.059).

Conclusion: Patients who received PBT experienced decreased overall and disease-specific survival following RC. Coupled with a trend toward a higher rate of cancer recurrence in the PBT group, these results suggest that receipt of blood products may be associated with adverse outcomes.
THE EFFECT OF RECURRENCE TIMING ON THE SUCCESS OF REPEAT INTRAVESICAL BACILLUS CALMETTE-GUERIN-BASED THERAPY FOR NON-MUSCLE INVASIVE BLADDER CANCER
Ryan L. Steinberg, MD, Lewis J. Thomas, MD, Michael A. O'Donnell, MD
Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Ryan Steinberg

Introduction: Little data exists detailing the effect of recurrence timing on the expected response to repeat intravesical therapy in the 40% of patients who do not respond to initial Bacillus Calmette–Guerin (BCG). We hypothesize that early recurrence predicts worse response to repeat intravesical therapy.

Methods: The database created for the Phase 2 BCG–Interferon (IFN) study was queried and patients with prior BCG failures (n=378) identified. Patients underwent induction with 6 weekly treatments of one-third dose BCG plus 50 million units IFN. Surveillance began 4–6 weeks after induction and then quarterly for 2 years. If no recurrence was identified, patients received 3 week mini-cycle maintenance therapy at 3, 9, and 15 months after induction. Success was defined as no visible tumor recurrence, no positive bladder biopsies, no definitive cytologies, and no extravesical recurrence. Analysis was performed by Kaplan–Meier method (p<0.05).

Results: In patients with persistent or recurrent disease within 6 months, 47.9% had treatment success at 1 year and 39.5% at 2 years after BCG/IFN, which was significantly worse than those with recurrence beyond 12 months (70.7% and 58.2%, p=0.0021). Subgroup analysis revealed that patients with recurrence within 6 months and 2+ prior BCG failures, regardless of disease stage, responded the worst to therapy (37.1% and 24.1%) and that patients with carcinoma in situ recurrence at 6–12 months responded similarly (46.2% and 34.2%).

Conclusion: BCG failure patients with recurrent pure papillary disease within 6 months or CIS within 12 months responded worst to repeat BCG–based immunotherapy.

NEW ONSET POSTOPERATIVE ATRIAL FIBRILLATION PREDICTS LONG-TERM CARDIOVASCULAR EVENTS FOLLOWING RADICAL CYSTECTOMY
Robert Blackwell, MD¹, Chandy Ellimoottil, MD¹, Petar Bajic, MD¹, Anai Kothari, MD², Matthew Zapf³, Stephanie Kliethermes, PhD⁴, Robert Flanigan, MD¹, Marcus Quek, MD¹, Paul Kuo, MD², Gopal Gupta, MD¹
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Presented By: Robert Blackwell

Introduction: Post–operative atrial fibrillation (POAF) following radical cystectomy occurs in 2–8% of cases. Recent evidence suggests that even transient POAF leads future cardiovascular events. The long–term effects of POAF in the radical cystectomy population are largely unknown.

Methods: The Healthcare Cost and Utilization Project State Inpatient Database for Florida and California (2007–2010) to identify patients who underwent radical cystectomy(ICD–9 57.71) and had atrial fibrillation listed as a diagnosis(ICD–9
We excluded patients with a preexisting diagnosis of atrial fibrillation, myocardial infarction (MI) or stroke. Patients were propensity score matched on preexisting comorbidities. Following matching, Kaplan–Meier and Cox proportional hazards models were used to assess the influence of POAF on cardiovascular events (MI or stroke) over the first year postoperatively.

**Results:** Radical cystectomy was performed in 5,259 patients who met inclusion. POAF developed in 276 (5.3%). After matching, there were no significant differences in comorbidities between the POAF/no–POAF patients. There was a significantly higher cumulative incidence of CV Events over the first year postoperatively in the POAF patients (24.8% vs 10.9%, adjusted Log–rank p=0.007). Cox regression demonstrated an increased risk of CV events in POAF patients (HR 10, p=0.02).

**Conclusion:** The development of transient POAF is independently associated with an increased risk of long–term CV events over the first postoperative year.

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**Podium #159**

**EFFECT OF URINARY DIVERSION APPROACH ON URETEROENTERIC ANASTOMOTIC STRICTURE INCIDENCE FOLLOWING ROBOTIC–ASSISTED LAPAROSCOPIC RADICAL CYSTECTOMY**

Elizabeth Dray, MD¹, Robert Blackwell, MD¹, Napthalie Francoise, MD², Gopal Gupta, MD¹, Marcus Quek, MD¹, Alexander Gorbonos, MD¹

¹Loyola University Medical Center; ²Southern Illinois University

Presented By: Elizabeth Dray

**Introduction:** Robotic–assisted laparoscopic radical cystectomy (RALRC) is being increasingly utilized for treatment of muscle–invasive bladder cancer. The purpose of this study was to compare the effect of RALRC urinary diversion type, extracorporeal (EC) vs intracorporeal (IC) on ureteroenteric anastomotic stricture (UAS) rates.

**Methods:** Following institutional review board approval, a retrospective chart review was performed on 40 consecutive patients who underwent RALRC between 2009–2014 with a minimum follow up of three months. Urinary diversion type was chosen based on surgeon preference. Student’s T–test and Pearson’s Chi square test were used to compare continuous and categorical variables respectively.

**Results:** Of the 40 patients who met our inclusion criteria, 17 underwent IC urinary diversion versus 23 in the EC group. Average age and follow–up in the two groups were not significantly different. Length of surgery and estimated blood loss were 10.2 hours and 250cc in the IC and 8.4 hours and 405cc in the EC group (p=0.001 and 0.235). Length of stay was 8.3 days in the IC versus 10.6 days in the EC group (p=0.246). Eight UAS were diagnosed in 7 patients (30.4%) in the EC group compared to one UAS (5.88%) diagnosed in the IC group (p=.162).

**Conclusion:** In our series, RALRC with IC urinary diversion was associated with a trend towards lower UAS rate compared to EC diversion. Operative times were significantly longer in the IC group, with a trend towards decreased blood loss and shorter length of stay.
Podium #160
EFFICACY AND TOXICITY OF REDUCED DOSE BACILLUS CALMETTE-GUERIN (BCG) PLUS INTERFERON IN PATIENTS WITH PREVIOUS BCG INTOLERANCE
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Department of Urology, University of Iowa Hospitals & Clinics
Presented By: Ryan Steinberg

Introduction: Intolerance of intravesical Bacillus Calmette–Guerin (BCG) occurs in 5–10% of patients. Successful low dose BCG monotherapy has been described but combination with Interferon (IFN) has not. We hypothesized that reduced dose BCG/IFN would be well–tolerated and effective in patients previously deemed intolerant.

Methods: The database created for the Phase 2 BCG/IFN study was queried and patient with prior intolerance identified. Patients underwent induction with 6 weekly treatments of reduced dose BCG plus 50 million units IFN. Patients rated the severity of common toxicities (cystitis, hematuria, fevers & chills, flu–like symptoms, other adverse events) one week after each treatment. Moderate symptoms were treated with pharmaceuticals, moderate–severe symptoms with treatment delay or dose reduction, and severe symptoms with at least cycle cessation. Surveillance began 4–6 weeks after induction. If no recurrence was identified, patients received 3 week mini–cycle maintenance therapy at 3, 9, and 15 months after induction. Success was defined as no visible tumor recurrence, no positive bladder biopsies, no definitive cytologies, and no extravesical recurrence. Analysis was performed by Kaplan–Meier method (p<0.05).

Results: The 92 intolerant patients were more likely to have any toxicity (p=0.0005) and moderate toxicity (p=0.0005) compared to the 575 naïve patients, but no difference in moderate–severe (p=0.12) or severe (p=0.20) toxicities. Intolerant patient treatment success was 63% at 1 year and 49% at 2 years from induction, not statistically different from naïve patients (p=.18).

Conclusion: Reduced dose BCG/IFN was well tolerated and effective in patients previously deemed intolerant to BCG therapy.

Podium #161
UNPLANNED REOPERATION FOLLOWING OPEN AND MINIMALLY INVASIVE RADICAL CYSTECTOMY. ANALYSIS OF THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM (NSQIP) DATABASE
Ahmed Sarhan, MD, MSc, Kamal Pohar, MD, FRCS, Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Ahmed Sarhan

Introduction: To define the rates and the predictors of unplanned reoperation following open (ORC) and minimally invasive radical cystectomy (MIRC) for bladder cancer.

Materials and methods: We performed a retrospective review of prospectively collected database (NSQIP) of all bladder cancer patients who underwent open and minimally invasive radical cystectomy between 2005 and 2012. Patient's demographics, unplanned reoperation rate and its causes were reported. Logistic regression analysis was performed to define predictors of reoperation.

Results: Between 2005 and 2012, a total of 2279 cases were identified. 142 (6.2%) patients underwent unplanned reoperation within 30 days of cystectomy.
Unplanned reoperation was lower in the MIRC group (1.4% vs. 4.2 %, P = 0.06). Indications of reoperation were only available for cases from 2012. In that year, 7% (71 out of 1010 patients) underwent reoperation following cystectomy. Wound dehiscence (27.9%), intestinal obstruction (22.1%), intestinal perforation (10.2%) and urinary anastomosis related complications (10.2%) were the most common indications for reoperation. Disseminated cancer (OR 1.99, 95% CI 1.05 – 3.77, P = 0.03), preoperative dyspnea (OR 1.78, 95% CI 1.10 – 2.88, P = 0.01), Male gender (OR 1.62, 95% CI 1.03 – 2.56, P = 0.04) and BMI (OR 1.05, 95% CI 1.02 – 1.08, P = 0.001) were independent risk factors of unplanned reoperation.

**Conclusion:** Unplanned reoperations following radical cystectomy are not common. Most post radical cystectomy reoperations are related wound and gastrointestinal complications. Identification of modifiable predictors of reoperation is difficult.

**Podium #162**

**UNFRIENDLY FILTER: AN UNUSUAL CAUSE OF HYDRONEPHROSIS AND HEMATURIA**

Wei Phin Tan, MD, Benjamin Sherer, MD, Narendra Khare, MD
Rush University Medical Center
Presented By: Benjamin Sherer

**Introduction:** A 67 year old female was referred for workup of right flank discomfort and microscopic hematuria. Her medical history was notable for deep vein thrombosis, retroperitoneal hematoma while on anticoagulation, and subsequent IVC filter placement (via internal jugular approach).

**Methods:** Hematuria workup included a CT Urogram, which revealed that her IVC filter had been misplaced in her right gonadal vein causing right hydronephrosis secondary to extrinsic compression or erosion into the right ureter. Cystoscopy with a right retrograde pyelogram revealed a 3cm ureteral narrowing at the level of the adjacent IVC filter. A right ureteral stent was placed. The patient subsequently underwent exploratory laparotomy, which confirmed partial erosion of the IVC filter into the proximal right ureter and a thrombosed right ovary. She underwent right oophorectomy, right gonadal vein ligation, and removal of the misplaced IVC filter.

**Results:** Her postoperative course was uncomplicated. Her right ureteral stent was removed on postoperative day 14. Her hydronephrosis improved and hematuria resolved on subsequent urinalysis.

**Conclusion:** A misplaced IVC filter is a rare entity with potentially disruptive urologic sequelae. This rare complication is likely to be avoided if filter deployment is performed via a femoral, rather than trans-jugular, approach.

**Podium #163**

**BUCKSHOT COLIC: UTILIZING HOLMIUM LASER FOR URETEROSCOPIC REMOVAL OF A BULLET FRAGMENT WITHIN THE PROXIMAL URETER**

Matthew Ziegelmann, MD¹, Alonso Carrasco, MD², John Knoedler, MD², Amy Krambeck, MD²
¹Mayo Clinic Rochester; ²Mayo Clinic - Rochester
Presented By: Matthew Ziegelmann

**Introduction:** “Buckshot colic” is an exceedingly rare complication presenting as
firearm–induced urinary tract obstruction. We present a case of proximal–ureteral obstruction secondary to shrapnel injury, treated endoscopically with the holmium laser.

**Case Presentation:** A 49 year–old HIV–positive male with a history of a gunshot wound to the abdomen 30 years prior presented with fever, dysuria, and renal colic. CT revealed a 1–cm bullet fragment within the left proximal ureter. A temporizing nephrostomy tube was placed. Percutaneous nephrolithotomy was subsequently performed utilizing the holmium laser to fragment the embedded bullet into basket retrievable fragments. At 4–month follow–up the patient is without evidence of ureteral stricture.

**Conclusion:** To our knowledge, this is the first reported utilization of the holmium laser for metal fragmentation to treat “buckshot colic”. Endoscopic management with holmium laser appears a feasible and safe treatment option.

**Podium #164**
**IMPD K9 SNIFFS OUT SUSPICIOUS PACKAGE**
Eric DeRoo, MD, Benjamin Carpenter, MD, Ronald Boris, MD
Indiana University Department of Urology
Presented By: Eric DeRoo

**Introduction:** A male police officer presented to the ER with complaints of scrotal pain after a dog bite. Upon review, the dog in question was a PD canine that the officer had worked with extensively. On the evening of the assault, the canine was deployed to successfully apprehend a suspect. During the apprehension the canine obeyed all commands. After the suspect was detained, the PD team celebrated with “high–fives” and raucous shouts of victory. The canine, wanting to be part of the team, also became excited. Unfortunately, due to his lack of opposable thumbs, he demonstrated his approval by sinking his teeth into his trainer’s groin.

**Methods/Results:** The exam demonstrated multiple lacerations throughout the left scrotum. Ultrasound demonstrated decreased blood flow in the lower–pole of the left testicle. The patient was subsequently taken to the operating room for scrotal exploration. Operation demonstrated rupture of the tunica albuginea with extrusion of inferior seminiferous tubules. Extruded tubules were debrided; the remainder of the testicle appeared viable. The tunica was closed with running PDS suture.

**Conclusion:** The patient was discharged with instructions to refrain from strenuous activity and to find McGruff a new chew toy. Until next time….When McGruff takes another bite out of crime.
INFANT MALE WITH DIPHALLIA AND CAUDAL DUPLICATION SYNDROME: A CASE REPORT
Meredith Perry, DO¹, Jack Elder, MD²
¹DMC; ²Children’s Hospital of Michigan
Presented By: Meredith Perry

Caudal duplication syndrome includes anomalies of the genitourinary system, gastrointestinal tract, and the distal neural tube. We present a boy who was born with diphallia, duplicated colon and ani, and a rectourethral fistula in association with myelocystocele, bilateral clubfeet, and crossed fused renal ectopia.

8 month old boy was born at 39 1/7 and diagnosed via antenatal ultrasound with myelomeningocele, possible Down syndrome, and bilateral clubfeet. He was noted to have duplicated penes, incomplete fusion of the scrotum with bilateral descended testes, and duplicated ani. The superior penis was noted to communicate with the bladder. The inferior penis was noted to communicate with bowel loops. Two small bladders were identified. A barium enema and cystography showed duplicated colons, with one colon connecting to the inferior penile opening through a rectourethral fistula.

At 2 months of age cystoscopy confirmed two small capacity bladders and a rectourethral fistula. Each penis was found to have a single corporal body. During exploratory laparotomy he had a common blood supply to the ascending, transverse, and descending colon and a distal colocolostomy was performed. A short segment of the distal colon was left attached to the fistula for future bladder repair.

At 7 months he voided spontaneously, mostly through his superiorly located phallus with scant urine output from the second phallus. Renal ultrasound demonstrated cross-fused renal ectopia with right mild caliceal dilation and stable left pelvocalyctasis. Currently he is 9 months old and will undergo reconstructive genital and lower urinary tract surgery at age 2 years.
Podium #166
GIANT KIDNEY WORMS WITH METASTATIC RENAL CELL CARCINOMA: AN UNUSUAL CASE OF HEMATURIA
Lindsay Lombardo, DO, Jemima Kuehn, MD, Courtney M.P. Hollowell, MD
Cook County Health and Hospitals System
Presented By: Lindsay Lombardo

Introduction: Dioctophyma renale is the largest nematode that infects fish-eating mammals. Twenty cases of human infestation have been recorded to date. This is the only reported case of concomitant D. renale infestation and renal cell carcinoma (RCC).

Methods: A 71 year old African American male presented with ten months of painless hematuria and unintentional weight loss. He reported passing red elongated tissue via the urethra for three months. He was severely anemic. CT demonstrated a left 15cm inferior pole renal mass with central necrosis and punctate calcifications, diffuse ureteral enhancement, hydronephrosis, a bladder filling defect, multiple pulmonary nodules and hepatic lesions. Electron microscopy of the erythematous particulate passed via urethra revealed D. renale, or giant kidney worms, the largest measuring 20cm. He refused recommended diagnostic and therapeutic procedures. He accepted a five-day course of ivermectin, antihistamines and steroids.

Results: The hematuria resolved. CT scan two months later revealed stable appearance of the left kidney. He again refused surgery. Six months later, after experiencing severe weight loss and weakness, he agreed to renal biopsy which revealed RCC. He underwent palliative care.

Conclusion: D. renale is rarely seen in humans and usually masquerades as RCC. This is the first reported case of D. renale infestation with metastatic RCC.

Podium #167
STIRRED NOT SHAKEN AND ON THE ROCKS
Ben Carpenter, MD, Michael Borofsky, MD and Ronald Boris, MD
Indiana University
Presented By: Benjamin Carpenter

56 year-old male presented to the ED with ~24 hours of perineal pain and bleeding. He reported that 4 years prior he and his wife passed what he described as a "glass cocktail stir rod" per urethra during intercourse for increased pleasure. Unfortunately, they were unable to retrieve this object from his urethra but did not find it necessary to present for medical attention and it had been left in situ ever since. Over the previous 12 months he noted increasing
obstructive and irritative voiding symptoms (although described these as minor), and experienced recurrent UTIs that were simply treated with short courses of oral antibiotics from his primary physician.

He underwent a CT following presentation that demonstrated an object lying between his bladder and bulbar urethra as well as two significant bladder stones (see image).

The patient was taking to the operating theatre the next day for cystoscopy and open cystotomy with removal of foreign objects and abnormal bladder stones (see image).

A voiding cystourethrogram was performed at his 4 week follow up. Patient reported near complete resolution of his voiding symptoms and denied perineal symptoms or drainage. His VCUG did show a small urethral diverticulum that was healing well compared to his original presentation (see image).

NO FINANCIAL DISCLOSURES.

Podium #168
SPONTANEOUS BLADDER RUPTURE IN A PREMATURE FEMALE NEONATE: A CASE REPORT
Meredith Perry, DO¹, Jack Elder, MD²
¹DMC; ²Children's Hospital of Michigan
Presented By: Meredith Perry

Urinary ascites secondary to spontaneous intrauterine bladder rupture is a rare event. This case report describes fetal bladder perforation and urinary ascites possibly secondary to maternal treatment with for mycoplasma multilobar pneumonia.

34 hour female was born at 29 weeks 6 days via emergent caesarean section to a 23 year old G4P1 mother. The pregnancy was complicated by severe mycoplasma multilobar pneumonia requiring ICU admission, intubation and administration of alprazolam, morphine, and fentanyl. Abdominal ultrasound demonstrated ascitic fluid in all four abdominal quadrants and nonvisualization of the bladder and a defect within the mid left urinary bladder wall. A voiding cystourethrogram showed intraperitoneal perforation in the bladder in the inferior left bladder wall. Over 24 hours the baby became oliguric and azotemic with a creatinine of 2.2.

Following cystoscopy exploratory laparotomy and bladder exploration was
performed, revealing a 7mm bladder rupture on the left side of the bladder. In addition, a large volume of urinary ascites was drained. A 2-layer bladder closure was performed. Serum creatinine normalized by POD 1, and postop VCUG at one week was normal.

**Discussion:** To our knowledge, this is the fourth reported case of female intrauterine bladder rupture. Several maternal medications used in this case, alprazolam, morphine, and fentanyl have been noted to cause urinary retention. Opioids block parasympathetic nerves decreasing the sensation of fullness and stimulate sympathetic nerves increasing bladder neck tone resulting in urinary retention. Benzodiazepines cause retention via their muscle relaxant properties. Urinary ascites is rare, but prompt diagnosis is paramount.

**Podium #169 - WITHDRAWN**

**Podium #170**

**EXCEPTIONALLY LARGE PARATESTICULAR PSEUDOTUMOR**

George Bailey, MD, Christopher Jaeger, MD, Bradley Leibovich, MD
Mayo Clinic

Presented By: George Bailey

**Introduction:** Paratesticular fibrous pseudotumor (PFP) represents an unusual diagnosis. The pathogenesis is not well understood, but PFPS are thought to be a reactive lesion, comprising 6% of paratesticular masses. Typically, these scrotal masses present at sizes of 0.5 to 8 cm. Surgical removal is curative.

**Case Presentation:** A 66-year old man presented with a decade of progressive scrotal enlargement. Twelve years prior to presentation, he was diagnosed with diffuse large B-cell lymphoma with bulky abdominopelvic lymphadenopathy. Since completing chemotherapy and radiation, he suffered from progressive scrotal and lower extremity edema. For over 10 years, his enlarging scrotum was attributed to lymphedema, until a scrotal ultrasound demonstrated a right, 14 cm, testicular mass. PET scan did not show any evidence of recurrent lymphoma. The patient was then taken to the operating room for a simple orchiectomy. Postoperative pathologic analysis demonstrated a 17.2 cm, 760 gram specimen with a 14.4 cm PFP.

**Conclusion:** Reactive PFPS most often present with a small, nodular growth pattern and are treated with surgical excision. This case demonstrates that delayed diagnosis can result in extraordinarily large lesions warranting orchiectomy. To our knowledge, this is the largest noninfectious PFP reported in the literature.
Podium #171
AN UNUSUAL IMITATOR OF PENILE CANCER
Matthew Maurice, MD¹, Robert Abouassaly, MD, MS²
¹University Hospitals Case Medical Center and Cleveland Clinic; ²University Hospitals Case Medical Center
Presented By: Matthew Maurice

Introduction: Penile masses and deformities present a diagnostic challenge, encompassing both benign and highly malignant processes.

Methods: We report the case of a man with a penile mass highly suspicious for cancer who underwent partial penectomy.

Results: An 88-year-old man with history of phimosis and chronic balanitis refractory to oral antibiotics and various topical antimicrobial agents presented in consultation for presumed penile cancer. In the operating room, a dorsal slit was performed, revealing a firm, nodular glans with tissue sloughing and extension of the process into the distal penile shaft. Frozen section biopsies of the foreskin and glans were non-diagnostic. Given the lesion’s resemblance to advanced penile cancer, a partial penectomy was performed. Final pathology was negative for carcinoma, instead suggesting a diffuse inflammatory/infectious, ischemic process involving the glans and distal corpora.

Conclusion: Penile necrosis is a rare condition, occasionally associated with advanced penile cancer. To our knowledge, this is the first time primary idiopathic penile necrosis has been reported mimicking penile cancer. When biopsy is uninformative, as it was in this case, surgical resection diagnoses and treats both entities.

Podium #172
INNOVATION NEVER SLEEPS BEFORE BRUSHING − NOVEL USE OF A TOOTHBRUSH AS TANCHO’S NODULE
Matt Uhlman, MD, MBA¹, Elizabeth Takacs, MD²
¹Iowa; ²University of Iowa
Presented By: Matthew Uhlman

Introduction: A 24 y/o incarcerated male presented to the ER with 3 days of penile erythema. Despite antibiotics, the erythema worsened and he became worried his penis may fall off if not treated. Physical examination revealed a number of subcutaneous nodules in a cruciate pattern on the dorsal penile shaft. The patient reported he had placed the nodules, which originated from the end of a toothbrush, over the past 2 months with the aid of nail clippers and bleach. Notably, the patient previously had a marble placed under his dorsal penile skin,
but “dug it out” with a butter knife when his partner complained of pain with intercourse.

**Methods:** The patient was taken to the operating room for penile incision and debridement and a total of 6 pill shaped pieces of plastic were removed. Debridement was performed and the wound was left open.

**Results:** The patient was discharged the following morning and returned one week later for wound closure. Two weeks later his penis was healing well and he was having good erections. He was discharged from clinic to follow up as needed. The current status of his penis is unknown.

**Conclusion:** To our knowledge, this is the first case of a toothbrush as a substitute for Tancho’s nodules.

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Podium #173

**ENDOSCOPIC RETRIEVAL OF KNOTTED AQUARIUM TUBING IN BLADDER**

Jessica Meyers, MD, Frank Penna, MD, Raymond Littleton, MD
Henry Ford Hospital
Presented By: Jessica Meyers

This is a 48 year old male who reports inserting several feet of aquarium tubing per urethra during masturbation. He was then unable to retrieve the tubing and presented to the emergency room the next morning with dysuria. On KUB, he was found to have a significant amount of tubular structure in the suprapubic region. He was taken to the operating room for cystoscopy, attempted retrieval of foreign body, possible cystotomy. On cystoscopy, clear tubing was visualized in the bladder. The end of the tubing was identified, grasped with the stent grasper, and withdrawn through the urethra and out the meatus. There was significant resistance upon withdrawal. Conray dye was injected through the tubing, and a knot was visualized on fluoroscopy. (see Figure) The tubing was ligated several centimeters distal to the meatus, and an extra stiff guidewire was advanced through the tubing. Under fluoroscopy, the knot was visualized unraveling, and the tubing was completely withdrawn intact. Total length of tubing retrieved was approximately four feet. Repeat cystoscopy revealed a popped black balloon, which was also retrieved intact. At the end of the case, the decision was made to not leave an indwelling catheter. The patient was discharged home, and was ultimately lost to follow up.
Podium #174
LATE PRESENTATION OF NONTROPICAL CHYLURIA AFTER RADIOFREQUENCY ABLATION (RFA) OF A LEFT RENAL MASS
Benjamin Sherer, MD, John Richgels, Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Benjamin Sherer

Introduction: A 78 year old male presented with left flank discomfort, dysuria, and “milky” urine 5 years after RFA of a left lower pole renal mass (2.5cm medial interpolar renal cell carcinoma). Previous surveillance imaging was consistent with post−RFA changes.

Methods: CT scan of the abdomen/pelvis with IV contrast revealed a new, enhancing 3cm lesion with associated fat stranding along the medial aspect of the left kidney near the previous RFA bed. CT was also notable for a fat−fluid level in the urinary bladder, indicative of chyluria.

Results: Urine culture revealed UTI (E. Coli). Dysuria improved with oral antibiotics, but frothy quality of urine persisted. Biopsy of the renal lesion revealed soft tissue with acute, chronic and granulomatous inflammation but no evidence of malignancy. Chyluria was treated with observation, increased PO hydration, and medium−chain triglyceride diet and resolved (both symptomatically and on repeat imaging).

Conclusion: Globally, chyluria is typically caused by lymphatic filariasis from Wuchereria bancrofti, a parasitic roundworm endemic to tropical regions. Reports of non−parasitic chyluria are exceedingly rare. Fat−fluid levels in the urinary bladder are a subtle finding that may be missed on post−surgical CT scans of the abdomen/pelvis after renal sparing interventions for renal masses. Chyluria is often asymptomatic, but the potential for clinically relevant sequelae exists.

Podium #175
BUCKSHOT COLIC
Tim Large, MD, Andrew Strine, MD, Allison Keenan, MD, Michael Koch, MD
Indiana University Purdue University Indianapolis
Presented By: Tim Large

Introduction: The upper urinary tract is the most commonly injured system after penetrating abdominal trauma. A rare and unusual complication of renal gunshot wounds is the migration of projectiles into the collecting system and development of upper−tract obstruction.

Case Report: A 20−year−old man sustained a shotgun wound to his abdomen at close range. He underwent an exploratory laparotomy by Trauma Surgery.
Intraoperatively, he was found to have a non-expanding right retroperitoneal hematoma with no evidence of injury to his collecting system. He convalesced well and was discharged to home but returned with a new onset of nausea and right flank pain about 1 week later. His vital signs and laboratory evaluation were unremarkable. Repeat imaging revealed 2 obstructing pellets within his right collecting system. He was admitted for pain control and initiated on tamsulosin.

**Results:** Our patient spontaneously passed both projectiles. Buckshot colic was first described in 1947. A total of 33 cases have been reported in the literature, including an upper-tract obstruction from shotgun pellets, mortar and shrapnel, and bullets. The most commonly used shotgun pellets range in diameter from 0.18 to 8.38 mm. Approximately 88% of cases due to shotgun pellets resolved with conservative management, which was consistent with our experience. The most commonly cited reason for surgical intervention was an increase in projectile size due to calcification.

**Conclusion:** Buckshot colic due to shotgun pellets should be treated expectantly due to their higher rate of spontaneous passage and can be managed endoscopically if conservative management fails.

**Podium #176 - WITHDRAWN**

**Podium #177**

**RETROPERITONEAL ROBOTIC-ASSISTED PARTIAL NEPHRECTOMY: A SUPERIOR APPROACH TO POSTERIOR RENAL MASSES**

Jessica Wetterlin, MD, Robert Blackwell, MD, Stephanie Kliethermes, Marcus Quek, MD, Gopal Gupta, MD

Loyola University Medical Center

Presented By: Jessica Wetterlin

**Introduction:** The retroperitoneal approach to robotic-assisted partial nephrectomy (RAPN) provides an alternative to the more familiar transperitoneal approach. We compared results of RAPN for posterior renal tumors via the transperitoneal and retroperitoneal approaches.

**Methods:** A retrospective review was performed for all patients who underwent RAPN for a posterior renal tumor. Information regarding patient characteristics, operative factors, renal function, and tumor complexity were obtained. Tumor characteristics were based on RENAL nephrometry scores. The operative approach was determined by the primary surgeon.

**Results:** All procedures were performed by five surgeons at our institution from 2009 to 2015. A total of 91 patients underwent RAPN for a posterior renal tumor. Fifty-four procedures were performed via the retroperitoneal (RP) approach, and 37 via the transperitoneal (TP) approach. There were no significant differences in patient factors (race, sex, age, BMI), RENAL nephrometry scores, tumor size, conversion rates, margin status, or renal function. Among procedures performed on-clamp, there was no significant difference in warm ischemia times. Total operative time (180.7 min for RP vs. 227.8 min for TP, p < 0.001), robotic dock time (126.9 min for RP vs. 164.3 min for TP, p < 0.001), and median estimated blood loss (32.5ml for RP vs. 150ml for TP, p < 0.001) were significantly lower via the retroperitoneal approach.

**Conclusion:** The retroperitoneal approach to RAPN is superior with regard to operative time and blood loss when compared to the more familiar transperitoneal approach.
Podium #178
IMPACT OF ANNUAL SURGICAL VOLUME ON OUTCOMES OF ROBOT-ASSISTED PARTIAL NEPHRECTOMY IN A MULTI-INSTITUTIONAL, MULTINATIONAL COHORT
Deepansh Dalela¹, Ravi Barod, MD¹, Akshay Sood, MD¹, Mahendra Bhandari, MD¹, Rajesh Ahlawat, MD², Sudhir Rawal, MD³, Ben Challacombe, MD⁴, Daniel Moon, MD⁵, Nicolo Buffi, MD⁶, Alessandro Larcher, MD⁶, Dipen Parekh, MD⁷, Giacomo Novara, MD⁸, Alex Mottrie, MD⁸, Alessandro Volpe, MD⁸, Ronney Abaza, MD⁹, Francesco Porpiglia, MD¹⁰, Craig Rogers, MD¹¹
¹Vattikuti Urology Institute; ²Medanta Hospitals, Medicity, Gurgaon; ³Rajiv Gandhi Cancer Center, Delhi; ⁴Guy's Hospital, London; ⁵Peter MacCallum Cancer Center, Melbourne; ⁶Vita San Raffaele, Milan; ⁷University of Miami, Miami; ⁸OLV Vattikuti Urology Institute, Aalst; ⁹Ohio Dublin Methodist, Dublin; ¹⁰University of Torino, Torino
Presented By: Deepansh Dalela

Introduction: To evaluate the impact of annual surgical volume on perioperative and functional outcomes of robot-assisted partial nephrectomy (RAPN) in a contemporary, multi-institutional cohort of patients.

Methods: Using the Vattikuti Collaborative Quality Initiative (VCQI) database, 1,114 patients undergoing RAPN between 2006 and 2013 at ten centers across six countries were stratified by annual volume of surgeons (>30 [n=697, 3 surgeons] vs. <30 [n=417, 7 surgeons] cases/year). Multivariate logistic/linear regression models analyzed the impact of surgical volume on the perioperative and functional outcomes, controlling for baseline patient/tumor characteristics.

Results: Surgeons with lower surgical volumes operated upon significantly more complex tumors (RENAL/PADUA score >10) than high volume ones (17.6% vs. 10.3%), while surgical margin rates, postoperative complications and % change in estimated glomerular filtration rate (eGFR) at (6-month follow-up) were not significantly different (table 1). Lower surgical volume independently predicted length of stay (β=1.9, 95% CI=1.4−2.3), estimated blood loss (β=61.9, 95% CI=25.9−97.9) and warm ischemia time (β=2.9, 95% CI=1.5−4.3, all p<0.001).

Conclusion: Lower volume surgeons had comparable margin rates, complications and eGFR (at 6-month follow-up), even with similar percentage of larger tumors (>4cm) and higher proportion of complex tumors. Dissemination of robotic surgery has facilitated optimal outcomes across multiple centers despite heterogeneity of robotic experience, surgical technique and patient characteristics.

Podium #179
UTILITY OF PREOPERATIVE MRI IN CHARACTERIZING THE PARENCHYMAL–TUMOR INTERFACE OF RENAL MASSES PRIOR TO SURGICAL INTERVENTION
Shalin Desai, Connor Snarkis, BS, Gopal Gupta, MD
Loyola University Stritch School of Medicine
Presented By: Shalin Desai

Introduction: The optimal surgical margin for small renal masses is contested. Recognition of a circumferential, intact radiographic pseudocapsule using MRI is a novel approach to determine if minimal parenchymal resection can be performed. Our goal was to characterize the parenchymal–tumor interface (PTI) using preoperative MRI imaging and correlate with histopathology.
Methods: We identified 43 of 200 patients with preop MRI imaging and subsequent robotic partial nephrectomy. We characterized each RCC by defining the MRI sequence that best illustrated the PTI.

Results: It was discovered that patients with primarily cystic tumors most clearly showed a traditional hypointense band on T2 Haste/SSFSE (13/14). However, the patients with solid masses exhibited a peculiar yet consistent finding on T2 Postcontrast scans (15/28). We characterized this finding as a “peritumor halo” (Fig. 1).

Conclusion: Our findings suggest that both T2 Haste/SSFSE and T2 Postcontrast scans are efficacious in characterizing the PTI, but the latter is particularly helpful for solid masses. These findings suggest that preoperative MRI is useful in characterizing the PTI in patients with RCC, and can provide surgeons with useful information.

Podium #180

MANAGEMENT OF VENOUS TUMOR THROMBUS ENCOUNTERED DURING OPEN AND ROBOT-ASSISTED PARTIAL NEPHRECTOMIES FOR RENAL CELL CARCINOMA

Firas Petros, MD¹, Debra Zynger, MD², Ahmad Shabsigh, MD¹, David Sharp, MD¹, Geoffrey Box, MD¹
¹Department of Urology, The Ohio State University Wexner Medical Center; ²Department of Pathology, The Ohio State University Wexner Medical Center

Presented By: Firas Petros

Introduction: Partial nephrectomy (PN) is a standard management option for renal tumors. With growing experience, larger more complex tumors are being treated with both open PN and robot-assisted partial nephrectomy (RAPN). We describe our experience with patients undergoing PN in the setting of venous tumor thrombosis (VTT).

Methods: Patients with renal cell carcinoma (RCC) who had undergone PN at our institution from January 1, 2009 to October 31, 2014 and were found to have VTT were retrospectively reviewed in a prospectively maintained database. Patient characteristics and outcomes were reported.

Results: A total of 708 patients underwent PN, 43 of which (6.1%) were found to have pT3a RCC, 14 (2%) had VVT, including vein only involvement in 11 (1.6%) and vein with fat involvement in 3 (0.4%) patients. Mean tumor nephrometry score was 9.4 (range 6−11) with a mean pathologic tumor size of 6.0 cm (range 3−9). Ten patients had VTT discovered incidentally. Out of the 14 pT3a patients, 9 had RAPN with removal of VTT, 4 had open PN with excision of VTT, and 1
Podium #181

ROBOTIC RENAL MASS ENUCLEATION MAXIMIZES PRECISION OF EXCISION AND RECONSTRUCTION COMPARED TO TRADITIONAL ROBOTIC PARTIAL NEPHRECTOMY

Robert Blackwell, MD¹, Belinda Li, MD¹, Zhiling Zhang, MD², Juping Zhao, MD², Jessica Wetterlin, MD¹, Marcus Quek, MD¹, Steven Campbell, MD, PhD², Gopal Gupta, MD¹

¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Cleveland Clinic Foundation, Cleveland, OH

Presented By: Belinda Li

Introduction: Renal mass enucleation is a technique in which maximal normal renal parenchymal preservation is presumed. Here we assess the precision of excision and reconstruction of robotic enucleation compared to traditional partial nephrectomy.

Methods: Patients were identified who underwent robotic traditional partial nephrectomy or enucleation at our institution and had appropriate pre- and post-operative imaging for analysis. Volumetric analysis was conducted using previously described methods on the preoperative ipsilateral kidney, renal mass, and a 5mm rim to account for anticipated devascularized normal renal parenchyma, as well as postoperative ipsilateral kidney. We report the precision of each technique, defined as the actual postoperative parenchymal volume / predicted parenchymal volume, presuming a loss of a small rim of normal parenchyma associated with excision and reconstruction. Statistical testing was performed with Kruskal–Wallis test and multivariate linear regression, as appropriate.

Results: Robotic partial nephrectomy was performed in 68 patients included in our analysis, including 40 traditional and 28 enucleation partial nephrectomies. Median ages were 58 and 61 years, respectively. Overall median precision was 100% for enucleation and 91% for traditional partial nephrectomy. On univariate analysis, improved precision was predicted by operative technique (enucleation VS traditional partial nephrectomy; p=0.0007), warm ischemia (None VS Less than 25 minutes VS 25 minutes or Greater; p=0.0124), and absence of deep parenchymal renorraphy (p=0.0253). On multivariate analysis, only enucleation continue to predict improved precision (coefficient 8.0, 95% CI 1.2–14.8, p=0.022).

Conclusion: Robotic renal mass enucleation maximally spares normal renal parenchyma compared to traditional robotic partial nephrectomy.
COMPARISON OF OPERATIVE AND PERIOPERATIVE OUTCOMES BETWEEN ROBOTIC ASSISTED PROLAPSE REPAIR AND TRANSVAGINAL MESH REPAIR

Priyanka Gupta, MD¹, Michael Ehlert, MD¹, Kim A. Killinger, MSN¹, Judith A. Boura, MS¹, Renee Cholyway², Brian Odom², Melissa Fischer, MD¹, Jamie Bartley, MD¹, Jason Gilleran, MD¹, Larry T. Sirls, MD¹
¹Beaumont Health System; ²Oakland University William Beaumont School of Medicine
Presented By: Larry T. Sirls

Introduction: Mesh augmentation can improve outcomes in high-grade prolapse. We compare outcomes in women who underwent robotic assisted prolapse surgery (RAPS) versus transvaginal mesh repair.

Methods: Review of two retrospective databases of women with consecutive pelvic prolapse repair from 11/2006 to 4/2014. Demographics, history, operative, and peri-operative outcomes were compared using Pearson’s Chi-square test, Fisher’s Exact test, and Wilcoxon rank sum tests.

Results: 197 RAPS and 130 transvaginal mesh patients identified. Robotic patients were younger (61 vs. 69 yrs., p<0.0001), had a higher incidence of uterine prolapse (83/196 vs. 35/128, p=0.006), and were more likely to have a prior sling procedure (39/192 vs 13/130, p=0.014). Transvaginal mesh patients were more likely to have prior prolapse surgery (45/130 vs. 40/192, p=0.006). RAPS procedures were longer (mean 250 ± 83 vs. 104 ± 56 min, p<0.0001), with more concurrent hysterectomies (91/197 vs. 35/130, p=0.0005), were less likely to have a sling placed (92/197 vs. 79/130, p=0.013), and less likely to undergo additional compartment repair (21/197 vs. 36/130, p<0.0001). Vaginal procedures were more likely to have EBL >100cc (79/130 vs. 44/178, p<0.0001). Intraoperative complication rate and length of stay did not significantly differ. RAPS patients were more likely to have urinary retention within 5 days of surgery (32/197 vs. 6/130, p=0.001).

Conclusion: RALS patients are younger, undergo longer procedures, have more concurrent hysterectomies, and less blood loss. Transvaginal mesh repair had more prior prolapse surgeries and less post-operative urinary retention. There was no difference in intraoperative and perioperative complication rates.

Funding: None

DETAILED COST ANALYSIS OF ROBOTIC SACROCOLPOPEXY COMPARED TO TRANSVAGINAL MESH REPAIR

Jonathan Park¹, Michael Ehlert, MD², Larry Sirls, MD, FACS²
¹Oakland University William Beaumont School of Medicine; ²William Beaumont Health System
Presented By: Jonathan Park

Introduction: Medical treatment costs are scrutinized in health care reform. We report a hospital realized cost difference between transvaginal mesh prolapse repair (TVM) and robot- assisted sacrocolpopexy (RSC).

Methods: Retrospective review of TVM and RSC cases from 1/2012 to 12/2013. Clinical and operative data were recorded. Total institutional costs (direct and indirect) for each procedure were sub-categorized by hospital department. Independent samples t-test and Chi squared analysis were performed.
Results: 120 TVM and 106 RSC procedures were reviewed. RSC patients were more likely to undergo hysterectomy (58.5%, 26.7%), had similar rates of mid–urethral sling placement (50%, 59%), and had less blood loss (p<0.001). Length of stay (LOS) was similar (1.39 days, 1.31 days, p=0.508). There were similar rates for additional compartment repairs (11%, 8%, p=0.45). When the TVM and RSC groups were subdivided into with or without hysterectomy, there was no intragroup difference in concomitant sling placement, other compartment repairs, blood loss, operative time, nursing and recovery room costs. Robotic surgery had greater costs associated with surgical supplies ($2,626 vs $1,651, p < 0.001), operating room time ($6,883 vs $4,487, p < 0.001), and anesthesia costs ($1,141 vs $675, p<0.001), while vaginal surgery had greater mesh costs with or without hysterectomy ($2,328 vs $1,189, p<0.001).

Conclusion: TVM is economical due to lower operative time and surgical supplies cost. Robot purchase and maintenance costs do not uniquely factor into the procedure costs. The difference in the cost of mesh does not impact the overall cost difference.

Podium #184
IMPACT OF OBESITY ON OUTCOMES OF ROBOTIC ASSISTED RADICAL CYSTECTOMY
Vishnu Ganesan¹, Homayoun Zargar, MD², Georges-Pascal Haber, MD, PhD² ¹Cleveland Clinic Lerner College of Medicine; ²Cleveland Clinic Glickman Urological and Kidney Institute
Presented By: Vishnuvardhan Ganesan

Introduction: The purpose of this study is to determine whether obesity has a negative impact on perioperative and oncological outcomes of patients undergoing robotic assisted radical cystectomy (RARC) with urinary diversion.

Methods: We retrospectively reviewed medical records of patients who underwent RARC at our institution from 2011–2014. Patients were categorized into obese and non–obese groups using a cutoff BMI of 30 kg/m2. We used the Wilcoxon Rank–Sum test for comparing continuous variables and the Fisher exact test for comparing categorical variables.

Results: Of the 161 patients undergoing RARC during the study period, 101 (62%) were non–obese and 60 (38%) were obese. Baseline characteristics were comparable with exception that non–obese patients were significantly older at the time of surgery. Operative time and estimated blood loss were found to be significantly greater in obese patients. No differences were found for other perioperative outcomes (Table 1). On multivariate analysis adjusting for age and diversion type, obesity was a significant predictor for only a longer operating time (26 min increase).

Conclusion: Obese patients can safely undergo robotic assisted radical cystectomy with outcomes comparable to non–obese individuals. The clinically insignificant increase in operative time for obese patients is likely to have an impact on operative cost of RARC in such patients.
Podium #185
IMPROVED CONTINENCE WITH MODIFIED POSTERIOR RECONSTRUCTION OF THE RHABDOSPHINCTER AFTER ROBOTIC-ASSISTED RADICAL PROSTATECTOMY - A RANDOMIZED CONTROLLED TRIAL

Yasin Bhanji, BA, Barry McGuire, MD, Samuel Eaton, MD, Gregory Auffenberg, MD, Mohammed Said, BA, Adarsh Munajath, BA, Caroline Dong, BA, Kent Perry, MD, Robert Nadler, MD
Northwestern University Feinberg School of Medicine

Presented By: Yasin Bhanji

Introduction: Evidence suggests reconstruction of the posterior musculofascial plate after robotic assisted radical prostatectomy (RALP) may confer improved recovery of incontinence, however this remains controversial.

Methods: Between 2012 and 2014, 120 patients undergoing RALP were randomized (1:1) to receive posterior musculofascial reconstruction or no reconstruction, and prospectively followed with a questionnaire assessing pad usage, AUA symptom score (AUASS), erectile function (IIEF and SHIM) at 1, 3, 6 and 12 months following surgery.

Results: The median age at surgery was 61.9 ± 6.8 versus 60.7 ± 7.4 years for patients receiving reconstruction versus no reconstruction, respectively. Median follow-up was 18.1 ± 6.6 months versus 17.5 ± 8.2 months for patients receiving reconstruction versus no reconstruction, respectively. There was no difference between groups in terms of body mass index, pre-operative PSA, pre-operative AUASS, SHIM, IIEF, Gleason score, prostate volume, operative time, blood loss or length of stay. On univariate analysis, improved differences were observed in return of early and lasting continence in those who received posterior reconstruction. Reconstruction remained a strong predictor variable on multivariate analysis.

Conclusion: In a randomized controlled trial of posterior musculofascial plate reconstruction after RALP we demonstrate statistically significant improvement in return of continence.

Table 1. Perioperative and oncologic outcomes stratified by body mass index, before adjusting for age or urinary diversion type

<table>
<thead>
<tr>
<th></th>
<th>Non-Obese BMI &lt; 25 kg/m²</th>
<th>Obese BMI ≥ 30 kg/m²</th>
<th>P Value</th>
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<tbody>
<tr>
<td>Patients (%)</td>
<td>317</td>
<td>60</td>
<td></td>
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<tr>
<td>Operative Time, minutes, mean ± SD</td>
<td>413 ± 95</td>
<td>477 ± 57</td>
<td>&lt; 0.001*</td>
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<tr>
<td>EBL (mL), median (IQR)</td>
<td>200 (200–600)</td>
<td>475 (300–800)</td>
<td>0.043*</td>
</tr>
<tr>
<td>Hospital Stay, days, median (IQR)</td>
<td>6.0 (5.0–8.0)</td>
<td>7.0 (5.0–10.0)</td>
<td>0.37</td>
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<td>30-day Any Complication, n (%)</td>
<td>54 (66%)</td>
<td>41 (9%)</td>
<td>0.06</td>
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<td>30-day Major Complication, n (%)</td>
<td>29 (29%)</td>
<td>21 (36%)</td>
<td>0.38</td>
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<tr>
<td>30-day Minor Complications, n (%)</td>
<td>25 (25%)</td>
<td>20 (34%)</td>
<td>0.37</td>
</tr>
<tr>
<td>LN Yield, median (IQR)</td>
<td>15.5 (10.0–22.0)</td>
<td>17.6 (12.0–27.0)</td>
<td>0.08</td>
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<tr>
<td>Positive Margins, n (%)</td>
<td>5 (5%)</td>
<td>3 (5%)</td>
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Pathologic Stage

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<tr>
<th>Stage</th>
<th>N (%)</th>
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<td>pT1</td>
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<tr>
<td>pT2</td>
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<td>pT3</td>
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<tr>
<td>pT4</td>
<td>18 (n=1)</td>
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* Statistically significant.
Podium #186
IMPACT OF OBESITY ON WOUND COMPLICATIONS FOLLOWING RADICAL PROSTATECTOMY IS MITIGATED BY ROBOTIC TECHNIQUE
M. Francesca Monn, MD, MPH, Timothy A. Masterson, MD, Matthew J. Mellon, MD, Chandru P Sundaram, MD, Michael O. Koch, MD, Ronald S. Boris, MD
Indiana University School of Medicine Department of Urology
Presented By: M. Francesca Monn

Introduction: Multiple studies have evaluated the impact of obesity on oncologic outcomes following radical prostatectomy; however, the impact of obesity on wound complications has not been examined in a large cohort. Herein, we evaluate the impact of obesity on patients developing wound complications within 30 days of open and robotic radical prostatectomy using the National Surgical Quality Improvement Program (NSQIP).

Methods: Patients undergoing radical prostatectomy (CPT 558.x) in 2011−2012 were identified from NSQIP, which is a multi−institutional database of comprehensive 30−day postoperative outcomes. Wound complication included superficial surgical site infections (SSI), deep SSI, organ space infections, and dehiscence. Descriptive statistics and multiple logistic regression examined the relationship between obesity and wound complications in open and robotic radical prostatectomy.

Results: Of the 12,454 radical prostatectomy cases reported in the study period, 9,248 were robotic (74%). 2,244 (18%) patients were normal weight (BMI<25), 5,836 (47%) were overweight (BMI25−30), and 4,374 (35%) were obese (BMI>30). Wound complications occurred in 134 (4%) of open and 114 (1%) of robotic radical prostatectomies. After adjusting for age, history of smoking, history of diabetes, and history of chronic steroid use, obese patients were at 74% increased odds of developing a wound complication after open prostatectomy (95%CI 1.07−2.85, p=0.027) while there was no difference in the odds of a wound complication after robotic radical prostatectomy (OR 1.31, 95%CI 0.73−2.33, p=0.368).

Conclusion: Obese patients are at increased risk of developing wound complications when undergoing open versus robotic radical prostatectomy. Obese patients likely benefit from robotic radical prostatectomy.

Podium #187
ADDING A NEWLY TRAINED SURGEON INTO A HIGH VOLUME ROBOTIC PROSTATECTOMY GROUP: ARE OUTCOMES COMPROMISED?
Luchen Wang, BS, Mireya Diaz, PhD, Craig Rogers, MD
Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Luchen Wang

Introduction: This study evaluates whether a new surgeon early in the learning curve for robot−assisted radical prostatectomy (RARP) can be integrated into a high volume institution without compromising departmental RARP outcomes.

Methods: We analyzed outcomes of 2846 patients who underwent RARP from 2007−2011 at a tertiary center by 3 experienced robotic surgeons and a newly hired surgeon who had just completed fellowship training. The new surgeon performed 179 RARP, with help of an established robotic team and initial mentorship from senior surgeons.

Results: On binomial logistic regression, case number was the strongest predictor of a decrease in probability of major complications (p=0.035) for the
new surgeon. On multivariable regression, case number was the strongest predictor of decrease in biochemical recurrence (p=0.007). Inclusion of the new surgeon’s outcomes into outcomes of the 3 remaining surgeons did not alter overall outcomes for the 4 surgeons. Overall outcomes before and after hiring the new surgeon did not differ by more than 12% for any time point.

**Conclusion:** A new surgeon joining a high volume robotic program with established robotic team and mentorship can achieve a learning curve without compromising overall departmental outcomes. These findings may be relevant when hiring new robotic surgeons.

**Funding:** None.

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**Podium #188**

**ROBOTIC PROSTATECTOMY MORE LIKELY AT ACADEMIC CENTERS**

Matthew Maurice, MD¹, Hui Zhu, MD, ScD², Simon Kim, MD, MPH³, Robert Abouassaly, MD, MS³

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Presented By: Matthew Maurice

**Introduction:** Robotic prostatectomy (RARP) now accounts for most prostate cancer surgery in the U.S. We sought to evaluate practice patterns since the adoption of robotic technology.

**Methods:** In the National Cancer Database, men treated during the pre–robotic (2003) and robotic (2010–2011) eras were compared using multivariate logistic regression analysis.

**Results:** Of 78,202 men undergoing prostatectomy, 40,172 received RARP. RARP was more likely at academic centers than at community hospitals (OR 2.0, CI 1.8–2.3, p<0.01). RARPs were more likely to be referred (OR 1.2, 1.1–1.3, p<0.01) and delayed (OR 2.2, 2.0–2.4, p<0.01). Men treated robotically were more likely to have higher Gleason scores (OR 3.6, 3.4–3.8, p<0.01); however, no difference in the positive–margin rate was detected. Lymphadenectomy was less frequently performed with RARP (OR 0.8, 0.8–0.9, p<0.01); however, in men who received lymphadenectomy, there was no difference in the rate of nodal disease. Men treated robotically were also more likely to be discharged on the first post–operative day (OR 12.6, CI 11.1–14.3, p<0.01) without 30–day readmissions. Other independent predictors of RARP included: higher Charlson score, non–white race, higher income, and Western geography (p<0.01).

**Conclusion:** Compared to traditional approaches, modern–day RARP is largely
performed at academic centers. RARP is used more frequently for higher−risk disease and on unhealthy men without sacrificing oncologic or quality outcomes. Referral and treatment indecision may contribute to treatment delays. It is unclear whether these differences are due solely to RARP versus changing practice patterns over time.

Podium #189
PREOPERATIVE MULTIPARAMETRIC PROSTATE MRI ALTERS NERVE SPARING DECISION−MAKING WHILE OPTIMIZING ONCOLOGIC OUTCOMES IN HIGH−RISK PATIENTS
Peter Filip Jr.¹, Grace Yoon¹, Stephanie Kliethermes, PhD², Marcus Quek, MD², Robert Flanigan, MD², Ari Goldberg, MD, PhD², Joseph Jacoub, MD², Steven Shea, PhD², Gopal N. Gupta, MD²
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Presented By: Peter Filip Jr.

Introduction: Multiparametric MRI (mpMRI) provides critical data which may aid in treatment, counseling and operative planning. The purpose of this study is to analyze the utility of mpMRI in surgical decision−making regarding nerve sparing and oncological outcomes of patients undergoing robotic prostatectomy (RARP).

Methods: We identified consecutively performed RARP over the last year at Loyola. We identified 43 patients with preoperative mpMRI and 72 patients without mpMRI. Demographic, clinicopathological data, mpMRI findings, postoperative pathology, and surgical decisions were noted. Patients were stratified by risk; the impact of mpMRI on decision−making and oncological outcomes was examined.

Results: The mpMRI group encompassed more high−risk (31% versus 22% non−MRI) and intermediate−risk (46% versus 41%). The non−MRI group had a proclivity toward low−risk (37% versus 23% mpMRI). The mpMRI group had higher sparing than the non−MRI group in high−risk patients (75% compared to 47%), lower in intermediate−risk (83% compared to 100%), and equal in low−risk (100% compared to 100%). The impact of mpMRI on sparing was assessed; 7% were treated more conservatively and 28% were treated more aggressively. Positive surgical margins in pT2 patients were comparable (22% mpMRI compared to 19% non−MRI) but lower in pT3 mpMRI patients (30% compared to 44%). Lastly, the sensitivity and specificity of mpMRI for extracapsular extension was 50% and 70% respectively.

Conclusion: mpMRI significantly alters surgical decision−making in high−risk RARP, allowing for more nerve sparing without compromising oncological outcomes. Further study is warranted to delineate the role of mpMRI in surgical treatment of high−risk patients.
Podium #190
A COST ANALYSIS OF RENAL BIOPSY VS LAPAROSCOPIC CRYOABLATION FOR INITIAL MANAGEMENT OF SMALL RENAL MASSES
Michael Kottwitz, MD, Thomas Tieu, MD, Joshua Ring, MD, Bradley Schwartz, DO
Southern Illinois School of Medicine
Presented By: Michael Kottwitz

Introduction: The evolving health care environment is placing increased emphasis on cost effectiveness. We investigate the cost of two different treatment algorithms for small renal masses in patients who are candidates for cryotherapy.

Methods: We retrospectively identified all patients who had laparoscopic cryoablation for a renal tumor by a single surgeon at an academic center between 2004 and 2013. Pathology results from intraoperative biopsies were collected. Cost analysis was performed for two treatment algorithms. Algorithms differed in the initial step in management: CT guided biopsy vs laparoscopic cryoablation.

Results: There were 96 patients in the study. Pathology results from intraoperative biopsies were: Cancer: 64 (66.7%), Indeterminate: 12 (12.5%), and Benign: 20 (20.8%). Cost of laparoscopic cryoablation and hospital stay is $10,600. Cost of a CT guided biopsy is $5,400. Cost of 5 years of surveillance is $37,400. On average, the five−year cost to manage a patient initially with laparoscopic cryoablation is $40,200. This compares to $43,400 for CT guided biopsy as first management. In order for CT guided biopsy to be cost effective, 52% of small renal masses deemed appropriate for cryoablation would need to be benign.

Conclusion: Immediate laparoscopic cryoablation is more cost effective than starting with a CT guided biopsy as the first step in management for small renal masses. The overwhelming cost over five years is driven by cost of surveillance.

Podium #191
WITHDRAWN

Podium #192
TRICHLOROETHYLENE IS ASSOCIATED WITH KIDNEY CANCER MORTALITY: A POPULATION−BASED ANALYSIS
Daniel Sadowski, MD, MPhil, Joseph Clemons, BS, Danuta Dynda, MD, Shaheen Alanee, MD, MPH
Southern Illinois University School of Medicine
Presented By: Daniel Sadowski

Introduction: Trichloroethylene (TCE) exposure is associated with kidney cancer (KCa), however, the evidence for this relationship is not yet conclusive and mostly related to occupational exposure. Our aim was to examine the association between the distribution of TCE and KCa across United States counties defined by gender and race using population−based datasets.

Methods: We used the US Environmental Protection Agency Toxics Release Inventory (TRI) database to conduct an ecological study at the county level. Multivariable linear regression models were used to assess the associations of TCE discharges from TRI sites and KCa age−adjusted incidence and mortality.
rates at the county level from 2005–2010 controlling for income, education, number of primary care doctors, surface area, and prevalence of smoking, obesity, and hypertension. Data were extracted from the National Cancer Institute's Surveillance, Epidemiology, and End Results database and the Behavioral Risk Factor Surveillance System. The total sample size was 163 counties.

**Results:** We observed an excess risk of population KCa mortality associated with higher amounts of environmental TCE releases from TRI facilities in males, females, and whites, but not in African Americans. The strength of these associations tended to be stronger in males than in females. A dose–response relationship was observed between TCE releases in females, but not in males.

**Conclusion:** Our results suggest that exposure to higher TCE releases may increase the risk of KCa mortality at the population level. These results need validation on an individual patient level to support policy measures to limit TCE discharge into the environment.

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**Podium #193**

**EVALUATING PREDICTORS OF RENAL TUMOR PSEUDOCAPSULE INVASION FOR SMALL RENAL CELL CARCINOMA: ANALYSIS USING THE TUMOR CAPSULAR INVASION SCORING SYSTEM**

Connor Snarskis Conno¹, Lu Wang, MD², Adam Calaway, MD³, Maria Picken, MD, PHD², Stephanie Kliethermes, PHD⁴, Ian Hughes, MD², Muhammed Idrees, MD³, Dibson Gondim, MD³, Ronald Boris, MD³, Gopal Gupta, MD⁵

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**Presented By:** Connor Snarskis

**Introduction:** RCC pseudocapsule (PC) varies in its integrity. Tumor invasion into and through the PC may have clinical implications and is not commented on in standard pathologic reporting. We created a scoring system (i−Cap) to classify the absence, presence, and degree of PC invasion. Predictors of PC invasion were also evaluated.

**Methods:** A multi−center retrospective review (2007−2014) was performed. 327 tumors removed by radical nephrectomy (RN), healthy margin (HN) and enucleation (EN) partial nephrectomy were evaluated. Each tumor received an i−Cap score between 1−3. i−Cap 1 was a complete PC without invasion. i−Cap 2 was assigned to gaps within the PC or tumor into but not through PC. i−Cap 3 tumors invaded through PC into parenchyma. A multivariate analysis was performed to determine predictors of i−Cap 3.

**Results:** Histologic and stage distribution between groups were similar. EN tumors did not demonstrate higher i−Cap scores compared with other techniques. i−Cap 3 was similar between surgical types. Only papillary and chromophobe subtypes were predictive of having a score of 3 with odds ratios of 1.9 and 1.4 respectively.

**Conclusion:** A capsule invasion scoring system may be useful in further classifying small renal masses. Scores appear to be independent of surgical technique. Complete capsule invasion is most common in papillary and chromophobe tumors.
Podium #194
ANATOMY OF THE ENUCLEATED TUMOR AND THE PARENCHYMAL MARGIN IN CLEAR CELL RENAL CELL CARCINOMA AFTER PARTIAL NEPHRECTOMY
Adam Calaway, MD, Dibson Gondim, MD, Chandra Flack, MD, Joseph Jacob, MD, Muhammad Idrees, MD, Ronald Boris, MD
Indiana University
Presented By: Adam Calaway

Introduction: Renal tumor enucleo−resection (EN) is an alternative to healthy margin (HM) partial nephrectomy. Oncological safety of EN is dependent on a continuous pseudocapsule (PC) to minimize surgical margins. We compared PC properties and parenchymal margins (PM) in patients undergoing EN and HM partial nephrectomy for clear cell renal cell carcinoma (CCRC).

Methods: A single pathologist retrospectively analyzed tumor and capsule specific variables of EN and HM partial nephrectomies specimens. Descriptive statistics were utilized to compare these groups.

Results: 47 partial nephrectomies were analyzed (34 HM and 13 EN). The PC was complete in 23 (67%) and 9 (69%) of the HM and EN specimens, respectively (p=0.99). Tumor Capsule Invasion (TCI) was present in 19 (56%) and 2 (15%) of HM and EN tumors (p=0.044). Surgical margins were positive in 2 (6%) HM and 1 (7.6%) EN specimens (p=0.45). The amount of normal parenchyma resected was 63% of specimen in HM and 23% in EN (p <0.001). Four tumors (30%) were “true”EN resections with no PM visible. Nine EN tumors had +PM involving roughly 20% of the tumor circumference (Figure 1).

Conclusion: The tumor PC of CCRC appears similar in HM and EN partial nephrectomy specimens. There is considerable volume discrepancy of normal renal parenchymal removed between groups.

Podium #195
ANESTHESIA−LESS OFFICE BASED DIAGNOSTIC AND THERAPEUTIC URETEROSCOPY FOR UPPER URINARY TRACT CARCINOMA.
Ahmad Shabsigh, MD
The Ohio State University Wexner Medical Center
Presented By: Ahmad Shabsigh

Introduction: Endoscopic diagnostic and therapeutic procedures for upper urinary tract (UUT) are mostly done under sedation or general anesthesia. We report our early experience of office based anesthesia−less (ALU), flexible ureteroscopy for the diagnosis, surveillance and treatment of UUT neoplasms.

Materials and methods: We retrospectively reviewed the records of all patients who underwent ALU for UUT carcinoma. Pre−procedure demographics, clinical
data and perioperative outcomes were analyzed. **Results:** 21 patients age 62–90 years underwent office based ALU between January 2009 and July 2014. 81% were males. A total of 80 ureteroscopies were performed. Mean ASA score was 3. Seven patients had history of bladder cancer. No antianxiety drugs or narcotics were given to any patients except of one. All patients had Ta and Tis urothelial carcinoma. Four (19%) patients were found to have high grade disease and needed nephroureterectomy. Cancer specific mortality was 0% at last follow up (0.5–5 years). Ten (12.5%) of ALU included biopsy or fulguration. 4 (1%) ALU included temporary ureteral stent placement. Two patients (9%) had significant discomfort during the procedure and asked for early termination, one of them requested general anesthesia after that. One patient had significant post procedure pain and was admitted for observation. **Conclusion:** Office based anesthesia–less ureteroscopy is feasible, well tolerated and safe. It provides some patients with upper tract urothelial carcinoma a cost effective and excellent alternative for close surveillance and treatment.

**Podium #196**
**DELAYED INTERVENTION AND FINAL PATHOLOGY IN PATIENTS WITH SMALL RENAL MASSES (SRM)**
Scott Hawken, BS, Naveen Krishnan, BS, Sapan Ambani, MD, Jeffrey Montgomery, MD, Khaled Hafez, MD, BCh, David Miller, MD, MPH, Ganesh Palapattu, MD, Alon Weizer, MD, James Stuart Wolf, MD, Todd Morgan, MD
University of Michigan
Presented By: Scott Hawken

**Introduction:** With increasing use of surveillance for SRMs, it is critical to understand whether there are adverse effects of delaying intervention in patients ultimately treated.
**Methods:** We identified SRM (≤4 cm) patients diagnosed between 2005−2014 that underwent surgical resection at the University of Michigan, and classified time to intervention as early or delayed based on the presence of initial surveillance. Demographic and clinical variables were compared among intervention groups. We used multivariable logistic regression to assess the association between time to intervention and adverse pathology (Fuhrman grade 3–4, papillary type 2, sarcomatoid histology, and/or stage >pT2).

**Results:** 359 (76%) and 111 (24%) patients underwent early and delayed intervention, respectively. Median time to intervention was 79(IQR=57−116) vs 291(IQR=188−600) days (p<0.001). Patients undergoing delayed intervention were older (61 vs 58 years, p=0.02) and had smaller masses (39% vs 25% <2cm, p=0.004). Delayed intervention was not associated with adverse pathology; male sex was independently associated with adverse pathology (Table). Of those with delayed intervention, SRM growth rate ≥5 mm/yr was associated with adverse pathology (OR 2.5, 95%CI: 1.1−5.6).

**Conclusion:** Delayed intervention was not associated with adverse pathology. Patients on surveillance with SRM growth rate ≥5mm/yr had higher odds of adverse pathology.
Podium #197
PREDICTORS PREDICTORS OF DELAYED INTERVENTION (DI) FOR PATIENTS ON ACTIVE SURVEILLANCE (AS) FOR SMALL RENAL MASSES: DOES RENAL MASS BIOPSY (RMB) INFLUENCE OUR DECISION?
Sapan Ambani, MD¹, Todd Morgan, MD², Adam Gadzinski, MD³, Bruce Jacobs, MD⁴, Khaled Hafez, MD², David Miller, MD², Jeff Montgomery, MD², Ganesh Palapattu, MD², Alon Weizer, MD², J. Stuart Wolf, Jr., MD²
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Presented By: Sapan Ambani

Introduction: We reviewed a prospective AS cohort to determine whether RMB was associated with avoidance of DI, and to determine predictors of DI while on AS.

Methods: We identified patients starting AS from 6/2009 to 12/2011 with at least 5 months of radiologic follow up. The primary outcome was DI. Clinical, radiologic, and pathologic variables were compared. Kaplan–Meier curves for maintenance of AS were constructed. Cox multivariable regression analysis was performed to assess for predictors of DI.

Results: Of 132 AS patients, 118 had sufficient follow up, with a median radiologic follow up of 29.5 months. Univariate analysis revealed that the DI group had greater initial mass size and faster growth rate compared to continued AS patients. Rate of RMB was similar between the 2 groups. Multivariable analysis showed size >2cm (HR3.65, 95%CI 1.28–10.38, p=0.015), growth rate (continuous by mm/yr: HR1.26, 95%CI 1.12–1.41, p<0.001), but not RMB (HR1.52, 95%CI 0.70–3.30, p=0.29), were associated with increased risk of DI. Time–to–event curves showed that size was closely associated with DI whereas RMB was not (Figure). No patients died from disease, and 1 (1%) patient developed metastases.

Conclusion: At our institution, growth rate and initial tumor size appear to be more influential than RMB in determining DI after a period of AS.
**Podium #198**  
**SURGICAL MORBIDITY IN EXTREMELY OBESE RCC PATIENTS**  
Matthew D. Grimes, MD¹, Michael L. Blute, Jr., MD², Kristin Zorn², Tracy M. Downs, MD², Fangfang Shi, MS², David F. Jarrard, MD², Sara L. Best, MD², Sean P. Hedican, MD², Stephen Y. Nakada, MD², E. Jason Abel, MD²  
¹University of Wisconsin Dept of Urology; ²University of Wisconsin Dept. of Urology  
Presented By: Matthew Grimes

**Introduction:** Extreme obesity (BMI≥40) may be associated with increased postoperative complications after surgery for renal cell carcinoma (RCC). This study evaluated perioperative complications in RCC patients to determine which associated with extreme obesity.

**Methods:** The medical of all RCC patients treated with partial or radical nephrectomy at our institution from 2000–2014 were reviewed with all complications within 90 days classified according to the Clavien–Dindo system. The association between obesity, complications, length of hospital stay, and hospital readmission rates were examined using univariable and multivariable models.

**Results:** Of 843 patients treated surgically for RCC, 100 (11.9%) had BMI≥40. A total of 217 patients (25.6%) experienced any complication within 90 days postoperatively; 40 (4.87%) with wound complications, 26 (3.17%) with cardiac complications, and 6 (0.731%) with urine leak. Extremely obese patients were significantly more likely to develop wound complications (OR 2.52, 95% CI 1.20 to 5.30, p = 0.015). No difference was found for extremely obese patients in overall complication rate (p = 0.150), major complication rate (p = 0.175), cardiac complications (p = 0.980), 30 day hospital readmission (p = 0.914), or length of hospital stay (p = 0.264).

**Conclusion:** Extreme obesity is associated with increased risk of wound complications but not higher overall complications, length of hospital stay, or readmission rates.
Introduction: Some patients undergoing cytoreductive nephrectomy (CN) experience a delay to postoperative systemic therapy (ST) or do not receive it altogether. We evaluated the association of clinicopathologic features with receipt and timeliness of post–operative ST.

Methods: We identified 198 patients treated with CN between 1996 and 2009 at Mayo Clinic. Associations of clinicopathologic features with time to ST were evaluated using Cox regression models.

Results: Postoperative surveillance was pursued in 89 patients, and this did not significantly differ by immunotherapy (1996–2004) or targeted therapy (2005–2009) eras (50% vs 37%, p=0.09). Among the remaining 109 patients, ST was delayed beyond 60 days or not received altogether due to disease progression in 30 patients (27.5%), surgery–related factors in 12 patients (11.0%), and neither in 24 patients (22.0%). On multivariable analysis, older age (HR 0.62, p<0.01), positive nodes (HR 0.38, p<0.01), non–lung metastases (HR 0.32, p<0.01), and open approach (HR 0.30, p<0.01) were associated with longer time to ST, while coagulative tumor necrosis (HR 2.63, p<0.01) was associated with shorter time to ST (Table).

Conclusion: Approximately 60% of eligible patients did not receive ST or experienced a delay beyond 60 days, most commonly related to disease progression. Older age, positive nodes, and non–lung metastases were independently associated with longer time to ST.
Introduction: Enucleation is a type of nephron sparing surgery that is used to remove small renal masses (SRM). Enucleation affords the ability to perform partial nephrectomy in a bloodless field without a hilar clamp. The absence of clamp reduces renal ischemia and potentially produces better renal functional outcomes. Pseudocapsule (PC) vascular architecture was analyzed in order to determine if artery orientation plays a role in minimal blood loss.

Methods: 129 SRM’s (≤4 cm in size) were studied: 7 (5.4%) were AML, 5 (3.9%) were Chromophobe, 83 (64.3%) were Clear Cell (CC), 14 (10.9%) were Oncocytoma and 20 (15.5%) were Papillary Type. Arteries in the PC (with diameters ≥0.2 mm) were classified by their orientation within the PC as parallel, oblique or perpendicular.

Results: Of the 275 arteries measured, 247 (89.9%) were classified as parallel, 24 (8.7%) were perpendicular, and 4 (1.4%) were oblique.

Conclusion: The majority of the SRM’s arteries in the PC running in parallel, creates an avascular plane the surgeon’s advantage. Hilar clamping may not be necessary due to the fact that the arteries that run perpendicular into the tumor may be small enough to control with cautery.
Podium #201
RENAL CELL CARCINOMA CONTAINING ENTRAPPED FAT WITH AND WITHOUT OSSEOUS METAPLASIA

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¹The Ohio State University Department of Urology; ²Department of Urology; ³Department of Pathology

Presented By: Jason Orien

Introduction: Fat confined within renal cell carcinoma (RCC), with or without osseous metaplasia, is a rare finding. This phenomenon is not widely reported in the literature, particularly in partial nephrectomy specimens. We sought to define the prevalence of entrapped fat within RCC pathology specimens, with and without osseous metaplasia, and to correlate this with preoperative imaging for presence of macroscopic fat.

Methods: 518 consecutive RCC nephrectomy specimens were assessed by a single genitourinary pathologist from 2010−2013. Tumors were sampled according to institutional protocol of 1 block per cm of tumor. To reduce sampling bias, prevalence calculations were restricted to pT1a tumors. Available preoperative imaging was evaluated for evidence of tumoral macroscopic fat.

Results: 13 RCC specimens contained fatty elements, 9 had osseous metaplasia, while 4 had entrapped fat only. RCC subtypes were clear cell (n=10), papillary type 1 (n=1), papillary type 2 (n=1), and clear cell papillary (n=1). The pT1a group comprised 225 cases. In pT1a tumors, 9 (4.0%) had fatty elements including 6 (2.7%) with osseous metaplasia and 3 (1.3%) with entrapped fat only. Preoperative imaging revealed 2 tumors for which the diagnosis of angiomyolipoma was considered due to macroscopic fat, however were favored to be malignant based upon additional imaging, thus all tumors were suspected to be RCC preoperatively.

Conclusion: In our relatively large series, entrapped fat, with or without osseous metaplasia, occurred at a frequency of 4.0% in pT1a RCC tumors. Radiologic evidence of fat in these tumors was scarce and rarely posed a diagnostic dilemma.

Podium #202
SARCOPENIA IS INDEPENDENTLY ASSOCIATED WITH INCREASED MORTALITY FOLLOWING RADICAL NEPHRECTOMY FOR LOCALIZED RENAL CELL CARCINOMA

Sarah Psutka, MD¹, Michael Moynagh, MD², Grant Schmit, MD², R. Houston Thompson, MD³, Stephen Boorjian, MD³, Suzanne Stewart, MD³, Christine Lohse, MS⁴, John Cheville, MD⁵, Bradley Leibovich, MD⁶, Matthew Tollefson, MD⁶
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Presented By: Sarah Psutka

Introduction: Our objective was to evaluate sarcopenia as a predictor of cancer−specific (CSS) and overall survival (OS) among patients with localized renal cell carcinoma (RCC) treated with radical nephrectomy (RN).

Methods: Sarcopenia was assessed according to skeletal muscle index (SMI, lumbar skeletal muscle cross−sectional area on preoperative CT/height2) in 390 patients who underwent RN for RCC (2000−10). Obesity was classified by fat
mass index (FMI). Sarcopenic was classified by sex−specific consensus definitions. CSS and OS were estimated with the Kaplan Meier method. Associations with cancer−specific (CSM) and all−cause mortality (ACM) were summarized with hazard ratios.

**Results:** In total, 47% of patients were sarcopenic and 44% were obese by FMI. Sarcopenic patients were older, more likely to be male (p<0.001), use tobacco (p=0.02), and have nuclear grade >3 (p=0.05). Median follow−up was 7.2 years. Sarcopenic patients had inferior 5−year CSS (79% vs. 85%, p=0.05) compared to non−sarcopenic patients and significantly worse OS (65% vs. 74%, p=0.005). Multivariately, sarcopenia was associated with increased CSM (HR 1.59, p=0.05) and ACM (HR 1.42, p=0.04). Neither obesity nor FMI were associated with CSM or ACM. However, patients with both sarcopenia and class I–III obesity demonstrated a trend towards increased CSM (HR 2.0, p=0.05) and ACM (HR 1.5, p=0.10).

**Conclusion:** Sarcopenia is associated with increased mortality following RN for RCC and may facilitate preoperative risk stratification in patients with localized with RCC. Excess adiposity in the setting of sarcopenia may result in compounded risk and warrants further study.
**Poster #1**

**LIPID LEVELS IN AN ACTIVE SURVEILLANCE POPULATION**

Andrew Cohen, MD¹, Brittany Lapin², Chi Wang², Brian Helfand², Kristian Novakovic²  
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Presented By: Andrew Cohen

**Introduction:** Accumulating evidence suggests serum lipid levels influence the risk of prostate cancer aggressiveness. We compared patients based on disease recategorization and evaluated baseline triglyceride, high-density lipoprotein (HDL), low-density lipoprotein (LDL), and testosterone levels.

**Methods:** Men eligible for active surveillance included patients with Gleason score <7, ≤3 cores positive, single core with <50% involvement, clinical stage ≤T2a or tumor volume ≤5% of total biopsy volume. Fasting triglyceride, HDL, LDL, testosterone and free testosterone were recorded. Disease recategorization was defined as Gleason score ≥7, >3 cores positive, single core with ≥50% involvement or tumor volume >5% of total biopsy volume on subsequent biopsy. Low free testosterone was defined as ≤9ng/dL.

**Results:** The cohort consisted of 240 men; 198(82.5%) were Caucasian while average age and BMI were 66.0 ± 7.2 years and 28.5 ± 4.4 kg/m², respectively. After adjustment for age, PSA, obesity, and low free testosterone, every 50 mg/dL increase in triglycerides incurs an increased risk of recategorization. (OR =1.43, 95% CI=[1.03–1.99] p=0.033).

**Conclusion:** Men with risk recategorization had significantly higher mean triglyceride levels which supports managing metabolic syndrome in men on active surveillance. Interestingly, a low free testosterone level was more likely among men with disease recategorization. Several studies have correlated lower testosterone levels with increased serum triglyceride levels.

**Poster #2**

**PROSTATE MRI HAS A SIGNIFICANT IMPACT ON THE DECISION ON WHETHER OR NOT TO BIOPSY: RESULTS OF AN INTERNATIONAL SURVEY**

Connor Rittwage, MPH, Barbara Saltzman, PhD, MPH, Samay Jain, MD  
University of Toledo Medical Center  
Presented By: Connor Rittwage

**Introduction:** In this study, we examined the importance of prostate MRI in the
urologist’s decision to recommend a biopsy for a man who underwent PSA screening.

Methods: A survey was used to determine whether or not a urologist would recommend a biopsy for a patient with certain clinical criteria. This information was collected and statistical analyses were performed to determine how often respondents changed their minds based on the MRI results. The Mann–Whitney U and chi–squared tests were used for group comparisons.

Results: There were 50 respondents. 52% were in an academic practice, 72% routinely used MRI and 34% were fellowship trained in oncology. The Northcentral Section was the most represented (44%) and international respondents made up 34%. The MRI PIRADS score changed the treatment plan approximately 30% of the time. Two groups were identified: Group 1 –MRI changed the treatment plan in a statistically significant manner, and Group 2 –MRI did not. The median age for Group 1 was 59 (IQR 56 and 62) and the median PSA was 5.5 (IQR 4.2 –8.4). For Group 2, the median age was 65 (IQR 63 to 71) and the median PSA was 8.8 (IQR 8.0 to 12.9). The PSA distribution differed significantly between the two groups (p<0.001). Patient PSA was the only variable, other than prostate MRI that affected the treatment decision.

Conclusion: Our international survey shows that prostate MRI results can have an impact on a urologists decision on whether or not to biopsy a patient.

Poster #3

PSYCHOSOCIAL FACTORS ASSOCIATED WITH EPIC SEXUAL DOMAIN SCORES IN LONG–TERM PROSTATE CANCER SURVIVORS

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Presented By: Alexander Helfand

Introduction: Sexual dysfunction is a common burdensome side−effect of prostate cancer treatment. We sought to identify psychosocial predictors of impaired sexual function in long−term survivors.

Methods: Using the Michigan Cancer Registry, we identified prostate cancer survivors diagnosed from 1985–2004. We surveyed a randomly selected cross−sectional sample on psychosocial variables, information−seeking, Expanded Prostate Index Composite (EPIC) sexual domain items, and sexual bother. We defined ‘moderate/big’ bother as major symptom burden. We used multivariable linear regression to evaluate the association between EPIC scores and psychosocial predictors.

Results: Of 2,499 respondents (median 9 years post−diagnosis), 8% reported
erectile dysfunction pre–cancer diagnosis, 68% reported ≥3 sexual symptoms, and 39% had major sexual burden. Only 17% of symptomatic patients reported satisfactory treatment. Higher EPIC sexual domain scores were associated with seeking information on managing sexual difficulties (p<0.001) and greater emotional support from family and friends (p=0.048). Lower scores were associated with self–reported poorer health (p<0.001), information–seeking for long–term cancer side–effects (p=0.002), and avoidance of people (p=0.003). Scores did not significantly vary with treatment for sexual symptoms or sexual satisfaction.

**Conclusion:** Prostate cancer survivors struggle with burdensome sexual symptoms long after treatment. Men with higher sexual function may more easily access emotional support and information on managing symptoms. Men with low scores may worry more about cancer, have a lesser sense of well–being, and isolate themselves. Providing information about sexual rehabilitation in survivorship and strengthening social/emotional support may help reduce sexual symptom burden.

**Poster #4**

**MANAGEMENT OF SYMPTOMATIC LYMPHOCELES DEPENDS ON SIZE AND PRESENCE OF INFECTION**

Ilya Sobol, MD, Christina Ogle, MD, Igor Frank, MD, Stephen Boorjian, MD, Mathew Tollefson, MD

Mayo Clinic

Presented By: Ilya Sobol

**Introduction:** There is a paucity of data to guide treatment of symptomatic lymphoceles. We examined our experience in a large cohort to create a comprehensive treatment algorithm.

**Methods:** Of the 8,081 patients who underwent prostatectomy from 2003–2012, 123 (1.5%) developed a symptomatic lymphocele and their medical records were reviewed retrospectively.

**Results:** Of the 123 patients, 70 had an infected lymphocele (IL) and 53 had a sterile lymphocele (SL). The median time to diagnosis after surgery was 63 vs 22 days for IL and SL, respectively (p<0.001). Percutaneous aspiration had a recurrence rate of 100% vs 64% in the SL vs IL groups (p=0.01). IL required less time with a drain (13 vs 33 days, p<0.001) and fewer IR procedures (3 vs 7, p<0.001) compared to SL. In the SL group, median duration of drainage was 15 vs 58 days for lymphoceles <10cm vs ≥ 10cm (p<0.001). IL and SL had a success rate of 93 and 86% respectively using percutaneous drainage. Laparoscopic unroofing was performed in 18 (15%) patients with SL with a success rate of 94%.

**Conclusion:** Aspiration of symptomatic lymphoceles should be reserved for diagnostic purposes due to high risk of recurrence. ILs are optimally treated with drain placement and antibiotics. While SLs <10cm can be successfully managed with either drain placement or laparoscopic unroofing, those ≥ 10cm should be treated with laparoscopic unroofing due to the significant risk of a protracted course if a drain is utilized.
Poster #5
COMPOSITE AMNIOTIC TISSUE MEMBRANE (AMNIOFIX) AND ITS EFFECT ON EARLY RECOVERY OF ERECTILE FUNCTION POST ROBOTIC ASSISTED RADICAL PROSTATECTOMY (RARP)
Christopher Knoedler, Jr., BA¹, Robert Gaertner, MD²
¹Tulane Medical School; ²Metro Urology
Presented By: Robert Gaertner

Introduction: Amniofix is made from human amniotic membrane and purported to “reduce scar tissue formation, reduce(s) inflammation in the surgical site, enhance(s) healing, and acts as a barrier”. We evaluate its effect on erectile function after use on the neurovascular bundles during bilateral nerve sparing Robotic Assisted Radical Prostatectomy (RARP).

Methods: We retrospectively reviewed a total of 44 consecutive patients with an International Index of Erectile Function (IIEF−5) of >19, the first 22 having undergone surgery without the application of Amniofix, and the next 22 having had the Amniofix product applied to their nerve bundles.

Results: The control group had an average preop IIEF−5 of 23.3 with a post surgery 3 month average IIEF−5 of 12.7. 55% were capable of achieving and maintaining and erection. The patients in the Amniofix group had an average preop IIEF−5 of 22.7 with an average 3 month post op IIEF−5 of 13.1. 61% were able to achieve an erection. (p value for erections 0.689)

Conclusion: Early 3 month results using Amniofix does not appear to significantly improve erectile function post RARP. Further follow up of this group is warranted.

Poster #6
LOW PREOPERATIVE SERUM TOTAL TESTOSTERONE IS ASSOCIATED WITH HIGH−GRADE GLEASON SCORE PROSTATE CANCER.
Sriram Eleswarapu, MD, PhD, Akshay Sood, MD, Mireya Diaz, PhD, Mani Menon, MD, Ali Dabaja, MD
Vattikuti Urology Institute, Henry Ford Health System
Presented By: Sriram Eleswarapu

Introduction: There is currently no consensus on the association between androgen serum concentrations and pathological characteristics of prostate cancer. The association of preoperative total testosterone (TT) serum levels with Gleason score is still controversial. The objective was to investigate associations of preoperative TT levels and pathology−detected characteristics.

Methods: Preoperative TT along with patient characteristics and pathology of 680 patients who underwent radical prostatectomy between 2008 and 2012 were prospectively collected and retrospectively reviewed. Age, prostate specific antigen (PSA), preoperative biopsy and postoperative pathology Gleason scores (bGS and pGS: ≤3+3, 3+4, 4+3, and ≥8), clinical stage (cT1c, cT2/3), pathology stage (pT2, pT3a, pT3b), and surgical margin invasion (R0, R1) were tested variables. Morning TT measured within 6 months prior to surgery was an independent variable. Statistical significance of the association of TT with continuous and categorical variables was assessed with Pearson correlation and ANOVA, respectively. Means and standard deviations are reported. Results: Preoperative testosterone was 324±134 ng/dL (range ≤10 to 810 ng/dL). This was measured at a mean of 25 days (range 0−173 days) prior to surgery. TT was significantly associated with both bGS and pGS (p=0.02 and 0.047, respectively).
The TT for bGS ≤3+3, 3+4, 4+3, and ≥8 were 340±134, 325±128, 291±138, and 308±147, respectively. The TT for pGS ≤3+3, 3+4, 4+3, and ≥8 were 334±136, 333±128, 304±145, and 296±135, respectively.

**Conclusion:** In patients undergoing radical prostatectomy, low preoperative serum TT are associated with high-grade postoperative pathology Gleason score. Baseline TT levels might have prognostic potential for assessing prostate cancer.

**Poster #7**

VALIDATION OF AN ACTIVE SURVEILLANCE THRESHOLD FOR THE CCP SCORE IN CONSERVATIVELY MANAGED MEN WITH LOCALIZED PROSTATE CANCER

Jack Cuzick¹, Steven Stone, PhD², Gabrielle Fisher, PhD¹, Bernard North, PhD¹, Daniel M. Berney, FRCPATH², Luis Beltran, RGC³, David C. Greenberg, PhD⁴, Henrik Moller, MD⁵, Julia E. Reid, MStat², Alexander Gutin, PhD², Jerry S. Lanchbury, PhD², Michael K. Brawer, MD⁶, Peter T. Scardino, MD, FACS⁷

¹Wolfson Institute of Preventive Medicine, Queen Mary University of London; ²Myriad Genetics, Inc.; ³Barts Cancer Institute; ⁴National Cancer Registration Service, Public Health England; ⁵King’s College London; ⁶Myriad Genetic Laboratories, Inc.; ⁷Memorial Sloan-Kettering Cancer Center

Presented By: Jack Cuzick

**Introduction:** Better risk stratification is needed to appropriately select men for active surveillance (AS). Here, we present the validation of an AS threshold for the CCR score (CCP score and CAPRA) for predicting prostate cancer mortality (PCM) in conservatively managed patients.

**Methods:** The training cohort (N=505) consisted of men with Gleason scores ≤3+4; PSA < 10 ng/ml; < 25% cores positive; and clinical stage ≤ T2a. A threshold CCR score of 0.80 was selected; 90% of the men in the training cohort had scores below the threshold. Threshold performance was evaluated in two cohorts of conservatively managed men (TAPG1 [N = 180] and TAPG2 [N = 585]). We also evaluated the threshold in a commercially tested cohort (N = 4218).

**Results:** In the TAPG2 cohort, 10.3% of patients were below the threshold. There were no deaths in patients below the threshold and the Cox proportional hazard estimate of 10–year PCM associated with the CCR threshold was 3.3%. In the combined cohort (TAPG1 and TAPG2), the 10–year risk of PCM associated at the threshold was 3.2% and there were no observed prostate cancer deaths in patients below the threshold. In the commercially tested cohort, 36% of patients qualified for AS on clinical parameters alone. When the CCP score was included, 60% of patients had CCR scores below the AS threshold.

**Conclusion:** Applying the threshold to men recently diagnosed with prostate cancer substantially enlarged the group who might be considered for AS.

Financial Disclosure: Study funded by Myriad Genetics, Inc.
Poster #8
PATIENT AUA RISK CLASSIFICATION BASED ON COMBINED CLINICAL CELL CYCLE RISK (CCR) SCORE

Jack Cuzick¹, Steven Stone, PhD², Julia E. Reid, MStat², Gabrielle Fisher, PhD¹, Henrik Moller, MD³, Michael K. Brawer, MD⁴, Peter T. Scardino, MD, FACS⁵, Neal Shore, MD⁶
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Presented By: Jack Cuzick

Introduction: The CCP score, when combined with CAPRA (CCR score), estimates prostate cancer mortality (PCM) within 10–years of diagnosis. Here, we evaluated how the prognostic information from CCR can reclassify patients from their initial AUA risk category assignment.

Methods: A risk reclassification scheme was applied to patients with clinically localized prostate cancer diagnosed by needle biopsy and managed conservatively in the UK (N=765). PCM risk was estimated according to CCR. Patients were reclassified according to the interquartile range (IQR) of risk predicted by CCR for each AUA risk category. The same reclassification scheme was applied to a set of patients tested at Myriad Genetic Laboratories.

Results: Based on clinicopathologic features alone the UK cohort was classified as low (N=101), intermediate (N=240) or high AUA risk (N=424). After calculating patient risk of PCM based on CCR, 17% of AUA low risk men were reclassified to intermediate risk, 31% of AUA intermediate risk men were reclassified (16% low and 15% high risk), and 14% of AUA high risk were reclassified to intermediate risk. Analysis of commercially tested patients (N=3965 with no outcome data) resulted in reclassification of 20% of AUA low risk men to intermediate risk, 46% of AUA intermediate risk men (21% to low and 25% to high risk), and 24% of AUA high risk men.

Conclusion: Prognostic information in the CCR score resulted in significant risk reclassification for patients with localized disease when compared to stratification based on AUA risk categories.

Financial Disclosure: Study funded by Myriad Genetics, Inc.

Poster #9
SIGNIFICANT REDUCTION IN THERAPEUTIC BURDEN FROM USE OF CCP TEST IN TREATMENT DECISIONS AMONG NEWLY DIAGNOSED PROSTATE CANCER PATIENTS IN A LARGE PROSPECTIVE REGISTRY

Neal Shore, MD¹, Judd Boczko, MD², Naveen Kella, MD³, Brian J. Moran, MD⁴, Fernando J. Bianco, MD⁵, E. David Crawford, MD⁶, Thaylon Davis, BS⁷, Rajesh Kaldate, MS⁷, Kirstin M. Roundy, MS⁷, Michael K. Brawer, MD⁷, Mark L. Gonzalgo, MD, PhD⁸
¹Carolina Urologic Research Center; ³WESTMED Medical Group; ³The Urology and Prostate Institute; ⁴Prostate Cancer Foundation of Chicago; ⁵Urological Research Network; ⁶University of Colorado Health Science Center; ⁷Myriad Genetic Laboratories, Inc.; ⁸University of Miami Miller School of Medicine

Presented By: Neal Shore

Introduction: The cell cycle progression (CCP) test is a validated molecular
assay that assesses risk of prostate cancer–specific disease progression and mortality when combined with standard clinicopathologic parameters. PROCEDE−1000 is the largest prospective registry to evaluate CCP test impact on personalizing prostate cancer treatment.

**Methods:** Untreated patients with newly diagnosed (≤ 6 months), clinically localized prostate adenocarcinoma were enrolled. The physician’s initial therapy recommendation (pre−CCP) was recorded on the first questionnaire. The CCP test was then conducted on prostate biopsy tissue. Three post−CCP questionnaires recorded the physician’s revised treatment recommendation, physician/patient treatment decision, and actual treatment administered. Changes in treatments between the pre−CCP and post−CCP questionnaires demonstrated the impact of CCP testing on treatment decisions.

**Results:** There was a significant reduction in the treatment burden (P<0.0001), with the mean number of treatments per patient decreasing from 1.72 to 1.16 in actual follow−up. The CCP risk score caused a change in actual treatment administered in 48% of patients; of these changes, 72% were reductions in treatment. These reductions occurred in radical prostatectomy (34%), radiation therapy (39% primary; 55% adjuvant), brachytherapy (46% interstitial; 63% HDR) and hormonal therapy (30% neoadjuvant; 50% concurrent) treatments. Although a high percentage of patients (34.6%; 417/1206) were recommended for conservative management pre−CCP testing, a further 2.6% increase was recorded for non−interventional treatments during actual follow−up.

**Conclusion:** The CCP risk assessment score has a significant impact in helping physicians and patients reach consensus on an appropriate personalized treatment decision.

Financial Disclosure: Study funded by Myriad Genetic Laboratories, Inc.

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**Poster #10**

**ANATOMIC VARIABLES OF THE PELVIC FLOOR IDENTIFIED ON MAGNETIC RESONANCE IMAGING: IMPACT ON EARLY URINARY CONTINENCE RECOVERY POST−RADICAL PROSTATECTOMY**

Jose Flores, MD, Ayman Soubra, MD, Travis Pagliara, MD, Isaac Palma, Neil Wasserman, MD, Stephanie Jarosek, PhD, Christopher Warlick, MD, Christopher J. Weight, MD, Nissrine Nakib, MD, Badrinath Konety, MD

University of Minnesota

Presented By: Jose Flores

**Introduction:** After radical prostatectomy a postoperative loss of bladder control remains one of the most significant and bothersome concerns. In this study we used preoperative magnetic resonance imaging (MRI), to evaluate anatomic variables of the pelvic floor, and to determine any associations existed between MRI findings and early urinary continence recovery after radical prostatectomy.

**Methods:** Patients undergoing radical prostatectomy at our center between January 2011 and August 2014 underwent preoperative mpMRI. Urinary continence recovery was evaluated 6 months postoperatively (continent up to 1ppd or incontinent =>1ppd). We evaluated anatomic variables in T2 images. To compare subgroups, we used the Student t test and performed logistic regression and Cox regression assessments. P < 0.05 considered statistically significant.

**Results:** 166 patients were assessed. For 6 months follow−up 12.3% recovered urinary continence at 1 month, 47.9% at 3 months and 67.8% at 6 months. Assessing each variable independently, we only found a significant association
between urinary continence recovery and a longer membranous urethra length (MUL) at 1 (P = 0.02), 3 (P = 0.004), and 6 months (P = 0.005). Per our logistic regression analyses, we also found the same significant association. Cox regression analyses determined that a pre-operative MUL of 14.9 mm had the best association with early urinary continence recovery (P = 0.002).

**Conclusion:** After radical prostatectomy, timing of urinary continence recovery was mostly associated with a longer MUL. This finding suggests that this anatomic preoperative factor should be assessed pre-operatively and attempted to preserve it.

Source of funding: None

**Poster #11**

**POST–OPERATIVE COMPLICATIONS COMPARING ROBOT ASSISTED VERSUS OPEN PARTIAL NEPHRECTOMY: A PROPENSITY SCORE MATCHED PAIRED ANALYSIS**

Christian Tabib, BS,Clinton Bahler, MD, Jason Sea, MD, Rudolph Bowens, MD, Jagan Kansal, MD, MBA, Liang Cheng, MD, Richard Bihrlke, MD, Thomas Gardner, MD, Chandru Sundaram, MD

Indiana University

Presented By: Clinton Bahler

**Introduction:** To assess postoperative complication rates of open (OPN) and robot assisted partial nephrectomy (RAPN) using the modified Clavien–Dindo grading system.

**Methods:** We retrospectively reviewed 384 consecutive patients (186 RAPN, 162 OPN) from January 2008 to February 2014 at a single institution for all postoperative complications. A propensity score was calculated for each patient based on: age, tumor diameter, Charlson score, pre-op GFR, solitary kidney, body mass index, and gender. Matching was done using propensity scores leaving 108 patients in each study arm. Postoperative complications were classified on the modified Clavien–Dindo grading system.

**Results:** After the propensity score matching was done, no significant difference in total (p=0.64), minor (p=0.76), or major complication (0.27) rates were seen. On univariate analysis there was a significant difference seen between OPN and RAPN in positive margins (9 vs. 0), LOS (3.86 vs. 2.75 days), operating room time (156 vs. 223 minutes), EBL (356 vs. 193 mL), and urine leaks (9 vs. 0), respectively. There were also 2 ureteral injuries during OPN compared to 0 in RAPN (p=0.15). Multivariable logistic regression analysis showed a significant increase in risk of any complication due to the following: age (p=0.06), female (p=0.03), tumor diameter (p=0.01), and Charlson index (p=0.001).

**Conclusion:** When using propensity scoring to match open and robot-assisted partial nephrectomy there is no significant difference in total, minor, or major complication rates for all clinically staged T1 renal masses. RAPN provides advantages over OPN in terms of LOS and EBL while having a longer operative time.
Poster #12
VENOUS THROMBOEMBOLISM FOLLOWING NEPHRECTOMY: THIRTY DAY INCIDENCE AND RISK FACTORS FROM NATIONAL MULTI−INSTITUTIONAL DATA
Richard Matulewicz, MS, MD, Channa Amarasekera, MD, Yousef Al-Shraideh, MD, Irene Helenowski, PhD, Borko Jovanovic, PhD, Shilajit Kundu, MD
Northwestern University Feinberg School of Medicine
Presented By: Richard Matulewicz

Introduction: Venous thromboembolism (VTE) is a potentially devastating postoperative complication which includes deep venous thrombosis (DVT) and pulmonary embolism (PE). We seek to define factors associated with an increased risk for VTE in the thirty days following nephrectomy.

Methods: We identified patients undergoing nephrectomy, partial nephrectomy, or nephroureterectomy captured by the ACS−NSQIP database from 2006 to 2012. Variables were compared between DVT/PE and non−DVT/PE. Cases were substratified between open and laparoscopic/minimally invasive cases (L/MIS).

Results: 13,208 cases were analyzed. The 30−day rate of DVT and PE following all surgeries were 0.8% and 0.5%, respectively. DVT and PE were significantly (both p<0.001) more common in open surgery (1.2%, 0.7%) compared to LAP/MIS (0.5%, 0.3%). Factors associated with postoperative DVT were diabetes, dyspnea, prior stroke, poor functional status, ASA class 3+4, and longer operative time. No factors were significant for an increased risk of DVT on MV. For PE, significant risk factors were dyspnea, history of COPD, metastatic cancer, age, and increased operative time. On MV for all cases, increasing age, dyspnea, and disseminated cancer had increased odds ratios for PE (1.1 for every 5 year increase, 2.7, and 2.5 respectively). Each additional 15 minutes of operative time also carried a higher risk of PE on multivariate analysis. Preoperative dyspnea had a higher OR for PE postoperatively in patients undergoing L/MIS cases than open, 3.4 vs. 2.4.

Conclusion: VTE post nephrectomy is uncommon but more frequent in open surgery. Dyspnea, a potentially modifiable factor, contributes greatest to the risk of PE.

Poster #13 - WITHDRAWN

Poster #14
RELIABILITY OF THE RENAL NEPHROMETRY SCORING SYSTEM AMONG RADIOLOGISTS
Natalie Singer, MD¹, Lena Gowharji, MD², Haitham Elsamaloty, MD², Samay Jain, MD², Terrence Lewis, MD², Robert Coombs, MD², Khaled Shahrour, MD²
¹University of South Carolina; ²University of Toledo
Presented By: Khaled Shahrour

Introduction: To compare the reliability of the RENAL nephrometry scoring system between radiologists and urologists and prove that the RENAL score is a reliable and reproducible measure between urologists and radiologists.

Methods: We performed a retrospective review of computerized tomography (CT) scans of patients with renal masses between 2007 and 2012. CT scans with masses that met the inclusion criteria were assigned a RENAL score by 3 radiologists, 2 urologists, and 1 urology resident. They were each provided with a
standardized description of the RENAL score and its application at the beginning of the study. Each observer independently documented a detailed RENAL score for each mass using CT software. The Krippendorff’s alpha coefficient was used to detect inter-rater reliability of ratings. Paired t-test was used to compare between radiologists and urologists groups.

**Results:** A total of 64 patients and 72 distinct renal tumors were analyzed. Mean RENAL score was 7.83±1.95 and 8.54±3.31 by the radiologists and urologists, respectively. Reliability coefficient for each component of the RENAL score and total score were 0.88 (R), 0.41 (E), 0.58 (N), 0.43 (A), 0.65 (L), and 0.77 respectively. Reliability coefficient between radiologists was higher than that between urologists (0.81 vs. 0.73).

**Conclusion:** The RENAL scoring system is a reliable tool that should be used by both urologists and radiologists when reporting renal masses. Higher inter-observer correlation among radiologists indicates that adoption of this system by radiology is feasible to standardize the reporting of renal masses.

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**Poster #15**

**APPLICATION OF LONG ACTING PAI-1 DURING SUTURELESS PARTIAL NEPHRECTOMY IN MICE**

Khaled Shahrour, MD, Rick Keck, BSc, Jerzy Jankun, PhD

University of Toledo

Presented By: Khaled Shahrour

**Introduction:** Plasminogen activator inhibitor-1 (PAI-1) inhibits lysis of clot. Objective is to test PAI-1 effect on bleeding during partial nephrectomy in mice.

**Methods:** Eleven-week old male mice were intravenously infused with tPA or saline. Fifteen minutes later, midline incision was done and left kidney was exposed. Hilum was clamped for 30 seconds while resecting the lower pole. Previously weighted gauze containing PAI-1 or saline was applied for 30 minutes. Then, the whole kidney is excised. The gauze was weighed along with an additional pre-weighed gauze used to absorb any blood remaining in the plastic wrap. Blood loss was measured by subtracting the pre-weight of gauzes from the final weight. The weight of resected piece & remaining kidney were recorded for analysis of variability of resection size. there were three groups.

- Group 1 (procedure control) was infused with saline & kidney was exposed to PAI-1 (n1=3).
- Group 2 was infused with tPA & kidney was exposed to saline (n2=8).
- Group 3 was infused with tPA & kidney was exposed to PAI-1 (n3=10).

Primary outcome was blood loss as an absolute value & when standardized by ratio of resected kidney to whole kidney (weighed blood loss) in groups 2 & 3.

**Results:** There was statistically significant difference between the weighed blood loss means (p=0.0177) but not between absolute blood loss means (p = 0.0519).

**Conclusion:** Kidneys exposed to PAI-1 during partial nephrectomy are associated with less blood loss. Other potential roles in hematuria, and nephrolithotomy will be investigated.
Poster #16
EVALUATING FOUR METHODS FOR CALCULATING RENAL PARENCHYMAL VOLUME LOSS AFTER PARTIAL NEPHRECTOMY
Clinton Bahler, MD, Hitesh Dube, BS, Kevin Flynn, BS, David Yang, BS, Ryan Zipper, BS, Matthew Tellman, BS, Chandra Flack, BS, Ronald Boris, MD, Kumar Sandrasegaran, MD, Chandru Sundaram, MD
Indiana University
Presented By: Clinton Bahler

Introduction: Estimation techniques and slice–by–slice three–dimensional models have been used, but few studies have evaluated the accuracy, ease of use, and reliability of these methods.

Methods: Twenty–four patients were selected who underwent partial nephrectomy. Each patient had the pre– and postoperative volume calculated by two experienced (prior experience >50 volume calculations) and one novice investigator (no prior experience) under the direction of a board certified radiologist. Each investigator used IntelliSpace Portal 6 software on CT scans in a slice–by–slice manner to calculate volumes (semi–automatic segmentation and manual hand–drawn) and two estimation techniques. Pearson correlations and Student's T–test were used.

Results: The semi–automatic segmentation technique had a strong correlation to the gold standard hand–drawn technique for the two experienced (0.98 and 0.98) and the four novice investigators (0.99, 0.98, 0.97, and 0.70). The ellipse (0.61–0.76) and cylinder (0.49–0.80) estimation techniques had lower correlation with the hand–drawn technique regardless of experience level. The time to calculate a single kidney volume for both the semi–automatic and hand–drawn was not different amongst the experienced investigators (6.2 vs. 6.9 minutes, p=0.17). The novice investigators (14.5 minutes) took significantly longer (p<0.001), but improved when comparing their first three patients to their last three (16.5 vs. 12.6 minutes, p=0.01). Investigators felt the semi–automatic technique was both more accurate (p<0.001) and less fatiguing (p<0.001) than the hand–drawn technique.

Conclusion: The semi–automatic segmentation technique for volume calculation had similar precision as the manual hand–drawn technique, had a short learning curve, and was felt to be less fatiguing.

Poster #17
ASSESSING THE ACCURACY OF RENAL MASS BIOPSY: ACHIEVING THE PATHOLOGIC “TRIFECTA”
Joshua Roth, MD, Chandra Flack, MD, Aashish Patel, MD, Ronald Boris, MD
Indiana University
Presented By: Joshua Roth

Introduction: Utilization of renal mass biopsy (RMB) is increasing to assist with treatment strategy and surgical planning. We sought to determine diagnostic rates and accuracy of RMB over time at our institution.

Methods: Consecutive patient RMB were analyzed from 2010 – 2014. Non–diagnostic rates were evaluated. Concordance between RMB and final surgical pathology for the presence of malignancy, final histology, and grade was evaluated. The term “trifecta” was used when RMB correctly predicted cancer, histology, and grade. Multivariable analysis was utilized to identify predictors of pathologic “trifecta”.
Results: Of 148 patients undergoing RMB, the non–diagnostic rate was 17% (11). Final pathology (nephrectomy/partial nephrectomy) was available in 78 patients (53%). Cancer concordance was 95%, histologic accuracy 74%, grade 69%. Forty–seven RMB (60%) achieved the “trifecta,” which improved significantly over time. While histologic accuracy improved (p trend = 0.013), predicting malignancy (p trend = 0.890) and grade (p trend = 0.258) remained relatively constant. Only high–grade tumors and fine needle aspiration (vs. core) predicted a lower likelihood of pathologic “trifecta”. (Table 1).

Conclusion: Non–diagnostic RMB rates are relatively low. Cancer presence can be reliably predicted and improvement in histologic accuracy is well demonstrated over time. In well–selected patients, RMB can provide additional information that may significantly assist in preoperative decision making for patients with renal masses.

Table 1: Odds of not achieving concordance trifecta

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
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<tr>
<td>Age</td>
<td>0.97</td>
<td>0.91–1.02</td>
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</tr>
<tr>
<td>Sex (female vs. male)</td>
<td>0.82</td>
<td>0.23–2.98</td>
<td>0.764</td>
</tr>
<tr>
<td>Tumor Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;4 cm</td>
<td></td>
<td>Reference</td>
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<tr>
<td>4–7 cm</td>
<td>0.70</td>
<td>0.16–3.03</td>
<td>0.630</td>
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<tr>
<td>7–10 cm</td>
<td>0.70</td>
<td>0.31–144.03</td>
<td>0.225</td>
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<td>&gt;10 cm</td>
<td>0.14</td>
<td>0.01–10.47</td>
<td>0.370</td>
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<tr>
<td>High grade vs. low</td>
<td>9.34</td>
<td>2.08–41.85</td>
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<tr>
<td>FNA vs. core</td>
<td>61.26</td>
<td>4.45–844.36</td>
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<td>Dedicated pathologist</td>
<td>0.69</td>
<td>0.14–3.41</td>
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Poster #18
NONTROPICAL CHYLURIA AFTER PARTIAL NEPHRECTOMY: A FREQUENTLY MISSED DIAGNOSIS
Benjamin Sherer, MD, John Richgels, Kaitlyn Weidenbach, MD, John Hibbeln, MD, Kalyan Latchamsetty, MD, Christopher Coogan, MD, Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Benjamin Sherer

Introduction: Globally, chyluria is most frequently caused by Wucherereria bancrofti, a parasitic filarial roundworm endemic to tropical regions. Chyluria after partial nephrectomy has been reported in case reports, but a true incidence is unknown.

Methods: We retrospectively reviewed our surgical database and identified all patients who underwent partial nephrectomy by one of three surgeons from 2009–2014. Patients with pre and postoperative CT scans of the abdomen/pelvis were included for evaluation. Two radiologists, blinded to the original imaging reports, independently re–examined images for the presence of chyluria (fat–fluid levels in the urinary bladder).

Results: Seventy patients met inclusion criteria and 164 postoperative CT scans available for review (mean = 2.3 scans per patient, median = 1, range = 1–10). 13 patients (18.6%) had definitive evidence of chyluria on a postoperative CT scan. Two additional patients (1.4%) had possible/questionable chyluria. Mean time from surgery to visible chyluria on imaging was 19.7 months (range 1 to 51 months). In 7 of 13 (54%) patients, chyluria was not present on the initial
postoperative CT scan but was present on subsequent images. Rates of chyluria were similar after robotic (4/22=18.2%) vs open (9/48 =18.8%) approaches. **Conclusion:** This is the first study to date to report the relative frequency of chyluria development after partial nephrectomy. Fat−fluid levels in the urinary bladder are a subtle finding that is often missed on post−surgical imaging. Although chyluria is often asymptomatic, urologists should be aware of the potential for clinically relevant sequelae including infection, dysuria, renal colic, and nutritional deficiency.

**Poster #19**  
**DURABILITY OF STOMAL REVISIONS OF CATHETERIZABLE CHANNELS**  
Travis Pagliara, MS Fin, MD, Daniel Liberman, MD, Sean Elliott, MD  
University of Minnesota  
Presented By: Travis Pagliara

**Introduction:** Up to 55% of continent catheterizable channels will develop stenosis over time. Revision surgery for stenosis has an unknown risk of recurrence, stomal incontinence, and complication in what is commonly a high risk population.  
**Methods:** We retrospectively reviewed the charts of 74 patients who underwent catheterizable channel revision or replacement from 2000 to 2014 for stomal stenosis or difficult catheterization at the Universities of Minnesota, Utah, and Michigan. The primary outcome was continued ability to catheterize the channel post−operatively without surgical dilation or revision. Secondary outcomes included channel continence and post−operative complications.  
**Results:** There was a statistically significant relationship between the type of revision surgery chosen and the type of channel as well as its etiology (p<0.05). Overall success was 64.9%(50%−80% range) but the various revisions were not statistically different(p=0.104).There was no significant difference in the degree of incontinence, but severe incontinence was rare. Overall complication rate was 28.4% with the majority of the complications being minor at grade 1−2 (25.3%).  
**Conclusion:** By revision type the primary outcomes were similar across rates of re−intervention. Those with congenital neuropathic bladder required more complex revisions. The post−op incontinence rates were similar as well but did trend toward a higher rate of incontinence with channel replacement surgery. We present our general management algorithm for channel stenosis based on length of stenosis, the amount of redundant channel available for reconstruction, and the presence or lack of a continence mechanism prior to intervention.

**Poster #20**  
**SUB−NOXIOUS INTRAVESICAL LPS INDUCES BLADDER INFLAMMATION, PELVIC PAIN AND VOIDING DYSFUNCTION IN URO−OVA/OT−I MICE: A MAPP RESEARCH NETWORK ANIMAL MODEL STUDY**  
Paul Kogan, MD¹, Suming Xu, MS¹, Pengchao Li, MD², Michael A. O'Donnell, MD¹, Susan Lutgendorf, MD¹, Catherine S. Bradley, MD¹, Karl J. Kreder, MD¹, Yi Luo, MD, PhD¹  
¹University of Iowa Hospitals and Clinics; ²First Affiliated Hospital with Nanjing Medical University  
Presented By: Paul Kogan

**Introduction:** We previously demonstrated that URO−OVA/OT−I mice
spontaneously developed interstitial cystitis/bladder pain syndrome (IC/BPS) at ≥10 weeks of age. In this study we sought to produce IC/BPS earlier than 10 weeks with an external irritant at sub-noxious levels to reproduce the natural history of IC/BPS such as flares.

Methods: URO–OVA/OT–I mice (female, 5–6 weeks old) were divided into 4 groups. Group 1 (n=11) received intravesical PBS and Group 2–4 (n=12, 19 and 10, respectively) received a low dose (1 μg) of intravesical lipopolysaccharide (LPS). Voiding habits and pelvic pain sensitivity were measured using micturition cages and von Frey filaments. Groups 1 and 2 were sacrificed after 1 day and the bladders processed for RT–PCR and H&E staining. Groups 3 and 4 were analyzed and harvested at 7 and 14 days after treatment.

Results: Histologic inflammation was not seen in Group 1, 3 and 4 mice. However, inflammation was seen in 10/12 of the Group 2 mice. Decreased volume voided per micturition (p=0.013) and increased voiding frequency (p=0.001) were seen for Groups 2–4. Increased response to pelvic stimulation was seen in Groups 2–4 for filament forces of 4 g (p=0.001) and as low as 0.4 g for groups 2 and 3 (p=0.016). Finally, increased inflammatory cytokines IL–1β and IL–6 along with those for CD8 and IFN–γ were seen in the bladders of Group 2 mice.

Conclusion: Immature URO–OVA/OT–I mice treated with sub-noxious intravesical LPS develop symptom flares seen in IC/BPS, providing a novel model for IC/BPS research.

Poster #21
INTRAVESICAL FORMALIN FOR HEMORRHAGIC CYSTITIS: A CONTEMPORARY COHORT
Matthew Ziegelmann, MD, Stephen Boorjian, MD, Daniel Joyce, Brian Montgomery, MD, Brian Linder, MD
Mayo Clinic Rochester
Presented By: Matthew Ziegelmann

Introduction: To evaluate outcomes in a contemporary cohort undergoing intravesical formalin treatment for hemorrhagic cystitis after radiation.

Methods: We identified 104 patients hospitalized with intractable hemorrhagic cystitis between 2004 and 2014. Of these, seven patients were treated with intravesical formalin. All patients failed more conservative measures including saline bladder irrigation, clot evacuation, and intravesical Alum. We evaluated the need for further intervention after formalin therapy (including dose escalation) and long term outcomes.

Results: Median patient age was 81.6 years (IQR 79:85). Etiology was radiation in all cases (prostate n=5, cervical n=2). Formalin concentration range was 1–4%, with dose escalation used in treatment failures. Four patients (57%) were treated with a single dose of formalin, one patient received 2 doses, and two patients received 3 doses. Six patients (86%) experienced hematuria resolution at an average of 4.8 days after formalin instillation (range 0–17 days). Mean follow-up was 20 months (IQR 6:25). Four patients (56%) required no additional therapy, two patients underwent delayed cystectomy, and one patient was managed with chronic nephrostomy tube drainage.

Conclusion: Intravesical formalin remains an important tool for treating refractory hemorrhagic radiation cystitis, with roughly 50% of patients in our cohort requiring no additional therapy. Fifty percent of patients in our cohort requiring no additional therapy.
Poster #22
ANTIBIOTIC PROPHYLAXIS PRIOR TO SIMPLE OFFICE CYSTOURETHROSCOPY: IS THE AUA BEST PRACTICE STATEMENT TOO STRINGENT?
Patrick Cockerill, MD, Cameron Charchenko, MD, Deborah Lightner, MD, Igor Frank, MD
Mayo Clinic
Presented By: Patrick Cockerill

Introduction: The American Urologic Association Best Practice (AUA−BP) (2008) statement concluded that antibiotic prophylaxis for simple office flexible cystourethroscopy (OC) is justified in patients with risk factors (RF) for urinary tract infection (UTI). We prospectively evaluated a population undergoing OC in the context of those risk factors.

Methods: We prospectively evaluated 242 consecutive asymptomatic patients who underwent OC. 209 (86%) had pre−procedure urinalyses. RF for UTI based on AUA−BP statement were assessed. Patients were contacted two weeks after OC and queried for development of UTI.

Results: There were 163 active or former smokers (67%), 24 steroid use (10%), 12 transplant patients (5%), 9 indwelling urethral or ureteral catheters (4%), 26 performing clean intermittent catheterization (11%), 9 history of elevated postvoid residual (10%), 17 recent hospitalization (7%), 6 bladder stones (3%), 5 ureteral obstruction (2%), and 10 retrograde pyelograms performed (4%). 186 (77%) patients had ≥1 and 76 (31%) ≥2 AUA−BP RF for UTI. 27 (11%) screening urinalyses were concerning for UTI (pyuria on microscopy, positive gram stain, or leukocytes and nitrites on dipstick urinalysis). 11 patients (5%) received antibiotic prophylaxis. 97% answered the follow up questionnaire: 17 (7%) experienced dysuria or urgency, 3 (1.2%) sought treatment, while 2 (0.8%) developed culture proven UTI, both with 1 AUA−BP RF.

Conclusion: Irritative voiding symptoms suggestive of a UTI occur infrequently post−procedural in an asymptomatic population undergoing OC. While the population was heavily prescreened with urinalysis, this suggests that the AUA−BP on antibiotic use prior to OC risks overtreatment.

Poster #23
NATIVE NEPHRECTOMY WITH RENAL TRANSPLANTATION DECREASES HYPERTENSION MEDICATION REQUIREMENTS IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE IMPROVES QUALITY OF LIFE
Ethan Ferguson, BS, Clinton Bahler, MD, Chandru Sundaram, MD
Indiana University
Presented By: Clinton Bahler

Introduction: Autosomal dominant polycystic kidney disease is a chronic medical condition with potentially severe, disabling complications impacting quality of life. Unilateral and bilateral native nephrectomies are thought to reduce mechanical symptoms of kidneys with significant cyst burden, and have recently been shown to reduce the morbidity related to hypertension.

Methods: Patients with polycystic kidney disease who underwent renal transplantation (n=144) were selected for study. Patients were contacted by phone and offered a quality of life survey (SF36v2) by phone, mail, or Internet. Data was tabulated and Students T test used for analysis.

Results: In our study, 56 participants were divided into renal transplant with no
(n=21), unilateral (n=18), or bilateral nephrectomy (n=17). Participants in the bilateral nephrectomy group demonstrated increased quality of life when compared to transplant–only related to physical functioning (85 vs 72, p=0.05) and general health (70 vs 53, p=0.02) while bodily pain (85 vs 69, p=0.06) and vitality (65 vs 52, p=0.06) were nearing significance (see figure). There was no difference in mental and emotional health between groups.

**Conclusion:** This data suggest that native nephrectomy is associated with improved quality of life, which could influence treatment decisions in autosomal dominant polycystic kidney disease patients following renal transplantation.

**Poster #24**  
**NOVEL USE OF DUAL ENERGY CT IN GUIDING TREATMENT OF COMPLEX RENAL CYSTS**

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Southern Illinois University, School of Medicine  
Presented By: Julia Fiuk

**Introduction:** Dual energy CT (DECT) is a novel imaging modality in the management of complex renal cysts.

**Methods:** Retrospective case series of 7 patients with complex renal cysts imaged via DECT. All patients had prior ultrasound or CT imaging. DECT imaging obtained when initial imaging was indeterminate. Per standard DECT protocol, two simultaneous abdominal scans obtained at 80 kVp and 140 kVp; virtual noncontrast images reconstructed by a subtraction algorithm. All imaging and subsequent treatments reviewed. A literature search of existing publications was performed.

**Results:** Seven patients with DECT imaging were identified with cysts from 0.6−8 cm (mean 3.9cm). Six patients with initially suspicious lesions had no iodine uptake on DECT, resulting in surveillance instead of standard practice surgical intervention. One patient had mild iodine uptake on DECT, leading to a robotic partial nephrectomy. (Table 1). Literature search yielded 10 peer reviewed articles, with 1 urologic publication. Key findings include DECT as an accurate way to identify renal cysts. Iodine uptake is an effective predictor of renal enhancement in otherwise indeterminate lesions. DECT reduces radiation dose up to >50%.

**Conclusion:** DECT successfully downgraded management to surveillance in patients who would have otherwise undergone surgical intervention. Use of DECT lowered total radiation dose by precluding the need to obtain pre-contrast images.
Introduction: Treatment options for interstitial cystitis (IC) include instillation or submucosal injection of different local anesthetics, antibiotics, or corticosteroids. Our main objective was to evaluate the effect of a combined intravesicular submucosal injection of a solution of 4 agents: lidocaine, triamcinolone, heparin, and gentamicin in patients with IC.

Methods: For our study period (July 1, 2009, through July 31, 2014), we assessed outcomes in 22 patients with IC who underwent, via cystoscopy, intravesicular submucosal injection of 25 cc of 2% lidocaine, 80 to 200 mg of triamcinolone, 10,000 IU of heparin, and 80 mg gentamicin prepared in the operating room.

Results: Of the 22 patients, 4 were male and 18 female. The mean age was 45.18 years. After the procedure, no complications were noted. Of the 22 patients, 12 reported improvement of urinary symptoms. Of those 12 patients, 10 reported decreased pelvic pain; 7 improved urinary urgency; and 6 decreased urinary frequency. Symptom relief was maintained for a mean of 5.76 months (range, 2 to 12 months). This subgroup of 12 patients underwent the procedure at least 2 additional times.

Conclusion: In more than half of our patients, intravesicular submucosal injection of lidocaine, triamcinolone, heparin, and gentamicin relieved urinary symptoms and pelvic pain. Further investigation is needed to establish the effect of this alternative treatment in patients with IC. Source of funding: None.
Poster #26
UTILITY OF PRE-CRYOABLATION URETERAL STENTING AND PYELOPERFUSION FOR TREATMENT OF RENAL MASSES
Ilya Sobol, MD, Thomas Atwell, MD, Stephen Boorjian, MD, John Knoedler, MD, Grant Schmit, MD, Anil Kurup, MD, John Schmitz, MD, Bradley Leibovich, MD, R.H. Thompson, MD
Mayo Clinic
Presented By: Ilya Sobol

Introduction: Our objective was to review the functional and oncologic outcomes of patients undergoing ureteral stent placement and cryoablation.

Methods: We reviewed 68 patients who underwent external stent placement, warm pyeloperfusion and cryoablation of a renal mass.

Results: Of the 68 patients, median tumor size was 3.0 cm and the median nephrometry score among all patients was 8. The ice-ball abutted the collecting system in 34 (50%) patients, spanned the collecting system in 29 (43%), abutted the ureter in 17 (25%) and spanned or extended into the ureter in 4 (6%) patients. Urine leak occurred in 3 (4%) patients and bleeding requiring transfusion occurred in 4 patients (6%). Fourteen (21%) patients required conversion to a double-J ureteral stent after ablation due to concern of ice-ball proximity to the ureter or presence of urine leak. The median distance of tumor to ureter was 7.5mm in patients who underwent internalization of a stent vs. 18mm in those patients who did not (P=0.03). With 17 months of follow up, there was no evidence of ureteral stricture formation.

Conclusion: With the use of open ended ureteral stents and warm pyeloperfusion, cryoablation of renal masses appears feasible in cases where the tumor is in close proximity to the collecting system and ureter. In our experience, the risk of requiring internalization of the stent is approximately 20%, which may be useful for preoperative counseling.

Poster #27
PREOPERATIVE TESTOSTERONE USE AND RISK OF COMPLICATIONS AFTER PRIMARY HYPOSPADIAS REPAIR
Mark Faasse, MD, Bruce Lindgren, MD, Emilie Johnson, MD, Max Maizels, MD, Diana Bowen, MD, Antonio Chaviano, MD, Earl Cheng, MD, Edward Gong, MD, William Kaplan, MD, Dennis Liu, MD, Elizabeth Yerkes, MD
Ann & Robert H. Lurie Children’s Hospital of Chicago
Presented By: Mark Faasse

Introduction: Testosterone is oft en prescribed for boys prior to hypospadias repair, however, the potential impact of this practice on surgical outcomes is increasingly controversial. We aim to investigate the relationship between testosterone use and postoperative complication rates while controlling for the length of urethroplasty.

Methods: We reviewed clinical data recorded at the time of pre–pubertal primary hypospadias repairs between July 2011 and August 2014, as well as postoperative follow-up. Complications were defined as meatal stenosis, dehiscence, fistula, or urethral stricture or diverticulum. We performed multivariable logistic regression to determine association between preoperative testosterone use and postoperative complications while controlling for the length of urethroplasty.

Results: Documentation of preoperative testosterone use and urethroplasty
length was available for 143 patients, including 125 single-stage and 18 second-stage procedures. Testosterone was applied topically in all cases and used for 51/100 patients with a distal repair, 11/21 (52%) with a mid-shaft repair, and 14/22 (64%) with a proximal repair. Median urethroplasty length was 10 mm (range, 2–70 mm), and median postoperative follow-up was 6 months (IQR, 1–9 months). Nineteen patients (13%) had one or more complications. On multivariable analysis, there was no significant association between preoperative testosterone use and complications (OR 1.6, 95% CI, 0.5–4.7; P = 0.40).

Conclusion: Testosterone use prior to hypospadias repair was not associated with a significant difference in postoperative complications when controlling for the length of urethral repair.

Poster #28
PREPARING ADULT UROLOGISTS TO CARE FOR PEDIATRIC PATIENTS
Kristina Suson, MD, Cortney Wolfe-Christensen, PhD, Deborah McWilliams, MSN, RN, CPNP, Patricia Beierwaltes, DNP, RN, CPNP, Yegappan Lakshmanan, MD
Children's Hospital of Michigan
Presented By: Kristina Suson

Introduction: Children with congenital urologic conditions ultimately transition to adult care. We characterized young adults who are currently treated by urologists in pediatric hospitals, and compared them an earlier cohort.

Methods: The Pediatric Health Information System was queried to identify patients ≥ 18 years of age on whom urologists operated from January 2013 – June 2014; this population was compared to that from January 2004 – June 2005.

Results: Of 548 patients in the recent cohort, 51.1% were male. The mean length of stay was 5.54±0.32 days (range 1–73, median 3). The most frequent admitting diagnoses were neurogenic bladder (10.6%), renal calculi (10.3%), and abdominal pain (5.3%). Common procedures are listed in the table. Medical complications occurred rarely (0.36% of admissions), while surgical complications occurred more frequently (23.4% of admissions). More than half had one or more chronic conditions flags (see table). When compared to earlier patients, there was no difference in age, length of stay, or medical or surgical complication rate.

Conclusion: The transitional population has remained fairly consistent over the past decade. Adult urologists will encounter patients, who despite their young age, often have co-morbid conditions and a prolonged length of stay, with more than 60% staying in the hospital 3 or more days.
THE ANGIOGENIC SIGNALING MOLECULE CYR61 INDUCES INCREASED NEO-VASCULARIZATION IN REGENERATED BLADDER TISSUE

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Presented By: Jessica Hannick

Introduction: Obstacles remain concerning vascularization during bladder regeneration. The effects of CYR61 manifest in regulation of inflammation, tissue repair, and angiogenesis. The effects of CYR61 on tissue regeneration were evaluated by grafting scaffolds seeded with bone marrow mesenchymal stem cells (BM–MSCs) either over-expressing (OX) or limiting expression of CYR61 in a murine bladder augmentation model.

Methods: Human BM–MSCs were modified to OX CYR61 or limit CYR61 expression by gene knockdown (KD) utilizing small interfering RNA constructs. BM–MSCs were seeded onto poly(1,8-octanediol-co-citrate) (POC) scaffolds. Urodynamics (UDS) were obtained followed by 50–60% partial cystectomy with augmentation using graft composites in nude rats (n=5 per group). Animals underwent UDS, capillaroscopy, and bladder harvest at 4 weeks or 10 weeks. Vessel characteristics and muscle content were quantified with Trichrome stain. Nerve regeneration was quantified with neuron specific β III tubulin immunofluorescence staining.

Results: At 4 weeks, CYR61–OX compared to KD yielded significantly increased vessel number (249.9 vs. 108.8 vessels/mm²) and muscle content (42.3% vs. 36.1%). Our previously published controls have shown fewer vessels (POC 63.8, BM–MSCs 83.4 vessels/mm²) and muscle content at 4 weeks (POC 9.3%, BM–MSCs 38.4%). CYR61–KD demonstrated significant muscle loss from 36.1% at 4 weeks to 25.0% at 10 weeks. Capillaroscopy and UDS demonstrated functional bladders and capillaries in all animals. At 4 weeks CYR61–OX resulted in nerve in-growth versus no nerve elements in CYR61–KDs.

Conclusion: CYR61 is a potent signaling molecule that increases functional vasculature, preserves muscle content, and induces growth of neural elements in regenerated bladder tissue.
Poster #30
TRENDS IN THE TREATMENT OF PEDIATRIC NEPHROLITHIASIS: ANALYSIS OF A POPULATION BASED COHORT FROM OHIO
Emily Slopnick, MD, Jonathan Kiechle, MD, Robert Abouassaly, MD, Simon Kim, MD, Jonathan Ross, MD, Shan Dong, MD, Lynn Woo, MD
Case Western Reserve University
Presented By: Emily Slopnick

Introduction: The burden of nephrolithiasis is increasing among adult patients. The current trends and treatment patterns in the pediatric population are poorly described. We sought to assess the procedural and economic burden associated with the in-hospital treatment of acute obstructing urolithiasis in a population-based cohort of pediatric patients.

Methods: Using data from the Ohio Hospital Association Inpatient Survey, we identified all patients ages 18 and under admitted with concurrent diagnoses of urolithiasis and urinary obstruction from 2009-2013. The primary outcome was the trend of in-hospital procedures performed (retrograde ureteral stenting, ureteroscopy, or percutaneous nephrostomy tube placement). Secondary outcomes included determination of adjusted in-hospital costs. Chi square analyses were used to determine trends in performed procedures. Generalized estimating equation models were used to evaluate in-hospital costs.

Results: We identified 272 pediatric patients admitted to Ohio hospitals between the years 2009 – 2013 with concurrent diagnoses of urinary obstruction and urolithiasis. The mean age and length of stay were 14.5 years (SD: 3.9) and 1.9 days (SD: 1.5), respectively. Approximately half of patients were admitted to children’s hospitals. Among all pediatric patients admitted for obstructing calculi, 49.3% received ureteral stents, 13.6% underwent ureteroscopy, and 2.9% had placement of percutaneous nephrostomy tubes. The adjusted cost of hospitalization was $3,094 (IQR $2,553 – $5,261).

Conclusion: Approximately half of pediatric patients admitted for obstructing urolithiasis undergo surgical decompression with mostly ureteral stents and have a relatively short length of stay.

Poster #31
CONTRALATERAL HYDROCELE REPAIR. TO LOOK OR NOT TO LOOK?
Alison Keenan, MD, Benjamin Whittam, MD, MS, William Bennett, MD, Aaron Carroll, MD, MS, Richard Rink, MD
Indiana University Health
Presented By: Alison Keenan

Introduction: During treatment of clinically significant unilateral pediatric hydrocele, debate continues regarding diagnostic laparoscopy to evaluate for contralateral patent processus vaginalis. We aim to estimate cost associated with performing routine diagnostic laparoscopy and repair of contralateral patent processus vaginalis, compared to cost of repairing metachronous clinically significant hydrocele.

Methods: Using standard decision modeling techniques, we constructed a decision tree using TreeAge Pro™ decision analysis software to evaluate the cost-effectiveness of contralateral patent processus vaginalis repair in the setting of symptomatic unilateral hydrocele, assuming 100% effectiveness of the repair. Rates of patent processus and metachronous symptomatic hydrocele were gleaned from published literature. We performed a one-way sensitivity analysis.
Results: The average cost of always choosing diagnostic laparoscopy was $US2568. The average cost of the metachronous strategy was $US2362. When sensitivity analysis was performed on the rate of metachronous hydrocele, we found the threshold to be 16.3%. Any rate lower than this favored not performing diagnostic laparoscopy.

Conclusion: The metachronous strategy was less costly than the diagnostic laparoscopy strategy even when accounting for increased cost of delayed hydrocele repair. This cost difference persisted up to a metachronous hydrocele rate of 16.3%, which is twice the reported rate of metachronous hydrocele

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Posters

Poster #32
EVOLVING TRENDS IN PEDIATRIC NEPHROLITHIASIS
Kristina Suson, MD¹, Cortney Wolfe-Christensen, PhD¹, Larisa Kovacevic, MD¹, Jack Elder, MD², Yegappan Lakshmanan, MD¹
¹Children's Hospital of Michigan; ²Henry Ford Health Systems
Presented By: Kristina Suson

Introduction: Incidence of nephrolithiasis in children is rising. Treatment options for these children, such as medical expulsive therapy, have expanded. We questioned whether operative management of nephrolithiasis has changed.

Methods: The Pediatric Health Information System was queried to identify patients age 0−21 years with an admitting diagnosis of either renal or ureteral calculi from the first two complete years of the database (2004−5) and last two complete years (2012−13). The current and early encounters of hospitals that reported complete data in both time periods were included.

Results: The results are presented in the table. Adolescent stone formers are more likely to be female in both series' (p<0.001). Those admitted with ureteral stones are more likely to undergo surgery than those with renal stones (p<0.001). Overall incidence of surgical interventions for upper tract urolithiasis increased (56.0% vs 49.6% admissions, p=0.001). This was true for patients admitted to urology (81.7% vs 73.2%, p<0.001) and other services (27.0% vs 20.0%, p<0.001).

Conclusion: Patients with urolithiasis treated at children's hospitals are older now than they were 8 years ago. While they are more likely to undergo surgery, there is no difference in length of stay. Further research to investigate whether this reflects a difference in clinical disease or management is warranted.
Poster #33
INFANT VERSUS PEDIATRIC ROBOTIC-ASSISTED LAPAROSCOPIC PYELOPLASTY: ARE OUTCOMES DIFFERENT?
Russell Becker, PhD, Prithvi Murthy, Mohan Gundeti, MD
University of Chicago
Presented By: Russell Becker

Introduction: Robotic-assisted laparoscopic pyeloplasty (RALPP) is among the most commonly performed robotic surgeries in children. However, evaluation of the safety and success rates for RALPP in infant (<365 days old) patients is lacking. Our study sought to examine the feasibility of performing RALPP in infants.

Methods: We retrospectively reviewed a series of 98 RALPP cases (including 20 infants) performed by a single attending surgeon from 2007–2014. Surveyed data points included patient demographic information, pre- and post-operative diagnostic and functional evaluations, intraoperative parameters, and post-operative course.

Results: Fourteen infant and 47 non-infant patients met inclusion criteria for analysis. Infant patients displayed operative success rates (14/14) and overall complication rates (5/14) similar to non-infant patients (38/42 and 21/47). No infants developed post-operative urine leak, compared to 8/47 non-infant patients. Infants tended to have less severe complications, with Clavien-Dindo grade IIIb complications occurring in 2/14 infant patients versus 10/47 non-infant patients. Operative times did not differ for infant and non-infant patients (p=0.40). Estimated blood loss was significantly lower for infant patients (p=0.0005).

Conclusion: RALPP in infant patients <1 year of age is a very reasonable treatment option, with excellent outcomes and low complication rates similar to or better than those seen in older patients. Operative times did not differ between groups. Patient age <1 year at the time of surgery should not be considered a contraindication to RALPP for ureteropelvic obstruction.
Poster #34
ULTRASONOGRAPHY FOR PEDIATRIC NEPHROLITHIASIS: DOES TWINKLING OR SHADOWING IMPROVE ACCURACY?
Ruthie Su, MD, Jie Nguyen, MD
University of Wisconsin School of Medicine and Public Health
Presented By: Ruthie Su

Introduction: Stones on ultrasound may produce effects such as twinkling artifact by color Doppler or acoustic shadowing; such features may improve diagnostic accuracy of ultrasound stone detection. We determined whether these characteristics improve accuracy of stone diagnosis by ultrasound.

Methods: A retrospective chart review was conducted on patients, 0–18 years, diagnosed with nephrolithiasis who underwent renal ultrasound followed by abdominal/pelvis CT scan (2004–2014). On ultrasound, presence of hydronephrosis, number and location of echogenic foci, and presence of twinkling and acoustic shadowing signals were recorded. On CT, each hyperattenuating focus and its location was noted. CT was used to confirm stones. Presence of a stone was defined on U/S using 3 criteria: a) echogenic focus alone, b) echogenic, twinkling focus, c) echogenic, shadowing focus.

Results: Of 63 patients (3–18 yrs) who had a diagnosis of stones on CT scan, 16 (25%) had an U/S prior to CT scan. 41 stones were identified on CT scan. Sensitivity of U/S for the diagnosis of stones using a) neither twinkling or shadowing, b) twinkling alone, c) shadowing alone was 66%, 61%, and 35%, respectively. The specificity of methods a), b), c) were 10%, 10%, 70%, respectively. Mean size of CT−confirmed stones with and without shadow signs was 11.6 mm and 4.5 mm (p<0.001).

Conclusion: The twinkling artifact does not improve the diagnostic accuracy of ultrasound in detecting stones in children.

Funding Source: None

Poster #35
NATIONAL TRENDS IN PEDIATRIC TOTAL AND PARTIAL NEPHRECTOMY
M Francesca Monn, MD, MPH, Alison Keenan, MD, Benjamin Whittam, MD
Indiana University School of Medicine Department of Urology
Presented By: M. Francesca Monn

Introduction: Pediatric total nephrectomy (TN) is decreasing, while partial nephrectomy (PN) increases. Traditionally, both procedures are performed openly. We sought to explore the proportion of patients undergoing minimally invasive (MIS) vs. open TN and PN and to evaluate surgical indication.

Methods: Using the 2002–2011 Nationwide Inpatient Sample database, we identified pediatric (age <18) TN (ICD−9−CM 55.51) and PN (ICD−9−CM 55.4). MIS cases were identified by ICD−9−CM 17.4x, 54.21, or 54.51. Cases were weighted to represent national estimates. Descriptive analysis was performed. Univariate logistic regression evaluated for trends in MIS.

Results: Of 19,178 TN, 1631 (9%) were MIS. Of 4,557 PN, 332 (7%) were MIS. The median age at MIS TN was 9 (2−16) vs. 4 (1−12) for open TN (p<0.001). No gender, racial, geographic, or payer differences were noted. The proportion undergoing MIS PN increased over the study period (OR 1.22, 95% CI 1.06−1.41, ptrend=0.005). There was no change in MIS TN proportion (ptrend=0.164). Median length of stay was two and one days longer for open TN (p<0.001) and PN (p<0.001), respectively. Surgical indications are shown below.
Conclusion: Pediatric TN and PN are primarily performed open. With increased familiarity and smaller instruments, MIS nephrectomy may gain popularity. This conclusion is supported by a trend towards increasing MIS PN.

Poster #36
CHARGE COMPARISON BETWEEN OPEN AND VESICOSCOPIC INTRAVESICAL BILATERAL URETERAL REIMPLANTATION FOR PRIMARY VESICO-URETERAL REFLUX
Janae Preece, MD, Venkata Jayanthi, MD
Nationwide Children's Hospital
Presented By: Janae Preece

Introduction: We sought to examine the differences in hospital charges associated with open intravesical bilateral ureteral reimplantation and vesicoscopic bilateral ureteral reimplantation when performed in patients with primary VUR (vesico-ureteral reflux).

Methods: We retrospectively reviewed 30 patients undergoing bilateral intravesical ureteral reimplantation for primary VUR (15 consecutive open and 15 consecutive vesicoscopic.) All patients underwent surgery between April 2013 and July 2014. Approach was based on surgeon preference when factoring in patient disease severity, co-morbidities, and age. Data was examined for patient age and the charges for the surgical management of these patients; specifically anesthesia charges (CA), surgeon charges (CS), operating room charges (COR), and the charges for the entire hospitalization (CH) (CH includes CA, CS, COR, and charges for the admission) using the Student’s T test.

Results: Vesicoscopic reimplantation patients tended towards older than open patients. One patient in the vesicoscopic group was 37 years at the time of surgery; her age was excluded as it was an outlier. CA, COR, and CH did not differ between the two groups, although CS was significantly higher in the vesicoscopic group (see Table 1).

Conclusion: Despite a higher surgeon charge in the vesicoscopic group, there is no difference in overall hospitalization charges between patients undergoing open and vesicoscopic ureteral reimplantation.
HOSPITAL-ACQUIRED URINARY TRACT INFECTIONS IN NEONATAL ICU PATIENTS: IS VOIDING CYSTOURETHROGRAM NECESSARY?
Aeen M. Asghar, Christopher S. Cooper, Douglas W. Storm, Angela M. Arlen, MD
University of Iowa Hospitals & Clinics
Presented By: Angela Arlen

Introduction: Hospital–acquired infection is an important cause of morbidity and mortality in neonatal intensive care units (NICUs). Urinary tract infections (UTIs) occur commonly in both pediatric and neonatal populations.

Methods: Children undergoing voiding cystourethrogram (VCUG) during NICU admission over a 48 month period were identified. Demographics, VCUG indication, microbiology results and imaging findings were evaluated.

Results: One hundred and eighty-one (116 males, 65 females) patients underwent VCUG during the study period at mean age of 70.5 ± 42.3 days. Of these, VCUG indication was UTI in 68 children (37.7%). Urine culture grew Enterococcus in 30 (44.1%), coagulase negative staphylococcus in 14 (20.6%), Enterobacter in 7 (10.3%), Escherichia coli in 6 (8.8%) and other in 11 (16.2%). Colony-forming units classified as “positive”catheterized culture ranged from 1,000 to >100,000. All 68 children (43 males, 25 females) underwent a retroperitoneal ultrasound, which was read as normal in 35 patients (51.5%). Abnormal ultrasound findings included nephrocalcinosis in 14 (20.6%), hydronephrosis in 14 (20.6%), increased echogenicity in 4 (5.9%) and renal dysplasia in 1 infant (1.4%). Eighteen children (26.5%) diagnosed with UTI were found to have vesicoureteral reflux on VCUG, 11 of whom also had an abnormal ultrasound. There was no statistically significant association between abnormal renal–bladder ultrasound and VCUG positivity (chi square test, p = 0.28).

Conclusion: Ultrasound anomalies are common in NICU patients diagnosed with urinary tract infection, however sonographic abnormalities are not associated with detection of vesicoureteral reflux. Specific diagnostic and management guidelines for UTI are lacking in the NICU population.
Poster #38
CYCLICAL VOMITING IN CHILDREN: SHOULD A RENAL ULTRASOUND BE PART OF THE EVALUATION?
W. Robert DeFoor, MD¹, Abbey Franklin, PA-C¹, Lindsay Derus, DO², Paul Noh, MD¹, Pramod Reddy, MD¹, Eugene Minevich, MD¹
¹CCHMC; ²UCMC/CCHMC
Presented By: Lindsay Derus

Introduction: Cyclical vomiting often prompts a thorough gastrointestinal (GI) evaluation. Uretero−pelvic junction obstructions (UPJO) may be an under−recognized etiology for this condition. We present our experience in children with cyclical vomiting who were then found to have a UPJO.

Methods: Retrospective cohort study was performed of patients presenting at a single institution (2007 to January 2014) who underwent a dismembered pyeloplasty for UPJO presenting with cyclic vomiting. Data and surgical outcomes were abstracted from patient records.

Results: Twenty-six patients (10 female, 16 male) met inclusion criteria. Median was 5.5 years (range 2 months to 15 years). Initial evaluation included an upper GI contrast study (n=9), abdominal ultrasound (n=21), upper GI endoscopy (n=1), abdominal computed tomography (CT) scan (n=6), magnetic resonance imaging (n=1), and brain CT (n=2). The hydronephrosis was revealed on abdominal ultrasound in all patients. The diagnosis of UPJO was established with renal scan. Median time interval between presentation and UPJO diagnosis was 29.5 days (range 1 day to 3.8 years). The obstruction was located on the right (n=13) and left (n=13). Patients with UPJO then underwent open pyeloplasty (n=7), laparoscopic pyeloplasty (n=1), or robotic−assisted laparoscopic pyeloplasty (n=18). A lower pole ectopic crossing vessel was documented in 14 patients. There were no perioperative complications. Postoperatively, the cyclical vomiting had resolved and the hydronephrosis had improved in all patients.

Conclusion: The diagnosis of UPJO should be considered in patients who present with cyclical vomiting. A renal ultrasound should be considered prior to invasive procedures or ionizing axial imaging.

Poster #39
URETERAL STENTING IN THE PEDIATRIC POPULATION: PRE-OPERATIVE VARIABLES ASSOCIATED WITH URETERAL STENTING AND CORRELATIONS TO SUBSEQUENT STONE PROCEDURES. MELISSA ST.AUBIN, MD; DANE JOHNSON, MD; RUTH SWEDLER; LISA REIN; ANIKO SZABO, PHD; TRAVIS GROTH, MD
Melissa St.Aubin, MD¹, Dane Johnson, MD², Ruth Swedler, MS³, Lisa Rein, MS⁴, Aniko Szabo, PhD⁵, Travis Groth, MD³
¹Medical College of Wisconsin/Children's Hospital of Wisconsin; ²Medical college of Wisconsin Urology Department; ³Children's Hospital of Wisconsin Urology Department; ⁴Medical College of Wisconsin Biostatistics Department
Presented By: Melissa St. Aubin

Introduction: We sought to evaluate and identify pre−operative variables that may predict the need for passive ureteral dilation in the pediatric population for both initial endoscopic procedures and subsequent procedures if indicated.

Methods: We retrospectively reviewed all patients who underwent ureteroscopy from 2002−2012 at Children’s Hospital of Wisconsin (CHW). All patient’s 18 years of age were included. A multivariate logistical regression model and exact
McNemar’s test were used for statistical analysis.

Results: Ureteroscopy was performed 169 times between 2002−2012; 133 patients met exclusion criteria for an initial stone episode. Similar to prior data, patients ≤ 6 years of age were more likely to require passive dilation. (> 65%, p=0.002). Twenty−four patients had GU anomalies and 6 of these patients required passive dilation. Eleven out of 13 patients with neurogenic bladder (NGB) had successful ureteroscopy without passive dilation. Patient’s who required passive dilation initially were 5x more likely to require stenting for subsequent procedures (p=0.039). There was 100% success rate of achieving upper tract access after passive dilation.

Conclusion: Passive ureteral dilation is a very successful and safe method of achieving upper tract access for ureteral and renal calculi. Age may be the only predictive variable of the need for passive dilation. Patients with a history of GU anomalies and/or NGB are not at increased risk for requiring ureteral stenting. Patients who required passive dilation for an initial stone procedure are likely to need stent placement for passive dilation of subsequent procedures.

Poster #40
SAFETY OF URETERAL STENT EXTRACTION STRINGS AFTER URETEROSCOPY
Griffin Morrisson, MD, Amy Krambeck, MD
Mayo Clinic
Presented By: Griffin Morrisson

Introduction: The value and safety of the ureteral stent extraction string (SES) is unknown. We sought to evaluate the safety of SES in a high−volume endourologic practice.

Methods: A retrospective review of adult patients who underwent ureteroscopy with stent placement in 2013 by a single surgeon was performed.

Results: One hundred seventy−three patients underwent 206 ureteroscopy procedures, of which 163 (79%) treated nephrolithiasis. SES were maintained in 130 (63%) cases and were more likely to be left in younger patients (59.5 vs. 66.7). Nephrolithiasis (73% vs. 25%), smaller stones (7.4 vs. 10.5−mm.), patients reporting preoperative pain (55.4%), and those who received laser lithotripsy (85.4%) were also more likely to have an SES. SES patients called more frequently postoperatively than non−SES (41 vs. 10), with pain as the primary indication (56%). There was no increase in emergency department (ED) visits in patients with SES. Overall, 21 patients presented to the ED with only 2 requiring admission secondary to fever. 11 patients (5.3%) with SES dislodged their stents, leading to 9 phone calls and 3 ED visits; none required admission/intervention. Patients with SES had less stent dwell time (4.47 vs. 38.8 days). While all stents left indwelling required cystoscopy to remove, only 4 (3.1%) SES patients required intervention secondary to string detachment.

Conclusion: SES are useful and safe in the current urology practice. With the growing concern for cost containment, SES appears to be an effective measure to reduce ancillary procedures.
**Poster #41**

**PROFILE OF THE AMMONIUM ACID URATE STONE FORMER BASED ON A LARGE CONTEMPORARY COHORT**

Derek Lomas, MD, Phar, MD, Christopher Jaeger, MD, Amy Krambeck, MD
Mayo Clinic
Presented By: Derek Lomas

**Introduction:** We sought to evaluate and profile ammonium acid urate (AAU) stone formers utilizing a large contemporary cohort.

**Methods:** A retrospective review of all patients with AAU urolithiasis on stone analysis was performed from 1995−2013.

**Results:** Of 12,421 stones, a total of 111 AAU stones were identified in 89 patients. 72 patients (81%) had mixed composition stones. 7 (8%) had chronic kidney disease, 12 (13%) had recurrent urinary tract infections, 8 (9%) had diabetes mellitus, 25 (28%) had a history of ileostomy or bowel resection, and 11 (12%) had significant diarrhea or inflammatory bowel disease. Additionally, 20 (22%) had prior prostate surgery with bladder neck contracture and 8 (9%) were managed with a chronic indwelling catheter. Surgical intervention was required in 74 patients (83%). At median follow-up of 4.9 years (IQR 1.8,8.5), 19 patients (21%) had stone recurrence with a median time to recurrence of 22 months (IQR 10.5,42).

**Conclusion:** In addition to previously-known risk factors for AAU stone formation, patients with prior prostate surgery and bladder neck contracture may be at increased risk for formation. Furthermore, the long-term follow-up provided by this large AAU cohort demonstrates a significant risk for stone recurrence.

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**Poster #42**

**TO EVALUATE THE COMBINATION OF TWO DIFFERENT ALPHA−1 BLOCKERS WITH ONE PHOSPHODIESTERASE−5 INHIBITOR(PDE−5) AS MEDICAL EXPULSIVE THERAPY FOR DISTAL URETERIC CALCULI**

Kumar Jayant, MD, MS, MRCS¹, Swati Agrawal, MD, MS,², Rajendra Agarwal, MS²
¹Sudha Hosp & Med Research Center; ²Sudha Hosp & Med Research Center, Kota, India
Presented By: Kumar Jayant

**Introduction:** Evaluate combination of two different alpha−1 blockers with phosphodiesterase−5 inhibitor(PDE−5) as medical expulsive therapy(MET) for distal ureteric calculi.

**Methods:** Between Jan to Dec 2014, 276 patients with distal ureteric stones of size 5−10mm. Of these 214 were randomly assigned in two groups: Tamsulosin with Tadalafil(group A) & Silodosin with Tadalafil(group B). Therapy was given for maximum of four weeks. Stone expulsion rate, time in expulsion, analgesic use, number colicky pain and adverse effects were noted. Groups were compared by student t−test, and Mann−WhitneyU tests & chi−square test as required.

**Results:** There was a no statistically significant difference in rate & time to expulsion in both groups. The exulsion rate was 85.0% in group B than 83.2% group A.(pvalue=0.46). Statistically significant differences were noted in colicky episodes and analgesic requirement in group B than A. Drugs were well tolerated but adverse effects were less in group B.

**Conclusion:** MET for distal ureteric stones using combinations of alpha−1 blockers with phosphodiesterase−5 inhibitor(PDE−5) is safe, efficacious and well
tolerated. Study showed that Silodosin with Tadalafil give better control of pain with significantly lesser analgesic requirement.

**Poster #43**

**CALCIUM OXALATE CRYSTALS AND RENAL DAMAGE IN ADULT PIGS FED HIGH OXALATE DIETS**

Kristina Penniston, PhD¹, Denise Schwahn, PhD², Thomas Crenshaw, PhD², Stephen Nakada, MD¹

¹Department of Urology, University of Wisconsin School of Medicine and Public Health; ²University of Wisconsin-Madison

Presented By: Kristina Penniston

**Introduction:** We have shown hyperoxaluria and calcium oxalate (CaOx) stone formation in adult pigs after enhancing oxalate synthesis (from feeding hydroxyproline) or oxalate absorption (from feeding oxalate). We assessed renal damage and urine in female pigs on both diet types.

**Methods:** With IACUC approval, 32 pigs were randomized to 5% hydroxyproline, high oxalate/low calcium (HOLC), high oxalate/normal calcium (HONC), or control diets. Pigs were fed 22 days and sacrificed at various times from day 1–22. 24–h urine was obtained at various times.

**Results:** Hydroxyproline feeding resulted in cortical and/or medullary crystals in 50% of pigs. The HOLC diet resulted in 100% of pigs with medullary and 66% with cortical crystals; extremely severe renal damage was observed in 2 on the HOLC diet. Few crystals were noted in pigs fed HONC and control diets. Tubular necrosis was observed in pigs fed both hydroxyproline and HOLC. All diet treatments except control were associated with fibrosis, cortical inflammation, and crystal–caused dilation to epithelial cells. Damage was most severe in pigs fed high oxalate with low calcium. Urinary oxalate was extremely high in pigs on the HOLC diet but was attenuated with the presence of dietary calcium (HONC).

**Conclusion:** Both hydroxyproline, stimulating higher oxalate biosynthesis, and a HOLC diet caused CaOx renal crystals, inflammation, and fibrosis. High dietary oxalate with ample calcium did not contribute appreciably to these sequelae. Adult female pigs can be manipulated by diet to emulate symptoms of either primary or enteric hyperoxaluria and will be useful in further research.
Poster #44
PREDICTING PATIENTS WITH INADEQUATE 24− OR 48−HOUR URINE COLLECTIONS AT TIME OF METABOLIC STONE EVALUATION
Yasin Bhanji, BA, Barry McGuire, MD, Vidit Sharma, MD, Brendan Frainey, BA, Megan McClean, BA, Caroline Dong, BA, Kalen Rimar, MD, Kent Perry, MD, Robert Nadler, MD
Northwestern University Feinberg School of Medicine
Presented By: Yasin Bhanji

Introduction: To understand the characteristics of patients less likely to submit adequate urine collections at stone evaluation.

Methods: Inadequate urine collection was defined using two definitions: 1) reference ranges for 24−hour creatinine/kilogram (Cr/24), and 2) discrepancy between total 24−hour urine creatinine. 1,502 patients with ≥ 1 kidney stone between 1998 and 2014 and who performed a 24− or 48−hour urine collection at NMH were identified retrospectively. Multivariate analysis was performed to analyze predictor variables for adequate urine collection.

Results: 2,852 urine collections were analyzed. Mean age for males was 54.4 and 50.2 for females.
(i) Analysis based on the Cr 24/kg definition: 50.7% of patients supplied an inadequate sample. Females were nearly 50% less likely to supply an adequate sample compared to men. Diabetes and Vitamin D supplementation predicted receiving an adequate/inadequate sample, respectively.
(ii) Analysis based on differences between total urinary creatinine: The model was stratified based on percentage differences between samples up to 50%. Statistical significance was observed based on differences of ≥ 40%, and this was defined as the threshold for an inadequate sample. Female gender predicted supplying inadequate samples. Adequate collections were more likely to be received on a Sunday and by sedentary workers.

Conclusion: Urine collections from patients during metabolic evaluation for nephrolithiasis may be inappropriately considered inadequate based on two commonly used clinical definitions.

Poster #45
COMPLICATIONS OF UROLOGIST−DIRECTED PERCUTANEOUS NEPHROLITHOTOMY STRATIFIED BY STONE SIZE: A SINGLE SURGEON’S EXPERIENCE.
Nathaly François, MD¹, Raunak Patel, MD², Casey Lythgoe, MD¹, Danuta Dynda, MD¹, Bradley Schwartz, DO¹
¹Southern Illinois University School of Medicine; ²Ochsner Clinic Foundation/Louisiana State University School of Medicine
Presented By: Nathaly Francois

Introduction: Percutaneous nephrolithotomy (PCNL) plays an important role in treating large or complex renal calculi and may be associated with significant complications. The aim of this study is to report a single surgeon’s experience of the complication rates of PCNL with regards to stone size.

Methods: A prospective database of 264 patients who underwent PCNL for stone removal by a single surgeon, with urologist−directed access, from 2009–2012 was analyzed. Multiple data were gathered including stone size, upper vs. lower pole puncture, necessity for supracostal access, stone free status, and complications resulting from surgery. Categorical variables were
analyzed with chi-square tests of independence or Fisher's exact tests.  

**Results:** No statistically significant differences in the rates of pneumothorax (4.2% vs. 3.0%, p=0.7) or bleeding requiring transfusion or vascular intervention (4.0% vs. 3.8%, p=1.0) between patients with total stone burdens ≤2 cm or total stone burdens ≥2 cm.

**Conclusion:** PCNL is standard for treatment of renal calculi of >2 cm size. Literature has shown this stone size and access are often accompanied by a higher risk of complications. Our study, which assessed a single surgeon’s experience in these scenarios, illustrated that when considering stone size greater than or less than 2 cm, the complication rates did not show statistically significant differences.

<table>
<thead>
<tr>
<th>No. of patients with</th>
<th>≤2cm</th>
<th>&gt;2cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper pole access</td>
<td>38</td>
<td>100</td>
</tr>
<tr>
<td>Supracostal puncture</td>
<td>8(10.7%)</td>
<td>19(12.0%)</td>
</tr>
<tr>
<td>&gt; 1 tract</td>
<td>3(3.9%)</td>
<td>18(9.7%)</td>
</tr>
<tr>
<td>CT utilization</td>
<td>29(38.3%)</td>
<td>63(33.9%)</td>
</tr>
<tr>
<td>CXR utilization</td>
<td>61(80.3%)</td>
<td>147(79.5%)</td>
</tr>
<tr>
<td>Stone clearance</td>
<td>88(90.7%)</td>
<td>164(88.2%)</td>
</tr>
<tr>
<td>Pneumothorax</td>
<td>3(4.2%)</td>
<td>5(3.0%)</td>
</tr>
<tr>
<td>Fever (T ≥101.5°F)</td>
<td>4(5.3%)</td>
<td>7(3.8%)</td>
</tr>
<tr>
<td>Home nephrostomy tube</td>
<td>12(15.8%)</td>
<td>37(20.4%)</td>
</tr>
<tr>
<td>Home ureteral stent</td>
<td>5(6.0%)</td>
<td>9(4.9%)</td>
</tr>
<tr>
<td>Transfusion/Vascular Intervention</td>
<td>3(4.0%)</td>
<td>7(3.8%)</td>
</tr>
<tr>
<td>Second procedure</td>
<td>11(14.5%)</td>
<td>23(12.4%)</td>
</tr>
<tr>
<td>Ultrasound guidance</td>
<td>7(9.2%)</td>
<td>5(2.7%)</td>
</tr>
<tr>
<td>Age – mean ±SD</td>
<td>50.1±18.1</td>
<td>52.9±16.3</td>
</tr>
<tr>
<td>Days in hosp – median (interquartile range)</td>
<td>2(2–4)</td>
<td>3(2–4)</td>
</tr>
</tbody>
</table>

*P<0.05. CT= Computed tomography, CXR= Chest X-ray

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**Poster #46**

**PANCREATIC ESWL: TECHNIQUES AND OUTCOMES OF OUR CASE SERIES**

Randy Sulaver, MD¹, Bradley Schwartz, DO²  
¹SIU SOM; ²SIU-SOM  
Presented By: Randy Sulaver

**Introduction:** We report our technique and results of case series of 6 patients undergoing pancreatic extracorporeal sock wave lithotripsy (ESWL) in the treatment of impacted pancreatic duct stones. With ESWL losing favor as a treatment for renal calculus we present a safe and alternate use for ESWL.

**Methods:** We retrospectively reviewed all pancreatic ESWLs performed at our institution. A total of six patients were referred following unsuccessful endoscopic retrograde cholangiopancreatography (ERCP). Patients then underwent ESWL of the calculi. The procedure was performed in similar fashion to renal calculus ESWL. All patients were previously stented by the referring GI surgeon. Patients were positioned supine, under general anesthesia, with pre–operation antibiotics given. The stone was localized using fluoroscopy. Lithotripsy was performed ramping from 14–26 kilovolts. A total of 3000 shocks were administered in each case. The patients were discharged with 3–5 days of postoperative antibiotics and pain medication.

**Results:** Average stone density in hounsfield units ranged from 730–1827.
Fragmentation occurred in 5 of 6 patients. This was verified via follow up ERCP in 4 of 6 patients. During the ERCP all stone fragments were either absent or easily cleared. One patient did not have a follow up ERCP; outpatient follow up demonstrated complete resolution of his pain. One patient failed ESWL and required radical pancreatic surgery to remove her stone. There were zero ESWL complications within a three months follow up period.

**Conclusion:** ESWL is safe, easy and effective for the treatment of pancreatic duct calculi not amenable to primary ERCP.

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**Poster #47**

**ENDOSCOPIC IRRIGATION AND SEAL DEVICES: A COMPARATIVE ANALYSIS**

Sarah Tarplin, MD, Michael Byrne, MD, Manoj Monga, MD, Sriharan Sivalingam, MD

Cleveland Clinic Foundation

Presented By: Sarah Tarplin

We compare the usability of valves and irrigation systems in an in-vitro setting. Four valves were tested: UroSeal Adjustable Endoscopic Valve (US Urology), Adjustable Biopsy Port Seal (Gyrus ACMI), Blue Silicone Seal CS B612 (Gyrus ACMI), and REF ABP Biopsy Port (ACMI). Leak point pressure (LPP) was tested with a Viper Ureteroscope (Wolf Endoscopy) and the Thermedx Fluid Management System (TFMS, Thermedx). Insertion time, and insertion and extraction forces of instruments through the devices were measured. Flow rates and user fatigue were tested for: Single Action Pumping System (SAP, Boston Scientific) and the Pathfinder Plus (PP, Utah Medical Products), using Uroflow (Delphis KT) and a Dynamometer for grip strength (Sammons Preston). The US required the shortest time for wire and basket insertion. Extraction and insertion forces of instruments through valves appear in figure 1A–B. The US was leak-free at 200 mm Hg. The SAP’s average and peak flow were higher than that of the PP (3.5 vs. 2.1 mL/s, 13.1 vs. 4.43 mL/s, p<0.01). Grip strength decreased after operation of the SAP for ten minutes, while no loss of grip strength was observed for the PP. The US had facile manipulation of instruments while maintaining a seal. The PP has less operator fatigue, but the SAP allows for greater pressure.
**Poster #48**

**A RETROSPECTIVE STUDY OF URETEROSCOPY WITH HOLMIUM LASER FOR NEPHROLITHIASIS: A SINGLE CENTER EXPERIENCE**

John Richgels, BA¹, Michael Hoeh, MD², Peter Tsambarlis, MD², Kalyan Latchamsetty, MD², Jerome Hoeksema, MD², Christopher Coogan, MD²

¹Rush Medical College; ²Rush University Medical Center

Presented By: Peter Tsambarlis

**Introduction:** The AUA guidelines state that both shock wave lithotripsy (SWL) and ureteroscopy (URS) are acceptable first line treatments for upper urinary tract stones. They also state that URS is associated with a higher stone free rate with a single procedure, but has higher complication rates. The aim of this study was to examine our experience with URS and to evaluate the stone-free, re-treatment, and complication rates.

**Methods:** A retrospective study of 426 patients treated with flexible or rigid URS for at least 1 upper tract stone between July 2007–July 2013 was performed. A JJ–stent was placed in 96.36% of patients and kept for a median of 9 days post–procedure. Data analyzed included: stone size, complications, and need for secondary procedures.

**Results:** The mean stone burden was 9.26 mm. 35.21% of patients had more than one stone treated via URS. The average stone number per patient was 1.55. Mean operating time was 65.08 minutes. Complication rates were 0.96% for sepsis, 0.24% ureteral injury, 0.24% ureteral stricture, 0% Steinstrasse, and 3.13% UTI. Overall single–procedure stone–free rate (defined as absence of stones on follow up imaging and absence of need for a secondary procedure) was 92.61%.

**Conclusion:** URS is a safe and effective treatment modality for upper urinary tract stones. In our experience, ureteroscopic management of upper tract stones resulted in a higher stone-free rate and a lower complication rate than is reported by the AUA for SWL.

**Poster #49 - WITHDRAWN**
**Poster #50**

**FEMALE PELVIC MEDICINE AND RECONSTRUCTIVE SURGERY CANDIDATES ACCOUNT FOR LARGE VOLUME OF FEMALE AND MALE RECONSTRUCTIVE SURGERIES**

Joceline S. Liu, MD, Johnathan Doolittle MS, Matthias D. Hofer, MD, Sarah C. Flury, MD, Stephanie J. Kielb, MD
Northwestern University
Presented By: Joceline Liu

**Introduction:** Certification in Female Pelvic Medicine and Reconstructive Surgery (FPMRS) has been recently established. We examined surgical case volume characteristics of FPMRS applicants.

**Methods:** Six month case logs of certifying FPMRS urologists (2011–2013) was obtained from the American Board of Urology. We examined 40 CPT codes for common index cases in four groups: incontinence, reconstruction, prolapse and vesicovaginal fistula (VVF), as well as codes for male incontinence and ureteral reimplant.

**Results:** 1716 urologists logged at least one case in the queried procedure groups. FPMRS applicants accounted for 224 (14.6%), 186 (25.1%), 223 (27.6%) and 79 (49.1%) of urologists logging at least one incontinence, reconstructive, prolapse and fistula case, respectively. A total of 17399 incontinence, 3191 reconstructive, 15360 prolapse and 444 VVF surgeries were logged, of which 7303 (42.0%), 1070 (33.5%), 8751 (57.0%) and 166 (37.4%) were performed by FPMRS applicants, respectively. FPMRS candidates are a minority of certifying urologists, performing a disproportionate volume of cases. In non-index cases examined, FPMRS candidates accounted for a large proportion of cases relative to number of applicants, logging 398/952 (41.8%) male sling cases, 445/995 (44.7%) artificial sphincters, 441/2071 (21.3%) male urethroplasties and 315/2102 (15.0%) ureteral reimplants.

**Conclusion:** FPMRS applicants perform a large portion of index cases, with greatest disproportion of cases relative to number of urologists in incontinence, reconstruction and prolapse surgeries. They also account for a significant percentage of male incontinence and urethroplasty cases.

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**Poster #51**

**OBESITY AND ANTHROPOMETRY IN SPINA BIFIDA: WHAT IS THE BEST MEASURE?**

Joceline S. Liu, MD, Claudia L. Leung, BS, Caroline Dong, BS, Shubhra Mukherjee, MD, Stephanie J. Kielb, MD
Northwestern University
Presented By: Joceline Liu

**Introduction:** Diagnosis of obesity using traditional body mass index (BMI) using length may not be a reliable indicator of body composition in SB. We examine traditional and surrogate measures of adiposity in adult SB.

**Methods:** SB patients ≥18 years underwent classification for obesity using BMI > 30 by length and arm span, abdominal girth (>102cm male, >88cm female) and percent trunk fat (TF) (≥30% male, ≥35% female) on dual energy x-ray absorptiometry (DXA).

**Results:** Among eighteen consecutive SB patients (6 male, 12 female), median age was 26.5 (range 19−37) years, with level of lesion ≤L2 in 3 (16.7%), L3−4 in 11 (61.1%), and ≥ L5 in 4 (22.2%) patients. Median weight was 71.8 (IQR 62.4,
85.8) kg, similar between genders (p=0.66). With median length of 152.0 (IQR 141.8, 163.3) cm, median conventional BMI was 29.4 (IQR 26.1, 36.7) m/kg2, with 7 (43.8%) patients with BMI >30. Median BMI by arm span was 30.2 (IQR 22.8, 37.4) m/kg2, abdominal girth of 105.5 (IQR 93.0–111.0) cm, and TF 45.7% (IQR 36.5, 50.0). More patients were classified as obese using alternate measures, with 9 (56.3%) by arm span, 14 (82.4%) by abdominal girth and 15 (83.3%) by TF (p=0.008). Reclassification of obesity from conventional BMI was statistically significant when using TF (p=0.03).

**Conclusion:** Conventional determination of obesity using BMI by length may be an insensitive marker in adult SB. SB patients are more often classified as obese using percent TF by DXA.

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**Poster #52**

**EFFECTS OF RADIATION THERAPY ON DEVICE SURVIVAL AMONG INDIVIDUALS WITH ARTIFICIAL URINARY SPHINCTERS**

Marcelino Rivera, MD, Matthew Ziegelmann, MD, Brian Linder, MD, Boyd Viers, MD, Laureano Rangel, Daniel Elliott, MD

Mayo Clinic

Presented By: Marcelino Rivera

**Introduction:** We aim to assess artificial urinary sphincter (AUS) device survival among individuals with prior radiation therapy undergoing AUS placement.

**Methods:** An IRB approved database of AUS patients from 1999–2014 was utilized to assess device survival in patients who underwent radiotherapy compared to individuals without exposure.

**Results:** From 1999–2014 a total of 1,153 patients underwent AUS surgery at our institution. 650 patients underwent primary AUS placement with 285 (44%) having received radiation therapy. Compared with patients who did not receive radiation therapy those who did were older (median age 72.8 vs 70.2, p<0.0001), had a greater BMI (28.9 vs 28.1, p<0.0019), and higher rates of diabetes and hypertension (HTN) (p<0.02 and <0.009 respectively). On hazard regression analysis only age was associated with AUS overall device survival (HR 0.976, p<0.002). Kaplan–Meier device survival analysis demonstrated no significant difference in 1 and 5-year overall device (88% vs 84% and 62% vs 57% respectively, p=0.5) and erosion/infection-free survival (94% vs 92% and 89% vs 89% respectively, p=0.7) rates among individuals who received radiation therapy relative to those without radiation exposure.

**Conclusion:** Individuals who underwent radiation therapy were significantly older, had a higher BMI and higher rates of diabetes and HTN. Device survival as well as infection/erosion rates were not significantly different between the two groups. These findings will assist the urologist with preoperative counseling of men undergoing primary AUS placement with a history of radiation therapy.
Introduction: Stress urinary incontinence is a common issue that interferes with the quality of life in women. Periurethral injection of urethral bulking agents (UBA) is a simple and cost-effective treatment, however may be associated with complications. This study assesses the safety of seven available bulking agents via a meta-analysis of reported complications.

Methods: A systematic review of the literature from 1996 to 2014 was performed. A total of 4,326 patients from 78 studies were analyzed and were eligible for inclusion. Complications of injections were analyzed and incidence was recorded and classified, along with complication treatment.

Results: A total of 1,999 complications were reported. 3.8% were considered serious (Clavien Grade III)—of these, 70.6% required incision and drainage (I and D), and 29.3% required a more invasive procedure. Reported major complication rates varied between available urethral bulking agents. Major complication rates for all complications were: Ziudex (17.8%), Durasphere (11.4%), Tegress (10%), Coaptite (8.7%), Contigen (1.8%), Bulkamid (0.8%) and Macroplastique (no Clavien Grade III complications reported). Odds ratio (OR) of any UBA complication compared to control (contigen) was 4.8 with p<0.0001, and OR of major complication was 58.4 with p=0.0042.

Conclusion: Rates of significant complications associated with urethral bulking agents vary significantly between available UBAs. The majority of urethral bulking agent complications are transient or do not require treatment, however, significant complications may require I&D or more invasive treatment. Of currently commercially available UBAs, Macroplastique and Bulkamid appear to have the most favorable safety profiles in regards to major complications.

Introduction: De novo urgency following incontinence procedures has been estimated from 12 to 30%, studied in largely Caucasian populations. Studies show that Hispanic women report more bother from pelvic organ prolapse, however, they report a greater improvement in quality of life measures from surgical intervention for incontinence than other demographics. The objective of our study was to look at postoperative anticholinergic use, de novo urgency following incontinence procedures in a minority population.

Methods: We performed a retrospective review of patients undergoing suburethral sling or prolapse surgery by a single surgeon at a single institution...
Posters

from 2010–2014. Postoperative anticholinergic use, de novo urgency was identified. Other variables examined were age, BMI, and parity.

Results: 203 women who underwent a suburethral sling or prolapse repair; 152 were Hispanic, 22 Black, and 24 Caucasian. Overall rate of de novo urgency for the total patient cohort is 10% (p= 0.386), 9.8% for Hispanic patients (p= 0.212), 13.6% for Black patients (p= 0.314). Of minority patients with de novo urgency, average age was 51.47 (p=0.408), BMI was 31.56 (p= 0.244), and average parity 3 (p= 0.255).

Conclusion: De novo urgency rates for our cohort of minority women was 10%, slightly lower than the established incidence in current literature. We found that positive predictive factors seen in established studies looking at largely Caucasian cohorts were not predictive of postoperative urgency in our minority population. To our knowledge, this is the largest group of minority women studied, looking at de novo urgency rates following incontinence procedures.

Poster #55 - WITHDRAWN

Poster #56
PELVIC ORGAN PROLAPSE IN ADULT SPINA BIFIDA PATIENTS
Amanda Vo, MSE, Johnathan Doolittle, MS, Nabeel Hamoui, MD, MBA, Joceline S. Liu, MD, Stephanie J. Kielb, MD
Department of Urology, Northwestern University Feinberg School of Medicine, Chicago, IL
Presented By: Amanda Vo

Introduction: The presence of pelvic organ prolapse (POP) in the adult spina bifida (SB) population has not been previously reported. We utilized the pelvic organ prolapse quantification (POPQ) system to report the distribution of stages of POP in SB patients.

Methods: Retrospective review of SB patients ≥18 years of age with a documented POPQ exam were included. Patient demographics, gestation, parity, POPQ exams and prolapse symptoms were obtained.

Results: 31 spina bifida patients were identified with a mean age of 33.7 years. 5 patients (16.1%) had stage 0 prolapse, 12 (38.7%) had stage 1, 11 (35.5%) stage 2, 2 (6.5%) stage 3, and 1 (3.2%) stage 4. Of the 14 patients with advanced POP (stage 2 prolapse or greater), only 5 patients (35.7%) reported symptoms related to POP. All five symptomatic patients endorsed sensation of a vaginal bulge. 2 of the 5 patients also reported dyspareunia. Additionally, one patient with advanced POP presented with vaginal bulge noted by a caregiver, but was otherwise asymptomatic. 23 patients (74.2%) were nulliparous, and 11 of the 23 nulliparous patients (47.8%) demonstrated prolapse.

Conclusion: Despite young age and frequent nulliparity, patients with SB are more likely to have POP than the general population. Additionally, the majority of SB patients with prolapse are asymptomatic, given their neuropathology. Assessment of pelvic organ prolapse should be included in the evaluation of adult spina bifida females due to the low rate of symptoms even in the setting of advanced stage prolapse.
Poster #57
LESS IS MORE: A NEW INTRADETRUSOR ONABOTULINUMTOXIN A INJECTION TECHNIQUE FOR NEUROGENIC AND IDIOPATHIC DETRUSOR OVERACTIVITY
Bryan S. Sack, MD, Michael A. Avallone, MD, Ahmad M. El-Arabi, Michael L. Guralnick, MD, R. Corey O’Connor, MD
Medical College of Wisconsin
Presented By: Ahmad El-Arabi

Introduction: Intradetrusor onabotulinumtoxin A (BTX−A) injection is a treatment for medically refractory neurogenic detrusor overactivity (NDO) and idiopathic detrusor overactivity (IDO). Administration typically involves intradetrusor injection of 100–300 units (u) of BTX−A via 15–30 sites. Efficacy, duration and infection rate of this “standard” technique is 35–65%, 12–39 weeks and 2–32%. We questioned if a fewer number of larger volume injections would provide similar efficacy with a decreased complication rate.

Methods: Retrospective chart review was performed on BTX−A naïve patients from January 2013 to January 2015. NDO patients were injected in two or three sites with 160–300u of BTX−A. IDO patients were injected in one or two sites with 100–160u. Patients completed pre− and post−injection modified International Consultation on Incontinence Questionnaires (ICIQ).

Results: A total of 48 patients (25 IDO/23 NDO) were included. Mean BTX−A efficacy outcomes are listed in Table 1. Mild hematuria and urinary tract infection were noted in three (6%) and three (6%) patients, respectively. No systemic BTX−A adverse events were reported. During the accrual period, ten patients returned for repeat injection with mean efficacy duration of 26 weeks.

Conclusion: Compared to the “standard” technique, a fewer number of larger volume intradetrusor BTX−A injections are comparable in efficacy and duration with an equal or decreased complication rate.

Poster #58
INTRADETRUSOR BOTULINUM TOXIN INJECTIONS FOR THE MANAGEMENT OF ANTICHOLINERGIC REFRACTORY, POORLY COMPLIANT NEUROGENIC BLADDERS
Dane Johnson, MD, Michael Guralnick, MD, R. Corey O’Connor, MD
Medical College of Wisconsin
Presented By: Dane Johnson

Introduction: The aim of this study is to evaluate the therapeutic effect of intradetrusor onabotulinum toxin A (BTX−A) injections in patients with poorly compliant neurogenic bladders.

Methods: We retrospectively evaluated patients with urodynamic studies proven, anticholinergic refractory impaired bladder compliance (<30mL/cm H20) secondary to spinal myelopathy treated with intradetrusor BTX−A injections. Patients reporting clinical symptomatic improvement in urinary incontinence following BTX−A injection underwent repeat urodynamics and bladder compliance was re−calculated. Improvement in compliance was defined as an increase >5mL/cm H20. Characteristics were compared between patients who demonstrated symptomatic and objective improvement following BTX−A injections versus patients without improvement.

Results: Twenty−nine individuals with anticholinergic refractory, poorly compliant bladders due to spinal myelopathy underwent BTX−A injections. Mean age was
33.5 years (range 18 – 74) and neurogenic bladder duration was 15.1 years (range 0.5 – 34). Average pre–injection bladder compliance was 12.2mL/cm H2O (range 3.3 – 26.5). Fifteen patients (52%) reported symptomatic clinical improvement following BTX–A injections. Repeat urodynamics in the clinically improved group demonstrated significant, objective increases in bladder compliance in 9 patients (31%). Patients with neurogenic bladder dysfunction secondary to spinal cord injury responded better to BTX–A than those with myelomeningocele (p=0.07).

**Conclusion:** BTX–A significantly improved objective end–fill storage pressures in 31% of neurogenic patients with poorly compliant bladders refractory to anticholinergic medications.

**Poster #59**

**CATHETER MANAGEMENT OF NEUROGENIC BLADDER AFTER SPINAL CORD INJURY**

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Minneapolis, University of Minnesota

Presented By: Giulia Lane

**Introduction:** This study describes management patterns of neurogenic bladder (NGB) secondary to traumatic spinal cord injury (SCI) utilizing clean intermittent catheterization (CIC), urethral catheter (UC) or suprapubic tube (SP).

**Methods:** Minneapolis VA patients who utilized CIC, UC or SP to manage NGB due to traumatic SCI completed a voluntary, anonymous survey during an eleven–month accrual.

**Results:** Seventy–three patients responded, 96% were male with average age of 57 years and average 23 years since SCI. 52% currently used IC, 21% UC and 28% SP. 43% of patients tried another modality in the past (Table 1). Reasons for discontinuing CIC included poor dexterity, physician advice, leaking and inconvenience. 47% of UC or SP patients had never used IC, and 14% of these were unaware of IC. 30% of patients with prior indwelling catheters started IC due to physician advice. Overall, 75% of patients requiring CIC, UC or SP were happy with their current bladder management.

**Conclusion:** Catheter management over time in this patient population is variable. Transition between CIC, UC and SP is most often influenced by physician recommendations and patient preference.

**Poster #60**

**INFECTION/EROSION RATES FOR ARTIFICIAL URINARY SPHINCTER REVISION AFTER MECHANICAL DEVICE FAILURE OR URETHRAL ATROPHY**

Griffin Morrisson, MD, Brian Linder, MD, Laureano Rangel, MS, MSc, Marcelino Rivera, MD, Daniel S. Elliott, MD

Mayo Clinic

Presented By: Griffin Morrisson

**Introduction:** We evaluated clinical outcomes in patients treated with artificial urinary sphincter (AUS) revision after urethral atrophy and/or mechanical device failure.

**Methods:** We present an IRB approved retrospective and prospective database
review of adult patients with urethral cuff AUS placement for urinary incontinence at a single tertiary institution between 1998−2013. We compared primary AUS placement versus revision after device failure for atrophy or mechanical failure, looking specifically at device survival, infection/erosion, and mechanical failure/atrophy rates.

**Results:** During the study period 1285 AUS surgeries were performed. Of those, 645 patients had primary AUS placement and 144 patients had revision of their AUS secondary to mechanical failure or urethral atrophy. Mean age at time of surgery was 71.2 (IQR 66.1, 76.1) and 74.8 (70.1, 79.8) for primary versus revision respectively. Mean follow-up for both groups was 2.5 years. Time−to−event analysis was performed between these groups which revealed similar device survival at 1 and 5 years of 90% vs. 89% and 69% vs. 65% (p= 0.904). There was similar freedom from infection/erosion of 94% vs. 95% and 88% vs 91% at 1 and 5 years (p= 0.778) as well as freedom from mechanical failure/atrophy of 96% vs. 94% and 78% vs 72% (p= 0.725) in these groups.

**Conclusion:** Our findings suggest that there is no increased risk of device infection, erosion, atrophy, or device failure after AUS revision for non−infectious causes versus primary AUS placement. Therefore, in properly selected patients revision of an AUS in the non−infected patient can be pursued.

**Poster #61**
*TREATMENT OF TRANSPLANT URETER STRICTURES WITH URETERAL DILATION AND URETERONEOCYSTOSTOMY: OUTCOMES OF A 14 YEAR EXPERIENCE*

John Stoffel, MD, Randall Sung, MD, Gary Faerber, MD, James Shields, MD, Stuart Wolf, MD, Yihung Huang, MD
University of Michigan
Presented By: John Stoffel

**Introduction:** To investigate radiologic ureteral dilation and surgical ureteroneocystostomy outcomes for treating renal transplant ureteral strictures.

**Methods:** Databases containing recipients of deceased (Dec), living related (LR), and living unrelated (LUR) transplanted kidneys were reviewed for transplant ureteral strictures. A stricture was defined as a fixed obstruction on urography associated with transplant kidney hydronephrosis and increasing serum creatinine. Successful stricture treatment was defined as no subsequent radiologic evidence of stricture recurrence, transplant hydronephrosis, or a rising serum creatinine after ureteral stent removal.

**Results:** 2959 renal transplants (1490 Dec, 808 LR, 661 LUR) were performed between 1/2000 – 12/2013 and 77 patients with transplant ureteral strictures were identified. Deceased kidney had the highest incidence of stricture (Dec 3.2%, LR 2.0%, LUR 2.0%, p=0.03). Strictures were diagnosed a median 65 days after transplant and were most common in the distal ureter (63%). Radiologic dilation was successful for 55% and the mean number dilations were 4.6 ( 3.9 – 5.4). There were no demographic, operative, or surgical predictors of success or failure for dilations ( p > 0.05). 24 patients who failed dilations underwent ureteroneocystostomy at a mean 366 days after transplant and 89% remained stricture free. Mean follow up for successful radiologic dilations and ureteroneocystostomy was 2332 and 1722 days (p=0.07). There were more graft failures after successful radiologic dilation compared to ureteroneocystostomy (17 vs. 4, p=0.01).

**Conclusion:** Ureteroneocystostomy had a higher success rate for treating
transplant ureteral strictures, compared to radiologic dilation/stenting, and was associated with less long term graft failure.

Poster #62
URINARY EXTRAVASATION MAY PREDICT RENAL IMPAIRMENT IN GRADE IV RENAL TRAUMA
Zachary Liss, MD¹, Lindsay Derus, DO², Marion Schulte, RN¹, Richard Falcone, MD¹, Pramod Reddy, MD¹, Eugene Minevich, MD¹, Brian VanderBrink, MD¹, Paul Noh, MD¹, W. Robert DeFoor, MD¹
¹CCHMC; ²UCMC/CCHMC
Presented By: Lindsay Derus

Introduction: Management of Grade IV renal injuries in children historically involved urinary diversion, particularly with evidence for urinary extravasation. More recently, an initial conservative approach has become well-accepted. The purpose of this study is to assess short-term renal outcomes in this patient population after the traumatic injury.

Methods: A retrospective cohort study was performed of all patients with Grade IV renal injuries presenting at a Level I pediatric trauma center. Patient demographics, mechanism of injury, hospital stay, presence of urine leak, radiographic imaging, and need for surgical procedures were abstracted from the medical record. Diminished renal function was defined as less than 35%.

Results: From 2004 to 2014, 29 patients (22 male, 7 female) met inclusion criteria. Mean age was 11.2 years (2−17). Median follow-up was 5 months (1−36 months). Median hospital stay was 6 days (2−86 days). 15 patients (52%) had urinary extravasation on initial imaging. Of these, 7 underwent placement of a ureteral stent or nephrostomy. One patient initially managed conservatively later required stent placement. Two patients underwent nephrectomy. 15 patients had renal scintigraphy studies after the injury. Of those with a urine leak, 75% had impaired function while only 43% of those with no leak had impaired function (p=0.34).

Conclusion: In children with Grade IV renal injuries, initial urinary extravasation appears to be associated with short-term diminished ipsilateral renal function. This trend towards significance but is likely underpowered. Further study is needed to determine if prompt versus delayed intervention improves long-term outcomes in these patients.

Poster #63
DOES MANNITOL USE IMPACT DELAYED GRAFT FUNCTION AND RENAL FUNCTIONAL OUTCOMES IN RECIPIENTS OF LIVING DONOR RENAL TRANSPLANTS?
James Wren, MB, BCh, BAO, Andrew Pfaff, Clint Bahler, Nick Liu, Francesca Monn, William Goggins, Chandru Sundaram
Indiana University
Presented By: James Wren

Introduction: Our objective was to assess the impact of mannitol on renal function in recipients of living donor renal transplants (LDRT).

Methods: We performed a retrospective analysis of all recipients of LDRT between January 2011 and August 2014 to compare the renal function outcomes between those that received mannitol and those that did not. Renal function was
assessed using Modification of Diet in Renal Disease (MDRD). Students test for continuous variable and chi squared test for categorical variables were used to assess patient characteristics. Multiple linear regression model (MLR) was used to identify factors impacting renal function at one month after transplantation. Variables assessed included: hypertension, length of hospital stay, age, preoperative recipient eGFR and renal volume of the transplanted kidney.

**Results:** Overall, 118 patients received LDRT with 33 patients that did not receive mannitol and 85 that received mannitol. In the mannitol group one patient suffered delayed graft function (DGF) and three suffered graft rejection (GR). In the non-mannitol group there was no DGF but there was one GR. Mannitol was not associated with improved renal functional outcomes or an independent predictor of renal function (p=0.88). However, on MLR: age ($\beta: -0.36$, 95% CI: $-0.58$–$-0.14$, $p=0.001$), Preoperative recipient eGFR ($\beta: 0.55$, 95%CI: 0.05 – 1.00, $p=0.030$), and renal volume of the transplanted kidney ($\beta: 0.15$ 95%CI: 0.06 – 0.24, $p=0.001$) were independently associated with recipients renal function at one month.

**Conclusion:** Mannitol use was not associated with rates of lower delayed graft function or improved overall renal function.

**Poster #64**

**RADICAL PROSTATECTOMY IN RENAL TRANSPLANT RECIPIENTS (RTRs): COMPARISON OF FEASIBILITY AND PERIOPERATIVE OUTCOMES BASED ON SURGICAL APPROACH**

Benjamin Sherer, MD, Krishnan Warrior, Oyedolamu Olaitan, MD, Leslie Deane, MD
Rush University Medical Center
Presented By: Benjamin Sherer

**Introduction:** Open radical retropubic prostatectomy (RRP), perineal radical prostatectomy (PRP), laparoscopic radical prostatectomy (LRP), and robotic assisted laparoscopic radical prostatectomy (RARP) have all been described in RTRs. We compared perioperative outcomes among the various approaches to radical prostatectomy in RTRs.

**Methods:** Articles published from January 1, 1989 through May 1, 2014 were reviewed using PubMed/Medline (search terms prostate cancer, renal transplantation, and prostatectomy). Studies reporting baseline patient characteristics (age, preoperative PSA) and perioperative outcome data (operative time, estimated blood loss (EBL), length of stay, and complication rates) were included for review.

**Results:** In total, seventeen series of radical prostatectomy in renal transplant recipients met inclusion criteria (RRP: 5 studies, n=64; PRP: 2 studies, n=9, LRP: 4 studies, n=15; RARP: 4 studies, n=12). RARP had longer operative times than RRP (224 vs 150 minutes) but resulted in less EBL(185ml vs 495ml) and shorter hospital stay (1.95 vs 8.0 days). PRP had the highest reported EBL (492ml) but the shortest operative times (92.7 minutes). Complication rates were similar for RRP (25%), LRP (20%), and RARP (33%). PRP had the lowest complication rate (7%) and no reported episodes of graft impairment/injury. Regardless of approach, lymphadenectomy was rarely performed ipsilateral to the renal allograft.

**Conclusion:** With appropriate technical adjustments, radical prostatectomy in RTRs can be performed with similar morbidity compared to the general CaP population. PRP may be the safest approach, oncologic features permitting, as it
allows for minimal dissection near the renal allograft and transplant ureter.

**Poster #65**
PROSTATE CANCER INCIDENCE IN RENAL TRANSPLANT RECIPIENTS
Benjamin Sherer, MD, Karl Godlewski, Leslie Deane, MBBS
Rush University Medical Center
Presented By: Benjamin Sherer

**Introduction:** Immunosuppression in renal transplant recipients (RTRs) is associated with a number of neoplasms, most frequently skin cancers and viral related malignancies. The reported incidence of prostate cancer (CaP) in RTRs has been variable. We sought to determine if RTRs have an increased incidence of CaP compared to age-matched members of the general population.

**Methods:** We performed a comprehensive literature review using PubMed/Medline and Embase for population and cohort studies reporting rates of de novo CaP occurrence after renal transplantation. Studies with >1000 male RTRs with median follow up >5 years were selected for meta-analysis to determine standardized incidence ratio of CaP in RTRs (calculated with exact Poisson 95% confidence intervals).

**Results:** 5 studies met inclusion criteria and, in total, included 33,872 male RTRs treated at >20 transplant centers throughout the world (England, Italy, Hong Kong, Australia, New Zealand) since 1972. At mean follow up of 8.96 years (range 5.2–16.0 years) after renal transplantation, there were 213 reported cases of CaP in this combined cohort. The expected number of age-adjusted CaP cases in the combined study populations was 183. Combined analysis revealed a standardized incidence ratio of CaP in RTRs of 1.16 (0.85–1.5).

**Conclusion:** While it seems that RTRs are at a slightly increased risk for CaP compared to the general population, evidence of causality remains inconclusive. Heightened surveillance for cancer in RTRs is a possible bias. Unfortunately, details regarding prostate cancer screening protocols and immunosuppression regimens are not reported in the majority of studies.

**Poster #66**
INTEROBSERVER RELIABILITY IS EXCELLENT AMONGST EXPERIENCED RADIOLOGISTS INTERPRETING PROSTATE MRIS USING THE PIRADS SCORING SYSTEM.
Samay Jain, MD, Barbara Saltzman, PhD, MPH, Terrence Lewis, MD, Khaled Shahrour, MD, Jacob Bieszczad, MD
University of Toledo Medical Center
Presented By: Samay Jain

**Introduction:** In our current study, we determined the interobserver reliability between two radiologists in reading prostate MRIs using the PIRADS system.

**Methods:** In this IRB approved study, all prostate MRIs performed at our institution were reviewed in a blinded and random fashion by two experienced radiologists, one of whom is fellowship trained in body MRI. Both radiologists assigned a PIRADS score to each MRI and reliability was tested with a Kappa analysis. Discordance was present when a PIRADS score was changed from a 1 or 2 to a 3 or higher, from a 3 to a value higher or lower or from a 4 or 5 to a 3 or lower. Statistical analysis was performed by T Tests and Mann Whitney U tests, where appropriate.
**Results:** A total of 105 MRIs were reviewed. Interobserver reliability was excellent between the radiologists (K =0.637, P <0.001). During the study period, the most common cause for discordance changed from diffusion weighted imaging to differed interpretation of T2 morphology. There was no difference in age, BMI, PSA and prostate size between the two groups. However, PIRADS 3 lesions were present more often in the discordant group (P<0.01)

**Conclusion:** Using the PIRADS scoring system allows for standardized reporting and was found to have excellent interobserver reliability. Further study with a more diverse group of radiologists is warranted to understand the generalizability of the PIRADS scoring system.

**Poster #67**

**THE INFLUENCE OF PROSTATE HEALTH INDEX (PHI) ON PROSTATE BIOPSY DECISION MAKING.**

Christina Selkirk¹, Chi-Hsiung Wang², Jasmine Nero¹, Jacqueline Petkewicz¹, Martha McCurdy¹, Kristian Novakovic¹, Charles Brendler¹, Michael McGuire¹, Brian Helfand¹

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Presented By: Christina Selkirk

**Introduction:** The US Preventive Services Task Force (USPSTF) recommended against Prostate Specific Antigen (PSA) screening for prostate cancer (PC). Finding new biomarkers to detect PC that can discriminate clinically significant from insignificant disease is paramount. Prostate Health Index (phi ) is a biomarker calculated utilizing total PSA, free PSA, and pro2PSA to attain a cancer probability score (CPS) for likelihood of having PC. Although FDA−approved, phi’s utility in routine clinical practice in a community setting has not been evaluated.

**Methods:** Men with abnormal PSA values between 2−10ng/ml were offered phi screening (Innovative Diagnostic Laboratory; Richmond, VA) (n=118). Both univariate and multivariate analyses were conducted to determine whether phi was a predictor of proceeding with prostate biopsy (SAS Inc., Cary, NC). Variables assessed included race, age, PSA value, PSA velocity, previous biopsy, family history, and ordering urologist.

**Results:** Univariate analyses demonstrated that younger age (p=0.02), higher phi (p<0.0001), and higher total PSA (p=0.02) predicted having a biopsy. In multivariate analysis, only higher phi remained a significant predictor (p=0.001).

**Conclusion:** Phi may be a helpful tool in helping men in their decision to have a biopsy. This new tool segregates men with PSA between 2−10ng/ml who go on to have biopsies, potentially lowering the number of indolent cancers identified and lowering the number of unnecessary invasive prostate biopsies. Funding: None.
Poster #68
THE INCIDENCE OF CIPROFLOXACIN RESISTANT BACTERIA ON PRE-PROSTATE BIOPSY RECTAL SWAB CULTURE IS INCREASING; A NORTHWEST OHIO STUDY
Bradley Buck, MD, Ryan Flynn, MD, David Fumo, MD, Samay Jain, MD
University of Toledo
Presented By: Bradley Buck

Introduction: Ciprofloxacin is routinely given to patients prior to trans-rectal prostate biopsy. To quantify the percentage of Northwestern Ohio patients harboring ciprofloxacin resistant bacteria, and to assess if resistance is increasing and/or if previous biopsy is a risk factor for resistance, the present study was undertaken.

Methods: After IRB approval, a retrospective chart review of all patients who underwent rectal swab culture within the Department of Urology at the University of Toledo Medical Center between January 1st of 2012 and December 31st of 2014 was completed. Patient demographic data was collected including the presence of ciprofloxacin resistance bacteria. Chi-squared analyses were completed where applicable to test for significant differences.

Results: During the study period 198 cultures for resistant organisms were completed. The average age at time of culture was 64 (± 8.5 SD) years old. Average number of previous biopsies at time of culture was 0.27 (range 0–6). Resistance rates were 13.2%, 13.8%, 19.5% in 2012, 2013, and 2014, respectively. We found no statistically significant difference in resistance across years. Additionally, previous biopsy was not significantly associated with ciprofloxacin resistance.

Conclusion: The current study failed to show a statistically significant increase in ciprofloxacin resistant bacteria. However, the clinical significance of the previously noted increasing incidence is yet to be determined. Further studies are needed to better classify the clinical significance of increasing incidence rates.

Poster #69
LENGTH OF CORE INVOLVED WITH CANCER IN PROSTATE BIOPSIES IN TRUS GUIDED COMPARED TO MR GUIDED
Ayman Soubra, MD, Christopher Warlick, MD, Christopher Weight, MD, Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Ayman Soubra

Introduction: Half of the men with prostate cancer are found to have greater burden of cancer on pathology from prostatectomies compared to TRUS–biopsies. It is still not known whether there is a difference in the disease burden detected by MRI–guided biopsy compared to TRUS–guided. We examined the difference in core length involved with cancer between the two approaches.

Methods: We included patients who underwent either MRI–TRUS fusion biopsy or MR–GB biopsy and a TRUS–biopsy within 1 year of each other. We recorded the Gleason grade, length and the percentage of core involved with cancer. We compared the mean of these measures for both random and targeted biopsies.

Results: We identified 40 cancerous areas sampled by targeted biopsies and 103 areas sampled by random biopsy. 24/40 targeted–biopsies were G6, 11/40 G7, 4 G8 and 1 G9. 80/103 random–biopsies were G6, 20/103 G7 and 3 G8.
There was no significant difference between the mean length of the core involved with cancer between targeted-biopsies 6.48mm and random-biopsies 4.98mm (p: 0.095). The mean percentage of core involved was also similar in both types of biopsies (25% targeted vs 19% random; p: 0.308). There was no significant difference found when considering G6 lesions only (4.24mm targeted vs 5.1mm random) (p: 0.207) nor lesions ≥ G7 (7.47mm targeted vs. 7.15mm random; p: 0.424).

**Conclusion:** Despite the fact that targeted biopsies attempt to sample from the largest part of a suspicious lesion, we found no difference in the core length and percentage involved with cancer for any type of lesion.

**Poster #70**

**FEASIBILITY AND INITIAL RESULTS OF 18FLUOROCHOLINE PET/MRI/TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY**

Ian McLaren, MD, Jeffrey S. Montgomery, MD, Matthew Davenport, MD, Lakshmi Kunju, MD, Charles Meyer, PhD, Ganesh Palapattu, MD, Todd Morgan, MD, Alon Z. Weizer, MD, David C. Miller, MD, Brent K. Hollenbeck, MD, Morand Pier, MD

University of Michigan

Presented By: Ian McLaren

**Introduction:** Addition of 18Fluorocholine positron emission tomography (FCHPET) to magnetic resonance imaging (MRI)/trans-rectal ultrasound (TRUS) fusion prostate biopsy may improve detection of clinically significant prostate cancer (PCa).

**Methods:** PET and multi-sequence 3-Tesla MRI were obtained in men referred for prostate biopsy. FCHPET and T2-weighted (T2W) MR volumes were registered using MIM software. Biopsy targets were selected by appearance on MRI, rated (low, intermediate, or high probability for significant cancer), then embedded into a 3-dimensional T2W volume and uploaded to a GE Logiq E9 ultrasound (US) equipped with a navigation system. Real-time US and T2W target sequences were registered. Targeted biopsies and standard 12-core template biopsies were obtained followed by histologic evaluation.

**Results:** Included were 32 men (mean age 64; range 56–77) with suspected (n=20) or known (n=12) PCa. Median PSA was 8.6 (range 3.6–153). Targeted biopsies more frequently revealed significant disease (Gleason ≥3+4) than template biopsies (n=12 vs 5; p < 0.01). There was a lower rate of identifying low-risk disease on targeted biopsies vs template biopsies (n=1 vs 13; p < 0.01). Fluorocholine uptake target-to-background ratios in Gleason ≥3+4 lesions were elevated compared to Gleason 3+3 lesions (p < 0.01). If targeting during the biopsy was judged as excellent (41/62 targeted cores, 66%), Gleason ≥3+4 PCa was identified in 85% of the cores.

**Conclusion:** Fusion PET/MRI/TRUS image registration and targeted biopsies are clinically feasible. This technique may aid the detection of clinically significant PCa (Gleason score ≥3+4) compared with template biopsies and reduce detection of low-risk disease.
Poster #71
COSTS ASSOCIATED WITH HOSPITAL ADMISSION AFTER INFECTIOUS COMPLICATIONS OF PROSTATE BIOPSY
Aram Loeb, MD¹, Emily Martin, MPH, PhD², Richard Evans², Paul Lephart, PhD³, Keith Kaye, MD, MPH¹, Michael Cher, MD¹
¹Wayne State University; ²University of Michigan; ³Detroit Medical Center
Presented By: Aram Loeb

Introduction: We aim to describe infection–related 30–day hospital admission rates and costs in men undergoing prostate biopsy.

Methods: We identified patients who underwent prostate biopsy and had a hospital admission in two large data sets. Patients were identified using the current procedural terminology code 55700 for prostate biopsy.

Results: In the Detroit sample, 49/935 (5.1%) of patients undergoing prostate biopsy had an inpatient admission within 30 days. Of these, 20 were admitted for infectious–related complications. The most common admitting diagnosis was sepsis; other diagnoses were urinary tract infection, prostatitis, orchitis, and pyelonephritis. Blood or urine cultures were positive in 15 patients, with the most common pathogen being Escherichia Coli. Based upon antimicrobial sensitivity testing, 11 patients had fluoroquinolone–resistant bacteria. The average infection–related hospitalization cost was $10,811 (Range $4,389 – $21,441), and the mean length of stay was 3 days (IQR 2–4). In the national sample 13,154/447,486 (2.9%) men were admitted to the hospital within 30 days of biopsy. Of these, 3,265 were due to infectious related complications. Median length of stay was 3 days (IQR: 1–5) and mean total cost for the hospitalization was $13,375 (SD$17,597).

Conclusion: Infection following prostate biopsy often can be serious enough to warrant admission to the hospital, and these hospital admissions can be quite costly. A significant portion of prostate biopsy–related infections are due to fluoroquinolone–resistant bacteria. Continued efforts are needed to optimize antibiotic prophylaxis strategies.

Poster #72
ADJUVANT RADIOTHERAPY FOR PATHOLOGICALLY ADVANCED PROSTATE CANCER IMPROVES BIOCHEMICAL RECURRENCE FREE SURVIVAL COMPARED TO SALVAGE RADIOTHERAPY
Robert Blackwell, MD¹, William Gange², Alexander Kandabarow², Matthew Harkenrider, MD³, Gopal Gupta, MD¹, Marcus Quek, MD¹, Robert Flanigan, MD¹
¹Loyola University Medical Center, Department of Urology, Maywood, IL; ²Loyola University Medical Center, Stritch School of Medicine, Maywood, IL; ³Loyola University Medical Center, Department of Radiation Oncology, Maywood, IL
Presented By: Robert Blackwell

Introduction: The proper timing of radiation therapy following radical prostatectomy(RP) for adverse pathologic features and an undetectable PSA remains in question.

Methods: A retrospective review of post–prostatectomy RT at our institution between 1992–2013 was performed. Patients were categorized by pathologic features (Gleason≥8, pT3–4, seminal vesicle invasion(SVI), extracapsular extension, and/or positive surgical margins), and presence of undetectable PSA postoperatively. ART patients received therapy with undetectable PSA, while SRT patients received therapy post–RP following biochemical recurrence(BCR).
Post–RT BCR, overall survival(OS), bone metastases(BMet), and hormonal therapy(HT) were assessed by Kaplan–Meier curves and Cox stepwise multivariate regression.

Results: Post–RP patients (n=134) received either ART (n=47) or SRT (n=87). Median age at RP was 60 years, at RT was 63 years, and follow–up was 53 months. Patients were well matched, aside from higher SVI in ART patients. Five–year BCR–free survival was 78% for ART vs 50% SRT (HR 3.4, p=0.002). Patients with RT administered following a detectable PSA (SRT) had an increased risk of BCR compared to undetectable: PSA >0.0–0.2: HR 4.1, p=0.005, and PSA >0.2–1.0: HR 4.4, p=0.003. There was no demonstrable difference in OS, BMet or HT between ART and SRT.

Conclusion: ART improves BCR–free survival compared to SRT in post–RP patients. When pre–RT PSA becomes detectable, there is increased risk of BCR.

Poster #73 - WITHDRAWN

Poster #74
INITIAL EXPERIENCE AND OUTCOMES OF NATURAL ORIFICE TRANSLUMENAL ENDOSCOPIC RADICAL PROSTATECTOMY
Michael S. Borofsky, MD, Jessica A. Mandeville, MD, Naeem Bhojani, MD, Jessica E. Paonessa, MD, Marawan M. El Tayeb, MD, James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael Borofsky

Introduction: Preclinical studies have demonstrated natural orifice transluminal endoscopic radical prostatectomy (NOTES RP) is feasible. To date, no oncologic or functional outcomes have been described in human patients undergoing this procedure.

Methods: Five patients with low–risk prostate cancer underwent NOTES RP between 2011 and 2013. A 100W, 550μm Holmium laser (Versapulse®, Lumenis Surgical, USA) was used to dissect the prostate through a 28F laser resectoscope. Once free, the gland was removed via cystotomy. Vesicourethral anastomoses were performed through an offset nephroscope using an endoscopic suturing device (LSI Solutions, USA). Outcomes were assessed at 3, 6, and 12 months.
Results: Dissection was successfully performed solely using the laser in all cases. Immediate complications were minimal with only one patient requiring transfusion. Two patients had positive margins, though at nearly two years mean follow-up, there have been no detectable PSA recurrences. The most common post-operative complication was bladder neck contracture. Four patients underwent a total of nine bladder neck incisions. Two of three men with pre-operative erectile function regained potency by one year. Four patients noted persistent stress incontinence at one year.

Conclusion: Oncologic efficacy of NOTES–RP appears encouraging. High rates of anastamotic related complications are likely due to difficulty with endoscopic suturing and indicate that modifications in technique are necessary.

Poster #75
DIFFUSE HYPOINTENSITY ON THE T2 PHASE OF A PROSTATE MRI IN MEN WITH DIFFUSE PROSTATE CANCER CAN BE A SIGNIFICANT CONFOUNDER RESULTING IN A FALSELY LOW PIRADS SCORE.
Samay Jain, MD, Terrence Lewis, MD, Khaled Shahrour, MD, Jacob Bieszczad, MD
University of Toledo Medical Center
Presented By: Samay Jain

Introduction: The PIRADS score was developed to standardize the reporting of suspicious lesions on prostate MRIs. The system still carries a risk of false negative reports. We report on such false negatives and implicate a specific entity as a confounder

Methods: In this IRB approved study, we reviewed a prospectively maintained prostate MRI database. We focused on patients with PIRADs scores 1 and 2 and
determined how many had significant cancer on subsequent biopsy and prostatectomy.

**Results:** A total of 105 prostate MRIs were reviewed. Of these, 66 were classified as PIRADS 1 or 2. A total of 9 patients underwent biopsies and 3 were found to have clinically significant prostate cancer. The three with significant cancer had a mean age and PSA of 55 and 10.82, respectively. Mean PSA density was 0.4ng/mL^2^. Biopsy results revealed at least Gleason 7 disease and/or high volume (>3 cores) disease. At prostatectomy, all three patients had >15% of their entire gland involved with at least Gleason 6 disease. None of these three patients had a distinct nodule seen on prostate MRI. All three had diffuse hypointensity on the T2 imaging with minimal changes seen on diffusion weighted imaging, dynamic contrast enhancement and ADC mapping. All three MRIs were classified as PIRADS 2 or less.

**Conclusion:** Diffuse hypointensity of the T2 weighted image on prostate MRI should give the urologist and radiologist pause. A low PIRADS score with this finding could represent diffuse carcinoma without a dominant nodule.

**Poster #76**

**PERINEAL BIOPSY IS THE ONLY WAY ACCESS ANTERIOR LESIONS DETECTED BY PROSTATE MRI**

Samay Jain, MD, Khaled Shahrour, MD, Terrence Lewis, MD, Jacob Bieszczad, MD
University of Toledo Medical Center
Presented By: Samay Jain

**Introduction:** The standard prostate biopsy template is a transrectal approach with ultrasound guidance. While this approach allows for access to the peripheral zone of the prostate, it has limited ability to sample the anterior zone of the prostate. We report on 4 patients whose prostate cancer was accessible by perineal biopsy only.

**Methods:** At our institution, each MRI is reviewed by both the urologist and radiologist for biopsy planning purposes. If indicated by MRI, we routinely perform a perineal biopsy along with a standard transrectal 12 core biopsy to adequately sample the prostate and suspicious nodule. Patients were identified by reviewing an IRB approved, prospectively maintained prostate MRI database.

**Results:** Of the 105 prostate MRIs performed, we prospectively identified 4 patients with a PIRADS 4 or 5 lesion in the anterior zone of the prostate. Three of these patients had undergone previous, negative biopsies within the previous 18 months. The mean age, PSA, BMI and PSA density were 72.5, 16.0, 27.9, and 0.25ng/ml^2^, respectively. Each of the patients underwent concomitant ultrasound guided perineal and transrectal biopsies of the prostate in a non−blinded fashion. Each of the four was found to have significant disease on the perineal biopsy only and the transrectal biopsy was either negative for cancer or showed non−significant disease by Epstein criteria.

**Conclusion:** We believe that perineal prostate biopsy is the only way to access anterior lesions as seen on prostate MRI. Urologists should keep this in mind when planning biopsies based on prostate MRI.
**Poster #77**

**TIME TO BIOCHEMICAL AND RADIOGRAPHIC PROGRESSION IN PATIENTS TREATED WITH ADENOVIRUS PSA VACCINE FOR NONMETASTATIC/EARLY METASTATIC CASTRATE RESISTANT PROSTATE CANCER: PHASE 2 TRIAL RESULTS**

Kenneth Nepple, MD, Daniel Vaena, MD, James Brown, MD, Karen Griffith, RN, PhD, Pamela Zehr, RN, David Lubaroff, PhD

University of Iowa

Presented By: Kenneth Nepple

**Introduction:** AdPSA is an investigational replication-deficient adenovirus-based PSA vaccine. A phase II trial in early CRPC has completed accrual.

**Methods:** Eligible patients were required to have CRPC. Patients with no metastases could have any serum PSA doubling time (PSADT), while those with metastases were eligible if they were asymptomatic with a PSADT over 6 months and a serum PSA under 10 ng/ml. Treatment was 3 monthly AdPSA injections in Gelfoam matrix. Patients were required to have bone scans at 3/6/12 months then annually. If abnormal at entry, CT scans were performed at 6/12 months then annually. Time to biochemical progression (TTbP) was defined as time to PSA rise of 25% above nadir/baseline plus 2 ng/ml. Time to radiographic progression (TTrP) was defined as time to development of 2 new lesions on bone scan or new lesions/RECIST progression on CT.

**Results:** 31 patients were evaluated. Median age was 73yrs(53–85). Median baseline serum PSA was 1.1(0.16–16.7) and the majority had non-metastatic CRPC at baseline. The median duration of follow-up is currently 31 months (1–67) and 25 patients were alive at last follow-up. At this time 7 patients have not progressed (max f/u 46mo); 6 patients have only progressed biochemically (TTbP range 3–45mo); and 18 patients had radiographic progression. Median TTrP was 7.5months (3–49).

**Conclusion:** A significant proportion of men receiving AdPSA vaccine had prolonged metastasis-free survival. Further follow-up and analysis of radiographic PFS and TTrP subsets by PSADT cohorts post-vaccine therapy is ongoing.

Funding: Department of Defense Prostate Cancer Research Program.

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**Poster #78**

**THE LONGITUDINAL EPIDEMIOLOGY OF DEATH DUE TO SEPSIS IN PATIENTS DIAGNOSED WITH PROSTATE CANCER**

Shaheen Alanee, MD, MPH, Bradley Holland, Joseph Clemons, Danuta Dynda, MD, Ahmed El-Zawahry, MD

Southern Illinois University School of Medicine

Presented By: Bradley Holland

**Introduction:** There is increasing incidence of infectious complications associated with diagnosis of prostate cancer (Pca); however, mortality is not well characterized. We examine the longitudinal epidemiology of death from sepsis in diagnosed patients, and evaluate disparities in risk for such outcomes.

**Methods:** Retrospective analysis of 910,986 patients diagnosed with Pca between 1992–2010 identified from the Surveillance, Epidemiology, and End Results database was performed. Longitudinal trends of mortality incidence from sepsis were examined using joinpoint analysis and compared to other cancer
diagnoses. Cox proportional hazard model was utilized to examine the endpoint of sepsis specific death (SSD).

**Results:** Overall 2593 (0.28%) patients diagnosed with Pca died from sepsis between 1992–2010. Pca patients had the highest incidence–based mortality from sepsis after diagnosis (average rate 6.5/1,000,000 age–adjusted to the 2000 United States standard population). They also sustained the highest annual percentage change (APC) in incidence–based mortality from sepsis between 1992–2010 (average APC 13.1%, 95%CI 9.4–16.9%) (Figure 1). Age, education, marital status, treatment, distant disease, and race were independent determinants of increased SSD (all p–values < 0.05).

**Conclusion:** Pca diagnosed patients are at increased risk of dying from sepsis compared to other common cancers. The sepsis–related mortality rates also increase over time. Significant disparities in the outcome of sepsis among Pca patients require explanation.

**Poster #79**

THE CLINICAL AND ECONOMIC IMPLICATIONS OF SPECIMEN PROVENANCE COMPLICATIONS IN DIAGNOSTIC PROSTATE BIOPSIES

Kirk Wojno, MD¹, John Hornberger, PhD², Paul Schellhammer, MD³, Minghan Dai⁴, Travis Morgan⁵

¹Comprehensive Urology; ²Stanford; ³Urology of Virginia; ⁴Cedar Associates; ⁵Strand Diagnostics

Presented By: Kirk Wojno

**Introduction:** Inaccurate diagnoses of prostate cancer can result from transposition or contamination of patients’ biopsy specimens, known as specimen provenance complications (SPCs). We assessed the clinical and economic burden of SPCs in prostate biopsies in the U.S.

**Methods:** A comprehensive, systematic review of the published literature was performed to approximate the effect of SPCs on direct medical costs, patients’ QALYs, and medico–legal costs. Data were extracted from published studies on SPC rates, prostate cancer treatment efficacy, treatment cost, litigation/settlement costs following false diagnosis of prostate biopsies, and patient quality of life. Sensitivity analyses were used to identify factors that most influenced the outcomes, and assess the robustness of the findings.

**Results:** From an estimated 806,251 primary and secondary prostate biopsies performed annually in the United States, 20,322 SPCs are projected to result in 4,570 clinically meaningful false diagnoses, and an expected loss of 634 QALYs. The total burden of SPCs was projected to exceed $879.9 million, or $3,776 per positive cancer diagnosis. This estimate was most sensitive to the probability of cancer per biopsy and the rate of transpositions in independent reference laboratories.

**Conclusion:** The societal burden of SPCs among prostate biopsy patients likely exceeds $880 million annually in the U.S. This analysis framework may be useful as policymakers, health organizations, and researchers seek to reduce false diagnoses of prostate cancer and the consequent effects of delayed or unnecessary treatment. Further study to quantify the economic burden among additional diseases is warranted.

Research funded by Strand Diagnostics, LLC.
Poster #80
EVALUATING PI-RADS AND LIKERT SCORES FOR SUSPICIOUS LESIONS ON THE MRI OF PATIENTS UNDERGOING ACTIVE SURVEILLANCE FOR PROSTATE CANCER USING MRI GUIDED BIOPSY
Ayman Soubra, MD, Benjamin Spilseth, MD, Badrinath Konety, MD, MBA, Greg Metzger, PhD, Sidney Walker, MD, Bruce Lindgren, PhD, Christoper Warlick, MD
University of Minnesota
Presented By: Ayman Soubra

Introduction: Technical heterogeneity and lack of standards for interpretation of prostate multiparametric MRI pose a challenge. In this study, we examined the accuracy of two commonly used scoring systems for rating lesions on mp-MRI of patients on active surveillance.

Methods: We reviewed records of 28 AS patients who underwent MR-GB. The mp-MRI images were reread by a single radiologist. Lesions were examined for size, ADC, and assigned a 5 point Likert score and PI-RADS score. We used univariate and multivariate analysis to test the ability of radiologic features to distinguish between benign and malignant lesions.

Results: Our overall cancer detection rate was 57% per patient and 27% (22/83) per lesion. There was no difference in size and ADC between benign and malignant lesions, though Gleason 7 lesions were bigger than G6 lesions (p: 0.04). PI-RADS T2 scores 4−5 were predictive for finding any cancer (OR 3.5; p: 0.035), and G7 (OR 5.4: p: 0.026). Likert scores 3−5 were also predictive of finding any cancer (OR: 3.4; p: 0.029); with sensitivity 77%, specificity 48% and NPV 85%, and increased to 100% sensitivity, 46% specificity, 100% NPV when predicting G7 lesions only. Dw and CE scores weren’t predictive of any cancer. On multivariate regression, Likert score was the best predictor associated with finding any cancer, OR 1.76 (p: 0.009).

Conclusion: Likert scoring out performs PI-RADS scoring in detecting cancer in AS patients. Experience and expertise in reading prostate MR may be more important in identifying lesions within this specific population.

Poster #81
LONG-TERM EFFICACY AND TOXICITY OF LOW DOSE RATE 125I PROSTATE BRACHYTHERAPY AS MONOTHERAPY IN LOW, INTERMEDIATE, AND HIGH-RISK PROSTATE CANCER
Jeffrey Kittel, MD, Chandana Reddy MS, Kristin Smith, BS, Kevin Stephans, MD, Rahul Tendulkar, MD, Kenneth Angermeier, MD, Steven Campbell, MD, Andrew Stephenson, MD, Eric Klein, MD, Allan Wilkinson, PhD, Jay Ciezki, MD, James Ulchaker, MD
Cleveland Clinic Foundation
Presented By: James Ulchaker

Introduction: To report long-term efficacy and toxicity for a closely-followed, single-institution cohort of patients treated with prostate brachytherapy (PI).

Methods: From 1996–2007, 1,989 patients with National Comprehensive Cancer Network NCCN low (N = 1219, 61.3%), intermediate (N = 592, 29.8%), high intermediate (N = 90, 4.5%) and high risk prostate cancer (N = 88, 4.4%) were treated with PI and enrolled in a prospectively followed cohort. All patients were treated with 125I to a target dose of 144 Gy and none received supplemental external beam radiotherapy.

Results: The 5 yr rates of biochemical relapse-free survival for low,
intermediate, high-intermediate, and high risk patients were 95.3%, 90.0%, 80.9%, and 67.5%, respectively. The 10 yr rates for biochemical relapse free survival, distant metastases free survival, overall survival, and prostate cancer specific mortality for all patients were 81.5% (95% CI= 78.8–84.3%), 91.5% (95% CI= 89.1–93.8%), 76.1% (95% CI= 73.4–78.9%), and 2.5% (95% CI= 1.5–3.5%), respectively.

The overall rates of late grade ≥ 3 GU and GI toxicity were 7.6% and 0.8%, respectively. On multivariate analysis, age and prostate length were significantly associated with increased risk of late grade ≥ 3 GU toxicity. No treatment or dosimetric parameters were found to be significantly associated with late grade ≥ 3 GU toxicity. The risk of incontinence was highly correlated with transurethral resection of the prostate (TURP).

**Conclusion:** Brachytherapy as monotherapy is an effective treatment for low and intermediate risk prostate cancer and appears promising as a treatment for high-intermediate and high risk prostate cancer.
Annual Business Meeting Agenda

II. Call to Order: Patrick H. McKenna, MD, FAAP, FACS

II. Minutes of the 2014 Annual Business Meeting: Gary J. Faerber, MD

III. Secretary Report: Gary J. Faerber, MD

IV. Treasurer Report: Mark D. Stovsky, MD, MBA, FACS

V. Historian Report: Teresa D. Beam, MD

VI. Committee Reports
   1. Audit and Budget Committee: James C. Ulchaker, MD, FACS
   2. Board of Directors Report: Gary J. Faerber, MD
   3. 2015 Local Arrangements Committee: James D. Relle, MD
   4. Program Committee: Gary J. Faerber, MD
   5. Editorial and Awards Committee: Christopher L. Coogan, MD
   6. Health Policy Committee: Matthew T. Gettman, MD
   7. Long Range Planning Committee: Gary J. Faerber, MD
   8. Young Urologists Committee: Tobias S. Kohler, MD
   9. Bylaws Committee: Jay B. Hollander, MD
   10. Education Committee: Bradley F. Schwartz, MD

VII. Representative to the Board of Directors of the AUA: Chandru P. Sundaram, MD

VIII. Future Meeting Report: Gary J. Faerber, MD

IX. Membership Committee Report and Election of New Members: Patrick H. McKenna, MD, FAAP, FACS

X. Unfinished Business

XI. New Business

XII. Nominating Committee Report and Elections: Christopher S. Cooper, MD, FAAP, FACS

XIII. Introduction of Incoming President

XIV. Adjournment
Membership Candidates and Transfers

* Application Not Complete
FT AUA Fast Track Application

CANDIDATES FOR MEMBERSHIP

Active
ABERN, MD Michael
* ARETAKIS, MD Kari
ARNOLD, II, MD Don
BENNETT, MD Richard
* DOSHI, MD Rajen
* EEG, MD Kurt
* EKWENNA, MD Obi
* GARCIA, MD Julia
GHANI, MD, MBChB, MS, FRCS Khurshid
GROTH, MD Travis
HELFAND, MD, PhD Brian
JAIN, MD Samay
KING, MD Andre
LODOWSKY, MD Christopher
* MARINKOVIC, MD Serge
* MARTIN, MD George
NEFF, MD Donald
* OGUEJIOFOR, MD Ikechukwu
* PARK, MD Eugene
* PECK, II, MD John
RISK, MD, PhD Michael
* ROY, MD Richard
* SCHULTE, MD Ryan
VANDERBRINK, MD Brian
* WIRTZ, MD Patrick
WOO, MD Lynn
FT KHAN GALZIE, MD Sardar Mohammad
FT RAO, MD Manoj
FT WHITTAM, MD, MS Benjamin

Active Applicants: 30

Associate
ADAMS, MD Christopher
* ALANZI, MD Jaber
ARLEN, MD Angela
AUTORINO, MD, PhD Riccardo
CRIVELLARO, MD Simone
DABAJA, MD Ali
DARWISH, MD Oussama
* DEHAAN, DO Alexander
DUPREE, IV, MD, MPH James
* HESHMAT, MD Samy
* HOU, MD Amy
HUBERT, MD, MPH Katherine
* JOHNSON, MD Elizabeth
  JOHNSON, MD, MPH Emilie
  KALYANARAMAN, MD, PhD Balaji
  KEENAN, MD Alison
* KERN LAYDNER, MD Humberto
  KOOPMAN, MD Steven
  KOVAC, MD, PhD, MSc, FRCSC Jason
  MILHOUSE, MD Olufenwa
  PSUTKA, MD, MSc Sarah
  RAYBOURN, III, MD James
* REGAN, MD Stanton
* SHAH, MD Amul
  SHAH, MD Ketul
  SIVALINGAM, MD, MSc, FRCSC Sri
* TOTONCHI, MD Samer
  WENZLER, MD David
  WILKINSON, DO, MS Scott
* YOUNG, MD Diane
FT BARON, MD Pamela
FT DELOS SANTOS, MD Grace
FT FRIEDMAN, MD Fara

Associate Applicants: 33

TOTAL APPLICANTS 63

INTERNAL TRANSFERS

To Active Membership
ACINO, MD Shawn
MATHEWS, MD Ranjiv
MCMANUS, MD Michael
NICHOLSON, MD Adam
NISBET, MD Andrew
PAPADOPOULOS, MD Xenofon
TALUG, MD Can

To Active Membership Internal Transfers: 7

To Associate Membership
ORDONEZ, MD Maria
SALKINI, MD Mohamad

To Associate Membership Internal Transfers: 2

To Senior Membership
BATES, MD Robert
ENGEL, MD Geoffrey
GARNETT, MD John
GOLDIN, MD Yuly
HALLET, MD Michael
KROPP, MD Kenneth
MONG, MD Stephen
NEAL, MD Bruce
PESSIS, MD Dennis
PETERSON, MD Noel
RAMANA, MD Dindigalla
RIVES, MD Roger
SCHWARTZ, MD Steven
SEELEN, MD Michael
SELMAN, MD Steven
SLABY, MD Denis
SWIFT, MD Daniel
TORRIGLIA, MD Jorge
TOTONCHI, MD Emil
TSUANG, MD Mark

To Senior Membership Internal Transfers: 20

**TOTAL INTERNAL TRANSFERS 29**

Membership Summary Report

**ACTIVE**
Active Member  1,136
Active Member – Transfer into Section  7
**Total Active Count: 1,143**

**AFFILIATE**
Affiliate Member  2
**Total Affiliate Count 2**

**ASSOCIATE**
Associate Member  76
Associate Member – Transfer into Section  2
**Total Associate Count: 78**

**HONARY**
Honary  1
**Total Honary Count: 1**

**SENIOR**
Senior Member  508
Senior Member – Transfer Internal  21
**Total Senior Count: 529**

**TOTAL MEMBERSHIP COUNT: 1,753**
North Central Section of the AUA Proposed Bylaws Changes

Article I Membership
Section 2 - Member Categories

The Section membership shall include: Active Members, Associate Members, Affiliate Members, Senior Members, Honorary Members, Research Scientist Members, International Members, Allied Members, Advanced Practice Provider Members, International Members-in- Training, Resident/Fellow Members and Medical/Graduate Student Members.

Section 6 – Active Members

Requirements for Active Members are as follows:

A1) Possession of an unlimited license to practice medicine and surgery in the state, province or country of the applicant’s residence.

B2) Membership in good standing in the American Urological Association, Inc. and practice within its geographical boundaries.

C3) Possession of an MD or DO degree (or United States Medical Licensure equivalent) and completion of an ACGME accredited urology residency or equivalent by the Royal College of Surgeons (“RCS”) in Canada or the Quebec Board of Urology or the certifying Board of Urology in the country where practicing within the geographic boundaries of the AUA.

D4) Limitation of practice to the specialty of Urology.

E5) Certification by the American Board of Urology (“ABU”), the Royal College of Surgeons (RCS) in Canada or the Quebec Board of Urology or the Certifying Board of Urology in the country where practicing within the geographic boundaries of the AUA.

F6) Recommendation for membership by two (2) voting members of the Section, except if certified within the last 24 months as provided in item (e) (5) above.

G7) Letter of recommendation from the Chief of Urology, Medical Director, or Chair of the Credentials Committee at the hospital(s) where the applicant has privileges, except if certified within the last 24 months as provided in item (e) (5) above.

Section 9 – Affiliate Members

Affiliate membership is available to Non-urologist MDs or Doctors of Osteopathy who are significantly contributing to the field of urology through clinical practice. Physician Scientists and is not usually available for physicians certified by medical boards. However, in exceptional instances, persons in related fields of medicine and science, who do not qualify for other categories of Section membership, may be considered for Affiliate Membership provided they have contributed significantly to the specialty of Urology. They shall be nominated by two (2) Active or Senior Members who shall furnish the
Section Board of Directors with the curricula vitae and other pertinent information.

Section 11 - Corresponding Members
Section 11 - Research Scientist Members

Research Scientist Membership is available for independent investigators with PhDs or equivalent degrees, DVMs, non-practicing MDs and related professionals who have demonstrated achievements in the field of urology through research or who have made substantial contributions to urologic research in an administrative capacity.

Section 12 – Candidate Members

Section 12 - International Members

International Membership is available to urologists who practice in countries beyond the geographic boundaries of the AUA. The applicant shall be a member of the local or national urological organization in his country. If a national organization does not exist within the applicant’s country, a waiver of this requirement may be considered by the Executive Committee. The applicant’s practice must be limited entirely to the specialty of urology. The applicant must be a graduate of an acceptable medical school who has received a Doctor of Medicine or equivalent degree.

Section 13 - Allied Members

Allied Membership is available to non-physician professionals, including nurses (e.g., RN, LPN, LVN), medical technicians, and medical assistants, specializing or concentrating in urology for at least one year.

Section 14 - Advanced Practice Provider Members

Advanced Practice Provider Membership is available to physician assistants, nurse practitioners or advanced practice nurses specializing or concentrating in urology for at least one year.

Section 15 - International Residents-In-Training Members

International Residents-in-Training Membership is established to extend AUA education and professional advantages to Urological Residents-in-Training who reside outside the geographic boundaries of the section. These members must be enrolled in a residency program approved by the European Board of Urology (EBU), Residency Review Committee for Urology or the appropriate credentialing body in a country other than the United States. Eligibility for this member status shall be for a period of ten (10) years from the member’s date of completion of medical school.
Section 16 - Resident/Fellow Members

Resident/Fellow Membership extends section educational and professional advantages to urological residents or fellows and research postdoctoral fellows in training. Resident/Fellow Members must be practicing and studying within the geographic boundaries of the section. Resident/Fellow membership is available to:

(1) Residents enrolled in an ACGME-accredited or AOA-approved urology residency training program.

(2) Post-doctoral research fellows with a MD, PhD or equivalent degree actively engaged in biomedical research under a qualified mentor.

(3) Clinical Fellows enrolled in an accredited fellowship or post-residency training program.

Section 16.1 ACGME.
Medical Doctors (MD) or Doctors of Osteopathy (DO) enrolled in a urology residency program approved by the Residency Review Committee and ACGME are eligible for Resident/Fellow Membership; and after completing training and passing part 1 of the ABU qualifying examination are eligible for Associate Member status (Fast Track), Section 8.1. Those who successfully pass all parts of the ABU certifying examination are eligible for Active Member status, Section 6.

Section 16.2 AOA.
Doctors of Osteopathy enrolled in an AOA-approved urology residency training program are eligible for Resident/Fellow Member status. DOs completing their urology training and passing the American Osteopathic Board of Surgery certifying examination are eligible for Associate Member status, Section 8.2.

Section 17 - Medical/Graduate Student Members

Medical/Graduate Student Membership is established to provide education about urology as a surgical specialty and as a career. Medical/Graduate Student Membership is available to:

(1) Individuals enrolled full-time in a medical school for the purpose of obtaining a Medical Doctor degree, Doctors of Osteopathy degree, or equivalent degree, or

(2) Individuals enrolled full-time in an accredited graduate school program for the purpose of obtaining a PhD or equivalent degree and actively engaged in research under a qualified mentor.

Section 18 - Application for Membership

Section 19 - Publication of Names

Section 20 - Notification of Election

Section 21 – Transfer of Membership

Section 22 - Resignation, Expulsion and Reinstatement
Article II Officers
Section 7 – Treasurer

The term of office shall be five (5) three (3) years or until a successor assumes the office. The Treasurer shall: (a) keep an accurate record of all assets of the Section and keep them in the name of the Section; (b) be bonded for approximately the total amount of the assets of the Section, bond being held by the President; (c) disburse the monies of the Section only by the authority of the Board of Directors; (d) keep a journal, ledger, and alphabetical list of all members indicating the state of their accounts with the Section; (e) be responsible for the collection of all dues and assessments, both current and delinquent; (f) report delinquent members promptly to the Secretary and to the Board of Directors; (g) have an annual audit of the Section’s financial status prepared by a certified public accountant and present a report of this audit to the Board of Directors and to the members of the Section at the Annual Business Meeting; (h) recommend to the Board of Directors the need for any special assessments; (i) be responsible for setting the budgets, subject to approval of the Board of Directors, for the Annual Meeting and working with the Local Arrangements Committee in monitoring expenses; (j) report annually to the Board of Directors on the assets held by the Section, the existence of which must be verified by the certified public accountant and the Audit and Budget Control Committee; (k) take such other action as directed by the Board of Directors, and (l) train the Treasurer-Elect during the Treasurer’s last year in office.

Article IV Committees
Section 2 – Nominating Committee

a) The committee shall be composed of the two Immediate Past Presidents in attendance at the Annual Meeting, one member of the Board of Directors elected by the Board of Directors and four (4) or, if the Past-Past President is a nonvoting member of the committee (as provided below), five (5), members selected by the geographic units other than the geographic units represented by the three (3) aforementioned other members of the Committee. The Chair shall be the most recent Past President on the committee and the Vice-Chair shall be the Past-Past President on the committee. In the event the two Immediate Past Presidents serving on the committee are from the same geographic unit, the Past-Past President shall be a non-voting member of the committee, and a total of five members shall be selected by the geographic units, as provided above, so that each geographic unit has representation on the committee. b) Each geographic unit not represented on the committee by the Past Presidents or the member of the Board of Directors shall choose one representative to serve on the committee who has demonstrated leadership or active participation in the Section and each geographic unit and the Board of Directors shall choose one alternate representative to serve in the event its representative cannot serve or attend meetings. Each such representative shall attend all meetings of the Committee, provided if the representative cannot attend, the alternate shall attend and serve in his or her stead. In the event that neither the delegate or alternate delegate from the geographical unit is able to attend the Nominating Committee meeting, the State Representative of the Section’s Board of Directors may serve on the Nominating Committee in their stead.
c) It shall be the duty of this Committee to present to the members of the Section at the Annual Business Meeting a list of nominees for the following Section offices:

(1) President-Elect

(2) Secretary (every third year)

(3) Treasurer (every fifth third year)

(4) Secretary-Elect (every third year)

(5) Treasurer-Elect (every fifth third year)

(6) Historian (annually)

(7) Two or more members of the Board of Directors

d) The Nominating Committee shall also nominate members of the Section in good standing to serve as Representatives and Alternate Representatives on the AUA Board of Directors, the AUA Nominating Committee and other AUA committees for terms specified in the AUA Bylaws. When it is the Section’s turn in the AUA rotation, the Nominating Committee shall nominate a Section member in good standing to serve as candidate for AUA President-Elect.

e) Selection of AUA President-Elect: Selection of the AUA president will be accomplished by electronic balloting of the entire Membership. Membership will be contacted electronically to submit nominees for the AUA President-Elect in November prior to the annual meeting where it’s the section’s turn for rotation of the AUA President Elect. The potential nominees must provide a statement of intent that will be posted on the section’s website. The Chairman of the Nominating Committee, Secretary, and Executive Director will review the candidates and confirm eligibility for the position. Specifically, that the candidates meet the AUA requirements and have served on the Board of Directors or as an Officer of the North Central Section.

Election Procedures:
1. Beginning December 1, prior to the annual meeting where the position is open, all eligible voting members will be allowed to vote via a secure independent web based voting system. Only one vote per voting member will be counted and the Office of the Executive Director will verify only one vote per voting member. The deadline for voting will be January 31.

2. The election results will be verified by a committee consisting of the Secretary of the NCSAUA, Chairperson of the Nominating Committee and the Executive Director.

3. The winner must gather 50% of the vote plus one to be declared the victor.
4. If there is no outright victor then the top two vote getters will face off in another electronic election, via a secure independent web based voting system to be completed by February 28th. Only one vote per voting member will be counted for the face-off election, and the Office of the Executive Director will verify only one vote per voting member.

5. The votes will be verified by the Secretary, Chairperson of the Nominating Committee, and the Executive Director. The victor will be notified at the Annual Business Meeting.

The report of the Nominating Committee shall be presented at the Annual Business meeting, and a majority of votes shall be necessary to ratify that report. No nominations for Officers, Directors, or AUA Representatives shall be accepted from the floor of the Business Meeting.

Should the report of the Nominating Committee be rejected, in whole or in part, by a majority of the membership voting at the Business Meeting, then the Committee shall promptly seek another acceptable candidate for each challenged position in accordance with the provisions of Article IV, Sections 2 (c) and (d) of these Bylaws. A subsequent candidate approved by the Nominating Committee shall be submitted through the mail, within 30 days thereafter, for approval by majority vote of all eligible Section members responding to that vote.

The following shall be the Section representatives on AUA Committees:
(1) Bylaws Committee. Chair of the Section Bylaws Committee.
(2) Membership Committee. Secretary of the Section.
(3) Health Policy Committee. Two members of the NCS Health Policy Committee.

The representatives to the AUA AudioVisual Committee shall be appointed by the AUA President in consultation with the Section for a one-year term.

While serving as a member of this Committee, no member shall be eligible for nomination to any elective office of the Section or the AUA nor for election as a representative to the AUA provided, however, incumbents in any office shall continue for their stated term of office.

Article IV Committees
Section 11 - Education Committee

The Education Committee will evaluate educational opportunities, approaches and philosophies as they relate to the Section. Specifically, the Committee will address the content and approach of the Annual Meeting, ongoing educational issues of section members, and any concerns the members may have as they relate to urologic education within the Section. They will be advisory to the Board of Directors.

This Committee will meet annually, at the Annual Meeting.

The Committee will be comprised of a chair (selected by Board), one "at large” Board member (selected by the Board), the current year local arrangements chair, the next year’s local arrangements chair, the NCS Secretary, and the NCS Secretary-Elect, Chair of the Young Urologist.
Committee, a resident representative, two section members selected by the Committee Chair (to serve at the discretion of the Committee Chair). The term of the chair will be 3 years, renewable once. The other positions will rotate as their Board positions rotate. At the discretion of the Chairman, one member of the committee will report to the Board of Directors and the members of the section (Annual Business Meeting) at the interim Board meeting.

Article IV Committees
Section 15 – Past Presidents Committee

The Committee shall consist of the President, the President-Elect, and all of the previous Past Presidents of the NCS at the annual meeting. The President shall serve as the Chair of the Committee. It shall meet on the day of the Past Presidents dinner and provide an update of the NCS programs. The committee should exchange historical information that may impact on current issues and offer suggestions to the Board for improvement to current program or new programming. The President who will be the Past President at the next interim meeting will report back to the Board.
ARTICLE I
MEMBERSHIP

Section 1 – Boundaries
An applicant for membership in the North Central Section of the American Urologic Association, Inc. (the “Section”) must be a resident of, or practice in, Illinois, Indiana, Iowa, Michigan, Minnesota, North Dakota, Ohio, South Dakota or Wisconsin. Individuals who initially join the Section and then at a future date relocate to another section of the American Urological Association, Inc. (“AUA”) may retain membership in the Section.

Section 2 – Member Categories
The Section membership shall include: Active Members, Associate Members, Affiliate Members, Senior Members, Honorary Members, Corresponding Members and Candidate Members.

Section 3 – Dues, Initiation Fees, and Assessments
The fiscal year of the Section shall date from January first to December thirty-first. All members except for Senior and Honorary Members shall be assessed application fees and dues in an amount determined by the Board of Directors. Special assessments may be ordered by the Board of Directors but must be approved by a majority of the members present and voting at the Annual Business Meeting. Any member who after appropriate notification does not pay membership dues shall cease to receive Section publications and notices.

Section 4 – Voting Status and Rights
Only Active and Senior Members of the Section who are members in good standing of the AUA and AUA Education and Research, Inc. (AUA E/R) shall be eligible to vote at the Annual Meeting. Active and Senior Members who are elected to Honorary Membership shall retain their voting status. Only voting members are eligible to hold office. All members shall be entitled to receive the latest available copy of the Articles of Incorporation, the Bylaws and the roster of membership of the Section.

Section 5 – Election/Approval of Membership
All members shall be elected at the Annual Business Meeting and must be members of the AUA and AUA E/R or have made application for membership to the AUA and AUA E/R. New members shall receive a Certificate of Membership from the Secretary and the AUA will be notified of their Section membership.

Section 6 – Active Members
Requirements for Active Members are as follows:
   a) Possession of an unlimited license to practice medicine and surgery in the state, province or country of the applicant’s residence.
   b) Membership in good standing in the American Urological Association, Inc. and practice within its geographical boundaries.
c) Possession of an MD or DO degree, and completion of an accredited urology residency or equivalent by the Royal College of Surgeons (“RCS”) in Canada or the Certifying Board of Urology in the country where practicing within the geographic boundaries of the AUA.

d) Limitation of practice to the specialty of Urology.

e) Certification by the American Board of Urology (“ABU”), the RCS in Canada or the Certifying Board of Urology in the country where practicing within the geographic boundaries of the AUA.

f) Recommendation for membership by two (2) voting members of the Section, except if certified within the last 24 months as provided in item (e) above.

g) Letter of recommendation from the Chief of Urology, Medical Director, or Chair of the Credentials Committee at the hospital(s) where the applicant has privileges, except if certified within the last 24 months as provided in item (e) above.

Section 7 – Senior Members
Members are eligible for Senior Membership in the Section if they have been Active Members for 25 years in either the Section or the AUA and have reached the age of 65, or 20 years as an Active Member and retired or are permanently disabled.

Section 8 – Associate Members
Requirements for Associate Membership are as follows:

a) Requirements are the same as Active Membership except for board certification.

b) Candidate Members Eligible for Fast Track Associate Status. Associate Membership will be offered to all Candidate Members who have passed the qualifying examination (Part I) of the ABU.

c) Non-Members Eligible for Associate Status. Associate Membership is available to non-member urologists who are practicing within the geographic boundaries of a chartered AUA Section, but are not certified by the ABU.

If an Active Member fails to become recertified as required by the ABU (or other certifying board), the Section will transfer the individual to Associate Member status.

If an Active Member becomes decertified by the ABU, or other certifying board, the member shall be automatically dropped for non-compliance with the Section Bylaws, pursuant to Expulsion and Reinstatement policies.

d) Transfer to Active Membership. Associate Members who have passed the ABU certifying exam (Part II) will be transferred to Active Membership in the Section.
Section 9 – Affiliate Members
Affiliate membership is available to Non-Physician Scientists and is not usually available for physicians certified by medical boards. However, in exceptional instances, persons in related fields of medicine and science, who do not qualify for other categories of Section membership, may be considered for Affiliate Membership provided they have contributed significantly to the specialty of Urology. They shall be nominated by two (2) Active or Senior Members who shall furnish the Section Board of Directors with the curricula vitae and other pertinent information.

Section 10 – Honorary Members
Scientists who have achieved outstanding prominence in a field of medicine related to Urology, Past Presidents of the Section and other distinguished urologists are eligible for Honorary Membership. Candidates must be nominated by the Immediate Past President upon recommendation of at least three (3) Active or Senior Members. They must be approved by the Board of Directors and a majority of the members present and voting at the Annual Business Meeting. Honorary Members who have been Active, Associate, or Senior Members shall retain all of their previous rights and privileges but other Honorary Members do not have voting privileges nor eligibility to Section offices and committee assignments. All Honorary Members are exempt from initiation fees, annual dues, and special assessments.

Section 11 – Corresponding Members
Corresponding Membership is available to urologists who are members of the AUA but practice in countries beyond the geographic boundaries of the AUA and wish to be a member of the Section. The applicant shall be a member of the local or national urological organization in his or her country, and a letter of endorsement of that membership shall be submitted to the Section with the application form. If a national organization does not exist within the applicant’s country, a waiver of this requirement may be considered by the Board of Directors. The applicant’s practice must be limited entirely to the specialty of Urology. The applicant must be a graduate of an acceptable medical school who has received a Doctor of Medicine or equivalent degree. The applicant must be in practice for minimum of two (2) years after completion of residency.

Section 12 – Candidate Members
Candidate Membership is established to extend educational and professional advantages to urological residents. The Candidate Member must be practicing and studying within the geographic boundaries of the Section, must be enrolled in a residency program approved by the Residency Review Committee for Urology or the appropriate credentialing body in a country other than the United States and have applied for membership in the AUA and AUA E/R.

Section 13 – Application For Membership
Application for membership in this Section must be made on forms approved by the Board of Directors and provided by the Secretary. Qualifications for membership in each of the indicated categories shall be as stated in this Article I.
Section 14 – Publication of Names
The names of applicants for Active membership which have been approved by the Section Board of Directors shall be available to the membership prior to the Annual Business Meeting.

Section 15 – Notification of Election
Every newly elected member of the Section shall be officially notified of his or her election by the Secretary. The AUA shall also be notified of the new member’s election.

Section 16 – Transfer of Membership
An Active, Senior, or Associate Member in good standing of the AUA and of another Section of the AUA who moves his or her residence or practice into the territory of the Section, and who meets all membership qualifications, is automatically eligible for membership in the Section upon presentation of credentials to the Board of Directors of the Section. These credentials shall include his or her previous section records and a letter from that section’s Secretary indicating the applicant’s membership status.

Section 17 – Resignation, Expulsion and Reinstatement

a) Resignation. Any member who has complied with all the requirements of these Bylaws during the life of his or her membership may resign by written notification to the Secretary who shall officially acknowledge the receipt of the notice. The Secretary shall notify the Secretary of the AUA of such resignation.

b) Expulsion. Any member expelled by, or refused membership in, the AUA or AUA E/R shall immediately have his or her Section membership terminated. In addition, a member may be expelled by the Board of Directors of the Section upon conviction of a serious crime, or upon revocation, suspension or surrender of his or her license to practice medicine for reasons of improper or unethical conduct, upon withdrawal of certification by the ABU, or on other grounds stated in these Bylaws. The expulsion of a Section member shall be promptly reported to the AUA Secretary, with a statement of reasons for such expulsion.

c) Reinstatement. The reinstatement of suspended members to good standing in the Section shall be determined by the Board of Directors of the Section, which may recommend the reinstatement of expelled members who have been previously reinstated by the AUA; but this action must be ratified by a three-fourths vote of the members of the Section present and voting at a regular meeting.

Section 18 – Method of Election
Applications for all categories of membership must reach the Secretary at least seven (7) days before the Annual Business Meeting. The names of the applicants for all categories of membership will be published in the Annual Business Meeting program book or circulated at the Annual Business Meeting. Each applicant for membership who has met the requirements contained in these Bylaws shall become a member if he or she receives a majority vote of the
members present and voting at the Annual Business Meeting. The names of all new members elected in the past year shall be published in the program of the Annual Meeting. The Secretary shall furnish all new members a written notification of membership, a copy of the Bylaws, and a roster of membership of the Section. Active and Honorary Members shall be furnished a Certificate of Membership.

ARTICLE II
OFFICERS

Section 1 – Officers and Executive Committee
The Officers shall be the President, the President-Elect, the Immediate Past President, the Secretary, the Secretary-Elect, the Treasurer, the Treasurer-Elect and the Historian. Each Officer shall serve without financial remuneration from the termination of the Annual Meeting at which he or she is elected until the termination of the Annual Meeting at which his or her successor has been chosen or until his or her successor has otherwise been chosen. No member shall serve more than one term in any office, provided a member can serve up to three one-year terms as Historian and a member can serve in more than one office, though not concurrently. Each Officer must be an Active or Senior Member in good standing, a resident of or practicing within the boundaries of the Section, elected by a majority vote at the Annual Business Meeting. The officers shall comprise “the Executive Committee”. The Executive Committee is empowered and may, on occasion, make policy and/or other decisions, but remain primarily advisory to the Board and Long Range Planning Committee to present issues to the Board for decisions on matters of the Section.

Section 2 – President
The term of office shall be one (1) year. The President shall be the Chief Executive Officer of the Section and shall serve as Chair of the Board of Directors and at the Scientific and Business Sessions of the Section. The President shall appoint Active or Senior Members to vacancies on all standing committees and the Chairs of the committee, as provided in these Bylaws. The President shall appoint special committees authorized by the Board of Directors or membership. All committee appointments shall be made within sixty (60) days after the Annual Meeting and reported to the Secretary for inclusion in the next Newsletter. The President may call Special Meetings of the Board of Directors. The President shall direct the attention of the Board of Directors to all matters pertaining to the interpretation of the Bylaws and to all matters of discipline of members. The President shall be a member of the Program Committee for the Annual Meeting, a member of the Finance Committee and an ex-officio member of all Standing Committees. The President shall nominate a Section member in good standing to serve on the Editorial Board of the Journal of Urology when a vacancy occurs. The President shall appoint a Parliamentarian to all meetings of the Board of Directors and Business Sessions of the Section.

Section 3 – The President-Elect
The term of office shall be one (1) year and the President-Elect shall automatically succeed the retiring President at the conclusion of the Annual Meeting at which the current President's term of office expires. The President-Elect shall perform any duties assigned by the President and serve in his or her absence. The President-Elect shall appoint a Chair of the Local Arrangements
Committee for the Annual Meeting at which he or she will preside, within sixty (60) days after assuming the office of President-Elect.

**Section 4 – The Immediate past President**
The term of office shall be one (1) year or until his or her successor assumes the office.

**Section 5 – The Secretary**
The term of office shall be three (3) years or until his or her successor assumes the office. The Secretary shall: (a) employ, with the approval of the Board of Directors, such secretarial assistance as is necessary under the direction of the Executive Director; (b) keep accurate records of all the activities of the Section; (c) give prompt attention to all correspondence; (d) train the Secretary-Elect during the Secretary’s last year in office; (e) keep an accurate list of (1) members, (2) applicants for membership, (3) applicants recommended for membership by the Board of Directors, (4) applicants rejected and dates of rejection, (5) members suspended or expelled and dates of suspension or expulsion, (6) members reinstated and the date of same, and (7) Active or Associate members transferred to Senior, Inactive, or Honorary membership; (f) provide application blanks and receive applications for all categories of membership and shall send them to the Board of Directors for consideration; (g) give written notification to all newly elected members and furnish them with a copy of the Bylaws, one (1) roster and a certificate of membership, in the case of Active and Honorary members; (h) publish and send Newsletters; (i) send notice of the time and place of the Annual Meeting by Newsletter to all members at least six (6) months prior to the meeting; (j) arrange for meetings of the Board of Directors and send notices of all regular and special meetings to all members of the Board of Directors at least fifteen (15) days prior to the meeting, (k) keep the minutes and all records of such meetings; (l) have charge of the arrangements for the Annual Meeting in cooperation with the Chair of the Local Arrangements Committee and in consultation with the President; (m) shall receive titles of abstracts and papers to be read at the Annual Meeting and present them to the Program Committee; (n) keep accurate minutes of the Annual Business Meeting and send one (1) copy to every member of the Board of Directors; (o) obtain the names of all committee members for the coming year from the President within sixty (60) days after the Annual Meeting and notify them in writing; (p) make an annual report of all his or her activities on behalf of the Section to the Board of Directors at the Annual Business Meeting and to members of the Section at the Annual Business Meeting; (q) report to the Chair of the Nominating Committee sixty (60) days before the Annual Meeting regarding vacancies which will occur in the offices of Representative and Alternative Representative to the Board of Directors of the AUA; (r) report to the Secretary of the AUA immediately after the Annual Meeting the names of those members elected as Representative and Alternative Representative to the Board of Directors of the AUA; (s) report immediately to the Secretary of the AUA the names of the members of the Section who have been elected for membership in the Section, and (t) take such other action as directed by the Board of Directors.

**Section 6 – Secretary-Elect**
The Secretary-Elect shall be elected at the Annual Business Meeting one (1) year before the termination of the current Secretary’s term of office. The term of office shall be one (1) year and the Secretary-Elect shall automatically become
the new Secretary at the conclusion of the Annual Meeting at which the current Secretary's term expires. The Secretary-Elect shall become familiar with the duties of the Secretary during the Secretary's final year in office. The Secretary-Elect shall attend all meetings of the Board of Directors and the Finance Committee, and make site visits but shall not be eligible to vote.

Section 7 – Treasurer
The term of office shall be five (5) years or until a successor assumes the office. The Treasurer shall: (a) keep an accurate record of all assets of the Section and keep them in the name of the Section; (b) be bonded for approximately the total amount of the assets of the Section, bond being held by the President; (c) disburse the monies of the Section only by the authority of the Board of Directors; (d) keep a journal, ledger, and alphabetical list of all members indicating the state of their accounts with the Section; (e) be responsible for the collection of all dues and assessments, both current and delinquent; (f) report delinquent members promptly to the Secretary and to the Board of Directors; (g) have an annual audit of the Section's financial status prepared by a certified public accountant and present a report of this audit to the Board of Directors and to the members of the Section at the Annual Business Meeting; (h) recommend to the Board of Directors the need for any special assessments; (i) be responsible for setting the budgets, subject to approval of the Board of Directors, for the Annual Meeting and working with the Local Arrangements Committee in monitoring expenses; (j) report annually to the Board of Directors on the assets held by the Section, the existence of which must be verified by the certified public accountant and the Audit and Budget Control Committee; (k) take such other action as directed by the Board of Directors, and (l) train the Treasurer-Elect during the Treasurer's last year in office.

Section 8 – Treasurer-Elect
The Treasurer-Elect shall be elected at the Annual Business Meeting one (1) year before the termination of the current Treasurer's term of office. The term of office shall be one (1) year and the Treasurer-Elect shall automatically become the new Treasurer at the conclusion of the Annual Meeting at which the current Treasurer's term of office expires. The Treasurer-Elect shall become familiar with the duties of the Treasurer during the Treasurer's final year in office.

Section 9 – Historian
The term of office shall be one (1) year and is renewable for two additional terms. The Historian shall: (a) prepare an accurate history of the Section; (b) keep records of the Section pertinent to its history; (c) present an annual report to the Board of Directors and to the Section at its Annual Business Meeting; (d) prepare for publication any historical issues relative to the Section and present it to the Board of Directors; (e) prepare a necrology report and present it to the Board of Directors and members of the Section at the time of the Annual Business meeting. Present a brief eulogy of any member who has made outstanding contributions to Urology and a brief eulogy of any Section past president who has died in the preceding year at the Annual Business meeting or plenary session of the annual scientific meeting as determined by the Section Secretary. (f) Present a encomium of Section past presidents, or any member who has made outstanding contributions to Urology, at the time of their retirement, to members of the Section during a time designated by the Secretary at the Annual Business meeting or during the plenary sessions of the annual scientific meeting. Funds
required for the foregoing purposes shall be subject to the approval of the Board of Directors.

Section 10 – Executive Director
The Executive Director shall be the Chief Administrative Officer of the Section and shall report directly to the Board of Directors of which he or she shall be an ex officio, non-voting member. The Executive Director need not be a physician nor a member of this Section. The Executive Director shall have the full and exclusive authority to hire and fire staff and to prescribe compensation within the framework of the approved budget. The Executive Director shall have the authority and ultimate responsibility to carry out all policies and programs of the Section within the framework of the budget and subject to the direction of the officers and the Board of Directors and the Section’s committees.

Section 11 – Vacancies
Should a vacancy occur in any elected office of the Section, more than sixty (60) days before a scheduled election, then the Executive Committee shall promptly nominate a replacement from among the membership or the existing Board of Directors, taking into account geographic considerations and relevant factors of experience and necessary qualifications for the vacant position. The vacancy shall be filled at a special meeting of the Section Board of Directors, requiring a vote of two-thirds of the entire Board, excluding the individuals whose names have been placed in nomination.

ARTICLE III
BOARD OF DIRECTORS

Section 1 – Members of Board
The Board of Directors shall consist of the President, President-Elect, Immediate Past President, Secretary, Treasurer, Historian and one elected member from each of the following geographic units: (1) Illinois; (2) Indiana; (3) Iowa; (4) Michigan; (5) Minnesota, North Dakota, and South Dakota; (6) Ohio; and (7) Wisconsin. The Representatives to the Board of Directors of the AUA, the Secretary-Elect, the Treasurer-Elect and the Chair and the Vice-Chair of the Young Leadership Committee shall be non-voting members of the Board of Directors.

Section 2 – Term
The term of office of the geographic unit members shall be three (3) years and no retiring member of the Board of Directors shall be eligible for re-election to the Board as a representative of a geographic unit.

Section 3 – Authority and Duties
The Board of Directors shall constitute the governing Board of the Section and shall be responsible for the administration and management of the Section. The Board of Directors shall receive the reports of the standing and special committees of the Section and shall oversee all functions relating to financial management, member services, Annual Meeting, industry relations, ethics, and official publication. The Board of Directors shall employ the Executive Director whose duties, responsibilities and authority shall be as specified in Article II, Section 10 of these Bylaws. The Board of Directors shall report all actions to the
membership at the Annual Business Meeting. The Board of Directors shall select
the time and place of the Annual Meeting.

Section 4 – Meetings
The Board shall hold a winter meeting and a meeting concurrently with the
Annual Meeting of the Section and shall hold other interim meetings at such
times and places as may be established by the President or any seven (7) voting
members of the Board.

Section 5 – Notice
Notice of each meeting of the Board of Directors shall be sent out by the
Secretary to each member of the Board of Directors to be received at least fifteen
(15) days before the date of the meeting. The matters to be discussed and voted
upon at any duly called meeting of the Board of Directors shall not be limited to
those set forth in the notice of such meeting.

Section 6 – Quorum
Seven (7) Directors shall constitute a quorum for transaction of business by the
Board of Directors.

ARTICLE IV
COMMITTEES

Section 1 – Appointment
Active and Senior Members only are eligible for appointment to Committees of
the Section. All Committees are to be appointed by the new President within sixty
(60) days following the Annual Meeting. The President shall have the power also
to appoint special committees for a specific purpose subject to approval by the
Board of Directors. All members must be given prompt written notification by the
Secretary. A roster of all Section Committees shall be published in the first
Newsletter following the Annual Meeting.

Section 2 – Nominating Committee
a) The committee shall be composed of the two Immediate Past
Presidents in attendance at the Annual Meeting, one member
of the Board of Directors elected by the Board of Directors and
four (4) or, if the Past-Past President is a non-voting member
of the committee (as provided below), five (5), members
selected by the geographic units other than the geographic
units represented by the three (3) aforementioned other
members of the Committee. The Chair shall be the most recent
Past President on the committee and the Vice-Chair shall be
the Past-Past President on the committee. In the event the two
Immediate Past Presidents serving on the committee are from
the same geographic unit, the Past-Past President shall be a
non-voting member of the committee, and a total of five
members shall be selected by the geographic units, as
provided above, so that each geographic unit has
representation on the committee.

b) Each geographic unit not represented on the committee by the
Past Presidents or the member of the Board of Directors shall
choose one representative to serve on the committee who has
demonstrated leadership or active participation in the Section and each geographic unit and the Board of Directors shall choose one alternate representative to serve in the event its representative cannot serve or attend meetings. Each such representative shall attend all meetings of the Committee, provided if the representative cannot attend, the alternate shall attend and serve in his or her stead. In the event that neither the delegate or alternate delegate from the geographical unit is able to attend the Nominating Committee meeting, the State Representative of the Section’s Board of Directors may serve on the Nominating Committee in their stead.

c) It shall be the duty of this Committee to present to the members of the Section at the Annual Business Meeting a list of nominees for the following Section offices:

President-Elect  
Secretary (every third year)  
Treasurer (every fifth year)  
Secretary-Elect (every third year)  
Treasurer-Elect (every fifth year)  
Historian (annually)

(7) Two or more members of the Board of Directors

d) The Nominating Committee shall also nominate members of the Section in good standing to serve as Representatives and Alternate Representatives on the AUA Board of Directors, the AUA Nominating Committee and other AUA committees for terms specified in the AUA Bylaws. When it is the Section’s turn in the AUA rotation, the Nominating Committee shall nominate a Section member in good standing to serve as candidate for AUA President-Elect.

e) The report of the Nominating Committee shall be presented at the Annual Business meeting, and a majority of votes shall be necessary to ratify that report. No nominations for Officers, Directors, or AUA Representatives shall be accepted from the floor of the Business Meeting.

f) Should the report of the Nominating Committee be rejected, in whole or in part, by a majority of the membership voting at the Business Meeting, then the Committee shall promptly seek another acceptable candidate for each challenged position in accordance with the provisions of Article IV, Sections 2 (c) and (d) of these Bylaws. A subsequent candidate approved by the Nominating Committee shall be submitted through the mail, within 30 days thereafter, for approval by majority vote of all eligible Section members responding to that vote.

g) The following shall be the Section representatives on AUA Committees:

(1) Bylaws Committee. Chair of the Section Bylaws Committee.

(2) Membership Committee. Secretary of the Section.

Health Policy Committee. Two members of the NCS Health Policy Committee.
h) The representatives to the AUA AudioVisual Committee shall be appointed by the AUA President in consultation with the Section for a one-year term.

i) While serving as a member of this Committee, no member shall be eligible for nomination to any elective office of the Section or the AUA nor for election as a representative to the AUA provided, however, incumbents in any office shall continue for their stated term of office.

Section 3 – Membership Committee
The Committee shall consist of the Board of Directors. The Chair shall be the Immediate Past President. It shall consider applications for all categories of membership which have been filed with the Secretary. When necessary, it will make a thorough investigation of the ethical, moral and professional standards of an applicant. The Committee shall meet annually or as often as circumstances warrant.

Section 4 – Finance Committee
The Finance Committee shall consist of the President, President-Elect, Immediate Past President, Secretary and Treasurer. The Secretary-Elect and Treasurer-Elect shall be non-voting members. The Treasurer shall be the Chair. The Finance Committee shall study and evaluate all financial affairs of the Section and make recommendations to the Board of Directors, set up a budget for the various activities and committees each year, and, on the basis of the projected budget, make recommendations to the Board of Directors regarding dues for the ensuing year. The Committee shall meet annually or as often as circumstances warrant.

Section 5 – Local Arrangements Committee
The President-Elect shall appoint the Chair of the Local Arrangements Committee for the meeting at which the President-Elect will preside within sixty (60) days after his election as President-Elect. The Chair shall be from the State within the Section which is the host for such meeting. The Chair shall have the power to appoint all Local Chairs and Committee Members. The Treasurer of the Section shall serve as the Treasurer for the meeting and shall be responsible for all of the finances of the meeting. All expenditures must be authorized in advance by the Treasurer or the Chair in accordance with the budget for the Annual Meeting. The Committee shall prepare a budget for the Annual Meeting and present it to the Board of Directors for its approval. The Committee shall make all necessary arrangements for the Annual Meeting after consultation with the President and the Secretary and report such arrangements to the Board of Directors. The Committee shall prepare a program description for the Annual Meeting Program.

Additional members of the Committee shall be the Secretary and the immediate past Chairmen of the Local Arrangements Committee.

Section 6 – Program Committee
The Committee shall consist of the President, the President-Elect, the Chair of the Local Arrangements Committee, Chair of the Education Committee, a Resident Representative and the Secretary, who shall be Chair of the Committee, and the Secretary-Elect, if any. The Resident Representative will be appointed by the Long Range Planning Committee annually.
The Committee shall arrange the scientific program for the Annual Meeting and select the abstracts best suited for the program. It shall be the prerogative of the Committee to invite any guest speakers from outside the Section whom the Committee determines would contribute to the program.

Section 7 – Audit Committee
The Committee shall consist of three (3) Representatives of the Board, with 3-year staggered terms to ensure no more than one member rotates off the committee annually. The Chair will be the most senior member. The incoming members will serve one year in a training capacity before joining the committee as a voting member. Appointments are to be made by the President. The Audit Committee’s primary function is to assist the Board in fulfilling its oversight responsibilities with respect to (1) the audit of the organization’s financial statement and records and (2) the system of internal controls that the organization has established. The Audit Committee shall interview and select the audit company upon request. The Audit Committee reports to the Board of Directors. The Chair of the Audit Committee presents the Audit Report to the Membership at the Business Meeting.

Section 8 – Editorial And Awards Committee
The Committee shall consist of five (5) members and the term of office shall be five (5) years. One new member shall be appointed annually by the President and the most senior member shall be the Chair. No member of the Committee shall be eligible to receive an award granted by the Committee. The Committee may award one or more Traveling Fellowships annually, but if more than one award is to be made, approval by the Board of Directors is required. It shall make the Traveling Fellowship award to Residents or Urologists residing in the Section. Urologists who have been in practice more than five (5) years are not eligible for the award. The recipients need not be members of the Section. The Committee will judge and make awards for the named awards (Thirlby and Traveling Fellowship) and any special prizes accepted for competition by the Board of Directors. It shall instruct the Secretary to send a certificate or formal letter to each recipient stating that he or she has received this award from the Section. It shall request the recipients to give a report of their travel at the next Annual Meeting or submit a written report for publication in the Newsletter. It shall make other awards as directed by the Board of Directors.

Section 9 – Bylaws Committee
The Committee shall consist of three (3) Active or Senior Members and the Secretary. One member, other than the Secretary, shall be designated as Chair by the President. The term of office shall be three (3) years. Members shall be eligible for two (2) terms. The Chair of the Committee shall be a member of the Bylaws Committee of the AUA.

The Committee will adhere to the Section’s goal of complying with the Mission and Vision and Purposes of the AUA, as stated currently in Article I, Sections 1 and 2 of the AUA Bylaws, and propose Bylaws which are in accord, or not in conflict with, those of the AUA. The Chair will keep an accurate file of all correspondence to and from the members of the Committee and from the Secretary of proposed amendments by members of the Section. The Committee shall meet and review the Bylaws annually and recommend to the Board of
Directors any changes that seem desirable. All proposed amendments to the Bylaws shall be submitted to the Board of Directors for consideration prior to being published in the Newsletter sixty (60) days before the Annual Meeting.

**Section 10 – Technical Exhibits Committee**

**Section 11 - Education Committee**

a) The Education Committee will evaluate educational opportunities, approaches and philosophies as they relate to the Section. Specifically, the Committee will address the content and approach of the Annual Meeting, ongoing educational issues of section members, and any concerns the members may have as they relate to urologic education within the Section. They will be advisory to the Board of Directors.

b) This Committee will meet annually, at the Annual Meeting.

c) The Committee will be comprised of a chair (selected by Board), one “at large” Board member (selected by the Board), the current year local arrangements chair, the next year’s local arrangements chair, the NCS Secretary, and the NCS Secretary-Elect. The term of the chair will be 3 years, renewable once. The other positions will rotate as their Board positions rotate. At the discretion of the Chairman, one member of the committee will report to the Board of Directors and the members of the section (Annual Business Meeting).

**Section 12 – Health Policy Committee**

The Committee shall consist of two representatives from each state in the Section – and where feasible, one of those representatives should live or practice in the state capital or its vicinity. The Chair of the Committee shall be appointed by the Board for a term of two years, and may be reappointed for one additional two-year term. The Chair shall be expected to attend the annual and interim meetings of the Board. The AUA Health Policy Committee Representatives shall be members of the Health Policy Committee.

**Section 13 – Young Urologists Committee**

The Committee shall consist of a Chair and Vice Chair, and two members less than 10 years out of residency, preferably one from private practice and one from academic practice, from the following geographic units: Illinois; Indiana; Iowa; Michigan; Minnesota, North Dakota, and South Dakota; Ohio; and Wisconsin with two year staggered terms to ensure no more than one member rotates off a geographic unit annually. Appointments to the geographic units are to be made by the President in consultation with the outgoing Young Urologists Committee member and/or the NCS Board of Directors representative of the outgoing geographic unit. The Committee itself appoints its own Chair and Vice Chair, each for a term of two years with the Vice chair ascending to the position of Chair at the end of the terms with the Young Urologist Committee approval. The Young Urologists Committee primary responsibility is to advise the Board of Directors on issues of particular concern to young urologists and addresses membership issues for young urologists. The Young Urologist Committee Chair and Vice Chair shall serve ex-officio, without vote, on the NCS Board of Directors for the duration of their terms. The Chair presents at Section Board of Directors’ meetings and is responsible for planning the young urologist segment on the
annual meeting program when applicable. The Vice Chair of the Young Urologists Committee also serves as the NCS representative on the AUA Young Urologist Committee.

Section 14 – Long-Range Planning Committee
The Committee shall consist of the President, the President-Elect, the Treasurer, the immediate Past President, the Representative to the AUA, the Chair of the Young Leadership Committee, the Chair of the Education Committee, the Secretary-Elect and the Treasurer-Elect. The Secretary shall serve as the Chair of the Committee. It shall assess the Section's activities and membership needs and make recommendations to the Board of Directors regarding policy and programs.

ARTICLE V
MEETINGS

The Annual and Special Meetings of the members shall be held at such time and place as designated by the President and the Board of Directors, subject to the provisions of these Bylaws. The President or five (5) members of the Board of Directors can call special meetings. Official notice of the Annual Meeting shall be included in a Newsletter which must reach the members at least six (6) months before the time of the meeting. Notice of Special meetings must be sent to the members at least twenty-one (21) days before such a meeting. The order of business at the Scientific Meeting shall be determined by the Secretary after consultation with the Program Committee. The members registered and eligible to vote who are present at the Annual Business Meeting and at any Special Meetings shall constitute a quorum for such meeting, and, unless otherwise specifically required by these Bylaws or applicable law, the vote of a majority of such members shall be required to approve any action at such meeting. The order of business at the Annual Meeting shall be set by the Board of Directors.

ARTICLE VI
AMENDMENTS

These Bylaws may be amended by the two-thirds (2/3) vote of the members present and voting at the Annual Business Meeting. Proposed amendments must be submitted in writing to the Secretary and referred by the Secretary to the Bylaws Committee which shall consider all proposed amendments and present their recommendations to the Board of Directors. Any proposed amendment shall be printed with the Notice of the Annual Meeting at which the action is to be taken and shall be sent to the members at least thirty (30) days before such Annual Meeting.

ARTICLE VII
RULES ON PARLIAMENTARY PROCEDURE

Sturgis Standard Code of Parliamentary Procedure, current edition, shall govern the proceedings of the Section, unless provided otherwise in the Articles of Incorporation or in these Bylaws.
In Memoriam

The North Central Section honors those members who have passed away this year. We will always be thankful for their commitment to the Section and miss them dearly.

Robert C. Ackles, MD
Naples, FL

William C. Baum, MD
Bradenton, FL

Donald G. Blain, MD
St. Clair Shores, MI

Zaher N. Boctor, MD
Oak Brook, IL

Stephen B. Burdon, MD
Boston, MA

Chanderbhan M. Choithani, MD
Brookfield, WI

Bernard E. Cohler, MD
Chicago, IL

John B. Graham, MD
Evanston, IL

William L. Huffman, MD
Lakewood, OH

William M. Kaylor, MD
Lakewood, OH

Abraham Kern, MD
St. Louis Park, MN

Herbert S. Lakin, MD
Oak Park, IL

Paul Ove Madsen, MD
Madison, WI

Neale A. Moosey, MD
Zionsville, IN

Antoine Nahoum, MD
Ann Arbor, MI

George C. Poore, MD
Frederick, MD

Leon M. Prinz, MD
Chicago, IL

Pramod R. Rege, MD
Orlando, FL

Axel Trangrud, MD
Milwaukee, WI

Raul F. Waters, MD
Monona, WI
### Award Recipients

* Indicates Deceased Member

#### Traveling Fellowship Recipients

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>City, State</th>
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<tr>
<td>2014</td>
<td>Brian J. Minnillo, MD</td>
<td>Cleveland, OH</td>
</tr>
<tr>
<td>2013</td>
<td>Florian R. Schroock, MD, MS</td>
<td>Ann Arbor, MI</td>
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<tr>
<td>2012</td>
<td>Bruce Jacobs, MD, MPH</td>
<td>Ann Arbor, MI</td>
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<tr>
<td>2011</td>
<td>Sandip Prasad, MD, MPhil</td>
<td>Charleston, SC</td>
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<tr>
<td>2010</td>
<td>Cory M. Hugen, MD</td>
<td>Chicago, IL</td>
</tr>
<tr>
<td>2009</td>
<td>Michael C. Large, MD</td>
<td>Chicago, IL</td>
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<tr>
<td>2008</td>
<td>Tullika Garg, MD</td>
<td>New York, NY</td>
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<tr>
<td>2007</td>
<td>R. Houston Thompson, MD</td>
<td>Byron, MN</td>
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<td>2007</td>
<td>Brian L. Gallagher, MD</td>
<td>West Des Moines, IA</td>
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<td>2007</td>
<td>Brian L. Lane, MD</td>
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<td>Brian L. Gallagher, MD</td>
<td>West Des Moines, IA</td>
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<td>2006</td>
<td>R. Houston Thompson, MD</td>
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<tr>
<td>2005</td>
<td>Ronney Abaza, MD</td>
<td>Columbus, OH</td>
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<tr>
<td>2005</td>
<td>Herkanwal S. Khaira, MD</td>
<td>San Francisco, CA</td>
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<td>2004</td>
<td>Herkanwal S. Khaira, MD</td>
<td>San Francisco, CA</td>
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<td>2004</td>
<td>David Allan Anderson, MD</td>
<td>Springfield, MO</td>
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<td>2003</td>
<td>David C. Miller, MD, MPH</td>
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<td>2003</td>
<td>David S. Sharp, MD</td>
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<td>2002</td>
<td>Richard C. Sarle, MD</td>
<td>Dearborn, MI</td>
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<td>2001</td>
<td>Mihir M. Desai, MD</td>
<td>Highland Heights, OH</td>
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<td>2001</td>
<td>Fernando J. Bianco Jr., MD</td>
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<td>2000</td>
<td>Stephanie J. Kielb, MD</td>
<td>Chicago, IL</td>
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<td>2000</td>
<td>Lee E. Ponsky, MD</td>
<td>Moreland Hls, OH</td>
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<tr>
<td>1999</td>
<td>Bijan Shekarriz, MD</td>
<td>Virginia Beach, VA</td>
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<tr>
<td>1998</td>
<td>Sanjay Ramakumar, MD</td>
<td>Tucson, AZ</td>
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<tr>
<td>1997</td>
<td>Steven G. Roberts, MD</td>
<td>Aptsos, CA</td>
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<td>1996</td>
<td>Jeffrey S. Palmer, MD, FACS, FAAP</td>
<td>Beachwood, OH</td>
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<td>1995</td>
<td>Bradley P. Kropp, MD</td>
<td>Oklahoma City, OK</td>
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<td>1994</td>
<td>Gregory D. Haselhuhn, MD</td>
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<td>1993</td>
<td>Joel B. Nelson, MD</td>
<td>Pittsburgh, PA</td>
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<td>1992</td>
<td>Earl Y. Cheng, MD</td>
<td>Chicago, IL</td>
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<td>1991</td>
<td>Eric J. Dybal, MD</td>
<td>Elk Grove Village, IL</td>
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<td>1990</td>
<td>Eugene D. Kwon, MD</td>
<td>Rochester, MN</td>
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<td>1989</td>
<td>William A. See, MD</td>
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<td>1988</td>
<td>Kevin T. McVary, MD</td>
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<td>1987</td>
<td>Hugh A. Kennedy, II</td>
<td>MD, Hartford, CT</td>
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<tr>
<td>1986</td>
<td>Julie R. Spencer, MD</td>
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<td>1985</td>
<td>John E. Garnett, MD</td>
<td>Chicago, IL</td>
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<td>1984</td>
<td>Raleigh G. Humphries, MD</td>
<td>Greensboro, NC</td>
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<td>1983</td>
<td>Michael E. Kuglitsch, MD</td>
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<td>1982</td>
<td>Max Maizels, MD</td>
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<td>1982</td>
<td>Steven H. Selman, MD</td>
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<td>1981</td>
<td>Philip T. Hoekstra, MD</td>
<td>Grand Rapids, MI</td>
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<td>1980</td>
<td>Jeffrey P. Bolduan, MD</td>
<td>Goshen, IN</td>
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1979  William E. Kolbusz, MD, Oak Brook, IL
1978  C. Peter Fisher, MD, Ypsilanti, MI
1977  Randall G. Rowland, MD, PhD, Lexington, KY
1975  Reza S. Malek, MD, Rochester, MN
1975  John W. Timmons, Jr., MD, Gainesville, FL
1974  Bageshwari P. Sirba, MD, Allen Park, MI
1974  Kalish R. Kedia, MD, Middleburg Heights, OH
1973  Mark S. Soloway, MD, Miami, FL
1973  *Martin I. Resnick, MD, Cleveland, OH
1972  Daniel S. Merrill, MD, Minneapolis, MN
1972  Mark S. Soloway, MD, Miami, FL
1971  *Martin I. Resnick, MD, Cleveland, OH
1971  Nasser Javadpour, MD, Minneapolis, MN
1970  Kenneth A. Kropp, MD, Toledo, OH
1969  *Carl V. Dreyer, MD, Toledo, OH
1968  Carl R. McKinley, MD, Minneapolis, MN
1967  *John P. Donohue, MD, Melbourne Beach, FL
1966  Jack W. Jaffe, MD, Shaker Heights, OH
1965  Daniel B. Gute, MD, Wellesley, MA
1964  A. Colin Markland, MD, Charleston, SC
1963  Stanley R. Levine, MD, Highwood, IL
1962  Robert Adrain Rehm, MD, Hilliard, OH
1961  *Charles A. Linke, MD, Rochester, NY

**Thirlby Award Recipients**

2014  Avinash Chennamsetty, MD, Birmingham, MI
2013  Joel Abbott, DO, Madison Hts, MI
2012  Richard A. Memo, MD, Youngstown, OH
2011  Christopher Knoedler, MD, Maplewood, MN
2011  Robert Gaertner, MD, Woodbury, MN
2010  Herbert W. Riemenschneider, MD, Columbus, OH
2009  Ronald S. Suh, MD, Brownsburg, IN
2008  Eduardo Kleer, MD, Ypsilanti, MI
2007  David S. Turk, MD, Medina, OH
2006  Serge P. Marinkovic, MD, Decatur, IL
2006  Surendra M. Kumar, MD, Westland, MI
2005  Serge P. Marinkovic, MD, Decatur, IL
2004  Serge P. Marinkovic, MD, Decatur, IL
2003  Richard A. Memo, MD, Youngstown, OH
2001  Thomas J. Maatman, DO, Grand Rapids, MI
2000  Steven W. Siegel, MD, St. Paul, MN
1999  Thomas J. Maatman, DO, Grand Rapids, MI
1998  Michael G. Oefelein, MD, FACS, Tustin, CA
1997  Thomas J. Maatman, DO, Grand Rapids, MI
1996  Bruce E. Woodworth, MD, Knoxville, TN
1995  Arthur W. Devine, Jr., MD, Cedar Rapids, IA
1994  Richard A. Memo, MD, Youngstown, OH
1993  Nader Sadoughi, MD, Dana Point, CA
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<th>Year</th>
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<td>1992</td>
<td>Thomas J. Maatman, DO</td>
<td>Grand Rapids, MI</td>
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<tr>
<td>1991</td>
<td>Jerrold J. Widran, MD</td>
<td>Palm Desert, CA</td>
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<td>1990</td>
<td>Ahmad Hamidinia, MD</td>
<td>Cincinnati, OH</td>
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<td>1988</td>
<td>Stephen W. Leslie, MD</td>
<td>Omaha, NE</td>
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<td>1987</td>
<td>William C. Mobley, MD</td>
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<td>1986</td>
<td>Jeffery Wacksman, MD</td>
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<td>William S. Jasper Sr., MD</td>
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<td>Gerald W. Koos, MD</td>
<td>Duluth, MN</td>
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<td>Riad N. Farah, MD</td>
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<td>Carl R. McKinley, MD</td>
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<td>Paul R. Hartig, MD</td>
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<td>William S. Jasper Sr., MD</td>
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<td>1978</td>
<td>Jack L. Summers, MD</td>
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<td>1977</td>
<td>James J. Meyer, MD</td>
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<td>Everette J. Duthoy, MD</td>
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<td>1975</td>
<td>Charles J. Cooley, MD</td>
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<td>1974</td>
<td>Stanley J. Antolak, Jr., MD</td>
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<td>1972</td>
<td>Lorris M. Bowers, MD</td>
<td>Brimfield, IL</td>
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<td>*Emile Maltry Jr., MD</td>
<td>Fargo, ND</td>
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<td>1969</td>
<td>Joseph A. Santiago, MD</td>
<td>Milwaukee, WI</td>
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<td>1968</td>
<td>*Thomas C. Hall, MD</td>
<td>Traverse City, MI</td>
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<td>1966</td>
<td>Sidney P. Hurwitz, MD</td>
<td>Milwauke, WI</td>
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<td>1965</td>
<td>*Bruce E. Linderholm, MD</td>
<td>Minneapolis, MN</td>
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<tr>
<td>1964</td>
<td>*Bernard J. Begley, MD</td>
<td>San Diego, CA</td>
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<tr>
<td>1963</td>
<td>Julian B. Galvin, MD</td>
<td>Pepper Pike, OH</td>
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**John D. Silbar Award Recipients**

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<th>Year</th>
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<tr>
<td>2014</td>
<td>Adam Kadlec, MD</td>
<td>Elmhurst, IL</td>
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<tr>
<td>2013</td>
<td>Clinton D. Bahler, MD</td>
<td>Indianapolis, IN</td>
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<td>2012</td>
<td>Henry M. Rosevear, MD</td>
<td>Iowa City, IA</td>
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<td>2011</td>
<td>Crystal Dover, MD</td>
<td>Madison, WI</td>
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<td>2010</td>
<td>Christina B. Ching, MD</td>
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<td>2009</td>
<td>Brian L. Gallagher, MD</td>
<td>West Des Moines, IA</td>
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<td>2008</td>
<td>David C. Arend, MD</td>
<td>Sioux Falls, SD</td>
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<td>2007</td>
<td>Lynn L. Woo, MD</td>
<td>S. Euclid, OH</td>
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<td>2007</td>
<td>Saleem S. Zafar, MD</td>
<td>Toledo, OH</td>
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<td>2006</td>
<td>Curtis Crylen, MD</td>
<td>Greeley, CO</td>
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<td>2005</td>
<td>Steven R. Mindrup, MD</td>
<td>Marion, IA</td>
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<td>2004</td>
<td>John C. Thomas, MD</td>
<td>Nashville, TN</td>
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<td>2003</td>
<td>Dimitri D. Kuznetsov, MD</td>
<td>Port Townsend, WA</td>
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<td>W. Patrick Springhart, MD</td>
<td>Shreveport, LA</td>
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<td>2001</td>
<td>Melody A. Denson, MD</td>
<td>Austin, TX</td>
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<td>Courtney M.P. Hollowell, MD</td>
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<td>Steven Elliott Kahan, MD</td>
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<td>Steven E. Kahan, MD</td>
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<td>1998</td>
<td>Daniel S. Elliott, MD</td>
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</tbody>
</table>
1997  Sheila K. Gemar, MD, Willmar, MN
1996  Cheryl T. Lee, MD, Ann Arbor, MI
1995  Jerald A. Hochstetler, MD, Goshen, IN
1994  Mark J. Waples, MD, Milwaukee, WI

Bizarre and Interesting Case Award Recipients

2014  Matthew R. Fulton, MD, Royal Oak, MI
2013  Megan Bing, MD, Iowa City, IA
2012  Anish Shah, MD, Cincinnati, OH
2011  David Wenzler, MD, Royal Oak, MI
2010  Zachary Q. Posey, MD, Ferndale, MI
2009  Anthony J. Polcari, MD, Chicago, IL
2008  Christina B. Ching, MD, Cleveland, OH
2007  Randy M. Chudler, MD, Sterling Heights, MI
2006  Matthew M. Lux, MD, San Diego, CA
2006  Ryan C. Hedgepeth, MD, Minot, ND
2005  Mark Memo, DO, Youngstown, OH
2004  Peter C. Fisher, MD, Salt Lake City, UT
2003  Caleb P. Nelson, MD, Waban, MA
2002  Richard A. Santucci, MD, Northville, MI
2001  W. Patrick Springhart, MD, Shreveport, LA
2000  Puneet Sindhwani, MD, MB, BS, MS, Oklahoma City, OK

Basic Science Poster Award Recipients

2014  Grace B. Delos Santos, MD, Chicago, IL
2014  Kristin A. Greco, MD, Maywood, IL
2014  Ronney Abaza, MD, FACS, Dublin, OH
2014  Raman Unnikrishnan, MD, Cleveland, OH
2013  Kristin A. Greco, MD, Maywood, IL
2013  Ishai S. Ross, MD, Detroit, MI
2012  Devon Snow-Lisy, MD, Cleveland, OH
2012  Megan Schober, MD, PhD, Farmington Hills, MI
2012  Kristina L. Penniston, PhD, RD, Madison, WI
2011  Mitra De Cogain, MD, Rochester, MN
2011  Nathan A. Bockholt, MD, Coralville, IA
2011  Dae-Yun Kim, MD, PhD, Chicago, IL
2011  George R. Schade, MD, Ann Arbor, MI
2010  Eric A. Klein, MD, Cleveland, OH
2010  Robert E. Jackson, MD, Ypsilanti, MI
2010  Chad Reichard, BS, Chicago, IL
2010  Anthony J. Polcari, MD, Chicago, IL
2010  Kristina L. Penniston, PhD, RD, Madison, WI
2010  Srinivas Vourganti, MD, Cleveland, OH
2008  Helen Kuo, MD, Indianapolis, IN
2006  Brian L. Gallagher, MD, West Des Moines, IA
2005  W. Scott Webster, MD, Dallas, TX
2004  Ahmad H. Bani Hani, MD, Chadds Ford, PA
2003  David C. Miller, MD, MPH, Ann Arbor, MI
Award Recipients

2002  Saleem S. Zafar, MD, Toledo, OH
2001  Louis S. Liou, MD, PhD, Cambridge, MA
2000  *Jong M. Choe, MD, Mount Vernon, OH

Clinical Science Poster Award Recipients

2014  Timothy Durso, BS, Maywood, IL
2014  Sarah P. Psutka, MD, Rochester, MN
2014  Brian A. VanderBrink, MD, Cincinnati, OH
2013  Thomas A. Gardner, MD, Indianapolis, IN
2013  Kenneth M. Peters, MD, Royal Oak, MI
2013  Florian R. Schroek, MD, MS, Ann Arbor, MI
2013  Miriam Hadj-Moussa, MD, Ann Arbor, MI
2013  Daniel Miller, MD, MPH, Ann Arbor, MI
2013  Charles R. Powell, II, MD, Indianapolis, IN
2012  Boyd R. Viers, MD, Rochester, MN
2012  Matthew Maurice, MD, Cleveland, OH
2012  Peter Stuhldreher, BS, MD, Cleveland, OH
2012  Joseph Zabell, MD, New Brighton, MN
2012  Conrad Tobert, Grand Rapids, MI
2011  Jason Hedges, MD, PhD, Portland, OR
2011  Simon Kim, MD, MPH, Rochester, MN
2011  Amit Patel, MD, Westmont, IL
2011  Sandip Prasad, MD, MPhil, Charleston, SC
2011  Frank J. Penna, MD, Birmingham, MI
2011  Christopher Mitchell, MD, Rochester, MN
2010  Jonathan Ellison, MD, Ann Arbor, MI
2010  Suzette E. Sutherland, MD, Plymouth, MN
2010  Clint K. Cary, MD, Indianapolis, IN
2010  K. Scott Coffield, MD, Temple, TX
2010  Eric Umbreit, MD, Rochester, MN
2010  Jeffery C. Wheat, MD, Ann Arbor, MI
2008  Joshua J. Meeks, MD, PhD, Chicago, IL
2008  Khanh Pham, MD, Milwaukee, WI
2008  Christopher J. Weight, MD, Rochester, MN
2008  Mark D. Stovsky, MD, MBA, FACS, Beachwood, OH
2006  Curtis Crylen, MD, Greeley, CO
2005  David S. Morris, MD, Hendersonville, TN
2004  James A. Kontak, MD, Cleveland, OH
2003  Peter Langenstroer, MD, Milwaukee, WI
2002  David A. Taub, MD, MBA, Toledo, OH
2001  Timothy L. Mulholland, MD, Mason City, IA
2000  Bradley C. Leibovich, MD, Rochester, MN

College Bowl/Super Bowl

2014  Adam C. Calaway, MD, Indianapolis, IN
2014  Adam S. Howe, MD, Columbus, OH
2014  Scott C. Johnson, MD, Milwaukee, WI
2014  Jessica R. Meyers, MD, Detroit, MI
2014  Joseph J. Pariser, MD, Chicago, IL
2013  Andrew C. Strine, MD, Indianapolis, IN
2013  Gregory McLennan, MD, Royal Oak, MI
2013  Casey A. Dauw, MD, Ann Arbor, MI
2013  Dhruti M. Patel, MD, Cleveland, OH
2013  Abhishek Patel, MD, Columbus, OH
2012  Casey Dauw, MD, Ann Arbor, MI
2012  Matthew Fulton, MD, Royal Oak, MI
2012  Matthew Johnson, MD, MS, Columbus, OH
2012  Devon Snow-Lisy, MD, Cleveland, OH
2011  Robert M. Kohut, Jr., MD, Cleveland, OH
2011  M. Adam Childs, MD, Rochester, MN
2011  Aria Razmaria, MD, Chicago, IL
2011  Ken Haberman, MD, Minneapolis, MN
2011  Kiranpreet Khurana, MD, Cleveland, OH
2010  Kyle Kiriluk, MD, Chicago, IL
2010  Don T. Bui, MD, Troy, MI
2010  Ty T. Higuchi, MD, PhD, Rochester, MN
2010  Tarek Pacha, DO, Sterling Hts, MI
2010  Paul R. Tonkin, MD, Milwaukee, WI

**Video Award**

2014  Elizabeth V. Dray, MD, Maywood, IL
2013  Thomas P. Frye, DO, Springfield, IL
2012  Robert M. Kohut, Jr., MD, Cleveland, OH
2011  Ken Haberman, MD, Minneapolis, MN
2010  Jesse Sammon, DO, Detroit, MI
2010  Christopher Mitchell, MD, Rochester, MN
2010  Ronney Abaza, MD, Columbus, OH

**NCS/AACU Health Policy Young Investigator Award**

2014  Chandy Ellimoottil, MD, MS, Chicago, IL
NCS Urology Residency Programs

The North Central Section greatly appreciates the contributions made by the residents to the success of the Annual Meeting. This year 118 residents, representing 22 of the Section’s 22 residency programs, will participate in the Annual Meeting.

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John Francis
Matthew J. Maurice, MD

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Arpeet Shah                 Belinda Li, MD
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