North Central Section of the AUA, Inc.

91ST ANNUAL MEETING

NOVEMBER 13 – 17, 2017

The Westin Kierland Resort and Spa
Scottsdale, Arizona
The Officers and Board of Directors welcome you to Scottsdale, Arizona, for the 91st Annual Meeting of the North Central Section of the AUA, Inc.

NOVEMBER 11 - 17, 2017
The Westin Kierland Resort & Spa

James C. Ulchaker, MD, FACS
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POLICY: Filming, Photography, Audio Recording, and Cell Phones
No attendee/visitor at the NCS 91st 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. The policy applies to all NCS members, nonmembers, guests, and exhibitors, as well as members of the print, online, or broadcast media.
### MONDAY, NOVEMBER 13, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 a.m. - 5:35 p.m.</td>
<td>Registration/Information Desk Hours: Kierland Ballroom Foyer</td>
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<tr>
<td>7:30 a.m. - 5:35 p.m.</td>
<td>Speaker Ready Room Hours: Lowell</td>
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<tr>
<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite Hours: Parke/Terrace</td>
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<tr>
<td>8:00 a.m. - 9:00 a.m.</td>
<td>Breakfast: Kierland Ballroom Foyer</td>
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<tr>
<td>6:30 p.m. - 8:30 p.m.</td>
<td>Welcome Reception in Exhibit Hall: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>AUA Course of Choice Lecture: Urolithiasis: Surgical Management, Percutaneous, Shock Wave Lithotripsy, Ureteroscopy - How We Do It: Kierland Ballroom 2</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>Break: Kierland Ballroom Foyer</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Live Surgery Transmission: Kierland Ballroom 2</td>
</tr>
<tr>
<td>12:00 p.m.</td>
<td>Lunch: Kierland Ballroom Foyer</td>
</tr>
<tr>
<td>1:15 p.m. - 5:35 p.m.</td>
<td>Health Policy and Practice Management Program: Kierland Ballroom 2</td>
</tr>
<tr>
<td>1:15 p.m.</td>
<td>Session I: Legislative Affairs &amp; Health Policy</td>
</tr>
<tr>
<td>3:45 p.m.</td>
<td>Break</td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>Session II: Practice Transformation &amp; Optimization</td>
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<td>Time</td>
<td>Event Details</td>
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<td>Speaker Ready Room Hours: Lowell</td>
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<tr>
<td>7:00 a.m. - 8:00 a.m.</td>
<td>Breakfast in Exhibit Hall: Kierland Ballroom 3/4</td>
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<tr>
<td>7:00 a.m. - 4:00 p.m.</td>
<td>Exhibit Hall Hours: Kierland Ballroom 3/4</td>
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<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite Hours: Parke/Terrace</td>
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<tr>
<td>12:30 p.m. - 4:30 p.m.</td>
<td>Turquoise and Tequila Tour: Meet in Westin Kierland Lobby by 12:15 p.m.</td>
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### Tuesday, November 14, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Details</th>
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<tbody>
<tr>
<td>6:30 a.m.</td>
<td>Disparities and Treatment in Native American Medicine</td>
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<tr>
<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>7:30 a.m.</td>
<td>Break/Visit Exhibits: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>7:55 a.m.</td>
<td>President's Welcome: Kierland Ballroom 2</td>
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<tr>
<td>8:00 a.m.</td>
<td>State-of-the-Art Lecture: Contemporary Approach to the Diagnosis and</td>
</tr>
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<td></td>
<td>Treatment of Small Renal Masses: Kierland Ballroom 2</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>Podium Session: Adrenal/Kidney/Ureter - Malignant:</td>
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<td></td>
<td>Kierland Ballroom 2</td>
</tr>
<tr>
<td>9:20 a.m.</td>
<td>Podium Session: Laparoscopy/Robotics - Kidney/Other:</td>
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<tr>
<td></td>
<td>Kierland Ballroom 2</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Announcements: Kierland Ballroom 2</td>
</tr>
<tr>
<td>10:05 a.m.</td>
<td>Break/Visit Exhibits: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>Ask the Expert: Urologic Oncology</td>
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<td>Kierland Ballroom 2</td>
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<tr>
<td>11:00 a.m.</td>
<td>Podium Session: Trauma/Transplant</td>
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<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>11:30 a.m.</td>
<td>State-of-the-Art Lecture: Urolithiasis in 2017:</td>
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<tr>
<td></td>
<td>What Matters, What Doesn't: Kierland Ballroom 2</td>
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<tr>
<td>12:15 p.m.</td>
<td>Industry Satellite Symposium Luncheon: Kierland Ballroom 1B</td>
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<tr>
<td>1:30 p.m.</td>
<td>Panel Discussion: Female Urology</td>
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<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>2:00 p.m.</td>
<td>Podium Session: Urinary Incontinence/Neurology:</td>
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<tr>
<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>2:45 p.m.</td>
<td>AUA Guidelines Update: Stress Urinary Incontinence:</td>
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<tr>
<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>3:05 p.m.</td>
<td>Break/Visit Exhibits: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Podium Session: Prostate Malignant</td>
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<tr>
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<td>Kierland Ballroom 2</td>
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<tr>
<td>3:30 p.m.</td>
<td>Podium Session: Endourology/Stone Disease I</td>
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<tr>
<td></td>
<td>Trailblazers C</td>
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<tr>
<td>4:30 p.m.</td>
<td>Poster Session: Bladder and Prostate Malignant</td>
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<td></td>
<td>Kierland Ballroom 1A</td>
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<tr>
<td>4:30 p.m.</td>
<td>Poster Session: Outcomes Research, Health Policy and Patient Safety</td>
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<td></td>
<td>Powell</td>
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<tr>
<td>4:30 p.m.</td>
<td>Poster Session: Adrenal/Kidney/Ureter - Malignant and Benign</td>
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<td>Cushing</td>
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<tbody>
<tr>
<td>6:30 a.m.</td>
<td>Women in Urology Session: GRIT Trailblazers C</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>Podium Session: Socioeconomic/Health Policy</td>
</tr>
<tr>
<td></td>
<td>Trailblazers C</td>
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<tr>
<td>11:00 a.m.</td>
<td>Podium Session: Bladder Malignant</td>
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<tr>
<td></td>
<td>Trailblazers DE</td>
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<tr>
<td>11:30 a.m.</td>
<td>State-of-the-Art Lecture: Urolithiasis in 2017:</td>
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<tr>
<td></td>
<td>What Matters, What Doesn't: Kierland Ballroom 2</td>
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<tr>
<td>12:15 p.m.</td>
<td>Industry Satellite Symposium Luncheon: Kierland Ballroom 1C</td>
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<tr>
<td>1:30 p.m.</td>
<td>Panel Discussion: Female Urology</td>
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<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
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<td>Podium Session: Urinary Incontinence/Neurology:</td>
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<td></td>
<td>Kierland Ballroom 2</td>
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<tr>
<td>2:45 p.m.</td>
<td>AUA Guidelines Update: Stress Urinary Incontinence:</td>
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<td>Kierland Ballroom 2</td>
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<tr>
<td>3:05 p.m.</td>
<td>Break/Visit Exhibits: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Podium Session: Prostate Malignant</td>
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<td>3:30 p.m.</td>
<td>Podium Session: Endourology/Stone Disease I</td>
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<td></td>
<td>Trailblazers C</td>
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<td>4:30 p.m.</td>
<td>Poster Session: Bladder and Prostate Malignant</td>
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<td></td>
<td>Kierland Ballroom 1A</td>
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<td>4:30 p.m.</td>
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<td>Powell</td>
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<td>4:30 p.m.</td>
<td>Poster Session: Adrenal/Kidney/Ureter - Malignant and Benign</td>
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<td>7:00 a.m. - 1:30 p.m.</td>
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<tr>
<td>7:30 a.m. - 12:00 p.m.</td>
<td>Exhibit Hall Hours: Kierland Ballroom 3/4</td>
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<tr>
<td>12:45 p.m. - 5:30 p.m.</td>
<td>NCS Golf Outing: Westin Kierland Golf Club</td>
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<tr>
<td>6:00 p.m. - 7:00 p.m.</td>
<td>Young Urologists Mixer: Brittlebush Clubhouse</td>
</tr>
<tr>
<td>7:00 p.m. - 10:00 p.m.</td>
<td>President's Reception/“Tribal Beat” Theme Night: Marshall's Pavilion</td>
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<tr>
<td>7:00 a.m.</td>
<td>Industry Satellite Symposium Breakfast: Kierland Ballroom 1B</td>
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<td>8:00 a.m.</td>
<td>State-of-the-Art Lecture: Novel Targets in Metastatic Castration Resistant Prostate Cancer: Kierland Ballroom 2</td>
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<td>8:30 a.m.</td>
<td>Panel Discussion: Uro-Oncology: Kierland Ballroom 2</td>
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<tr>
<td>9:30 a.m.</td>
<td>State-of-the-Art Lecture: The Preoperative Surgical Home: Improving the Operating Room for Patients and Surgeons: Kierland Ballroom 2 Podium Session: Prostate Malignant II Trailblazers C Podium Session: Endourology/Stone Disease II Trailblazers DE</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Podium Session: Adrenal/ Kidney/ Ureter/ Bladder - Benign: Kierland Ballroom 2</td>
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<tr>
<td>10:30 a.m.</td>
<td>AUA Update: Kierland Ballroom 2</td>
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<tr>
<td>10:40 a.m.</td>
<td>Urology Leadership Panel: Kierland Ballroom 2</td>
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<tr>
<td>11:10 a.m.</td>
<td>Break/Visit Exhibits: Kierland Ballroom 3/4</td>
</tr>
<tr>
<td>11:40 a.m.</td>
<td>Young Urologists Session: Kierland Ballroom 2                      Podium Session: Outcomes Research Trailblazers C</td>
</tr>
<tr>
<td>12:30 p.m.</td>
<td>Poster Session: Endourology/ Stone Disease/ Laparoscopy/ Robotics: Kierland Ballroom 1A Poster Session: Penis/ Urethra/ Testis/ Scrotum - Benign &amp; Pediatric Urology: Powell Poster Session: Male and Couple Infertility/Sexual Dysfunction Cushing</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Industry Satellite Symposium Luncheon: Kierland Ballroom 1B</td>
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</table>
**THURSDAY, NOVEMBER 16, 2017**

| 6:00 a.m. - 3:45 p.m. | Registration/Information Desk Hours: Kierland Ballroom Foyer |
| 6:00 a.m. - 3:45 p.m. | Speaker Ready Room Hours: Lowell |
| 6:30 a.m. - 8:00 a.m. | Breakfast: Kierland Ballroom Foyer |
| 7:30 a.m. - 11:00 a.m. | Spouse/Guest Hospitality Suite Hours: Parke/Terrace |
| 6:00 p.m. - 7:30 p.m. | Annual Reception: Vista Morado |

<p>| 6:30 a.m. | Video Session Trailblazers DE |
| 6:30 a.m. - 7:30 a.m. | Panel Discussion: Infertility Kierland Ballroom 2 |
| 7:55 a.m. | Announcements: Kierland Ballroom 2 |
| 8:00 a.m. | State-of-the-Art Lecture: Fat, Demented, and Stupid. An Unrecognized Legacy of Pediatric Urology?: Kierland Ballroom 2 |
| 8:30 a.m. | Podium Session: Pediatric Urology Kierland Ballroom 2 |
| 8:30 a.m. | Podium Session: Male and Couple Infertility/ Sexual Dysfunction Trailblazers C |
| 9:20 a.m. | Break: Kierland Ballroom Foyer |
| 9:50 a.m. | ABU Update: Kierland Ballroom 2 |
| 10:00 a.m. | State-of-the-Art Lecture: Complex Genital Reconstruction: Kierland Ballroom 2 |
| 10:30 a.m. | Panel Discussion: Urologic Reconstruction: Kierland Ballroom 2 |
| 11:00 a.m. | Award Presentations: Traveling Fellowship and John D. Silbar: Kierland Ballroom 2 |
| 11:05 a.m. | State-of-the-Art Lecture: Fertility- a Window on a Man’s Health: Kierland Ballroom 2 |
| 11:35 a.m. | Presidential Address: Kierland Ballroom 2 |
| 12:05 p.m. | Annual Business Meeting: Kierland Ballroom 2 |
| 12:40 p.m. | Industry Satellite Symposium Luncheon: Kierland Ballroom 1B |
| 1:45 p.m. | State-of-the-Art Lecture: New Technologies for Treating BPH: Kierland Ballroom 2 |
| 2:15 p.m. | NCS Resident College Bowl: Preliminary Round: Kierland Ballroom 2 |
| 3:00 p.m. | NCS Resident College Bowl: Finals: Kierland Ballroom 2 |</p>
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<td>Speaker Ready Room Hours: Lowell</td>
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<tr>
<td>7:30 a.m.</td>
<td>Spouse/Guest Hospitality Suite Hours: Parke/Terrace</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>State-of-the-Art Lecture: Donor Nephrectomy- Updates on Donor Safety, Selection, and Technique: Kierland Ballroom 2</td>
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<tr>
<td>8:35 a.m.</td>
<td>Bizarre and Interesting Cases Podium Session: Kierland Ballroom 2</td>
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<tr>
<td>9:45 a.m.</td>
<td>Break: Kierland Ballroom Foyer</td>
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<tr>
<td>10:05 a.m.</td>
<td>Podium Session: Prostate - Benign</td>
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<td>Kierland Ballroom 2</td>
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<td></td>
<td>Podium Session: Penis/ Urethral/ Testis/ Scrotum - Benign/ Malignant</td>
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<tr>
<td></td>
<td>Trailblazers C</td>
</tr>
<tr>
<td>11:05 a.m.</td>
<td>Announcement of Best Bizarre and Interesting Case, Best Video: Kierland Ballroom 2</td>
</tr>
<tr>
<td>11:10 a.m.</td>
<td>Incoming NCS President Remarks: Kierland Ballroom 2</td>
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</tbody>
</table>
HOTEL DIRECTORY

General Session: Kierland Ballroom 2
Breakout Rooms: Trailblazers C
               Trailblazers DE
Exhibit Hall: Kierland Ballroom 3/4
Poster Sessions: Cushing
               Kierland Ballroom 1A
               Powell
Speaker Ready Room: Lowell
Spouse/Guest Hospitality Suite: Parke/Terrace
Committee Meetings: Cushing
                   Mapmakers A
                   Whipple
PROMOTIONAL PARTNERS

NCS recognizes and welcomes our 2017 Promotional Partners
(as of 10/27/2017)

Platinum Partners

AbbVie
Astellas and Pfizer Oncology
Augmenix
Genomic Health
Nymox Pharmaceutical Corporation

Gold Partner

Janssen Biotech, Inc.

Silver Partners

Astellas Pharma
Endo Pharmaceuticals
Marley Drug, Inc.
EXHIBITORS

Thank you to our 2017 Exhibitors
(as of 10/27/2017)

AbbVie
Allergan, Inc.
American Urological Association, Inc.
Astellas and Pfizer Oncology
Astellas Pharma
Augmenix
Bard Medical
Bayer HealthCare
BK Ultrasound
Blue Earth Diagnostics, Inc
Boston Scientific Corporation
Cogentix Medical
Coloplast
Compulink Business Systems
Cook Medical
Dendreon Corporation
Dornier MedTech
EDAP TMS
Ellura
Endo Pharmaceuticals
Exosome Diagnostics, Inc
GenomeDx Biosciences Inc.
Genomic Health
HealthTronics, Inc.
Hitachi Healthcare

Hollister Incorporated
Janssen Biotech, Inc.
KARL STORZ
Koelis
Liebel-Flarsheim/Guerbet
Marley Drug, Inc
MiMedx Group
Myriad Genetic Laboratories, Inc.
NeoTract, Inc.
NextMed, LLC
NxThera, Inc.
Olympus America, Inc.
OPKO Health, Inc
Pacific Edge Diagnostics USA Ltd.
Photocure
PSS Urology, Inc
Retrophin
Richard Wolf Medical Instruments, Corp.
TeraSera Therapeutics
TOLMAR Pharmaceuticals
United Medical Systems
University Compounding Pharmacy
Uramix
US Doctors
INDUSTRY SATELLITE SYMPOSIUM EVENTS

Tuesday, November 14, 2017

12:15 p.m. - 1:30 p.m.  Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1B
“SpaceOAR Hydrogel: What Every Urologist Should Know”
Lance A. Mynderse, MD
Mayo Clinic

12:15 p.m. - 1:30 p.m.  Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1C
“Optimizing Active Surveillance Through the Use of Genomics”
Eric Klein, MD
Cleveland Clinic

Wednesday, November 15, 2017

7:00 a.m. - 8:00 a.m.  Industry Satellite Symposium Breakfast
Location: Kierland Ballroom 1B
Mohamed Bidair, MD
San Diego, CA

1:30 p.m. - 2:30 p.m.  Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1B
“Understanding the Medicare Access & CHIP Reauthorization Act (MACRA)”
Thomas H. Rechtschaffen, MD
Integrated Medical Professionals
Yonkers, NY

Thursday, November 16, 2017

12:40 p.m. - 1:45 p.m.  Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1B
“Elevate Care in Advanced Prostate Cancer”
Larry Karsh, MD, FACS
Director of Research and Attending Urologist
The Urology Center of Colorado
Denver, CO
NEEDS AND OBJECTIVES

Educational Needs
The Secretary of the North Central Section of the AUA (NCSAUA), Dr. Jeffrey Triest, consulted with other members of the Program Committee and the Executive Committee members, including the current NCSAUA President, Dr. James Ulchaker; recent Past-President Dr. Gary Kirsh, Chair of the NCSAUA 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 Director of 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 AUA provided many services and health policy support to practicing urologists in the NCSAUA 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 91st 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.
- Explain the role of “dusting” as a means of surgical management of renal/ureteral stone disease.
- Explain the evolving role of active surveillance as a treatment strategy for patients with low risk Prostate cancer (LRPC).
- Describe the role of urologists in the management of castrate resistant 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, Peyronie’s disease, infertility, and use of testosterone.
- Explain the management of superficial and invasive bladder cancer and the associated morbidity and mortality of different methods of treatment.
- Explain coding, physician payment reforms, and collaboratives between payers and providers.
CME ACCREDITATION

Accreditation
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Urological Association (AUA) and the North Central Section of the AUA. The American Urological Association (AUA) is accredited by the 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.

Others Learners: The AUA is not accredited to offer credit to participants who are not MDs or DOs. 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 online by visiting: ncsaua.org/docs/meetings/ncs1711/disclosures.aspx.

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

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

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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.
Off-label or Unapproved Use of Drugs or Devices: 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.

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<table>
<thead>
<tr>
<th>Year</th>
<th>President</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Gary M. Kirsh, MD</td>
<td>Chicago, IL</td>
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<tr>
<td>2015</td>
<td>Patrick H. McKenna, MD, FAAP, FACS</td>
<td>Amelia Island, FL</td>
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<td>2014</td>
<td>Christopher S. Cooper, MD, FAAP, FACS</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>2012</td>
<td>Howard N. Winfield, MD, FACS</td>
<td>Chicago, IL</td>
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<td>2011</td>
<td>Peter M. Knapp Jr., MD, FACS</td>
<td>Rancho Mirage, CA</td>
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<td>2010</td>
<td>Steven W. Siegel, MD</td>
<td>Chicago, IL</td>
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<td>2009</td>
<td>Stephen Y. Nakada, MD, FACS</td>
<td>Scottsdale, AZ</td>
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<td>2008</td>
<td>Jay B. Hollander, MD</td>
<td>Chicago, IL</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>2005</td>
<td>Robert C. Flanigan, MD</td>
<td>Chicago, IL</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, BC, Canada</td>
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<td>2002</td>
<td>R. Bruce Bracken, MD</td>
<td>Chicago, IL</td>
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<td>2001</td>
<td>Richard A. Memo, MD</td>
<td>Chicago, IL</td>
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<td>2000</td>
<td>J. Randolf Beahrs, MD</td>
<td>Scottsdale, AZ</td>
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<td>1999</td>
<td>* Richard D. Williams, MD</td>
<td>Chicago, IL</td>
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<td>1998</td>
<td>James E. Lingeman, MD</td>
<td>Amelia Island, FL</td>
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<td>1997</td>
<td>Ananias C. Diokno, MD</td>
<td>Monterey, CA</td>
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<td>1996</td>
<td>Earl H. Johnson, MD</td>
<td>Tucson, AZ</td>
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<td>1995</td>
<td>* Joseph W. Segura, MD</td>
<td>Minneapolis, MN</td>
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<td>1994</td>
<td>Jack L. Summers, MD, PhD</td>
<td>Boca Raton, FL</td>
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<td>1993</td>
<td>Arthur J. Johnson, MD</td>
<td>Milwaukee, WI</td>
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<td>1992</td>
<td>Eugene T. McEnery, MD</td>
<td>Dorado, PR</td>
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<td>1991</td>
<td>Charles E. Hawtrey, MD</td>
<td>Scottsdale, AZ</td>
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<td>1990</td>
<td>Lawrence S. Ross, MD</td>
<td>Colorado Springs, CO</td>
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<td>1989</td>
<td>Charles W. Troup, MD</td>
<td>Chicago, IL</td>
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<td>1988</td>
<td>Paul R. Hartig, MD</td>
<td>Orlando, FL</td>
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<td>1987</td>
<td>Kenneth A. Kropp, MD</td>
<td>Detroit, MI</td>
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<td>1986</td>
<td>Joseph C. Cerny, MD</td>
<td>Rancho Mirage, CA</td>
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<td>1985</td>
<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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<tr>
<td>1983</td>
<td>* John P. Donohue, MD</td>
<td>Maui, HI</td>
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</tbody>
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1982  Everette J. Duthoy, MD  Marco Island, FL
1981  *William E. Forsythe, MD  Indianapolis, IN
1980  *David C. Utz, MD  Hamilton,
1979  Charles F. McKiel Jr., MD  Phoenix, AZ
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1957  *John L. Emmett, MD  Mackinac Island, MI
1956  *C.D. Crevey, MD  Cleveland, OH
1955  *William J. Butler, MD  Chicago, IL
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1946  *Walter M. Kearns, MD  Rochester, MN
1944  *H.W. Plaggemeyer, MD  Chicago, IL
1941  *G.J. Thompson, MD  Detroit, MI
1940  *Ernest Rupel, MD  Milwaukee, WI
1939  *Charles C. Higgins, MD  Indianapolis, IN
1938  *W.G. Sexton, MD  Peoria, IL
1937  *Charles M. McKenna, MD  Madison, WI
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1932  *William N. Taylor, MD  Detroit, MI
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1930  *Ira R. Sisk, MD  Indianapolis, IN
1929  *Harry Culver, MD  Rochester, MN
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1927  *E.O. Smith, MD  Madison, WI
1926  *H.L. Morris, MD  Cincinnati, OH
1925  *N.G. Alcock, MD  Detroit, MI
1924  *G.J. Thomas, MD  Iowa City, IA

*Deceased
BOARD OF DIRECTORS AND COMMITTEE MEETINGS

SUNDAY, NOVEMBER 12, 2017

9:00 a.m. - 9:45 a.m.  Executive Committee Meeting  
Location: Cushing

9:45 a.m. - 10:30 a.m.  Finance Committee Meeting  
Location: Cushing

10:30 a.m. - 11:15 a.m.  Long Range Planning Committee Meeting  
Location: Cushing

11:15 a.m. - 12:00 p.m.  Annual Meeting Committee Meeting  
Location: Cushing

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

1:00 p.m. - 5:00 p.m.  Board of Directors Meeting  
Location: Cushing

MONDAY, NOVEMBER 13, 2017

7:00 a.m. - 10:00 a.m.  Nominating Committee Meeting  
Location: Whipple

5:30 p.m. - 6:30 p.m.  Health Policy Council Meeting  
Location: Kierland Ballroom 2

WEDNESDAY, NOVEMBER 15, 2017

5:00 p.m. - 6:00 p.m.  Young Urologists Committee Meeting  
Location: Mapmakers A
GENERAL MEETING INFORMATION

General Session*
Location: Kierland Ballroom 2
Monday, November 13, 2017 8:30 a.m. - 5:35 p.m.
Tuesday, November 14, 2017 6:30 a.m. - 5:30 p.m.
Wednesday, November 15, 2017 7:00 a.m. - 1:30 p.m.
Thursday, November 16, 2017 6:30 a.m. - 3:45 p.m.
Friday, November 17, 2017 8:00 a.m. - 11:15 a.m.
*Concurrent session locations are indicated in the full scientific program.

Registration/Information Desk
Location: Kierland Ballroom Foyer
Sunday, November 12, 2017 1:00 p.m. - 4:00 p.m.
Monday, November 13, 2017 7:30 a.m. - 5:35 p.m.
Tuesday, November 14, 2017 6:00 a.m. - 5:30 p.m.
Wednesday, November 15, 2017 7:00 a.m. - 1:30 p.m.
Thursday, November 16, 2017 6:00 a.m. - 3:45 p.m.
Friday, November 17, 2017 7:30 a.m. - 11:15 a.m.

Exhibit Hall
Location: Kierland Ballroom 3/4
Monday, November 13, 2017 6:30 p.m. - 8:30 p.m.
Tuesday, November 14, 2017 7:00 a.m. - 4:00 p.m.
Wednesday, November 15, 2017 7:30 a.m. - 12:00 p.m.

Spouse Guest/Hospitality Suite
Location: Parke/Terrace
Monday, November 13, 2017 7:30 a.m. - 11:00 a.m.
Tuesday, November 14, 2017 7:30 a.m. - 11:00 a.m.
Wednesday, November 15, 2017 7:30 a.m. - 11:00 a.m.
Thursday, November 16, 2017 7:30 a.m. - 11:00 a.m.
Friday, November 17, 2017 7:30 a.m. - 11:00 a.m.
EVENING FUNCTIONS

One ticket to each evening function is included in attendee and spouse/guest registration. To purchase additional tickets, please visit the Registration/Information desk.

WELCOME RECEPTION AND BEER TASTING
Date: Monday, November 13, 2017
Time: 6:30 p.m. - 8:30 p.m.
Location: Kierland Ballroom 3/4
Attire: Casual
Cost: One ticket included in registration; additional tickets are $50 for adults and free for children under the age of 13.
Description: Attendees can sample a variety of local brews, connect with fellow attendees and visit our industry sponsors and exhibitors while enjoying an array of appetizers.

YOUNG UROLOGISTS MIXER
Date: Wednesday, November 15, 2017
Time: 6:00 p.m. – 7:00 p.m.
Location: Brittlebrush Clubhouse
Attire: Business Casual
Cost: This is a free event open to residents and urologists who are within ten years post-training.
Description: This is a great way to network with other urologists and learn how to become more active in the Section.

PRESIDENT’S RECEPTION/“TRIBAL BEAT” THEME NIGHT
Date: Wednesday, November 15, 2017
Time: 7:00 p.m. – 10:00 p.m.
Location: Marshall’s Pavilion
Attire: Casual
Cost: One ticket included in registration; additional tickets are $175.
Description: This year’s Theme Night will embrace the Native American heritage of the local region. The event will include hoop dancers, and southwestern music and cuisine. Celebrate our country’s indigenous spirit at this year’s Theme Night!

ANNUAL RECEPTION
Date: Thursday, November 16, 2017
Time: 6:00 p.m. – 7:30 p.m.
Location: Vista Morado
Attire: Business Casual
Cost: One ticket included in registration; additional tickets are $85.
Description: Due to popular demand by attendees wanting to explore the area, the NCS will now host an Annual Reception that will replace the Annual Banquet. The 2017 Annual Reception will be a night to remember. Attendees will enjoy cocktails and hors d’oeuvres while being surrounded by Arizona’s beautiful scenery.
OPTIONAL ACTIVITIES

TURQUOISE AND TEQUILA TOUR

Date:      Tuesday, November 14, 2017
Time:      12:30 p.m. - 4:30 p.m.
Location:  Meet at the South Terrace of the Kierland Ballrooms by 12:15 p.m.
Cost:      $100 per person
Includes:  Visits to handpicked jewelry stores in Old Town Scottsdale, light snacks at The Mission and roundtrip transportation.
Description: This exciting tour will take attendees along the beautiful and historic streets of Old Town Scottsdale. During the tour attendees will visit a minimum of two handpicked jewelry stores in Old Town Scottsdale while a knowledgeable escort will offer a curated experience and history on the area. While on the tour, attendees will stop at The Mission for light snacks and a Margarita.

NCS GOLF OUTING

Date:      Wednesday, November 15, 2017
Time:      12:45 p.m. start
Location:  The Westin Kierland Golf Club
Cost:      $170 per person
Includes:  Green fees, boxed lunch, golf carts, practice facility access and use of the driving range prior to the round, tournament, divot repair tool and bag tag. All players must check in at the course at least 30 minutes prior to play. Club rental is available at the course. Rentals are $69, plus tax per set.
Description: The Westin Kierland Golf Club provides three 18-hole combinations. Named after indigenous plant life found on the course, Acacia, Ironwood and Mesquite offer three championship-style nines – each with its own flavor and strategy. Emerald green fairways are etched into golden-colored desert grasses, sweeping over constantly changing elevations to flawless greens. More than three hundred bunkers guard the way, along with lakes, dry desert washes and strands of desert trees. The signature TifEagle greens offer up subtle contours that challenge even the best players.
SPEAKER INFORMATION

The North Central Section thanks all the presenters for their outstanding commitment to the 91st 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 8:00 a.m. for the Tuesday 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: Lowell
Monday, November 13, 2017 7:30 a.m. - 5:35 p.m.
Tuesday, November 14, 2017 6:00 a.m. - 5:30 p.m.
Wednesday, November 15, 2017 7:00 a.m. - 1:30 p.m.
Thursday, November 16, 2017 6:00 a.m. - 3:45 p.m.
Friday, November 17, 2017 7:30 a.m. - 11:15 a.m.
MONDAY, NOVEMBER 13, 2017

OVERVIEW

7:30 a.m. - 5:35 p.m.  Registration/Information Desk Hours
Location: Kierland Ballroom Foyer

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite Hours
Location: Parke/Terrace

7:30 a.m. - 5:35 p.m.  Speaker Ready Room Hours
Location: Lowell

8:00 a.m. - 9:00 a.m.  Breakfast
Location: Kierland Ballroom Foyer

6:30 p.m. - 8:30 p.m.  Exhibit Hall Hours
Location: Kierland Ballroom 3/4

6:30 p.m. - 8:30 p.m.  Welcome Reception and Beer Tasting
Location: Kierland Ballroom 3/4

GENERAL SESSION

8:30 a.m. - 9:30 a.m.  AUA Course of Choice Lecture: Urolithiasis: Surgical Management, Percutaneous, Shock Wave Lithotripsy, Ureteroscopy - How We Do It
AUA Course of Choice Guest Speaker:
Stephen Y. Nakada, MD, FACS
Madison, WI

9:30 a.m. - 10:00 a.m.  Break
Location: Kierland Ballroom Foyer

10:00 a.m. - 12:00 p.m.  Live Surgery Transmission
Moderator:  Mark D. Dabagia, MD, FACS
Fort Wayne, IN

Cystectomy Neobladder
Surgeon:  Gary D. Steinberg, MD
Chicago, IL

Urethroplasty
Surgeon:  Sarah Faris, MD
Chicago, IL

12:00 p.m. - 1:15 p.m.  Lunch
Location: Kierland Ballroom Foyer
1:15 p.m. - 5:35 p.m.  Health Policy and Practice Management Program

Session I: Legislative Affairs & Health Policy
Moderators:  Matthew T. Gettman, MD  
Rochester, MN  
Patrick H. McKenna, MD, FAAP, FACS  
Madison, WI  
Norm D. Smith, MD  
Chicago, IL

1:15 p.m. - 1:45 p.m.  Keynote Address: Preparing for Value-Based Healthcare in Urology
Guest Speaker: David F. Penson, MD, MPH  
Nashville, TN

1:45 p.m. - 2:15 p.m.  ACA Update: Now What?
Guest Speaker: Ashton Schatz, JD, MHA  
Rochester, MN

2:15 p.m. - 2:35 p.m.  Legislative Priorities in Urology
Speaker:  James C. Ulchaker, MD, FACS  
Cleveland, OH

2:35 p.m. - 2:55 p.m.  Workforce Issues in Urology: Census, Burnout, and Diversity
Speaker:  Patrick H. McKenna, MD, FAAP, FACS  
Madison, WI

2:55 p.m. - 3:25 p.m.  Resource-Based Relative Value Scale Update Committee (RUC): Overview & Importance
Speaker:  Norm D. Smith, MD  
Chicago, IL

3:25 p.m. - 3:45 p.m.  Roundtable Discussion
Moderator:  Matthew T. Gettman, MD  
Rochester, MN  
Panelists:  Patrick H. McKenna, MD, FAAP, FACS  
Madison, WI  
David F. Penson, MD, MPH  
Nashville, TN  
Ashton Schatz, JD, MHA  
Rochester, MN  
Norm D. Smith, MD  
Chicago, IL  
James C. Ulchaker, MD, FACS  
Cleveland, OH

3:45 p.m. - 4:00 p.m.  Break
Location: Kierland Ballroom Foyer
Session II: Practice Transformation & Optimization
Moderators: Teresa D. Beam, MD, FACS
           Noblesville, IN
           James M. Dupree IV, MD, MPH
           Ann Arbor, MI

4:00 p.m. - 4:20 p.m. Advancing Telemedicine at the State Level
Guest Speaker: Jason J. Jameson, MD
               Phoenix, AZ

4:20 p.m. - 4:40 p.m. Makings of MUSIC in Michigan
Speaker: James M. Dupree IV, MD, MPH
         Ann Arbor, MI

4:40 p.m. - 5:00 p.m. Urologist as Entrepreneur: A Primer
Speaker: Mark D. Stovsky, MD, MBA, FACS
         Cleveland, OH

5:00 p.m. - 5:30 p.m. Keynote: Importance of Advocacy in the Medical Practice
Guest Speaker: Representative Heather Carter
               Phoenix, AZ

5:30 p.m. - 5:35 p.m. NCS/AACU Health Policy Award Ceremony and Award-Winning Presentation
Speaker: Matthew T. Gettman, MD
         Rochester, MN

6:30 p.m. - 8:30 p.m. Welcome Reception and Beer Tasting
Location: Kierland Ballroom 3/4

TUESDAY, NOVEMBER 14, 2017

OVERVIEW

6:00 a.m. - 5:30 p.m. Registration/Information Desk Hours
Location: Kierland Ballroom Foyer

6:00 a.m. - 5:30 p.m. Speaker Ready Room Hours
Location: Lowell

7:00 a.m. - 8:00 a.m. Breakfast in Exhibit Hall
Location: Kierland Ballroom 3/4

7:00 a.m. - 4:00 p.m. Exhibit Hall Hours
Location: Kierland Ballroom 3/4

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

12:30 p.m. - 4:30 p.m. Turquoise and Tequila Tour
Location: Meet at the South Terrace of the Kierland Ballrooms by 12:15 p.m.
Concurrent Sessions Begin

Concurrent Session 1 of 3

6:30 a.m. - 7:30 a.m.  
**Primary Care Update**  
*Location: Trailblazers C*  
Moderator:  
Ajay K. Singla, MD  
*Boston*

6:30 a.m. - 6:45 a.m.  
**Role of PSA in Early Detection Prostate Cancer: What is New in 2017?**  
Speaker:  
Philipp Dahm, MD, MHSc  
*Minneapolis, MN*

6:45 a.m. - 7:00 a.m.  
**Male Hypogonadism and Current State of Testosterone Supplement**  
Speaker:  
Amarnath Rambhatla, MD  
*Detroit, MI*

7:00 a.m. - 7:15 a.m.  
**Enlarged Prostate and its Evaluation and Management for Primary Care**  
Speaker:  
Nicholas Tadros, MD  
*Springfield, IL*

7:15 a.m. - 7:30 a.m.  
**Erectile Dysfunction - Evaluation and Management**  
Speaker:  
Dana A. Ohl, MD  
*Ann Arbor, MI*

Concurrent Session 2 of 3

6:30 a.m. - 7:30 a.m.  
**Disparities and Treatment in Native American Medicine**  
*Location: Kierland Ballroom 2*  
Moderator:  
James C. Ulchaker, MD, FACS  
*Cleveland, OH*  
Panelists:  
William W. Bohnert, MD, FACS  
*Phoenix, AZ*  
John Shufeldt, MD, JD, MBA, FCLM  
*Scottsdale, AZ*

Concurrent Session 3 of 3

6:30 a.m. - 7:30 a.m.  
**Women in Urology Session: GRIT**  
*Location: Trailblazers DE*  
Speaker:  
Elizabeth Broghammer Takacs, MD  
*Iowa City, IA*

Concurrent Sessions End

7:30 a.m. - 7:55 a.m.  
**Break/Visit Exhibits**  
*Location: Kierland Ballroom 3/4*

7:55 a.m. - 8:00 a.m.  
**President's Welcome**  
President:  
James C. Ulchaker, MD, FACS  
*Cleveland, OH*
8:00 a.m. - 8:30 a.m.  State-of-the-Art Lecture: Contemporary Approach to the Diagnosis and Treatment of Small Renal Masses  
Speaker:   E. Jason Abel, MD, FACS  
   *Madison, WI*

8:30 a.m. - 9:20 a.m.  Podium Session: Adrenal/Kidney/Ureter - Malignant  
Moderators:   David S. Sharp, MD  
   *Columbus, OH*  
   Norm D. Smith, MD  
   *Chicago, IL*  
Discussant:   Robert C. Flanigan, MD, FACS  
   *Maywood, IL*

8:30 a.m.  #1 PATHOLOGIC PREDICTORS OF MUSCLE INVASIVE UROTHELIAL CARCINOMA OF THE BLADDER FOLLOWING RADICAL NEPHROURETERECTOMY  
Amir Toussi, MD, Tanner Miest, MD, Vidit Sharma, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD  
Mayo Clinic  
Presented By: Amir Toussi, MD

8:34 a.m.  #2 COMPUTED TOMOGRAPHY TEXTURE ANALYSIS IS ASSOCIATED WITH RENAL CELL CARCINOMA HISTOPATHOLOGY AND TISSUE BIOMARKERS  
Daniel Shapiro, MD, Jered Nystrom, BS, Meghan Lubner, MD, Perry Pickhardt, MD and E. Jason Abel, MD  
University of Wisconsin School of Medicine and Public Health  
Presented By: Daniel Shapiro, MD

8:38 a.m.  #3 SECRETED FACTORS FROM MESENCHYMAL STEM CELLS FOR RENAL ISCHEMIA  
Bradley Gill, MD, MS, Paurush Babbar, MD, Daniel Greene, MD, Dan Li Lin, MD, Mei Kuang, MD, Hui Zhu, MD, PhD and Margot Damaser, PhD  
Cleveland Clinic  
Presented By: Bradley C. Gill, MD, MS

8:42 a.m.  #4 DIAGNOSIS OF TRANSLOCATION RENAL CELL CARCINOMAS IS DIFFICULT WITH CONVENTIONAL PATHOLOGY TECHNIQUES  
Daniel Shapiro, MD, Daniel Matson, MD, PhD, Holly Harper, MD, Jennifer Laffin, PhD, Wei Huang, MD and E. Jason Abel, MD  
University of Wisconsin School of Medicine and Public Health  
Presented By: Daniel Shapiro, MD
8:46 a.m.  #5  IS PERCUTANEOUS BIOPSY OF SMALL RENAL MASSES COST EFFECTIVE FOR PATIENTS WHO WILL BE TREATED SURGICALLY? A DECISION ANALYSIS MODEL
Amy Lim¹, Peter Langenstroer, MD², Maria Rozo¹ and E. Jason Abel, MD¹
¹University of Wisconsin; ²Medical College of Wisconsin
Presented By: Amy H. Lim, MD, PhD

8:50 a.m.  #6  PRE-OPERATIVE PREDICTORS OF INCIDENTAL pT3a UPSTAGING FOLLOWING PARTIAL NEPHRECTOMY FOR CLINICAL T1 RENAL CELL CARCINOMA
Christopher Russell, MD¹, Amir H. Lebastchi, MD², Adam Niemann, MD³, Rohit Mehra, MD³, Todd M. Morgan, MD², David C. Miller, MD², Ganesh S. Palapattu, MD², Khaled S. Hafez, MD², J. Stuart Wolf, MD² and Alon Z. Weizer, MD²
¹University of Michigan Department of Urology; ²University of Michigan, Department of Urology; ³University of Michigan, Department of Pathology
Presented By: Christopher M. Russell, MD

8:54 a.m.  #7  A COMPARISON OF OFFICE BASED ULTRASOUND GUIDED RENAL MASS BIOPSY PERFORMED BY UROLOGISTS AND STANDARD HOSPITAL BIOPSIES FOR T1A SMALL RENAL MASSES
Kassem Faraj, BS¹, Chirag Dave, MD², Kunal Patel, MD², Stephen Vartanian, MD², Rene Frontera, MD², Ryan Nelson, DO³, Edward Schervish, MD⁴ and Brian Seifman, MD²
¹Oakland University William Beaumont School of Medicine; ²Beaumont Health; ³McLaren Macomb Hospital; ⁴Michigan Institute of Urology
Presented By: Kassem Faraj, MD

8:58 a.m.  #8  RECONSIDERATION OF T1 RENAL CELL CARCINOMA POST-OPERATIVE SURVEILLANCE PROTOCOL FOR PULMONARY METASTASIS
Alyssa Kahan, Alexander Chow, MD, Christopher Coogan, MD and Kalyan Latchamsetty, MD
Rush University Medical Center
Presented By: Alyssa Kahan

9:02 a.m.  #9  MULTI-INSTITUTIONAL SURVIVAL ANALYSIS OF INCIDENTAL PATHOLOGIC T3a UPSTAGING IN CLINICAL T1 RENAL CELL CARCINOMA FOLLOWING PARTIAL NEPHRECTOMY
Christopher Russell, MD¹, Amir H. Lebastchi, MD¹, Juan Chipollini, MD², Adam Niemann, BS¹, Rohit Mehra, MD³, Todd M. Morgan, MD¹, David C. Miller, MD¹, Ganesh S. Palapattu, MD¹, Khaled Hafez, MD¹, J. Stuart Wolf, MD¹, Wade J. Sexton, MD², Philippe E. Spiess, MD² and Alon Z. Weizer, MD¹
¹University of Michigan Department of Urology; ²Moffitt Cancer Center, Department of Urology; ³University of Michigan Department of Pathology
Presented By: Christopher M. Russell, MD
9:06 a.m.  #10  ROBOT ASSISTED RENAL MASS ENucleATION HAS PERIOPERATIVE AND FUNCTIONAL BENEFITS WITHOUT COMPROMISING ONCOLOGIC OUTCOMES
Arpeet Shah, Robert Blackwell, Sarah Capodice, Marcus Quek and Gopal Gupta
Loyola University
Presented By: Arpeet Shah

9:20 a.m. - 10:00 a.m.  Podium Session: Laparoscopy/Robotics - Kidney/Other
Moderators: Craig G. Rogers, MD
Detroit, MI
Chandru P. Sundaram, MD, FACS
Indianapolis, IN
Discussant: Howard N. Winfield, MD, FACS
Tuscaloosa, AL

9:20 a.m.  #11  CONVERSION OF ROBOTIC PARTIAL NEPHRECTOMY TO RADICAL NEPHRECTOMY; A PROSPECTIVE MULTI-INSTITUTIONAL STUDY
Brian Chun, BSc, Deepansh Dalela, MD, Mouafak Touroojman, MD, Ronney Abaza, MD, Rajesh Ahlewat, MD, James Adshead, MA, MD, Benjamin Challacome, MBBS, Prokar Dasgupta, MBBS, MSc, Daniel Moon, MBBS, Giacomo Novara, MD, Francesco Porpiglia, MD, Mahendra Bhandari, MD, Alexander Mottrie, MD and Craig Rogers, MD
1Wayne State University School of Medicine; 2Vattikuti Urology Institute, Henry Ford Hospital; 3Henry Ford Hospital; 4OhioHealth Dublin Methodist Hospital; 5Medanta Institute of Kidney and Urology; 6Spire Harpenden Hospital; 7Guy’s and St. Thomas’ Hospitals NHS Foundation Trust; 8Guy’s Hospital; 9Epworth Healthcare; 10University of Padua; 11University Urology Department at San Luigi Gonzaga Hospital; 12OLV Clinic
Presented By: Craig Glenn Rogers, MD

9:24 a.m.  #12  TRIFECTA OUTCOMES IN MULTIFOCAL TUMORS: A COMPARISON BETWEEN ROBOTIC AND OPEN PARTIAL NEPHRECTOMY
Nitin Yerram, MD, Julien Dagenais, MD, Matthew Maurice, MD, Naveen Nandanan, MD and Jihad Kaouk, MD
Cleveland Clinic
Presented By: Nitin K. Yerram, BS, MD

9:28 a.m.  #13  PERINEPHRIC DRAIN PLACEMENT IS NOT REQUIRED AFTER ROBOTIC ASSISTED PYELOPLASTY
Nathaly François, MD, Christopher Jaeger, MD, Christopher Dall, BS, Michael Sourial, MD and Geoffrey Box, MD
1Ohio State Wexner Medical Center; 2Ohio State University, College of Medicine
Presented By: Christopher Jaeger, MD
9:32 a.m. #14 EFFICACY OF LAPAROSCOPIC NEPHRECTOMY IN THE TREATMENT OF CHRONIC PAIN IN PATIENTS WITH RECURRENT URETEROPELVIC JUNCTION OBSTRUCTION
Daniel Szabo, MD, Michael Sourial, MD, Christopher Dall, BS, Christopher Miller, BS, Debra L. Zynger, MD and Geoffrey Box, MD
The Ohio State University Wexner Medical Center
Presented By: Daniel Szabo, MD

9:36 a.m. #15 UNIQUE RESIDENCY ROBOTIC CURRICULUM DEVELOPMENT USING ROBOLOG
Petar Bajic, MD, Kristin Greco Baldea, MD and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Petar Bajic, MD

9:40 a.m. #16 TIMING AND RISK FACTORS RELATED TO SYMPTOMATIC LYMPHOCELE FORMATION FOLLOWING OPEN AND ROBOTIC RADICAL PROSTATECTOMY
Raevti Bole, MA, MD, Christina Ogle, MD and Matthew Tollefson, MD
Mayo Clinic
Presented By: Raevti Bole, MD, MA

9:44 a.m. #17 SURGICAL PLANNING IN HIGH RISK PROSTATE CANCER: PREOPERATIVE MULTI-PARAMETRIC MAGNETIC RESONANCE ALLOWS FOR NERVE-SPARING WITHOUT COMPROMISING SURGICAL MARGINS
Petar Bajic, MD, Robert Blackwell, MD, Andrew Choi, BS, Peter Filip, BS, Marcus Quek, MD and Gopal Gupta, MD
Loyola University Medical Center; Loyola University Stritch School of Medicine
Presented By: Petar Bajic, MD

10:00 a.m. - 10:05 a.m. Announcements
Local Arrangements Chair: Norm D. Smith, MD
Chicago, IL

10:05 a.m. - 10:30 a.m. Break/Visit Exhibits
Location: Kierland Ballroom 3/4

Concurrent Sessions Begin

Concurrent Session 1 of 4

10:30 a.m. - 11:00 a.m. Ask the Expert: Urologic Oncology
Location: Kierland Ballroom 2
Moderator: Mitchell H. Sokoloff, MD
Worcester, MA
Guest Speaker: David F. Penson, MD, MPH
Nashville, TN
10:30 a.m. - 11:30 a.m. Podium Session: Socioeconomic/Health Policy

Location: Trailblazers C

Moderators: Gopal N. Gupta, MD
Mark D. Stovisky, MD, MBA, FACS

Discussant: Matthew T. Gettman, MD

10:30 a.m. #18 COST-EFFECTIVENESS OF TREATMENTS FOR BENIGN PROSTATIC HYPERPLASIA: PHARMACEUTICAL THERAPY, MINIMALLY INVASIVE PROCEDURES, AND SURGERY

James Ulchaker, MD, FACS¹ and Melissa Martinson, MS, PhD²

¹Cleveland Clinic Foundation; ²Technomics Research LLC

Presented By: James C. Ulchaker, MD, FACS

10:34 a.m. #19 EVALUATING THE LINK BETWEEN AGRICULTURAL CHEMICAL USE WITH KIDNEY, BLADDER, AND PROSTATE CANCER AT THE POPULATION LEVEL IN THE STATE OF ILLINOIS

Hayden Warner, BS, Daniel Sadowski, MD, Georgia Luckey-Mueller, MS, Whitney Zahnd, MS and Kevin McVary, MD

Southern Illinois University School of Medicine

Presented By: Hayden Warner

10:38 a.m. #20 WITHDRAWN

10:42 a.m. #21 THE STATE OF UROLOGIC MALPRACTICE: AN ANALYSIS OF RECENT CLAIMS DATA AND TRENDS

M. Ryan Farrell, MD, MPH and Christopher Coogan, MD

Rush University Medical Center

Presented By: M. Ryan Farrell, MD, MPH

10:46 a.m. #22 WITHDRAWN

10:50 a.m. #23 SIGNIFICANT RISE IN THE NUMBER OF FEMALE UROLOGY RESIDENCY APPLICANTS

Roger K. Khouri¹, Amir Lebastchi, MD³, Ian McLaren, MD¹, Gary Faerber, MD², Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD³, Thomas Stringer, MD³, Ajay Singla, MD⁴, Matthew Sorensen, MD⁵, Hunter Wessells, MD⁵ and Sapan Ambani, MD⁶

¹University of Michigan; ²University of Utah; ³University of Florida; ⁴University of Toledo; ⁵University of Washington; ⁶University of Michigan

Presented By: Roger K. Khouri Jr., MD
10:54 a.m. #24 PREDICTORS OF A SUCCESSFUL UROLOGY RESIDENT USING MEDICAL STUDENT APPLICATIONS
R. Houston Thompson, MD, Christine M. Lohse, MS, Douglas A. Husmann, MD, Bradley C. Leibovich, MD and Matthew T. Gettman, MD
Mayo Clinic
Presented By: R. Houston Thompson, MD

10:58 a.m. #25 INSTITUTIONAL VARIABILITY OF MEDICAL SCHOOL GRADE DISTRIBUTION AMONG 2016-2017 UROLOGIC RESIDENCY APPLICANTS
Mary E. Westerman, MD, Raevti Bole, MD, Norman S. Turner, MD, Matthew T. Gettman, MD and R. Houston Thompson, MD
Mayo Clinic Department of Urology
Presented By: Mary E. Westerman, MD

11:02 a.m. #26 SPILLOVER EFFECT OF THE HOSPITAL READMISSION REDUCTION PROGRAM AND RADICAL CYSTECTOMY READMISSION RATES
Matthew Lee, MD¹, Tudor Borza, MD¹, Mary Oerline, MPH¹, Ted Skolarus, MD¹, Bruce Jacobs, MD², Rita Jen, MD¹, Amy Luckenbaugh, MD¹, Vahakan Shahinian, MD¹ and Brent Hollenbeck, MD¹
¹University of Michigan; ²University of Pittsburgh
Presented By: Matthew Lee, MD

11:06 a.m. #27 POST-ACUTE CARE AS A DRIVER OF EPISODE PAYMENT VARIATION FOR AMBULATORY STONE SURGERY
John Hollingsworth, MD, MS, Hechuan Hou, James Dupree, Brian Seifman, Adam Kadlec, Anita Tekchandani, David Leavitt, William Roberts and Khurshid Ghani
University of Michigan
Presented By: John M. Hollingsworth, MD, MS

11:10 a.m. #28 AFRICAN AMERICANS WITH STAGE II BLADDER CANCER LESS LIKELY TO UNDERGO RADICAL CYSTECTOMY
Daniel Sadowski, MD, MPhil, Hayden Warner, BS, Steve Scaife, MS and Kevin McVary, MD
Southern Illinois University School of Medicine
Presented By: Daniel James Sadowski, MD, MPhil

11:14 a.m. #29 WITHDRAWN

Concurrent Session 3 of 4

10:30 a.m. - 11:30 a.m. Podium Session: Bladder Malignant
Location: Trailblazers DE
Moderator: Christopher J. Weight, MD
Minneapolis, MN
Discussant: Cheryl T. Lee, MD
Columbus, OH
10:30 a.m.  #30 CHEMOTHERAPY PRIOR TO RADICAL NEPHROURETERECTOMY IN PATIENTS WITH ADVANCED UPPER TRACT UROTHELIAL CARCINOMA
Tanner Miest, MD, PhD¹, Amir Toussi, MD¹, Jeff Wang, MD¹, Stephen Boorjian, MD¹, Houston Thompson, MD¹, Brian Costello, MD², Bradley Leibovich, MD³ and Matthew Tollefson, MD¹
¹Mayo Clinic Department of Urology; ²Mayo Clinic Division of Medical Oncology; ³Mayo Clinic Department of Urology
Presented By: Tanner Miest, MD, PhD

10:34 a.m.  #31 IN VITRO CHARACTERIZATION OF TWO ONCOLYTIC VIRUSES AGAINST UROTHELIAL CARCINOMA
Tanner Miest, MD, PhD¹, Yumei Zhou, PhD², Jeffrey Karnes, MD¹, Stephen Boorjian, MD¹, Houston Thompson, MD¹, Matthew Tollefson, MD¹, Igor Frank, MD¹, Kah Whye Peng, PhD², Stephen Russell, MD, PhD² and Bradley Leibovich, MD¹
¹Mayo Clinic Department of Urology; ²Mayo Clinic Department of Molecular Medicine
Presented By: Tanner Miest, MD, PhD

10:38 a.m.  #32 SKELETAL MUSCLE INDEX, ADIPOSITY AND DISCHARGE DISPOSITION AFTER RADICAL CYSTECTOMY FOR BLADDER CANCER
Jacob Albersheim-Carter, BA, Joseph Renier, BA, Trent Bailey, BS, Suprita Krishna, MBBS, Badrinath Konety, MD, MBA and Christopher Weight, MD, MS
University of Minnesota Medical School
Presented By: Jacob Ari Albersheim-Carter

10:42 a.m.  #33 UNDERUTILIZATION OF PELVIC LYMPH NODE DISSECTION DURING PARTIAL CYSTECTOMY FOR BLADDER CANCER: OPPORTUNITY FOR IMPROVEMENT
Vidit Sharma, MD¹, Mary E Westerman, MD², Stephen A Boorjian, MD², R. Houston Thompson, MD², R. Jeffrey Karnes, MD², Igor Frank, MD² and Matthew K Tollefson, MD²
¹Mayo Clinic; ²Department of Urology, Mayo Clinic, Rochester, MN
Presented By: Vidit Sharma, MD

10:46 a.m.  #34 POSTOPERATIVE OUTCOMES ASSOCIATED WITH PREOPERATIVE MALNUTRITION: A PROSPECTIVE STUDY OF PATIENTS UNDERGOING RADICAL CYSTECTOMY
Conrad Tobert, MD, Nathan Brooks, MD, Lewis Thomas, MD, Chermaine Hung, BS, Sarah Mott, MD and Kenneth Nepple, MD
University of Iowa Hospitals and Clinics
Presented By: Conrad Tobert, MD
10:50 a.m. #35 OBESITY MAY BE A RISK FACTOR FOR URETEROENTERIC ANASTOMOTIC STRICTURES AFTER RADICAL CYSTECTOMY WITH URINARY DIVERSION
Belinda Li, MD, Robert H. Blackwell, MD, Bethany K. Burge, MD, Elizabeth L. Koehne, MD and Marcus L. Quek, MD
Loyola University Medical Center
Presented By: Belinda Li, MD

10:54 a.m. #36 HEXAMINOLEVULATE GUIDED FLUORESCENCE CYSTOSCOPY DETECTS SIGNIFICANTLY MORE RECURRENCES COMPARED TO CYSTOSCOPY AND CYTOLOGY FOR POST-INTRAVESICAL THERAPY SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER
Matthew Sloan, BS, Nathan Brooks, MD, Aditi Patel, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD
University of Iowa Hospitals and Clinics
Presented By: Matthew Sloan, BA

10:58 a.m. #37 WITHDRAWN

11:02 a.m. #38 TRENDS AND OUTCOMES IN PELVIC LYMPH NODE DISSECTION DURING PARTIAL CYSTECTOMY FOR MALIGNANT BLADDER TUMORS
John Francis, MD¹, Robert Abouassaly, MD, MS¹, Christopher Gonzalez, MD, MBA¹, Alexander Kutikov, MD², Marc Smaldone, MD², Stephen Williams, MD³, Sarah Psutka, MD¹, Kyle Scarberry, MD¹ and Simon Kim, MD, MPH¹
¹University Hospitals Cleveland Medical Center; ²Fox Chase Cancer Center; ³University of Texas Medical Branch; ⁴Cook County Hospital
Presented By: John Francis

11:06 a.m. #39 THE PREVALENCE OF PREOPERATIVE MALNUTRITION: A PROSPECTIVE STUDY OF PATIENTS UNDERGOING RADICAL CYSTECTOMY
Conrad Tobert, MD, Nathan Brooks, MD, Lewis Thomas, MD, Chermaine Hung, BS, Sarah Mott, MS and Kenneth Neppe, MD
University of Iowa Hospitals and Clinics
Presented By: Conrad Tobert, MD

11:10 a.m. #40 QUALITY OF LIFE IN PATIENTS TREATED WITH BACILLUS CALMETTE-GUERIN (BCG) PLUS INTERFERON
Ryan Steinberg, MD¹, Lewis J. Thomas, MD¹, Sarah L. Mott, MS² and Michael A. O'Donnell, MD¹
¹University of Iowa Hospitals & Clinics; ²University of Iowa Holden Comprehensive Cancer Center
Presented By: Ryan L. Steinberg, MD
11:14 a.m.  #41  NEOADJUVANT CHEMOTHERAPY AND POST- RADICAL CYSTECTOMY COMPLICATIONS: A RETROSPECTIVE REVIEW
Mohamed Hendawi, Kathleen Puttman, Saad Hatahet and Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Mohamed Hendawi

Concurrent Session 4 of 4

11:00 a.m. - 11:30 a.m.  Podium Session: Trauma/Transplant
Location: Kierland Ballroom 2
Moderators: Michael L. Guralnick, MD, FRCSC
Milwaukee, WI
Bahaa S. Malaeb, MD
Ann Arbor, MI
Discussant: David A. Goldfarb, MD
Cleveland, OH

11:00 a.m.  #42  ROLE OF SYNTHETIC MESH RENORRAPHY AND NEOCAPSULE RECONSTRUCTION TO SALVAGE SEVERELY DAMAGED RENAL ALLOGRAFTS
Damian Garcher, MD, Carson Smith, MS and Puneet Sindhwani, MD, MS
University of Toledo College of Medicine
Presented By: Damian E. Garcher, MD

11:04 a.m.  #43  KIDNEY TRANSPLANTATION WITH ALEMTUZUMAB INDUCTION PREDICTS SUPERIOR PATIENT SURVIVAL AND REDUCED REJECTION FOR FEMALE ALLOGRAFT RECIPIENTS
Jonathan Demeter, MS, Bradley Buck, MD, Allison Zimmerman, MS, Graham Mitro, BS, Puneet Sindhwani, MD, Michael Rees, MD, PhD and Jorge Ortiz, MD
University of Toledo College of Medicine
Presented By: Jonathan H. Demeter, MS

11:08 a.m.  #44  GLOBAL KIDNEY EXCHANGE: STRIVING FOR TRIFECTA OUTCOMES IN MANAGEMENT OF KIDNEY FAILURE
Omar Khan, MD, David Fumo, MD, Damian Garcher, MD UTMC
Presented By: Damian Garcher, MD

11:12 a.m.  #45  DECEASED DONOR INITIATED NONSIMULTANEOUS EXTENDED ALTRUISTIC DONOR CHAINS THROUGH THE MILITARY SHARE PROGRAM
Daniel Murtagh Jr, MD¹, Michael Rees, MD, PHD², Obi Ekwenna, MD³, Ankita Patel, MD³, Alvin Roth, PHD, MS⁴, Kim Krawiec, JD, BA⁵, Jeff Arrington, BS⁶, Jonathan Kopke, BS⁷, Tai Ashlagi, PHD⁸ and Jason Hawksworth, MD⁹
¹University of Toledo Medical Center; ²Alliance for Paired Donation, University of Toledo Medical Center; ³Walter Reed National Medical Center; ⁴Stanford University; ⁵Duke University; ⁶Buckeye Transplant; ⁷Alliance for Paired Donation
Presented By: Daniel S. Murtagh Jr., MD
Concurrent Sessions End

Speaker: Stephen Y. Nakada, MD, FACS
Madison, WI

12:15 p.m. - 1:30 p.m. Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1B

12:15 p.m. - 1:30 p.m. Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1C

1:30 p.m. - 2:00 p.m. Panel Discussion: Female Urology
Moderator: Elizabeth Broghammer Takacs, MD
Iowa City, IA
Panelists: J. Quentin Clemens, MD
Ann Arbor, MI
Sandip P. Vasavada, MD
Cleveland, OH

2:00 p.m. - 2:45 p.m. Podium Session: Urinary Incontinence/Neurourology
Moderators: Sarah A. Adelstein, MD
Chicago, IL
Dinesh J. Telang, MD
Roseville, MI
Discussant: Elizabeth Broghammer Takacs, MD
Iowa City, IA

2:00 p.m. #47 THE IMPACT OF INCONTINENCE ETIOLOGY ON ARTIFICIAL URINARY SPHINCTER OUTCOMES
Adam Miller, MD, Brian Linder, MD, Laureano Rangel, MD, David Yang, MD and Daniel Elliott, MD
Mayo Clinic, Rochester, MN
Presented By: Adam Miller, MD

2:04 p.m. #48 CAVERNOUS NERVE CRUSH INJURY INDUCES APOPTOSIS IN THE PELVIC PLEXUS INCLUDING PELVIC AND HYPOGASTRIC NERVES
Marah Hehemann, MD1, Shawn Choe, BS2, Daniel Harrington, PhD3, Samuel Stupp, PhD4, Kevin McVary, MD5 and Carol Podlasek, PhD6
1Loyola University Health Systems; 2University of Illinois at Chicago, Department of Urology; 3University of Texas Health Sciences Center at Houston; 4Northwestern University, Feinberg School of Medicine; 5Southern Illinois University, School of Medicine; 6University of Illinois at Chicago, Departments of Urology, Physiology and Bioengineering
Presented By: Marah Hehemann, MD
LENGTH OF DETRUSOR SPHINCTER DYSFUNCTION EPISODE WHEN CHARACTERIZED BY URETHRAL PRESSURE IS ASSOCIATED WITH CHANGES IN BLADDER STORAGE
Lauren E Corona, MD¹, Anne P Cameron, MD², J Quentin Clemens, MD², Edward McGuire, MD² and John T Stoffel, MD²
¹University of Michigan; ²University of Michigan, Department of Urology
Presented By: Lauren E. Corona, MD

SONIC HEDGEHOG REGULATION OF RHABDOSPHINCTER MUSCLE
Marah Hehemann, MD¹, Shawn Choe, BS², Danuta Dynda, MD³, Shaheen Alaneé, MD³, Daniel Harrington, PhD⁴, Samuel Stupp, PhD⁵, Kevin Kevin, MD⁶ and Carol Podlasek, PhD²
¹Loyola University Health Systems; ²University of Illinois at Chicago, Department of Urology; ³Southern Illinois University, School of Medicine; ⁴University of Texas Health Sciences Center at Houston; ⁵Northwestern University, Feinberg School of Medicine
Presented By: Marah Hehemann, MD

EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF NON-OBSTRUCTIVE URINARY RETENTION IN WOMEN WITH SUBACUTE LOWER LUMBAR INJURY
Naveen Kachroo, MD, PhD, Vicki Irish, NP and Humphrey Atiemo, MD
Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Humphrey Atiemo, MD

LONG-TERM OUTCOMES AND PREDICTORS OF FAILURE AFTER SURGERY FOR STAGE IV APICAL PELVIC ORGAN PROLAPSE
Brian Linder, MD, Sherif El-Nashar, Alain Mukwege, Amy Weaver, Deborah Rhodes, John Gebhart, Chris Klingele, John Occhino and Emanuel Trabuco
Mayo Clinic
Presented By: Brian J. Linder, MD
LOW INCIDENCE OF CLEAN INTERMITTENT CATHETERIZATION AND SUBSTANTIAL TREATMENT RESPONSE WITH ONABOTULINUMTOXINA IN OVERACTIVE BLADDER PATIENTS OF DIVERSE AGES: A POOLED POST HOC ANALYSIS OF THREE RANDOMIZED, CONTROLLED TRIALS

David Ginsberg1, Marcus Drake2, Karel Everaert3, Eric Rovner4, Roger Dmochowski5, Sidney Radomski6, Tamer Aboushwareb5, Cheng-Tao Chang6, Christopher R Chapple3 and Victor Nitti10
1USC Institute of Urology; 2Bristol Urological Institute, Bristol, UK; 3Ghent University Hospital, Ghent, Belgium; 4Medical University of South Carolina, Charleston, SC, USA; 5Vanderbilt University Medical Center, Nashville, TN, USA; 6University of Toronto, Toronto, Canada; 7Allergan plc, Irvine, CA, USA; 8Allergan plc, Bridgewater, NJ, USA; 9The Royal Hallamshire Hospital, Sheffield Teaching Hospitals, NHS Foundation Trust, Sheffield, UK; 10New York University, New York, NY, USA
Presented By: David Alan Ginsberg, MD

BACTERIAL CULTURES AT THE TIME OF ARTIFICIAL URINARY SPHINCTER REVISION SURGERY IN CLINICALLY UNINFECTED DEVICES: A PROSPECTIVE CONTEMPORARY SERIES

Matthew Ziegelmann, David Yang, Adam Miller, Brian Linder and Daniel Elliott
Mayo Clinic Rochester
Presented By: Matthew J. Ziegelmann, MD

CAN TIME TO FAILURE PREDICT ARTIFICIAL URINARY SPHINCTER COMPONENT FAILURE?

David Y Yang, MD, Brian J Linder, MD, Adam R Miller, MD, Laureano J Rangel, MS and Daniel S Elliott, MD,MPH
1Mayo Clinic, Department of Urology; 2Mayo Clinic, Division of Biomedical Statistics and Informatics
Presented By: David Y. Yang, MD

AUA Guidelines Update: Stress Urinary Incontinence

Speaker: Howard B. Goldman, MD, FACS
Cleveland, OH

Break/Visit Exhibits
Location: Kierland Ballroom 3/4

Concurrent Sessions Begin

Concurrent Session 1 of 6

Podium Session: Prostate Malignant I

Location: Kierland Ballroom 2

Moderators: Christopher L. Coogan, MD
Chicago, IL
James O. Peabody, MD
Detroit, MI

Discussant: Thomas A. Gardner, MD, MBA
Indianapolis, IN
3:30 p.m.  #80  PROSTATE CANCER GRADE AND VOLUME IN SEPTUAGENARIANS (MEN AGES 70-79)
Paul Yonover, MD, FACS1,2, Laurel Sofer, MD1, Richard Harris, MD2, Justin J. Cohen, MD2, Dimitri Papagiannopoulos, MD3, Harpreet Wadhwa, MD1, Lester Raff, MD2 and Kalyan Latchamsetty, MD2,3
1University of Illinois College of Medicine at Chicago; 2Uropartners, LLC; 3Rush University Medical Center
Presented By: Laurel Sofer, MD

3:34 p.m.  #81  IsoPSA: DIRECT CLINICAL PERFORMANCE COMPARISON BETWEEN EXPRESSION AND STRUCTURE AS A BASIS FOR DEFINING A BIOMARKER FOR PROSTATE CANCER
Eric Klein, MD2, Arnon Chait, PHD3, Jason Hafron, MD4, Kenneth Kernen, MD4, Kannan Manickam, MD5, Andrew Stephenson, MD2, Matthew Wagner, MD6, Hui Zhu, MD7, Aimee Kestranek3, Boris Zaslavsky, PHD3 and Mark Stovsky, MD, MBA1
1Cleveland Clinic, Cleveland Diagnostics, Inc.; 2Cleveland Clinic; 3Cleveland Diagnostics, Inc.; 4Michigan Institute Of Urology; 5Chesapeake Urology Associates; 6Kaiser Permanente Northwest; 7Louis Stokes VA Medical Center
Presented By: Mark D. Stovsky, MD, MBA, FACS

3:38 p.m.  #82  WITHDRAWN

3:42 p.m.  #83  STANDARD OF CARE VERSUS METASTASIS-DIRECTED THERAPY FOR PELVIC NODAL RECURRENCES OF PROSTATE CANCER FOLLOWING RADICAL PROSTATECTOMY AND POST-OPERATIVE RADIOTHERAPY: A CASE-CONTROL STUDY
Thomas Steuber2, Vidit Sharma, MD1, Piet Ost3, Karel Decaestecker1, Tom Claeyss4, Thomas Zilli3, Barbara A Jereczek-Fossa5,6, Cordula Jilg5 and R. Jeffrey Karnes7
1Mayo Clinic; 2Martini-Klinik Prostate Cancer Center, University Hospital Hamburg-Eppendorf, Hamburg, Germany; 3Department of Radiotherapy, Ghent University Hospital, Ghent, Belgium; 4Department of Urology, Ghent University Hospital, Ghent, Belgium; 5Department of Radiotherapy, European Institute of Oncology, Milan, Italy; 6Department of Urology, Medical Center - University of Freiburg, Faculty of Medicine, University of Freiburg, Germany; 7Department of Urology, Mayo Clinic, Rochester, MN, USA; 8Department of Oncology and Hemato-oncology, University of Milan, Milan, Italy
Presented By: Vidit Sharma, MD
3:46 p.m. #84 ROLE OF MPMRI PSA DENSITY AND PIRADS SCORE IN PREDICTING UPSTAGING IN MEN ON ACTIVE SURVEILLANCE
Michelle Van Kuiken, MD, Robert H. Blackwell, MD, Spencer Hart, MD, Bryan Bisanz, Ahmer Farooq, DO, Alex Gorbonos, MD, Marcus Quek, MD, Thomas M.T. Turk, MD, Robert Flanigan, MD and Gopal N. Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken, MD

3:50 p.m. #85 MULTI-INSTITUTIONAL EVALUATION OF MRI AND FUSION BIOPSY IN CONFIRMATORY BIOPSY FOR ACTIVE SURVEILLANCE
Christopher Russell, MD, Amir H. Lebastchi, MD, Matthew Lee, MD, Scott A. Tomlins, MD, Jeffrey S. Montgomery, MD, Chandy S. Ellimoottil, MD, John T. Wei, MD, Matthew S. Davenport, MD, Nicole Curci, MD, Thomas P. Frye, MD, Matthew Truong, MD, Srinivas Vourganti, MD, Ardeshr Rastinehad, DO, Paras Shah, MD, Vinay Patel, MD and Arvin George, MD
1University of Michigan Department of Urology; 2University of Michigan, Department of Urology; 3University of Michigan, Department of Pathology; 4University of Michigan, Department of Radiology; 5University of Rochester, Department of Urology; 6Rush University, Department of Urology; 7Mount Sinai School of Medicine, Department of Urology; 8Hofstra School of Medicine, Department of Urology
Presented By: Christopher M. Russell, MD

3:54 p.m. #86 AN INDEPENDENT, MULTI-INSTITUTIONAL, PROSPECTIVE STUDY IN THE VETERANS AFFAIRS HEALTH SYSTEM CONFIRMS THE 4K SCORE PREDICTS AGGRESSIVE PROSTATE CANCER
Michael Risk, MD, PhD, Sanoj Punnen, MD, Stephen Freedland, MD, Thomas Polascik, MD, Stephen Savage, MD, Stacy Loeb, MD, Edward Uchio, MD, Sharad Mathur, MD, Yan Dong, MD and Jonathan Silberstein, MD
1University of Minnesota and Minneapolis VA Medical Center; 2University of Miami and Miami Veterans Affairs Medical Center; 3Cedars-Sinai Medical Center and Durham Veterans Affairs Medical Center; 4Duke Cancer Institute and Durham Veteran Affairs Medical Center; 5Medical University of South Carolina and Ralph H. Johnson Veterans Affairs Medical Center; 6Department of Urology, New York University and Manhattan Veterans Affairs Medical Center; 7Department of Urology, University of California Irvine and Veterans Affairs Long Beach Health System; 8Pathology and Laboratory Medicine Service, Kansas City Veterans Affairs Medical Center; 9OPKO Diagnostics; 10Tulane University School of Medicine and Southeast Louisiana Veterans Health Care Center
Presented By: Michael C. Risk, MD, PhD
3:58 p.m. #87 UTILIZATION OF MRI AND GENOMIC MARKERS IN SURVEILLANCE AND TREATMENT SELECTION AMONG PATIENTS DIAGNOSED WITH PROSTATE CANCER
Shree Agrawal, BS¹, Nitin Yerram, MD², Dominic Grimberg¹, Karishma Gupta¹, Yaw Nyame, MD², Daniel Sun, MD², Daniel Greene, MD², Hans Arora, MD², Sudhir Isharwal, MD², Paurush Babbar, MD², Anna Zampini, MD², Andrew Sun, MD², Andrei Purysko, MD², Ryan Berglund, MD², Michael Gong, MD², Andrew J Stephenson, MD² and Eric Klein, MD²
¹Case Western Reserve University School of Medicine; ²Cleveland Clinic
Presented By: Shree Agrawal, BS

4:02 p.m. #88 PROSTATE CANCER DISPARITIES IN HISPANICS BY COUNTRY OF ORIGIN: A NATIONWIDE POPULATION-BASED ANALYSIS
Ryan Dobbs, MD, Neha Malhotra, MD, Michael Abern, MD and Daniel Moreira, MD
University of Illinois at Chicago
Presented By: Ryan W. Dobbs, MD

4:06 p.m. #89 A NOVEL NOMOGRAM FOR PREDICTING ONCOLOGIC OUTCOMES IN MEN WITH LOCALIZED HIGH RISK PROSTATE CANCER UNDERGOING RADICAL PROSTATECTOMY
Yaw Nyame, MD, MBA¹, Jeffrey Tosoian, MD, MPH², Ridwan Alam, BS², Lamont Wilkins, BS¹, Kasra Yousefi, MS³, Meera Chappidi, BS², Chandana Reddy, BS¹, Elizabeth Humphreys, BS², Debasish Sundi, MD⁴, Brian Chapin, MD⁴, Andrew Stephenson, MD, MBA¹, Eric Klein, MD¹ and Ashley Ross, MD, PhD²
¹Cleveland Clinic; ²Johns Hopkins University; ³GenomeDx Biosciences, Inc; ⁴MD Anderson Cancer Center
Presented By: Yaw A. Nyame, MD, MBA

4:10 p.m. #90 PREOPERATIVE MRI IMPROVES RISK CALCULATION AND SELECTION OF SIDE-SPECIFIC NERVE SPARING IN PATIENTS UNDERGOING RADICAL PROSTATECTOMY
Joshua Piotrowski, MD, PhD, Meghan Schafer, MD, Peter Langenstroer, MD, William See, MD and Kenneth Jacobsohn, MD
Medical College of Wisconsin
Presented By: Joshua T. Piotrowski, MD, PhD
4:14 p.m.   #91  COMPARISON OF PATHOLOGICAL OUTCOMES AT RADICAL PROSTATECTOMY FOR MAGNETIC RESONANCE IMAGING-TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY VERSUS UNTARGETED SATURATION TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY
Hans Arora, MD, PhD¹, Ahmed Elshafei, MD¹, Yaw Nyam, MD, MBA¹, Daniel Sun, MD¹, Helen Liang², Nitin Yerram, MD¹, Daniel Greene, MD¹, Dominic Grimberg², Karishma Gupta², Shree Agrawal², Sudhir Isharwal, MD¹, Paurush Babbar, MD¹, Andrew Sun, MD¹, Khaled Fareed, MD¹, Michael Gong, MD, PhD¹, Ryan Berglund, MD¹, Eric Klein, MD¹, Andrew Stephenson, MD, MBA¹, Andrei Purysko, MD¹ and J. Stephen Jones, MD¹
¹Cleveland Clinic; ²Case Western Reserve University
Presented By: Hans C. Arora, MD, PhD

Concurrent Session 2 of 6

3:30 p.m. - 4:30 p.m.  Podium Session: Endourology/Stone Disease I
Location: Trailblazers C
Moderators:    Ray H. Littleton, MD, FACS
              Detroit, MI
              Sri Sivalingam, MD, FRCSC
              Cleveland, OH
Discussant:   James E. Lingeman, MD
              Indianapolis, IN

3:30 p.m.   #68  HOLMIUM-YAG LASER: IMPACT OF PULSE ENERGY AND FREQUENCY ON LOCAL FLUID TEMPERATURE
Michael Sourial, MD, Joshua Ebel, MD and Bodo Knudsen, MD
The Ohio State University Wexner Medical Center
Presented By: Michael Sourial, MD

3:34 p.m.   #69  METFORMIN USE ASSOCIATED WITH LOW URINE PH IN NEPHROLITHIASIS PATIENTS
Robert Blackwell, MD, Spencer Hart, MD, Alexander Kandabarow, MD, Parth Patel, MD, Max Drescher, Osaretin Aiumyu, Kristin Baldea, MD and Thomas Turk, MD
Loyola University Medical Center
Presented By: Spencer Hart, MD

3:38 p.m.   #70  NEPHROLITHIASIS IN PREGNANCY: DOES AN ANTEPARTUM STONE ADMISSION INCREASE THE RISK OF PRETERM DELIVERY?
Max Drescher¹, Robert H. Blackwell, MD², Parth Patel, MD², Spencer Hart, MD², Alex M. Kandabarow, MD², Paul C. Kuo, MD², Ahmer Farooq, DO², Thomas M.T. Turk, MD² and Kristin G. Baldea, MD²
¹Loyola University Chicago Stritch School of Medicine;
²Loyola University Medical Center
Presented By: Max Drescher
EXPLORING PATIENT PERSPECTIVES ON PAIN FROM NONOBSTRUCTING KIDNEY STONES
Daniel Smith, MD and Michael Borofsky, MD
University of Minnesota
Presented By: Daniel W. Smith, MD

PERIOPERATIVE ASPIRIN USE DURING PERCUTANEOUS NEPHROLITHOTOMY (PCNL): OUR SINGLE CENTER EXPERIENCE
Joshua Ebel, MD, Bodo Knudsen, MD, Michael Sourial, MD
The Ohio State University
Presented By: Michael Sourial, MD

UTILIZATION AND OUTCOMES OF MEDICAL EXPULSIVE THERAPY IN PREGNANT PATIENTS WITH SYMPTOMATIC NEPHROLITHIASIS
Emily Yura, MD1, Nabeel Hamoui, MD, MBA1, Beverly Onyekwuluje, BA1, Kaitlyn Sacotte, BA1, Nirali Shah, BA1, Mary Kate Fitzgerald, MPH1, Granville Lloyd, MD2 and Stephanie Kielb, MD1
1Northwestern University Feinberg School of Medicine;
2University of Colorado School of Medicine
Presented By: Emily Yura, MD

UNDERSTANDING BILATERALLY DISCORDANT STONE COMPOSITION
Alex M. Kandabarow, MD1, Spencer T. Hart, MD1, Parth Patel, MD1, Robert H. Blackwell, MD1, Max Drescher2, Osaretin Aimuyo2, Ahmer V. Farooq1, Thomas M. T. Turk1 and Kristen G. Baldea1
1Loyola University Medical Center; 2Loyola University Chicago Stritch School of Medicine
Presented By: Alex M. Kandabarow, MD

RISK FACTORS, STONE COMPOSITION, AND URINARY MINERAL EXCRETION IN BILATERAL UROLITHIASIS
Alex M. Kandabarow, MD1, Spencer T. Hart, MD1, Parth Patel, MD1, Robert H. Blackwell, MD1, Max Drescher2, Osaretin Aimuyo2, Ahmer V. Farooq, MD1, Thomas M. T. Turk1 and Kristen G. Baldea, MD1
1Loyola University Medical Center; 2Loyola University Chicago Stritch School of Medicine
Presented By: Alex M. Kandabarow, MD

AUTOMATED RADIOGRAPHIC STONE MEASUREMENTS: A NEW LEVEL OF STANDARDIZATION FOR STONE SIZE AND DENSITY
Natasza Posielski, MD1, John Roger Bell, MD1, Perry Pickhardt, MD2 and Stephen Nakada, MD, FACS1
1University of Wisconsin, Department of Urology; 2University of Wisconsin, Department of Radiology
Presented By: Natasza Posielski, MD
4:06 p.m.  #77  FATE OF UPPER TRACT STONES IN SPINAL CORD INJURED PATIENTS
Rachel Mann, BA1, John Stoffel, MD2, William Roberts, MD2, J. Quentin Clemens, MD2, Diana Covalschi, MPH2 and Anne Pelletier-Cameron, MD2
1University of Michigan Medical School; 2Michigan Medicine, Department of Urology
Presented By: Rachel Ann Mann, BA

4:10 p.m.  #78  EFFECT OF RENAL FUNCTION ON STONE COMPOSITION AND URINARY MINERAL EXCRETION
Parth Patel, MD1, Alex M. Kandabarow, MD1, Spencer Hart, MD1, Robert H. Blackwell, MD1, Max Drescher2, Osaretin Aimuyo2, Ahmer Farooq, DO1, Kristin G. Baldea, MD1 and Thomas M.T. Turk, MD1
1Loyola University Medical Center; 2Loyola University Chicago Stritch School of Medicine
Presented By: Parth Patel

4:14 p.m.  #79  HOW DOES A CT-BASED SOFTWARE TOOL COMPARE TO THE ELLIPSOID FORMULA IN ESTIMATING STONE VOLUME?
Rajat Jain, MD, Mohamed Omar, MD, Hemant Chaparala, MD, Leonard Kahn, MD, Adam Kahn, Nishant Patel, MD, Vishnu Ganesan, MD and Sri Sivalingam, MD
Cleveland Clinic Foundation
Presented By: Rajat Jain, MD

Concurrent Session 3 of 6

3:30 p.m. - 4:30 p.m.  Podium Session: Patient Safety & Quality Improvement Initiatives
Location: Trailblazers DE
Moderators: Aaron J. Milbank, MD
Woodbury, MN
David R. Paolone, MD
Madison, WI
Discussant: J. Quentin Clemens, MD
Ann Arbor, MI

3:30 p.m.  #56  BURNOUT IN UROLOGY: RESULTS FROM THE 2016 AUA CENSUS
Amanda North, MD2, Patrick McKenna, MD1, Raymond Fang, Alp Sener, Brian McNeil, Julie Franc-Guimond, William Meek, Steven Schlossberg, Chris Gonzalez and James Clemens
1UW-Madison; 2Montefiore Medical Center
Presented By: Patrick H. McKenna, MD, FAAP, FACS
3:34 p.m.  #57  PROSPECTIVE ASSESSMENT OF COMFORT OF PATIENT POSITIONING IN ROBOTIC UROLOGIC SURGERY
Kevin Ginsburg, MD1, Kelsey Pape2, Chase Heilbronn2, Michael Levin, MD1 and Michael Cher, MD1
1Wayne State University Department of Urology; 2Wayne State University School of Medicine
Presented By: Kevin B. Ginsburg, MD

3:38 p.m.  #58  DOES PROVIDER EXPERIENCE LEVEL INFLUENCE OPIATE PRESCRIBING PATTERNS AFTER UROLOGIC SURGERY?
Anna Zampini, MD, MBA, Yaw Nyame, MD, MBA, Prithvi Murthy, MD, Nicholas Tadros, MD, Sarah Vij, MD, Daniel Sun, MD, JJ Zhang, MD, Edmund S. Sabanegh, MD and Courtenay Moore, MD
Cleveland Clinic Foundation
Presented By: Anna Zampini, MD, MS

3:42 p.m.  #59  PROSPECTIVE POST-OPERATIVE SCREENING OF SERUM TROPONIN TO IDENTIFY PATIENTS AT RISK FOR CARDIOVASCULAR MORTALITY FOLLOWING MAJOR UROLOGIC SURGERY
Yaw Nyame, MD, MBA, Abhinav Khanna, MD, Benjamin Abelson, MD, Venu Menon, MD, Daniel Sessler, MD, Steven Campbell, MD, PhD, Edmund Sabanegh, MD, Eric Klein, MD, PhD and Howard Goldman, MD
Cleveland Clinic
Presented By: Abhinav Khanna, MD

3:46 p.m.  #60  RATES AND RISK FACTORS FOR OPIOID DEPENDENCE AND OVERDOSE AFTER UROLOGIC SURGERY
Arpeet Shah, Robert Blackwell, Paul Kuo and Gopal Gupta
Loyola University
Presented By: Arpeet Shah

3:50 p.m.  #61  IMPLEMENTING A STATEWIDE PATIENT REPORTED OUTCOMES PROGRAM IN MICHIGAN
Tae Kim, MS4, M. Hugh Solomon, MD2, Michael Cher, MD3, Steven Lucas, MD2, Jaya Telang, BS4, Ji Qi, MS4, Naveen Kachroo, MD5, Khurshid Ghani, MD4, James Monite, MD4, David Miller, MD, MPH4 and James Peabody, MD1
1Henry Ford Hospital; 2IHA-Urology; 3Wayne State University, Karmanos Cancer Center; 4University of Michigan; 5Henry Ford Hospital--Vattikuti Urology Institute
Presented By: James O. Peabody, MD

3:54 p.m.  #62  A RANDOMIZED TRIAL ASSESSING THE EFFECT OF MUSIC ON ANXIETY AND PAIN DURING TRANSRECTAL PROSTATE BIOPSIES
Vignesh Packiam, MD, Charles Nottingham, MD, Andrew Cohen, MD, Scott Eggener, MD and Glenn Gerber, MD
University of Chicago Medicine
Presented By: Vignesh Packiam, MD
A RESIDENT-LED, MULTIDISCIPLINARY APPROACH TO INCREASING DISCHARGE EFFICIENCY FOR UROLOGY INPATIENTS AT A LARGE, TERTIARY, ACADEMIC MEDICAL CENTER
Andrew Sun, MD, Anna Zampini, MD, MBA, Hans Arora, MD, PhD, Paurush Babbar, MD, Nitin Yerram, MD, Michelle Ponziano, MSN, RN, Howard Goldman, MD and Venkatesh Krishnamurthi, MD
Glickman Urological and Kidney Institute, Cleveland Clinic
Presented By: Andrew Y. Sun, MD

INDIVIDUALIZED 3D-LASER PRINTED CALYCEAL MODELS AS SURGICAL PREPARATION FOR TRAINEES
Julia Fiuk, MD and Brad Schwartz, DO
SIU School of Medicine
Presented By: Julia Fiuk, MD

PERSONALIZED COACHING CAN PROVIDE SUSTAINED IMPROVEMENTS IN PATIENT EXPERIENCE AND LIKELIHOOD TO RECOMMEND SCORES IN AN ACADEMIC UROLOGY CLINIC
Kalen Rimar, MD, Richard S Matulewicz, MD, Alysen L Demzik, BS, Kent T Perry, MD and Edward M Schaeffer, MD, PhD
Northwestern University Feinberg School of Medicine
Presented By: Alysen Demzik, BS

MISINTERPRETATION OF ONLINE SURGICAL SCORECARD MAY HARM PATIENTS BY INCREASING WILLINGNESS TO PAY OUT-OF-POCKET EXPENSES FOR A VANISHINGLY LOW CHANCE OF LOWERING POSTOPERATIVE COMPLICATION RISK
Jacob Albersheim-Carter, BA, Brett Watson, BS, Lucas Labine, BS, Badrinath Konety, MD, MBA and Christopher Weight, MD, MS
University of Minnesota Medical School
Presented By: Jacob Ari Albersheim-Carter

HOW VARIATION IN PATIENT EXPERIENCE SURVEY RESULTS DRIVE LIKELIHOOD TO RECOMMEND METRICS IN ACADEMIC UROLOGY DEPARTMENT
Richard S. Matulewicz, MD, Kalen Rimar, MD, Alysen L. Demzik, BS, Kent T. Perry, MD and Edward M. Schaeffer, MD, PhD
Northwestern University Feinberg School of Medicine
Presented By: Alysen Demzik, BS
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<tr>
<th>Poster #</th>
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<th>Authors</th>
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<td>#11</td>
<td>WITHDRAWN</td>
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<td>#12</td>
<td>VARIATIONS IN SURGICAL OUTCOMES FOLLOWING RADICAL CYSTECTOMY PREDICT IMPROVED OVERALL SURVIVAL AT HIGH-VOLUME CENTERS</td>
<td>Kyle Scarberry, MD¹, Nicholas Berger, MD², Kelly Scarberry, BS³, Christopher Gonzalez, MD³, John Francis, MD³, and Robert Abouassaly, MD³ ¹University Hospitals Cleveland Medical Center; ²Medical College of Wisconsin, Division of Surgical Oncology, Milwaukee, Wisconsin; ³University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio  Presented By: Kyle Scarberry, MD</td>
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<td>#13</td>
<td>THE UTILITY OF RANDOM BLADDER AND PROSTATIC URETHRAL BIOPSIES FOR POST-INTRAVESICAL THERAPY SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER</td>
<td>Charles Paul, BS, Nathan Brooks, MD, Aditi Patel, BS, Matthew Sloan, BS and Michael O'Donnell, MD  University of Iowa  Presented By: Charles J. Paul, BS</td>
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<td>#14</td>
<td>THE ONCOLOGIC IMPACT OF COMPLETE TRANSCURAL RESECTION OF BLADDER TUMOR FOR MUSCLE INVASIVE BLADDER CANCER PRIOR TO NEOADJUVANT CHEMOTHERAPY FOLLOWED BY RADICAL CYSTECTOMY</td>
<td>Saad Hatahet, MD, Mohamed Hendawi, MD and Ahmad Shabsigh, MD, FACS  The Ohio State University  Presented By: Saad Hatahet</td>
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<td>#15</td>
<td>UTILITY OF UPPER TRACT WASHINGS AND RETROGRADE PYELOGRAMS FOR THE DETECTION OF UPPER TRACT RECURRENCES AFTER INTRAVESICAL THERAPY IN NON MUSCLE INVASIVE BLADDER CANCER</td>
<td>Aditi Patel, BS, Nathan Brooks, MD, Matthew Sloan, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD  University of Iowa Hospitals and Clinics  Presented By: Aditi Patel</td>
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Poster #16
IMPACT OF NEOADJUVANT CHEMOTHERAPY PRIOR TO RADICAL CYSTECTOMY FOR BLADDER CANCER: RETROSPECTIVE INSTITUTION EXPERIENCE
Mohamed Hendawi, Kathleen Puttmann, Saad Hatahet, MD and Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Mohamed Hendawi

Poster #17
TRENDS IN THE MANAGEMENT OF SQUAMOUS CELL CARCINOMA OF THE BLADDER IN THE UNITED STATES
Kyle Scarberry, MD¹, Robert Abouassaly, MD², Kelly Scarberry, BS², John Francis, MD², Shree Agrawal, BS² and Simon Kim, MD, MPH²
¹University Hospitals Cleveland Medical Center; ²University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio
Presented By: Kyle Scarberry, MD

Poster #18
RE-EXAMINING THE ROLE OF UROVYSION FLUORESCENCE IN-SITU HYBRIDIZATION (FISH) FOR SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER
Nathan Brooks, MD, Matthew Sloan, BS, Aditi Patel, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD
University of Iowa Hospitals and Clinics
Presented By: Nathan A. Brooks, MD

Poster #19
RESECTION OF MAJOR ARTERIAL AND VENOUS STRUCTURES DURING SURGERY FOR PELVIC MALIGNANCY
Jason Joseph, MD¹, Thomas Bower, MD² and R. Jeffrey Karnes, MD¹
¹Department of Urology, Mayo Clinic; ²Department of Vascular Surgery, Mayo Clinic
Presented By: Jason P. Joseph, MD

Poster #20
TREATMENT TRENDS AND OVERALL SURVIVAL IN MEN DIAGNOSED WITH PROSTATE CANCER PRIOR TO THEIR RECOMMENDED SCREENING AGE
John Francis, MD¹, Wenshao Zhu², Simon Kim, MD, MPH¹, Hui Zhu, MD³ and Robert Abouassaly, MD, MS¹,³
¹University Hospitals Cleveland Medical Center; ²Case Western Reserve University; ³Louis Stokes Cleveland VA Medical Center
Presented By: John Francis
Poster #21 CLINICAL CHARACTERISTICS ASSOCIATED WITH PATIENT SELECTION OF ACTIVE SURVEILLANCE IN THE TREATMENT OF LOCALIZED PROSTATE CANCER
Anna Zampini, MD, MBA1, Shree Agrawal, BS2, Joseph Zaball, MD1, Sudhir Ishawar, MD1, Bradley Gill, MD, MS1, Yaw Nyame, MD, MBA1, Michael Kattan, PhD1, Eric A. Klein, MD1 and Andrew Stephenson, MD1
1Cleveland Clinic Foundation; 2Case University School of Medicine
Presented By: Anna Zampini, MD, MS

Poster #22 CURRENT TRENDS IN PROSTATE CANCER PATHOLOGY IN A SURGICAL SERIES OF A LARGE UROLOGY GROUP PRACTICE
Alice Y. Wang, BS1, Jason Huang, BS1, Harpreet Wadhwa, MD2, Tony Nimch, MD2, Justin J. Cohen, MD3, Dimitri Papagianopoulos, MD4, Kalyan Latchamsetty, MD5 and Paul Yonover, MD FACS5
1University of Illinois at Chicago; 2University of Illinois at Chicago, Department of Urology; 3UroPartners, LLC; 4Rush University, Department of Urology; 5UroPartners, LLC, University of Illinois Department of Urology, Rush University Medical Center Department of Urology
Presented By: Alice Yinghui Wang, BS

Concurrent Session 5 of 6
4:30 p.m. - 5:30 p.m. Poster Session: Outcomes Research, Health Policy and Patient Safety
Location: Powell
Moderator: Dennis A. Pessis, MD
Chicago, IL

Poster #1 HEALTHCARE PROVIDER EXPERIENCES IN TRANSITIONING SPINA BIFIDA PATIENTS FROM PEDIATRIC TO ADULT CARE
Shree Agrawal, BS1, Kimberly Slocombe, CNP2, Tracey Wilson, MD3, Stephanie Kielb, MD4 and Hadley Wood, MD2
1Case Western Reserve University School of Medicine; 2Cleveland Clinic; 3University of Alabama at Birmingham; 4Northwestern University
Presented By: Shree Agrawal, BS

Poster #2 IMPLICATIONS OF POSTOPERATIVE ASPIRATION FOLLOWING MAJOR UROLOGIC SURGERY
Eric Kirshenbaum, MD, Robert Blackwell, MD, Parth Patel, MD, Marc Nelson, MD, Anai Kothari, MD, Arpeet Shah, MD, Robert Flanigan, MD and Gopal Gupta, MD
Loyola University
Presented By: Eric Kirshenbaum, MD
Poster #3  PREDICTORS OF COMPLIANCE WITH STANDARD POST-OPERATIVE FOLLOW-UP PROTOCOLS AFTER ANTERIOR URETHROPLASTY: FINDINGS FROM A PROSPECTIVE OUTCOMES STUDY
Michael Maidaa, BS, Denise Juhr, James Mason, MD, Christopher Tam and Bradley Erickson, MD
University of Iowa, Carver College of Medicine
Presented By: Michael Maidaa, BS

Poster #4  THE REPORTING QUALITY OF DIAGNOSTIC ACCURACY STUDIES IN THE UROLOGIC LITERATURE
Daniel Smith, MD¹, Shreyas Gandhi, BHSc² and Philipp Dahm, MD¹
¹University of Minnesota; ²McMaster University School of Medicine
Presented By: Daniel W. Smith, MD

Poster #5  WHAT HAPPENS TO PATIENTS AFTER FORMALIN INSTILLATION FOR REFRACTORY HEMATURIA?
Matthew D. Grimes, MD, Brady L. Miller, MD, MPH, Tyler Whittmann, BS, Sarah E. McAcchran, MD, David F. Jarrard, MD, Wade A. Bushman, MD, PhD, Daniel H. Williams, MD, Tracy M. Downs, MD, Kyle A. Richards, MD, Sara L. Best, MD and E. Jason Abel, MD
Univ. of Wisconsin Dept. of Urology
Presented By: Matthew D. Grimes, MD

Poster #6  A REPEATABLE MODEL FOR OBTAINING PATIENT PHYSICAL ACTIVITY MONITOR DATA
Deepak Agarwal, MD¹, Boyd Viers, MD¹, Marcelino Rivera, MD¹, Diedre Nienow, RN¹, April Bursiek, MSN², Amanda Delano, RN², Igor Frank, MD¹, Matthew Tollefson, MD¹ and Matthew Gettman, MD¹
¹Department of Urology, Mayo Clinic; ²Department of Nursing, Mayo Clinic
Presented By: Deepak K. Agarwal, MD

Poster #7  THE FEASIBILITY OF A TWO DAY LENGTH OF STAY IN KIDNEY TRANSPLANTATION
Daniel Murtagh Jr, MD¹, Eric Silverman, MS ³², Kevin Frank, MS ³², Matthew Jordan, Pharm³, Jingling Wu, Summer Intern³, Allison Zimmerman, MS ³², Michael Rees, MD, PhD⁴ and Jorge Ortiz, MD⁵
¹University of Toledo Medical Center; ²The University of Toledo Health Science Campus; ³The University of Toledo Health Science Campus College of Pharmacy; ⁴The University of Toledo Health Science Campus - Departments of Urology and Pathology; ⁵The University of Toledo Health Science Campus - Department of General Surgery
Presented By: Daniel S. Murtagh Jr., MD
Poster #8  NEUROMODULATION FOR CHRONIC UROGENITAL PAIN: A COMPARISON OF PUDENDAL AND SACRAL NERVE STIMULATION
Austin Fan, BA¹, Kim Killinger, RN, MSN², Judith Boura, MS² and Kenneth Peters, MD²
¹Oakland University William Beaumont School of Medicine; ²Oakland University William Beaumont School of Medicine, Beaumont Health
Presented By: Austin Fan, BA

Poster #9  PHYSICAL ACTIVITY MONITORS CAN BE SUCCESSFULLY IMPLEMENTED IN PERIOPERATIVE CARE OF UROLOGY PATIENTS
Deepak Agarwal, MD¹, Boyd Viers, MD¹, Marcelino Rivera, MD¹, Diedre Nienow, RN¹, April Bursiek, MSN², Amanda DeLano, RN², Igor Frank, MD¹, Matthew Tollefson, MD¹ and Matthew Gettman, MD¹
¹Department of Urology, Mayo Clinic; ²Department of Nursing, Mayo Clinic
Presented By: Deepak K. Agarwal, MD

Poster #10  LOST REVENUE OPPORTUNITIES FOR RESIDENT ACTIVITY
Patrick Irwin, MD, Sarah Perz, MD and Khaled Shahrou, MD
University of Toledo Medical Center
Presented By: Patrick M. Irwin, MD

Concurrent Session 6 of 6
4:30 p.m. - 5:30 p.m.  Poster Session: Adrenal/Kidney/Ureter - Malignant and Benign
Location: Cushing
Moderators: Courtney M. Hollowell, MD
Chicago, IL
Thomas A. Gardner, MD, MBA
Indianapolis, IN

Poster #23  ROBOTIC PARTIAL NEPHRECTOMY FOR RENAL CONGENITAL ANOMALIES IN ADULTS: TIPS, TRICKS, AND OUTCOMES
Michael Sourial, MD, Nathaly Francois, MD, Christopher Miller, Debra Zynger, MD and Geoffrey Box, MD The Ohio State University Wexner Medical Center
Presented By: Michael Sourial, MD

Poster #24  HISTORY OF PELVIC RADIATION IS ASSOCIATED WITH WORSE OUTCOMES FOLLOWING SURGERY FOR TRANSFUSION-DEPENDENT GROSS HEMATURIA
Brady L. Miller, MD, MPH, Matthew Grimes, MD, Tyler Wittmann, BS, Sarah McAchran, MD, David Jarrard, MD, Wade Bushman, MD, Daniel Williams, MD, Tracy Downs, MD, Sara Best, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Brady L. Miller, MD
Poster #25  ROLE OF LYMPH NODE DISSECTION IN SURVIVAL OUTCOMES FOR RENAL CELL CARCINOMA: ANALYSIS OF THE NATIONAL CANCER DATABASE
Victor Chen, BS1, Robert Abouassaly, MD2, Sarah Psutka, MD3, Stephen Williams, MD4, Sandip Prasad, MD5, Kyle Scarberry, MD2, Shree Agrawal, BS1 and Simon Kim, MD, MPH2
1Case Western Reserve University School of Medicine; 2Urology Institute, Case Western Reserve University School of Medicine, Case Comprehensive Cancer Center, University Hospitals Cleveland Medical Center; 3Division of Urologic Surgery, John H. Stroger Jr. Hospital of Cook County; 4Department of Urology, University of Texas Medical Branch; 5Department of Urology, Medical University of South Carolina Health
Presented By: Victor Chen

Poster #26  MANAGEMENT OF CONTRALATERAL RECURRENCE AFTER RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA
Amir Toussi, MD, Vidit Sharma, MD, Tanner Miest, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD Mayo Clinic
Presented By: Amir Toussi, MD

Poster #27  OUTCOMES ON ILEAL MUCOSAL CUFF MANAGEMENT DURING RADICAL NEPHROURETERECTOMY
Amir Toussi, MD, Vidit Sharma, MD, Tanner Miest, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD Mayo Clinic
Presented By: Amir Toussi, MD

Poster #28  FUNCTIONAL COMPENSATION AFTER RADICAL NEPHRECTOMY
Diego Aguilar Palacios, MD, E. Caraballo Antonio, MD, J. Wu, MD, C. Suk-Ouchai, MD, W. Dong, MD, PhD, J. Li, MD, S. Isharwal, MD and S.C. Campbell, MD, PhD CCF
Presented By: Diego Aguilar Palacios

Poster #29  SHOULD WE OBSERVE, ABLATE OR EXCISE SMALL RENAL ONCOCYTIC NEOPLASMS?
Brady L. Miller, MD, MPH, Lori Gettle, MD, Jason R. Van Roo, BS, Timothy J. Ziemlewicz, MD, Sara L. Best, MD, Shane A. Wells, MD, Megan G. Lubner, MD, J. Louis Hinshaw, MD, Fred T. Lee, MD, Stephen Y. Nakada, MD, Wei Huang, MD and E. Jason Abel, MD University of Wisconsin
Presented By: Brady L. Miller, MD
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<th>Poster #30</th>
<th>COMPARISON OF ONCOLOGIC OUTCOMES AFTER OPEN VERSUS ROBOTIC-ASSISTED RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA</th>
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|            | Tariq Khemees and Ahmad Shabsigh, MD; FACS The Ohio State University  
Presented By: Tariq A. Khemees, MD |

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<th>Poster #31</th>
<th>ROBOT-ASSISTED URETERECTOMY AND URETERAL REIMPLANT FOR MANAGEMENT OF DISTAL URETERAL MALIGNANCIES: A SINGLE INSTITUTION SERIES WITH COMPARATIVE OUTCOMES</th>
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|            | Timothy Boswell, MD, Igor Frank, MD, Matthew Gettman, MD, George Chow, MD and Matthew Tollefson, MD  
Mayo Clinic Department of Urology  
Presented By: Timothy Charles Boswell, MD |

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<th>Poster #32</th>
<th>THE EFFECT OF PARTIAL NEPHRECTOMY ON BLOOD PRESSURE IN PATIENTS WITH SOLITARY KIDNEYS</th>
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</thead>
</table>
|            | Nikhil Gupta, BS¹, Vishnu Ganesan, BS¹, Tian-ming Gao, PhD², Joseph Zabell, MD³, Stephen Campbell, MD PhD³ and Georges-Pascal Haber, MD PhD³  
¹Cleveland Clinic Lerner College of Medicine, Cleveland Clinic Foundation; ²Department of Quantitative Health Sciences, Cleveland Clinic Foundation; ³Glickman Urological and Kidney Institute, Cleveland Clinic Foundation  
Presented By: Nikhil Gupta, BS |

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<th>Poster #33</th>
<th>OUTCOMES ARE SIMILAR FOLLOWING SURGERY OR PERCUTANEOUS THERMAL ABLATION FOR SMALL SPORADIC RENAL CELL CARCINOMA</th>
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|            | Matthew D. Grimes, MD¹, Kristin E. Zorn, BS¹, Tyler Whittmann, BS¹, Sara L. Best, MD¹, J. Louis Hinshaw, MD², Fred T. Lee, MD², Meghan G. Lubner, MD², Timothy J. Ziemlewicz, MD², Shane A. Wells, MD², Stephen Y. Nakada, MD¹ and E. Jason Abel, MD¹  
¹Univ. of Wisconsin Dept. of Urology; ²Univ. of Wisconsin Dept. of Radiology  
Presented By: Matthew D. Grimes, MD |

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<th>Poster #34</th>
<th>BENIGN MÜLLERIAN INCLUSIONS IN LYMPHADENECTOMIES FOR RENAL CELL CARCINOMA: A RADIOLOGIC AND PATHOLOGIC MIMIC OF METASTASES</th>
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</table>
|            | Christopher Dall, BS¹, David Sharp, MD¹ and Debra Zynger, MD²  
¹Department of Urology, The Ohio State University Wexner Medical Center; ²Department of Pathology, The Ohio State University Wexner Medical Center  
Presented By: Christopher Patrick Dall, BS |

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**Concurrent Sessions End**
WEDNESDAY, NOVEMBER 15, 2017

OVERVIEW
7:00 a.m. - 1:30 p.m.  Registration/Information Desk Hours
Location: Kierland Ballroom Foyer

7:00 a.m. - 1:30 p.m.  Speaker Ready Room Hours
Location: Lowell

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite Hours
Location: Parke/Terrace

7:30 a.m. - 12:00 p.m.  Exhibit Hall Hours
Location: Kierland Ballroom 3/4

12:45 p.m. - 5:30 p.m.  NCS Golf Outing
Location: Westin Kierland Golf Club

6:00 p.m. - 7:00 p.m.  Young Urologists Mixer
Location: Brittlebush Clubhouse

7:00 p.m. - 10:00 p.m.  President's Reception/ "Tribal Beat" Theme Night
Location: Marshall's Pavilion

GENERAL SESSION

7:00 a.m. - 8:00 a.m.  Industry Satellite Symposium Breakfast
Location: Kierland Ballroom 1B

8:00 a.m. - 8:30 a.m.  State-of-the-Art Lecture: Novel Targets in Metastatic Castration Resistant Prostate Cancer
Guest Speaker: Elisabeth Heath, MD
Detroit, MI

8:30 a.m. - 9:30 a.m.  Panel Discussion: Uro-Oncology
Moderator: Mitchell H. Sokoloff, MD
Worcester, MA
Panelists: Elisabeth Heath, MD
Detroit, MI
Eric A. Klein, MD
Cleveland, OH
Brian R. Lane, MD, PhD, FACS
Grand Rapids, MI

Concurrent Sessions Begin

Concurrent Session 1 of 4

9:30 a.m. - 10:30 a.m.  Podium Session: Prostate Malignant II
Location: Trailblazers C
Moderators: Ahmad Shabsigh, MD, FACS
Columbus, OH
Srinivas Vourganti, MD
Chicago, IL
Discussant: Edward M. Schaeffer, MD, PhD
Chicago, IL
9:30 a.m. #92 DEVELOPMENT OF A LOW COST, REPRODUCIBLE PROSTATE PHANTOM SIMULATOR FOR TRANSRECTAL ULTRASOUND-GUIDED IMAGING PROCEDURES
Paul Guidos and Chad Tracy, MD
University of Iowa Hospitals and Clinics
Presented By: Paul J. Guidos III

9:34 a.m. #93 ANTERIOR PROSTATE LESIONS AND CANCER DETECTED BY MRI IN AFRICAN AMERICAN MEN
Michelle Van Kuiken, MD, Bryan Bisanz, Neelam Balasubramanian, Ahmer Farooq, DO, Alex Gorbonos, MD, Thomas Turk, MD, Marcus Quek, MD, Robert Flanigan, MD and Gopal N. Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken, MD

9:38 a.m. #94 TRENDS IN PATIENTS UNDERGOING RADICAL PROSTATECTOMY IN THE ACTIVE SURVEILLANCE ERA: RESULTS FROM A TERTIARY CARE CENTER
Victor Chen, BS¹, Pascal Mouracade, MD², Onder Kara, MD², Jaya Chavali, MD², Jihad Kaouk, MD², Georges-Pascal Haber, MD² and Robert Stein, MD²
¹Case Western Reserve University School of Medicine; ²Glickman Urological and Kidney Institute, Cleveland Clinic
Presented By: Victor Chen

9:42 a.m. #95 USE OF MPMRI PSA DENSITY AND PIRADS SCORE PREDICTS BIOPSY OUTCOME IN BIOPSY NAIVE PATIENTS
Michelle Van Kuiken, MD, Robert Blackwell, MD, Spencer Hart, MD, Bryan Bisanz, MD, Joseph Yacoub, MD, Ari Goldberg, MD, Steven Shea, MD, Thomas Turk, MD, Ahmer Farooq, DO, Marcus Quek, MD and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Spencer Hart, MD

9:46 a.m. #96 IMPACT OF OBESITY ON PROSTATE CANCER RECURRENCE AFTER RADICAL PROSTATECTOMY
Vidit Sharma, MD¹, Mary Beth Westerman, MD², Michelle Colicchia, Alessandro Morlacco², Matthew K Tollefson, MD², Stephen A Boorjian, MD², R. Houston Thompson, MD², Igor Frank, MD², Matthew T Gettman, MD² and R. Jeffrey Karnes, MD²
¹Mayo Clinic; ²Department of Urology, Mayo Clinic, Rochester, MN
Presented By: Vidit Sharma, MD

9:50 a.m. #97 BILATERAL PROSTATE CANCER ON PROSTATE BIOPSY PREDICTS ACTIVE SURVEILLANCE FAILURE: IMPROVED DETECTION NOT PROGRESSION
Jonathan Wang, MD, Pablo Sierra, MD, Kyle Richards, MD, Jason Abel, MD, Tracy Downs, MD and David Jarrard, MD
University of Wisconsin
Presented By: Jonathan H. Wang, MD
9:54 a.m.  #98  PROPENSITY SCORE ANALYSIS OF PATHOLOGICAL OUTCOME AT RADICAL PROSTATECTOMY FOR MAGNETIC RESONANCE IMAGING-TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY VERSUS UNTARGETED EXTENDED TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY  
Hans Arora, MD, PhD¹, Ahmed Elshafei, MD¹, Yaw Nyame, MD, MBA¹, Daniel Sun, MD¹, Helen Liang², Nitin Yerram, MD¹, Daniel Greene, MD¹, Dominic Grimberg², Karishma Gupta², Shree Agrawal², Sudhir Isharwal, MD¹, Paurush Babbar, MD¹, Andrew Sun, MD¹, Khaled Fareed, MD¹, Michael Gong, MD, PhD¹, Ryan Berglund, MD¹, Eric Klein, MD¹, Andrew Stephenson, MD, MBA¹, Andrei Purysko, MD¹ and J. Stephen Jones, MD¹  
¹Cleveland Clinic; ²Case Western Reserve University  
Presented By: Hans C. Arora, MD, PhD

9:58 a.m.  #99  MULTIPARAMETRIC MRI INDEPENDENTLY PREDICTS SALVAGE RADIOThERAPY OUTCOMES AFTER RADICAL PROSTATECTOMY  
Vidit Sharma, MD¹, Avinash Nehra, MD², Michele Colicchia², Mary E Westerman, MD², Adam T Froemming, MD³, Lance A Mynderse, MD² and R. Jeffrey Karnes, MD²  
¹Mayo Clinic; ²Department of Urology, Mayo Clinic, Rochester, MN; ³Department of Radiology, Mayo Clinic, Rochester, MN  
Presented By: Vidit Sharma, MD

10:02 a.m.  #100  WITHDRAWN

10:06 a.m.  #101  IS PSA DENSITY STILL RELEVANT? INCIDENCE AND PREDICTIVE FACTORS OF PROSTATE CANCER UPGRADING  
Kelsey Gallo, BS, Alexander Chow, MD, Maxime Montour, BS, Dimitri Papagiannopoulos, MD, Christopher Coogan, MD and Kalyan Latchamsetty, MD  
Rush University Medical Center  
Presented By: Kelsey Gallo, BS

10:10 a.m.  #102  POTENTIAL ROLE OF A NOVEL BIOMARKER-BASED RISK SCORE TO SELECT PATIENTS FOR MULTIPARAMETRIC MRI FOR PROSTATE CANCER DETECTION  
Rianne Hendricks², Leander Van Neste, PhD³, Marloes Mulder², Inge Van Oort², Todd Morgan, MD¹ and Jack Schalken, PhD²  
¹University of Michigan; ²Radboud University, Nijmegen, The Netherlands; ³Maastricht, The Netherlands  
Presented By: Todd Matthew Morgan, MD

10:14 a.m.  #103  UROLIFT BENEFITS IN THE URINARY RETENTION PATIENT POST BRACHYTHERAPY FOR PROSTATE CANCER: INITIAL RESULTS  
James Ulchaker, MD, FACS  
Cleveland Clinic Foundation  
Presented By: James C. Ulchaker, MD, FACS
9:30 a.m. - 10:30 a.m.  Podium Session: Endourology/Stone Disease II
Location: Trailblazers DE
Moderators: Casey A. Dauw, MD
Ann Arbor, MI
Jay B. Hollander, MD
Royal Oak, MI
Discussant: Thomas M. Turk, MD
Maywood, IL

9:30 a.m.  #104 VARIATION IN EMERGENCY DEPARTMENT DISPOSITION OF PATIENTS WITH HYDRONEPHROSIS TREATED AT TWO COMMUNITY HOSPITALS SERVICED BY A SINGLE UROLOGY GROUP: A TARGET FOR QUALITY IMPROVEMENT
Kimberly Sloan Stakleff, PhD¹, Gaurav Pahouja, MD² and Raymond Bologna, MD, MBA¹
¹Cleveland Clinic Akron General; ²Northeast Ohio Medical University
Presented By: Gaurav Pahouja, MD

9:34 a.m.  #105 INTRAOPERATIVE IMAGING PATTERNS IN PREGNANT PATIENTS WITH SYMPTOMATIC NEPHROLITHIASIS
Emily Yura, MD¹, Nabeel Hamoui, MD, MBA¹, Nirali Shahd, BA¹, Beverly Onyekwuluje, BA¹, Kaitlyn Sacotte, BA¹, Mary Kate Fitzgerald, MPH¹, Granville Lloyd, MD² and Stephanie Kielb, MD¹
¹Northwestern University Feinberg School of Medicine; ²University of Colorado School of Medicine
Presented By: Emily Yura, MD

9:38 a.m.  #106 PREDICTORS OF FAILURE IN UNSTENTED PRIMARY URETEROSCOPY FOR NEPHROLITHIASIS
Patrick Whelan, MD¹, Andrew Mazzone², Corey Koschke² and Christopher Coogan, MD, FACS³
¹Rush University Medical Center; ²Rush Medical College
Presented By: Patrick Whelan, MD

9:42 a.m.  #107 PERIOPERATIVE MANAGEMENT OF LOW-DOSE ASPIRIN IN SURGICAL KIDNEY STONE MANAGEMENT: A SURVEY OF CURRENT ENDOUROLOGIC PRACTICE PATTERNS.
Joshua Ebel, MD¹, Brian Eisner, MD², Michael Lipkin, MD³, Ben Chew, MD⁴ and Bodo Knudsen, MD¹ and Michael Sourial, MD¹
¹The Ohio State University; ²Massachusetts General Hospital; ³Duke University; ⁴Vancouver General Hospital
Presented By: Michael Sourial, MD
9:46 a.m. #108 PILOT STUDY TO DETERMINE OPTIMAL STENT DURATION FOLLOWING URETEROSCOPY: 3 VS 7 DAYS
Charles Paul, BS, Nathan Brooks, MD, George Ghareeb, MD and Chad Tracy, MD
University of Iowa
Presented By: Charles J. Paul, BS

9:50 a.m. #109 MEDICAL DISSOLUTION THERAPY FOR THE TREATMENT OF URIC ACID NEPHROLITHIASIS
Chad Gridley, MD, Michael Sourial, MD and Bodo Knudsen, MD
The Ohio State University
Presented By: Chad Gridley, MD

9:54 a.m. #110 UPPER TRACT IMAGING AFTER URETEROSCOPY: RISK FACTORS FOR HYDRONEPHROSIS
John Cooper, MD, Nathaly Francois, MD, Michael Sourial, MD, Hiroko Miyagi, BS, Geoffrey Box, MD and Bodo Knudsen, MD
Ohio State Wexner Medical Center
Presented By: John Cooper

9:58 a.m. #111 TREATMENT OF NON-OBSTRUCTIVE UROLITHIASIS IS EFFECTIVE IN TREATING RECURRENT URINARY TRACT INFECTIONS
Deepak Agarwal, MD¹, Francisco Maldonado¹, Mary Beth Westerman, MD¹, Amy Krambeck, MD² and John Knoedler, MD¹
¹Department of Urology, Mayo Clinic ; ²Department of Urology, Indiana University
Presented By: Deepak K. Agarwal, MD

10:02 a.m. #112 DOES PREOPERATIVE KNOWLEDGE OF URETERAL DUPLICATION IMPACT SURGICAL OUTCOMES FOR UROLITHIASIS?
Nathan Chertack, BS¹, Rajat Jain, MD², Manoj Monga, MD² and Sri Sivalingam, MD²
¹Case Western Reserve University School of Medicine; ²Glickman Urological and Kidney Institute, Cleveland Clinic Foundation, Cleveland, OH
Presented By: Nathan Chertack, BS

10:06 a.m. #113 RENAL COLIC IN PREGNANCY - FROM PRENATAL TO POSTPARTUM MANAGEMENT
Wen Min Chen, BS¹ and Sri Sivalingam, MD²
¹Case Western Reserve University School of Medicine; ²Cleveland Clinic
Presented By: Wen Min Chen

10:10 a.m. #114 HOLMIUM LASER VERSUS PNEUMATIC LITHOTRIPSY FOR BLADDER CALCULI: WHICH IS FASTER?
Marcus Lacey, BS, Patrick Budny, BS, Michael Avallone, MD, Carley Davis, MD and Andrew Radtke, MD
Medical College of Wisconsin
Presented By: Andrew Radtke, MD
10:14 a.m.  #115  HOSPITAL VARIATION IN THE RATE OF EMERGENCY DEPARTMENT VISITS AFTER AMBULATORY STONE SURGERY
Casey Dauw, MD¹, John Hollingsworth, MD, MS¹, Hechuan Hou, MS¹, Jim Dupree, MD¹, Brian Seifman, MD², Adam Kadlec, MD³, Dave Leavitt, MD⁴, William Roberts, MD¹, Anita Teckchandani, MD⁵ and Khurshid Ghani, MD¹
¹University of Michigan; ²Michigan Institute of Urology; ³Western Michigan Urologic Associates; ⁴Henry Ford Health System; ⁵Mid Michigan Health
Presented By: Casey A. Dauw, MD

Concurrent Session 3 of 4

9:30 a.m. - 10:00 a.m.  State-of-the-Art Lecture: The Preoperative Surgical Home: Improving the Operating Room for Patients and Surgeons
Location: Kierland Ballroom 2
Guest Speaker: Mitchell H. Sokoloff, MD
Worcester, MA

Concurrent Session 4 of 4

10:00 a.m. - 10:30 a.m.  Podium Session: Adrenal/Kidney/Ureter/Bladder - Benign
Location: Kierland Ballroom 2
Moderator: Mark D. Dabagia, MD, FACS
Fort Wayne, IN
Discussant: Frank P. Begun, MD
Columbus, OH

10:00 a.m.  #116  CREATING AND EVALUATING AN ULTRASOUND TRAINING CURRICULUM FOR UROLOGY RESIDENTS
Joseph Wan, MD, Geoffrey Box, MD and David Bahner, MD
The Ohio State University
Presented By: Joseph Wan, MD

10:04 a.m.  #117  EFFICACY OF METHENAMINE HIPPURATE IN REDUCING THE FREQUENCY OF RECURRENT URINARY TRACT INFECTIONS
Asha Jamzadeh, MD¹, Zubin Shetty, BS², Vicki Irish, CNP¹, Mireya Diaz-Insua, PhD¹ and Humphrey Atiemo, MD⁷
¹Henry Ford Hospital; ²Wayne State University School of Medicine
Presented By: Asha Jamzadeh, MD

10:08 a.m.  #118  UROLOGIC EVALUATION FOR VESICOENTERIC FISTULAE: LOW SENSITIVITY COMPARED TO CROSS-SECTIONAL IMAGING IN THE MODERN ERA
Matthew Houlihan, DO¹, Florian A. Stroie, BS¹, Daniel J. Mazur, MD², Brian J. Mcardle, DO¹, Patricia P. Vidal, MD¹, Sarah P. Psutka, MD³ and Courtney M.P. Hollowell, MD¹
¹Cook County Health & Hospitals System; ²Northwestern University - Feinberg School of Medicine
Presented By: Matthew Houlihan, DO
10:12 a.m.  #119  PULL MY HANDLE: DOES EXPERIENCE MATTER IN TENSION APPLIED DURING STONE BASKETING?
Michael Kottwitz, MD¹, Tom Tieu, MD¹, Zahra Majafi, MS², Ajay Mhajan, PhD² and Bradley Schwartz, DO¹
¹Southern Illinois University School of Medicine; ²University of Akron
Presented By: Michael Kottwitz, MD

10:16 a.m.  #120  COMPLICATIONS OF RECOGNIZED AND UNRECOGNIZED IATROGENIC URETERAL INJURY: A POPULATION-BASED ANALYSIS
Eric Kirshenbaum, MD, Robert Blackwell, MD, Arpeet Shah, MD, Paul Kuo, MD, Gopal Gupta, MD and Thomas Turk, MD Loyola University
Presented By: Eric Kirshenbaum, MD

Concurrent Sessions End

10:30 a.m. - 10:40 a.m.  AUA Update
Speaker: Robert C. Flanigan, MD, FACS
Maywood, IL

10:40 a.m. - 11:10 a.m.  Urology Leadership Panel
Moderator: James C. Ulchaker, MD, FACS
Cleveland, OH
Panelists: Robert C. Flanigan, MD, FACS
Maywood, IL
Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
Chandru P. Sundaram, MD, FACS
Indianapolis, IN

11:10 a.m. - 11:40 a.m.  Break/Visit Exhibits
Location: Kierland Ballroom 3/4

Concurrent Sessions Begin

Concurrent Session 1 of 5

11:40 a.m. - 12:30 p.m.  Young Urologists Session: Confessions of a Happy (but Once Burned Out) Surgeon! A Brutally Honest and Uncensored Conversation About How to Build That Life You Want to Live
Location: Kierland Ballroom 2
Guest Speaker: Fernando Lamounier, MD, FACS
Denver, CO
11:40 a.m. #121 ASSOCIATIONS BETWEEN PREPAREDNESS FOR PROSTATECTOMY AND SHORT-TERM PATIENT-REPORTED OUTCOMES IN MEN UNDERGOING PREOPERATIVE GROUP-EDUCATION
Abhinav Khanna, MD, Bradley Gill, MD, MS, Anna Zampini, MD, MBA, Diana Baker, RN, Kathryn Dunlap, PA, Brandon Mooney, PA, Daniel Hettel, Hadley Wood, MD and Edmund Sabanegh, MD
Cleveland Clinic
Presented By: Abhinav Khanna, MD

11:44 a.m. #122 UROLOGY RESIDENTS' EXPERIENCE AND ATTITUDE TOWARDS SURGICAL SIMULATION: PRESENTING OUR FOUR-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI-MODALITY SIMULATION MODEL
Alexander Chow, MD1, Benjamin Sherer, MD1, Emily Yura, MD2, Stephanie Kielb, MD2, Ervin Kocjancic, MD3, Scott Eggener, MD4, Thomas Turk, MD5, Sangtae Park, MD6, Sarah Psutka, MD7, Michael Abern, MD3, Kalyan Latchamsetty, MD1 and Christopher Coogan, MD1
1Rush University Medical Center; 2Northwestern University Medical Center; 3University of Illinois at Chicago; 4University of Chicago; 5Loyola University Medical Center; 6North Shore Health System; 7John H. Stroger Jr. Hospital of Cook County
Presented By: Alexander Chow, MD

11:48 a.m. #123 RACIAL VARIATION IN THE REFUSAL OF INITIAL TREATMENT PLAN AMONG MEN DIAGNOSED WITH LOCALIZED PROSTATE CANCER
Kelly Scarberry1, Kyle Scarberry, MD2, Robert Abouassaly, MD2, Christopher Gonzalez, MD2, Cary Gross, MD3, Nilay Shah, PhD4 and Simon Kim, MD, MPH5
1Case Western Reserve University School of Medicine; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio; 3Yale University, Department of Internal Medicine, New Haven, Connecticut; 4Mayo Clinic, Division of Health Care Policy and Research, Rochester, Minnesota
Presented By: Kyle Scarberry, MD
11:52 a.m. #124 INTRAOPERATIVE INTRAVENOUS MANNITOL NOT ESSENTIAL DURING PARTIAL NEPHRECTOMY
Caleb Cooper, Cheuk Fan Shum, MD, M Francesca Monn, MD, MPH and Chandru Sundaram, MD, FACS
Indiana University School of Medicine
Presented By: Caleb Alan Cooper, BS

11:56 a.m. #125 A REAL-WORLD STUDY OF PATTERNS OF BACILLUS CALMETTE-GUERIN USE AND OUTCOMES IN ELDERLY UNITED STATES (US) PATIENTS WITH NON-MUSCLE INVASIVE BLADDER CANCER
Kyle Richards, MD1, Shih-Wen Lin2, Ching-Yi Chuo2, Christina Derleth2, Marko Zivkovic3, Sarika Ogale2, Sandip Prasad2, Guarionex J. Decastro5 and Gary Steinberg6
1University of Wisconsin-Madison; 2Genentech, Inc., South San Francisco, CA; 3Genesis Research, Hoboken, NJ; 4Medical University of South Carolina, Charleston, SC; 5Columbia University Medical Center, New York, NY; 6University of Chicago Medicine, Chicago, IL
Presented By: Kyle Richards, MD

12:00 p.m. #126 EFFICACY OF PHYSICAL THERAPY IN THE TREATMENT OF FEMALE PELVIC PAIN
Jacob Henrichsen, BS1, Natalie Gaines, MD2, Jamie Bartley, DO3, Laura Nguyen, MD2, Priyanka Gupta, MD4, Kim Killinger, RN, MSN3, Robert Petrossian, BS, BA3, Jason Gilleran, MD3, Kenneth Peters, MD3 and Larry Sirls, MD3
1Oakland University William Beaumont School of Medicine; 2Beaumont Health; 3Oakland University William Beaumont School of Medicine, Beaumont Health; 4University of Michigan Department of Urology
Presented By: Jacob Lee Henrichsen, BS

12:04 p.m. #127 CONTEMPORARY REPORT OF A MULTI-INSTITUTIONAL EXPERIENCE WITH FOURNIER'S GANGRENE
Barbara E Kahn, MD2, Alexander Tatem, MD1, Daniel J Mazur, MD5, James Wren, MD1, Marah Hehemann, MD3, Anuj S Desai, MD2, Mary Kate Keeter2, Patrick Hensley, MD4, Kevin Lewis, BS2, Matthew J Mellon, MD5, Jason R Bylund, MD4, Nelson E Bennett, MD2 and Robert E Brannigan, MD2
1Indiana University; 2Northwestern University; 3Loyola University; 4University of Kentucky
Presented By: Alexander Tatem, MD

12:08 p.m. #128 RELATIONSHIP BETWEEN READMISSION RATE AND INTENSITY AFTER CYSTECTOMY
Rita Jen, MD, MPH1, Tudor Borza, MD, MS1, Mary Oerline, MS1, Ted Skolarus, MD, MPH1, Bruce Jacobs, MD, MPH2, Matthew Lee, MD1, Amy Luckenbaugh, MD1, Vahakn Shahinian, MD, MS1 and Brent Hollenbeck, MD, MS1
1University of Michigan; 2University of Pittsburgh
Presented By: Rita P. Jen, MD
12:12 p.m.  #129  INCREASED UTILIZATION OF SAME DAY DISCHARGE URETHROPLASTY FOR A NEWLY ESTABLISHED PRACTICE
Yooni Yi, Paholo Barboglio Romo, MD and Bahaa Malaeb, MD
University of Michigan
Presented By: Yooni Yi, MD

12:16 p.m.  #130  PREDICTORS OF HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH LOCALIZED PROSTATE CANCER
Sudhir Isharwal, Anna Zampini, MD, Tianming Gao, PhD, Michael Kattan, PhD and Andrew Stephenson, MD
Cleveland Clinic
Presented By: Sudhir Isharwal, MBBS

Concurrent Session 3 of 5

12:30 p.m. - 1:30 p.m.  Poster Session: Endourology/Stone Disease/Laparoscopy/Robotics
Location: Kierland Ballroom 1A
Moderators:  Gary J. Faerber, MD  
Salt Lake City, UT
Bodo E. Knudsen, MD, FRCSC  
Columbus, OH

Poster  #59  SUPRACOSTAL ACCESS TUBELESS PERCUTANEOUS NEPHROLITHOTOMY: MINIMIZING COMPLICATIONS
Michael Sourial, MD, Nathaly Francois, MD, Geoffrey Box, MD and Bodo Knudsen, MD
The Ohio State University Wexner Medical Center
Presented By: Michael Sourial, MD

Poster  #60  URETHRAL HYDRODISTENTION SIGNIFICANTLY REDUCES PAIN DURING FLEXIBLE CYSTOSCOPY
William Lin\(^1\) and Olivia Niepsuj, BS\(^2\)
\(^1\)Northwestern University Feinberg School of Medicine; \(^2\)Loyola University
Presented By: William Wei Lin, MD

Poster  #61  PREVALENCE OF CYSTINE STONE FORMERS CREATING NON-CYSTINE STONES
Marcelino Rivera, MD\(^1\), Vernon Pais, MD\(^2\), Cody Rissman, Kevin Heinsimer, MD\(^1\), James Lingeman, MD\(^1\) and Amy Krambeck, MD\(^1\)
\(^1\)Indiana University; \(^2\)Dartmouth College
Presented By: Marcelino E. Rivera, MD

Poster  #62  CURRENT USE OF MEDICAL EXPULSIVE THERAPY AMONG ENDOUROLOGISTS
Donald Fedrigon, Rajat Jain, MD and Sri Sivalingam, MD
Cleveland Clinic
Presented By: Donald Charles Fedrigon III, BS
Poster #63
ASSOCIATION OF RACE AND MARGIN STATUS AMONG PATIENTS UNDERGOING ROBOTIC PARTIAL NEPHRECTOMY FOR T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT
Victor Chen, BS1, Robert Abouassaly, MD2, Christopher Gonzalez, MD2, Alexander Kutikov, MD3, Marc Smaldone, MD3, Neal Meropol, MD4, Sarah Psutka, MD5, Stephen Williams, MD6, Rebecca O'Malley, MD7, Hillary Sedlacek, MS2 and Simon Kim, MD, MPH2
1Case Western Reserve University School of Medicine; 2Urology Institute, Case Western Reserve University School of Medicine, Case Comprehensive Cancer Center, University Hospitals Cleveland Medical Center; 3Fox Chase Cancer Center, Division of Urologic Oncology and Urology; 4Seidman Cancer Center, University Hospital Cleveland Medical Center; 5John H. Stroger Jr. Hospital of Cook County, Division of Urologic Surgery; 6University of Texas Medical Branch, Department of Urology; 7Albany VA Medical Center
Presented By: Victor Chen

Poster #64
MINIMALLY INVASIVE ADRENALECTOMY FOR PRIMARY ADRENAL MALIGNANCY – ROBOTIC APPROACH IMPROVES FEASIBILITY
Kirtishri Mishra, MD1, Matthew J. Maurice, MD2 and Robert Abouassaly, MD3,4
1University Hospitals Cleveland Medical Center; 2Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH, USA; 3Urology Institute, University Hospitals Cleveland Medical Center, Cleveland, OH, USA; 4Division of Urology, Louis Stokes Veterans Affairs Medical Center, Cleveland, OH, USA
Presented By: Kirtishri Mishra, MD

Poster #65
COMPARING LAPAROSCOPIC AND ROBOT-ASSISTED RADICAL CYSTECTOMY: VARIATION IN LYMPH NODE YIELD AND INTERMEDIATE-TERM SURVIVAL
Kyle Scarberry, MD1, Simon Kim, MD, MPH2, Jessica Yih, MD2, John Francis, MD2, Shree Agrawal, BS2, Kelly Scarberry, BS2 and Robert Abouassaly, MD2
1University Hospitals Cleveland Medical Center; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio
Presented By: Kyle Scarberry, MD

Concurrent Session 4 of 5
12:30 p.m. - 1:30 p.m. Poster Session: Penis/Urethra/Testis/Scrotum - Benign & Pediatric Urology
Location: Powell
Moderators: Kenneth W. Angermeier, MD
Cleveland, OH
Ranjiv Mathews, MD
Springfield, IL
Poster #47  NO STOMA, ONE, OR TWO? SETTING EXPECTATIONS FOR PATIENTS WITH RECTOURETHRAL FISTULA
Amanda C Chi, MD1, Shree Agrawal2, John M Lacy, MD3, Hadley M Wood, MD1 and Kenneth W Angermeier, MD1
1Cleveland Clinic Foundation; 2Case Western Reserve University School of Medicine; 3University of Tennessee
Presented By: Amanda C. Chi, MD

Poster #48  THE UTILITY OF UROFLOWMETRY PARAMETERS IN URETHROPLASTY SURVEILLANCE IS LIMITED
Yooni Yi, Paholo Barboglio Romo, MD and Bahaa Malaeb, MD
University of Michigan
Presented By: Yooni Yi, MD

Poster #49  DISTANCE TO THE HOSPITAL IS INDEPENDENTLY ASSOCIATED WITH INCREASED CANCER SPECIFIC MORTALITY AMONG UNDERINSURED MEN TREATED WITH INGUINAL LYMPH NODE DISSECTION FOR ADVANCED PENILE CARCINOMA
Ryan Powers, DO, MPH1, Florian Stroie2, Matthew Houlihan, DO3, Edward Park, DO3, Patricia Vidal, MD3, Sarah Psutka, MD3 and Courtney Hollowell, MD3
1Cook County Health and Hospitals System; 2Midwestern University; 3Cook County Health and Hospital Systems
Presented By: Ryan Powers, DO, MPH

Poster #50  TRENDS AND OUTCOMES OF IMMEDIATE RETROPERITONEAL LYMPH NODE DISSECTION FOR STAGE 1A NON-SEMINOMATOUS GERM CELL TUMORS
John Francis, MD, Robert Abouassaly, MD, MS, Christopher Gonzalez, MD, MBA, Matthew Cooney, MD, Christopher Hoimes, DO and Simon Kim, MD, MPH
University Hospitals Cleveland Medical Center
Presented By: John Francis, MD

Poster #51  MULTIDISCIPLINARY APPROACH TO MANAGEMENT OF COMPLEX SCROTAL LYPHEDEMA
Neil Patel, Julia Fiuk, MD and Ahmed El-Zawahry, MD
SIU School of Medicine
Presented By: Neil Patel, MD

Poster #52  THE USE OF COLLAGENASE CLOSTRIDIUM HISTOLYTICUM IN THE MANAGEMENT OF PEYRONIE’S DISEASE: A SINGLE CENTER EXPERIENCE
Raymond Yong, MS3, Peter Tsambarlis, MD and Laurence Levine, MD
Rush University Medical Center
Presented By: Peter Tsambarlis, MD
SYNCHRONOUS BULBAR STRICTURES ARE COMMON IN ADULT PATIENTS WHO PRESENT WITH POST-HYPOSPADIAS-REPAIR STRicture.
Min Jun, DO¹, Maha Husainat, MD¹, Esther Liu², Maxx Gallegos, MD² and Richard Santucci, MD¹
¹Detroit Medical Center; ²Michigan State University College of Osteopathic Medicine
Presented By: Min Jun, DO

SEXUAL AND VOIDING OUTCOMES IN POST-PENECTOMY PENILE CANCER PATIENTS
Edward Park, DO¹, Florian Stroie, BS², Sarah Psutka, MD, MSc¹ and Patricia Vidal, MD¹
¹CCHHS Dept of Surgery: Urology; ²Midwestern University
Presented By: Edward J. Park, DO

STONE COMPOSITION IN PEDIATRIC PATIENTS
Alison Keenan, MD
UW-Madison
Presented By: Alison Keenan, MD

MIRABEGRON IMPROVES URODYNAMIC PARAMETERS AND URINARY SYMPTOM INDICES IN PEDIATRIC PATIENTS WITH NEUROGENIC BLADDER AFTER FAILING PRIOR ANTICHOLINERGIC THERAPY
Jesse Jacobs, MD¹, Kevin Ginsburg, MD² and Kirstan Meldrum, MD³
¹Wayne State University; ²Wayne State University, Detroit, MI; ³Spectrum Health, Grand Rapids, MI
Presented By: Jesse Jacobs, MD

IMPACT OF MALIGNANCY ON HOSPITAL COURSE FOLLOWING PEDIATRIC PARTIAL NEPHRECTOMY: AN ANALYSIS OF THE NSQIP DATA SET
Kristina Suson, MD and Yegappan Lakshmanan, MD
Children's Hospital of Michigan
Presented By: Kristina Dawn Suson, MD

WITHDRAWN

Poster Session: Male and Couple Infertility/Sexual Dysfunction
Location: Cushing
Moderator: Tobias S. Kohler, MD, MPH, FACS
Rochester, MN

THE EFFECTS OF ANTI-EPILEPTIC MEDICATIONS ON MALE HORMONAL AND SEMEN ANALYSIS PARAMETERS
Michael Fenstermaker, MD, MS, Dana Ohl, MD and James Dupree, MD, MPH
University of Michigan, Department of Urology
Presented By: Michael Fenstermaker, MD
Poster #36  EVALUATING THE EFFICACY AND SAFETY OF MAGNETIC INDUCTION ACTIVATION OF SHAPE MEMORY PENILE PROSTHESIS THROUGH ANIMAL TISSUE  
Brian V. Le, MD MA¹, Kevin T. McVary, MD FACS² and Alberto Colombo, PhD²  
¹University of Wisconsin-Madison Department of Urology; ²Southern Illinois University - Division of Urology  
Presented By: Brian Van Le, MD, MA

Poster #37  HOW IMPORTANT IS PAIN? A DESCRIPTION OF THE NATURAL HISTORY OF PENILE PAIN IN MEN WITH PEYRONIE’S DISEASE  
Raevti Bole, MA, MD, Matthew Ziegelmann, MD, Ross Avant, MD, Jack Andrews, MD, Manaf Alom, MBBS and Landon Trost, MD  
Mayo Clinic  
Presented By: Raevti Bole, MD, MA

Poster #38  TREATMENT WITH XIAFLEX INJECTIONS FOR PEYRONIE’S DISEASE: PRELIMINARY ANALYSIS OF PATIENT OUTCOMES AND ADHERENCE TO A STANDARDIZED PROTOCOL  
Brian Sninsky, MD¹ and David Paolone, MD²  
¹University of Wisconsin; ²University of Wisconsin Urology  
Presented By: Brian C. Sninsky, MD

Poster #39  INITIAL DEGREE OF PENILE CURVATURE PREDICTS ABSOLUTE BUT NOT RELATIVE CURVATURE IMPROVEMENT WITH COLLAGENASE CLOSTRIDIUM HISTOLYTICUM FOR PEYRONIE’S DISEASE  
Ross Avant, MD, Matthew Ziegelmann, MD, Brian Montgomery, MD, Francisco Maldonado, Joshua Savage, PA-C and Landon Trost, MD  
Mayo Clinic  
Presented By: Ross A. Avant, MD

Poster #40  INTERCOURSE FREQUENCY: DOES AGE MATTER?  
Mary E. Westerman, MD¹, Francisco Maldonado, BS², Matthew J. Ziegelmann, MD¹, Brian D. Montgomery, MD¹, Vidit Sharma, MD¹, Jack R. Andrews, MD¹ and Landon Trost, MD¹  
¹Mayo Clinic Department of Urology; ²Mayo Medical School  
Presented By: Mary Elizabeth Westerman, MD

Poster #41  DO PREOPERATIVE HORMONE LEVELS PREDICT IMPROVEMENT IN SEMEN PARAMETERS FOLLOWING VARICOCELE LIGATION?  
Dane Johnson, MD, Keegan Zuk, MD and Jay Sandlow, MD  
Medical College of Wisconsin  
Presented By: Keegan Zuk, MD
Poster #42  NOCTURNAL ERECTIONS ARE AN ACCURATE PREDICTOR OF OVERALL ERECTILE FUNCTION, LIBIDO AND TESTOSTERONE LEVELS
Jack Andrews, MD, Matthew Ziegelmann, MD, Manaf Alom, MBBS, Raevti Bole, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Department of Urology
Presented By: Jack Andrews, MD

Poster #43  DO PATIENTS WHO REPORT PREMATURE EJACULATION ACTUALLY EJACULATE QUICKER?
Jack Andrews, MD, Matthew Ziegelmann, MD, Manaf Alom, MBBS, Raevti Bole, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Department of Urology
Presented By: Jack Andrews, MD

Poster #44  AN INITIAL DESCRIPTION OF ADULT MEN WITH PROGRESSION OF CHORDEE TO A FIBROTIC DISORDER OF THE TUNICA ALBUGINEA
M. Ryan Farrell, MD, MPH and Laurence A. Levine, MD
Rush University Medical Center
Presented By: M. Ryan Farrell, MD, MPH

Poster #45  A COMPARATIVE ANALYSIS OF PEYRONIE'S DISEASE IN MEN WITH AND WITHOUT DIABETES
Medairos Robert², Patrick Whelan, MD¹, Gallo Kelsey² and Levine Laurence, MD, FACS¹
¹Rush University Medical Center; ²Rush Medical College
Presented By: Patrick Whelan, MD

Poster #46  WITHDRAWN

Concurrent Sessions End

1:30 p.m. - 2:30 p.m.  Industry Satellite Symposium Luncheon
Location: Kierland Ballroom 1B

6:00 p.m. - 7:00 p.m.  Young Urologists Mixer
Location: Brittlebush Clubhouse

7:00 p.m. - 10:00 p.m.  President's Reception/ "Tribal Beat" Theme Night
Location: Marshall's Pavilion
THURSDAY, NOVEMBER 16, 2017

OVERVIEW

6:00 a.m. - 3:45 p.m.  Registration/Information Desk Hours  
*Location: Kierland Ballroom Foyer*

6:00 a.m. - 3:45 p.m.  Speaker Ready Room Hours  
*Location: Lowell*

6:30 a.m. - 8:00 a.m.  Breakfast  
*Location: Kierland Ballroom Foyer*

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite Hours  
*Location: Parke/Terrace*

12:05 p.m. - 12:40 p.m.  Annual Business Meeting  
*Location: Kierland Ballroom 2*

6:00 p.m. - 7:30 p.m.  Annual Reception  
*Location: Vista Morado*

Concurrent Sessions Begin

Concurrent Session 1 of 2

6:30 a.m. - 7:55 a.m.  Video Session  
*Location: Trailblazers DE*

Moderators:  
Ronald S. Boris, MD  
_Indianapolis, IN_  
Ahmad Shabsigh, MD, FACS  
_Columbus, OH_

Video #1  
**ROBOTIC DISMEMBERED PYELOPLASTY OF TYPE 1 RETROCAVAL URETER**  
Abhinav Khanna, MD¹, Chad Reichard, MD², Ryan Nelson, DO² and Georges Pascal Haber, MD PhD²  
¹Cleveland Clinic; ²Glickman Urologic and Kidney Institute at Cleveland Clinic  
Presented By: Abhinav Khanna, MD

Video #2  
**EXTRAVESICAL ROBOTIC URETERAL REIMPLANTATION FOR URETEROVAGINAL FISTULA**  
Brian Linder, MD, John Occhino, MD, MS and Igor Frank, MD  
Mayo Clinic  
Presented By: Brian J. Linder, MD

Video #3  
**ROBOTIC ASSISTED LAPAROSCOPIC TRANSVESICAL REPAIR OF RECTOVALESICAL FISTULA FOLLOWING OPEN RADICAL PROSTATECTOMY: USE OF ALLOGRAFT HUMAN DERMIS INTERPOSITION**  
Edward Capoccia, MD and Leslie Deane, MB, BS, MS, FRCSC, FACS  
Rush University Medical Center  
Presented By: Edward Capoccia, MD

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Video #4  TRANSURETHRAL RESECTION OF BLADDER TUMOR USING AN ENDOSCOPIC SNARE (TURBTS)- A SAFE AND FEASIBLE PROCEDURE
Wei Phin Tan, MD, Robert Medairos, BS, Christopher Coogan, MD and Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Wei Phin Tan, MD

Video #5  ROBOTIC-ASSISTED LAPAROSCOPIC NEPHRECTOMY OF AN AUTO-TRANSPLANT KIDNEY FOR RECURRENT RENAL CELL CARCINOMA
Belinda Li, MD, Parth Patel, MD and Alex Gorbonos, MD
Loyola University Medical Center
Presented By: Belinda Li, MD

Video #6  ROBOTIC ASSISTED LAPAROSCOPIC RADICAL CYSTOPROSTATECTOMY WITH STENTLESS INTRACORPOREAL MODIFIED VES.PA NEOBLADDER
Patrick Whelan, MD, Wei Phin Tan, MD, Philip Omotosho, MD, FACS and Leslie Deane, MBBS, FRCSC FACS
Rush University Medical Center
Presented By: Patrick Whelan, MD

Video #7  ROBOT-ASSISTED LEFT PYELOPLASTY IN A PEDIATRIC PATIENT WITH GASTROSTOMY TUBE AND SEVERE SCOLIOSIS
Jason Joseph, MD, Candace Granberg, MD and Patricio Gargollo, MD
Department of Urology, Mayo Clinic
Presented By: Jason P. Joseph, MD

Video #8  LEFT ROBOTIC URETEROURETEROSTOMY USING HIDES (HIDDEN INCISION ENDOSCOPIC SURGERY) TECHNIQUE
Raevti Bole, MA, MD, Derek Gearman, MD, Candace Granberg, MD and Patricio Gargollo, MD
Mayo Clinic
Presented By: Raevti Bole, MD, MA

Video #9  ARTIFICIAL URINARY SPHINCTER PLACEMENT VIA A “MINIMAL CONTACT” TECHNIQUE
David Y Yang, MD, Brian J Linder, MD and Daniel S Elliott, MD
Mayo Clinic, Department of Urology
Presented By: David Y. Yang, MD

Concurrent Session 2 of 2

6:30 a.m. - 7:30 a.m.  Panel Discussion: Infertility
Location: Kierland Ballroom 2
Moderator: Edmund S. Sabanegh Jr., MD, MBA
Cleveland, OH
Panelists: Douglas M. Dewire, MD
Waukesha, WI
Amarnath Rambhatla, MD
Detroit, MI

Concurrent Sessions End
7:55 a.m. - 8:00 a.m.  Announcements
Local Arrangements Chair: Norm D. Smith, MD
Chicago, IL

8:00 a.m. - 8:30 a.m.  State-of-the-Art Lecture: Fat, Demented, and Stupid. An Unrecognized Legacy of Pediatric Urology?
Speaker: Christopher S. Cooper, MD, FAAP, FACS
Iowa City, IA

Concurrent Sessions Begin

Concurrent Session 1 of 2

8:30 a.m. - 9:20 a.m.  Podium Session: Pediatric Urology
Location: Kierland Ballroom 2
Moderators: Zachary Liss, MD
St Clair Shores, MI
Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
Discussant: Christopher S. Cooper, MD, FAAP, FACS
Iowa City, IA

8:30 a.m.  #131 NATIONAL TRENDS IN VCUG UTILIZATION AFTER THE RELEASE OF THE 2011 AAP GUIDELINES
Ted Lee, MD, Chandy Ellimoottil, MD, John Park, MD, Kate Kraft, MD, Vesna Ivancic, MD, Kathryn Marchetti, MD, Tanima Banerjee, MD, David Bloom, MD and Julian Wan, MD
University of Michigan
Presented By: Ted Lee, MD

8:34 a.m.  #132 WITHDRAWN

8:38 a.m.  #133 THE USE OF NEOADJUVANT CHEMOTHERAPY AND PARTIAL NEPHRECTOMY IN UNILATERAL WILMS TUMORS
Jessica Yih, MD¹, Elizabeth Ferry, MD³, Robert Abouassaly, MD¹ and Jonathan Ross, MD²
¹Urology Institute, University Hospitals Cleveland Medical Center; ²Pediatric Urology, University Hospitals Rainbow Babies and Children's Hospital; ³Dept of Urology, SUNY Upstate Medical University
Presented By: Jessica M. Yih

8:42 a.m.  #134 FAST-TRACK PROTOCOL FOR CYSTOSCOPY AND URETERAL STENT REMOVAL IN PEDIATRIC PATIENTS
Candace Granberg, MD and Patricio Gargollo, MD
Mayo Clinic
Presented By: Candace F. Granberg, MD
8:46 a.m. #135 IDENTIFYING SKILLS UROLOGY TRAINEES REQUIRE TO BECOME PROFICIENT AT PEDIATRIC ORCHIOPEXY AND HYPOSPADIAS REPAIR
Max Maizels, MD1 and Richard Sutherland, MD2
1Lurie Childrens Hospital; 2University of North Carolina, Dept. Urology
Presented By: Max Maizels, MD

8:50 a.m. #136 PEDIATRIC 24-HOUR URINE COLLECTIONS: OUTCOMES AND INDICATIONS
Alison Keenan, MD
UW-Madison
Presented By: Alison Keenan, MD

8:54 a.m. #137 PENILE LENGTH: A NEW AVERAGE
Wesley Baas, MD and Ranjiv Mathews, MD
Southern Illinois University School of Medicine
Presented By: Wesley Baas, MD

8:58 a.m. #138 ACUTE URETERAL JET ANGLE MEASURED BY PREOPERATIVE ULTRASOUND CORRELATES WITH RESOLUTION OF VESICOURETERAL REFLUX TREATED WITH ENDOSCOPIC INJECTION OF SUBURETERIC BULKING AGENTS
Kevin Ginsburg, MD1, Jesse Jacobs, MD1, Kahlil Saad, MD1, Theodore Barber, MD2, Brian Roelof, MD2, Kirstan Meldrum, MD2 and George Steinhardt, MD2
1Wayne State University Department of Urology; 2Helen DeVos Childrens Hospital, Department of Pediatric Urology, Wayne State University School of Medicine
Presented By: Kevin Benjamin Ginsburg, MD

9:02 a.m. #139 CONGENITAL RENAL ANOMALIES IN THE SPINA BIFIDA CLINIC: IS THERE AN INCREASED RISK?
Kristina Suson, MD1, Meredith Perry, DO2, Cortney Wolfe-Christensen, PhD3 and Yegappan Lakshmanan, MD1
1Children's Hospital of Michigan; 2Jersey Urology Group; 3Cook Children's Health Care System
Presented By: Kristina Dawn Suson, MD

9:06 a.m. #140 THE STATE OF FEMALE MENTORSHIP IN UNITED STATES PEDIATRIC UROLOGY FELLOWSHIPS
Janae Preece1, Cortney Wolfe-Christensen, PhD2 and Kristina Suson, MD3
1Children's Hospital of Michigan; 2Cook Children's Health Care System, Fort Worth, TX; 3Children's Hospital of Michigan, Detroit, MI
Presented By: Janae Preece, MD
8:30 a.m.  #141 ANASTROZOLE IS AN EFFECTIVE TREATMENT FOR INFERTILE HYPERESTROGENEMIC MEN
Dane Johnson, MD, Andrew Radtke, MD and Jay Sandlow, MD
Medical College of Wisconsin
Presented By: Andrew Radtke, MD

8:34 a.m.  #142 CRYOPRESERVATION IN THE PERIPUBESCENT MALE, A SINGLE INSTITUTION EXPERIENCE
Johnathan Doolittle, MD, Dane P Johnson, MD and Jay I Sandlow, MD
Medical College of Wisconsin
Presented By: Johnathan Doolittle, MD

8:38 a.m.  #143 MICRODENERVATION OF THE SPERMATIC CORD FOR POST VASECTOMY PAIN SYNDROME- A SINGLE SURGEON’S EXPERIENCE
Wei Phin Tan, MD1, Peter Tsambarlis, MD, John Richgels, MD2 and Laurence Levine, MD
1Rush University Medical Center, 2University of Chicago Medical Center
Presented By: Wei Phin Tan, MD

8:42 a.m.  #144 THE UTILITY OF SEX HORMONE BINDING GLOBULIN IN THE EVALUATION OF CLINICAL HYPOGONADISM AND MALE FACTORY INFERTILITY
Joshua Ring, MD, Charles Welliver, Mike Parenteau, Stephen Markwell, Robert Brannigan and Tobias Kohler
Southern Illinois University School of Medicine
Presented By: Joshua D. Ring, MD, MS

8:46 a.m.  #145 COMPARING AUA 2012 VASECTOMY GUIDELINE ADHERENCE AMONG UROLOGISTS AND FAMILY MEDICINE PHYSICIANS
Daniel D. Shapiro, MD1, Sandra A. Kamnetz, MD2 and Brian V. Le, MD MA1
1University of Wisconsin-Madison Department of Urology; 2University of Wisconsin-Madison Department of Family Medicine
Presented By: Daniel Shapiro, MD
8:50 a.m.  #146  USE OF 3D PRINTING TO PROTOTYPE A CUSTOM SHAPE MEMORY ALLOY PENILE PROSTHESIS
Brian V. Le, MD MA¹, Kevin T. McVary, MD FACS² and Alberto Colombo, PhD²
¹University of Wisconsin-Madison Department of Urology; ²Southern Illinois University - Division of Urology
Presented By: Brian Van Le, MD, MA

8:54 a.m.  #147  ALCOHOL USE AND SEXUAL HEALTH CONCERNS IN A SEXUAL HEALTH CLINIC
Kevin Hebert, MD, Matthew Ziegelmann, MD, Francisco Maldonado, Tanner Miest, MD, Jack Andrews, MD, Raevti Bole, MD, Manaf Alom and Landon Trost, MD
Mayo Clinic
Presented By: Kevin J. Hebert, MD

8:58 a.m.  #148  ENCORE ABSTRACT: PENILE PROSTHESIS IN SOLID ORGAN TRANSPLANT RECIPIENTS – A MATCHED COHORT STUDY
Andrew Sun, MD, Paurush Babbar, MD, Bradley Gill, MD, Kenneth Angermeier, MD and Drogo Montague, MD
Glickman Urological and Kidney Institute, Cleveland Clinic
Presented By: Andrew Y. Sun, MD

9:02 a.m.  #149  SURGICAL TREATMENT OF MALE FACTOR INFERTILITY: DOES INSURANCE COVERAGE MATTER?
Barbara Kahn, MD¹, Daniel Mazur, MD¹, Mary Kate Keeter¹, Marah Hehemann, MD², Alexander Tatum, MD³, Anuj Desai, MD¹, Kevin Lewis¹, Daniel Oberlin, MD¹, Sarah Flury, MD¹, Nelson Bennett, MD¹ and Robert Brannigan, MD¹
¹Northwestern University; ²Loyola University; ³Indiana University
Presented By: Barbara E. Kahn, MD

9:06 a.m.  #150  INCONSISTENT ADOPTION OF WORLD HEALTH ORGANIZATION V (2010) SEMEN ANALYSIS REFERENCE RANGES IN THE UNITED STATES SIX YEARS AFTER PUBLICATION
Anuj Desai, MD¹, Kevin Lewis, BA¹, Daniel Mazur, MD¹, Barbara Kahn, MD¹, Mary Kate Keeter, MPH¹, Alex Tatum, MD², Marah Hehemann, MD³, Emmanuel Ogele, BS¹, Brendan Frainey, MD¹, Nelson Bennett Jr., MD¹ and Robert Brannigan, MD¹
¹Northwestern University Feinberg School of Medicine; ²Indiana University-Purdue University Indianapolis; ³Loyola Medicine Chicago Stritch School of Medicine
Presented By: Kevin C. Lewis, BA

Concurrent Sessions End

9:20 a.m. - 9:50 a.m.  Break
Location: Kierland Ballroom Foyer

9:50 a.m. - 10:00 a.m.  ABU Update
Speaker: Stephen Y. Nakada, MD, FACS
Madison, WI
10:00 a.m. - 10:30 a.m.  State-of-the-Art Lecture: Complex Genital Reconstruction  
Speaker: Matthew J. Mellon, MD  
*Indianapolis, IN*

10:30 a.m. - 11:00 a.m.  Panel Discussion: Urologic Reconstruction  
Moderator: Kenneth W. Angermeier, MD  
*Cleveland, OH*  
Panelists: Michael L. Guralnick, MD, FRCSC  
*Milwaukee, WI*  
Matthew J. Mellon, MD  
*Indianapolis, IN*

11:00 a.m. - 11:05 a.m.  Award Presentations: Traveling Fellowship & John D. Silbar  
Presenter: Aaron J. Milbank, MD  
*Woodbury, MN*

11:05 a.m. - 11:35 a.m.  State-of-the-Art Lecture: Fertility- a Window on a Man's Health  
Speaker: Edmund S. Sabanegh Jr., MD, MBA  
*Cleveland, OH*

11:35 a.m. - 12:05 p.m.  Presidential Address  
President: James C. Ulchaker, MD, FACS  
*Cleveland, OH*

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

12:40 p.m. - 1:45 p.m.  Industry Satellite Symposium Luncheon  
*Location: Kierland Ballroom 1B*

1:45 p.m. - 2:15 p.m.  State-of-the-Art Lecture: New Technologies for Treating BPH  
Speaker: Kevin T. McVary, MD, FACS  
*Springfield, IL*

2:15 p.m. - 3:00 p.m.  NCS Resident College Bowl: Preliminary Round  
Moderator: Bradley F. Schwartz, DO, FACS  
*Springfield, IL*  
Judges:  
Anthony J. Polcari, MD  
*Woodbury, MN*  
Jeffrey A. Triest, MD  
*Detroit, MI*

3:00 p.m. - 3:45 p.m.  NCS Resident College Bowl: Finals  
Moderator: Bradley F. Schwartz, DO, FACS  
*Springfield, IL*  
Judges:  
Gary J. Faerber, MD  
*Salt Lake City, UT*  
Kyle A. Richards, MD  
*Madison, WI*  
Roland R. Ugarte, MD, MD, FACS  
*Edina, MN*

6:00 p.m. - 7:30 p.m.  Annual Reception  
*Location: Vista Morado*
FRIDAY, NOVEMBER 17, 2017

OVERVIEW

7:30 a.m. - 11:15 a.m.  Registration/Information Desk Hours
  Location: Kierland Ballroom Foyer

7:30 a.m. - 8:30 a.m.  Breakfast
  Location: Kierland Ballroom Foyer

7:30 a.m. - 11:15 a.m.  Speaker Ready Room Hours
  Location: Lowell

7:30 a.m. - 11:00 a.m.  Spouse/Guest Hospitality Suite Hours
  Location: Parke/Terrace

GENERAL SESSION

8:00 a.m. - 8:35 a.m.  State-of-the-Art Lecture: Donor Nephrectomy- Updates on Donor Safety, Selection, and Technique
  Speaker: Steven M. Lucas, MD
          Detroit, MI

8:35 a.m. - 9:45 a.m.  Bizarre and Interesting Cases Podium Session
  Moderators: George K. Chow, MD
              Rochester, MN
              Sheila K. Gemar, MD
              Spicer, MN

8:35 a.m.  #151  HCG PRODUCING TESTIS TUMOR AND SUBSEQUENT PITUITARY SUPPRESSION; A RARE CAUSE OF INFERTILITY
     Naveen Nandanan, MD², Nitin Yerram, MD¹, A Scott Polackwich, MD¹, Paurush Babbar, MD¹, Andrew Sun, MD¹,
     Abhinav Khanna, MD¹ and Edmund Sabanegh, MD¹
     ¹Cleveland Clinic; ²Cleveland Clinic/VCU
     Presented By: Nitin K. Yerram, BS, MD

8:38 a.m.  #152  INSTITUTIONAL CASE SERIES OF PENILE RING ENTRAPMENT
     Julia Fiuk, MD, Neil Patel, MD and Ahmed El-Zawahry, MD
     SIU School of Medicine
     Presented By: Neil Patel, MD

8:41 a.m.  #153  CROSS-FUSED RENAL ECTOPIA WITH CONCOMITANT ABSENT LEFT TESTICLE
     David Drevna, MD¹, Bryant van Leeuwen, BS² and Joseph Dankoff, MD³
     ¹Cleveland Clinic Akron General; ²Northeastern Ohio Medical University; ³Summa Health System
     Presented By: David W. Drevna, MD
8:44 a.m. #154 PLAYING THE LONG SURVEILLANCE BALL GAME: METACHRONOUS TESTICULAR TUMOR DEVELOPING THREE YEARS AFTER EXTRAGONADAL GERM CELL TUMOR
Alexander Chow, MD, Edward Capoccia, MD, Patrick Whelan, MD and Jerome Hoeksema, MD
Rush University Medical Center
Presented By: Alexander Chow, MD

8:47 a.m. #155 A SHOCKING CASE OF ERECTILE DYSFUNCTION: THE AT-HOME TRAIN CONDUCTOR’S ELECTRO-ERECTION SET
Bradley Buck, MD¹ and Timothy Schuster, MD²
¹University of Toledo; ²Promedica Genitourinary Surgeons
Presented By: Bradley J. Buck, MD

8:50 a.m. #156 DIY URETHRAL DILATION, DO NOT TRY THIS AT HOME: ENDOSCOPIC EXTRACTION OF FOREIGN BODY FROM BLADDER
Chad Gridley, MD and Lawrence Jenkins, MD
The Ohio State University
Presented By: Chad Gridley, MD

8:53 a.m. #157 A PATIENT’S NOVEL ATTEMPT AT PENILE ELONGATION
Adam Miller, MD¹, George Bailey, MD¹, Alonso Carrasco, MD², Joseph Scales, MD¹ and Amy Krambeck, MD³
¹Mayo Clinic, Rochester, MN; ²Children's Hospital Colorado, Aurora, CO; ³Indiana University School of Medicine, Indianapolis, IN
Presented By: Adam Miller, MD

8:56 a.m. #158 TREATMENT OF PROSTATE CANCER IN MALE-ASSIGNED 46 XX PATIENT WITH UNTREATED CONGENITAL ADRENAL HYPERPLASIA
Michael Atwell, BA¹ and Timothy Kresowik, MD²
¹U of Illinois College of Medicine - Peoria; ²Urological Associates, PC/U of Iowa Adjunct
Presented By: Michael F. Atwell

8:59 a.m. #159 A RARE CASE OF MALIGNANT TRITON TUMOR INVOLVING THE BLADDER OF A YOUNG CHILD WITH NEUROFIBROMATOSIS TYPE I
Derek Lomas, MD, PharmD¹, Amy Hou, MD² and Yuri Reinberg, MD²
¹Mayo Clinic; ²Pediatric Surgical Associates, Minneapolis, MN
Presented By: Derek J. Lomas, MD, PharmD

9:02 a.m. #160 RECURRENT NEPHROLITHIASIS AS A RESULT OF RENAL ANGIO-EMBOLIZATION
Michael Fenstemaker, MD, MS and Casey Dauw, MD
University of Michigan, Department of Urology
Presented By: Michael Fenstemaker, MD
9:05 a.m.  #161 OBSTRUCTIVE UROPATHY SECONDARY TO AN INGESTED FOREIGN BODY -- A CASE REPORT
Alec Wilson, MD and David Kearney, MD
Beaumont Health Dept of Urology
Presented By: Alec Wilson

9:08 a.m.  #162 WITHDRAWN

9:11 a.m.  #163 A HARD "ACT" TO FOLLOW: A CASE OF OBSTRUCTING URETERAL STONE AS THE NIDUS FOR RETROPERITONEAL ACTINOMYCOSIS
Colby Dixon, MD, Elizabeth Bearrick, BS and Michael S. Borofsky, MD
University of Minnesota
Presented By: Colby A. Dixon, MD

9:14 a.m.  #164 “DOC, I THINK I HAVE A THIRD TESTICLE” – THE DIFFERENTIAL DIAGNOSIS OF A PERINEAL MASS
Daniel Shapiro, MD and David Paolone, MD
University of Wisconsin School of Medicine and Public Health
Presented By: Daniel Shapiro, MD

9:17 a.m.  #165 PERFORATION OF BLADDER SECONDARY TO MIGRATION OF HARRINGTON ROD: A CASE REPORT
Jacob Stephens, BS and Ayman Mahdy, MD, PhD
University of Cincinnati College of Medicine
Presented By: Jacob R. Stephens, BS

9:20 a.m.  #166 WITHDRAWN

9:35 a.m. - 9:45 a.m. Q&A

9:45 a.m. - 10:05 a.m. Break
Location: Kierland Ballroom Foyer

Concurrent Sessions Begin

Concurrent Session 1 of 2

10:05 a.m. - 11:05 a.m. Podium Session: Prostate - Benign
Location: Kierland Ballroom 2
Moderator: Dhruti M. Patel, MD
Cincinnati, OH
Discussant: James C. Ulchaker, MD, FACS
Cleveland, OH

10:05 a.m.  #167 CHANGES IN UROLOGIC MEDICATIONS WITH TRANSURETHRAL PROSTATE PROCEDURES FOR BENIGN PROSTATIC HYPERPLASIA
Navin Sabharwal, BA¹, Elodi Dielubanza, MD², James Ulchaker, MD², Khaled Fareed, MD², Daniel Shoskes, MD² and Bradley Gill, MD²
¹Cleveland Clinic Lerner College of Medicine; ²Glickman Urology and Kidney Institute, Cleveland Clinic
Presented By: Navin Sabharwal, BA
10:09 a.m. #168 CONNECTIVE RADIOFREQUENCY WATER VAPOR ENERGY PROSTATE ABLATION (REZUM®) EFFECTIVELY TREATS URINARY RETENTION
Bradley Holland, MD¹, Nikhil Gupta, MD¹, Kristin Delfino, PhD⁴, Danuta Dynda, MD¹, Sevann Helo, MD¹, J Randolf Bears, MD⁵, Lennart Wagrell, MD⁴, Ahmed El-Zawahry, MD¹, Tobias Kohler, MD, MPH, FACS¹ and Kevin McVary, MD, FACS¹
¹Southern Illinois University School of Medicine, Department of Surgery, Division of Urology; ²Southern Illinois University School of Medicine, Center for Clinical Research; ³Metro Urology; ⁴Urology Centre
Presented By: Bradley Holland, MD

10:13 a.m. #169 TRANSURETHRAL CONVECTIVE RADIOFREQUENCY WATER VAPOR THERMAL THERAPY FOR LOWER URINARY TRACT SYMPTOMS ASSOCIATED WITH BENIGN PROSTATIC HYPERPLASIA: TWO-YEAR OUTCOMES OF A RANDOMIZED CONTROLLED AND PROSPECTIVE CROSSOVER STUDY
James Ulchaker, MD, FACS¹, J. Randolf Beahrs, MD², Lance Mynderse, MD³ and Kevin McVary, MD⁴
¹Cleveland Clinic Foundation; ²Metro Urology; ³Mayo Clinic; ⁴Southern Illinois University
Presented By: James C. Ulchaker, MD, FACS

10:17 a.m. #170 CLINICAL AND PATHOLOGIC SIGNIFICANCE OF THE POST-HOLEP UNDETECTABLE PSA
Marcelino Rivera, MD, James Lingeman, MD, Nadya York and Amy Krambeck, MD
Indiana University
Presented By: Marcelino E. Rivera, MD

10:21 a.m. #171 COMPARISON OF CONVECTIVE RADIOFREQUENCY WATER VAPOR ENERGY ABLATION OF PROSTATE (REZUM®) TO MTOPS TRIAL COHORT
Nikhil Gupta, MD², Bradley Holland, MD², Sevann Helo, MD¹, Danuta Dynda, MD², Tobias Köhler, MD³ and Kevin McVary, MD²
¹Southern Illinois University School of Medicine; ²SIU School of Medicine; ³Mayo Clinic
Presented By: Sevann Helo, MD

10:25 a.m. #172 TRANSURETHRAL RESECTION OF THE PROSTATE (TURP): A COST ANALYSIS OF BIPOLAR AND MONOPOLAR TECHNOLOGIES
David Gregory, MPA, Brittany Blau, MPH and Christina Cool, MPH
Baker Tilly LLP
Presented By: Christina L. Cool, MPH
POSTOPERATIVE URINARY RETENTION IS AN INDEPENDENT PREDICTOR OF SHORT- AND LONG-TERM FUTURE BLADDER OUTLET PROCEDURE IN MEN
Robert Blackwell, MD1, Arpeet Shah, MD1, Srikanth Vedachalam2, Anai Kothari, MD1, Paul Kuo, MD, MS1, Gopal Gupta, MD1 and Thomas Turk, MD1
1Loyola University Medical Center; 2Midwestern University
Presented By: Arpeet Shah

CONVECTIVE RADIOFREQUENCY WATER VAPOR ENERGY ABLATION (REZUM®) EFFECTIVELY TREATS LOWER URINARY TRACT SYMPTOMS DUE TO BENIGN PROSTATIC ENLARGEMENT REGARDLESS OF OBESITY WHILE PRESERVING ERECTILE AND EJACULATORY FUNCTION
Nikhil Gupta, MD2, Sevann Helo, MD1, Tobias Köhler, MD MPH3 and Kevin McVary, MD2
1Southern Illinois University School of Medicine; 2SIU School of Medicine; 3Mayo Clinic
Presented By: Sevann Helo, MD

PROSTATIC ARTERY EMBOLIZATION FOR THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA: INTERIM RESULTS OF A PROSPECTIVE, SINGLE-CENTER, OPEN-LABEL TRIAL
Joseph Kallini, MD, Ahmed Gabr, MD, Ahsun Riaz, MD, Nabeel Hamoui, MD, MBA, Robert Lewandowski, MD, John Hairston, MD and Riad Salem, MD, MBA
Northwestern University Feinberg School of Medicine
Presented By: Nabeel Hamoui, MD, MBA

COMPARATIVE RESULTS OF UROLIFT IN PATIENTS WITH OBSTRUCTIVE BPH AND PATIENTS WITH COMBINED OBSTRUCTIVE BPH AND MODERATE TO SEVERE OAB
Peter Knapp, MD1, Erin Knollman, RN, BSN2 and Zenas Y. Shi2
1Urology of Indiana; 2n/a
Presented By: Peter M. Knapp Jr., MD, FACS

HOLMIUM LASER ENUCLEATION OF THE PROSTATE (HOLEP) IN PATIENTS ON ACTIVE SURVEILLANCE FOR PROSTATE CANCER
Marcelino Rivera, MD, Nadya York, MD, Mengmeng Zheng, Hazem Elmansy, MD, Amy Krambeck, MD and James Lingeman, MD
Indiana University
Presented By: Marcelino E. Rivera, MD
<table>
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<tr>
<th>Time</th>
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<th>Institution/Center</th>
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<tr>
<td>10:49 a.m.</td>
<td>#178</td>
<td>POSTOPERATIVE URINARY RETENTION IS AN INDEPENDENT PREDICTOR OF SHORT- AND LONG-TERM FUTURE BLADDER OUTLET PROCEDURE IN MEN</td>
<td>Robert Blackwell, Arpeet Shah, Srikanth Vedachalam, Anai Kothari, Paul Kuo, Gopal Gupta, Thomas Turk</td>
<td>Loyola University Medical Center</td>
<td>Presented By: Arpeet Shah</td>
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<td>Nikhil Gupta, Sevann Helo, Tobias Köhler, Kevin McVary</td>
<td>SIU School of Medicine; Mayo Clinic</td>
<td>Presented By: Sevann Helo, MD</td>
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<td>10:57 a.m.</td>
<td>#180</td>
<td>PROSTATIC ARTERY EMBOLIZATION FOR THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA: INTERIM RESULTS OF A PROSPECTIVE, SINGLE-CENTER, OPEN-LABEL TRIAL</td>
<td>Joseph Kallini, Ahmed Gabr, Ahsun Riaz, Nabeel Hamoui, Robert Lewandowski, John Hairston, Riad Salem</td>
<td>Northwestern University Feinberg School of Medicine</td>
<td>Presented By: Nabeel Hamoui, MD, MBA</td>
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<td>11:01 a.m.</td>
<td>#181</td>
<td>COMPARATIVE RESULTS OF UROLIFT IN PATIENTS WITH OBSTRUCTIVE BPH AND PATIENTS WITH COMBINED OBSTRUCTIVE BPH AND MODERATE TO SEVERE OAB</td>
<td>Peter Knapp Jr., Erin Knollman, Zenas Y. Shi</td>
<td>Urology of Indiana; n/a</td>
<td>Presented By: Peter M. Knapp Jr., MD, FACS</td>
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<td>11:05 a.m.</td>
<td>#182</td>
<td>HOLMIUM LASER ENucleation OF THE PROSTATE (HOLEP) IN PATIENTS ON ACTIVE SURVEILLANCE FOR PROSTATE CANCER</td>
<td>Marcelino Rivera, Nadya York, Mengmeng Zheng, Hazem Elmansy, Amy Krambeck, James Lingeman</td>
<td>Indiana University</td>
<td>Presented By: Marcelino E. Rivera, MD</td>
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<td>11:09 a.m.</td>
<td>#183</td>
<td>THE MALE BLADDER MICROBIOME AND ITS POTENTIAL ROLE IN BENIGN PROSTATIC HYPERPLASIA</td>
<td>Michelle Van Kuiken, Bethany Burge, Krystal Thomas-White, Evann Hilt, Travis Price, Larissa Bresler, Jeffrey Branch, Alan Wolfe, PhD and Ahmer Farooq</td>
<td>Loyola University Medical Center</td>
<td>Presented By: Michelle E. Van Kuiken, MD</td>
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Concurrent Session 2 of 2

10:05 a.m. - 11:05 a.m. Podium Session: Penis/Urethral/Testis/Scrotum - Benign/Malignant

Location: Trailblazers C

Moderators: Michael L. Guralnick, MD, FRCSC
Milwaukee, WI
Jeffrey A. Triest, MD
Detroit, MI

Discussant: Bradley C. Leibovich, MD
Rochester, MN

10:05 a.m. #179 PRIMARY MALIGNANT MELANOMA OF THE FEMALE URETHRA: MANAGEMENT AND LONG-TERM OUTCOMES AT A TERTIARY REFERRAL CENTER

Brian Montgomery, MD, Derek Lomas, MD, Vidit Sharma, MD and Deborah Lightner, MD
Mayo Clinic
Presented By: Brian Montgomery, MD

10:09 a.m. #180 INTERNAL URETHROTOMY WITH INTRALESIONAL MITOMYCIN C: AN EFFECTIVE OPTION FOR ENDOSCOPIC MANAGEMENT OF RECURRENT BULBAR URETHRAL STRICTURES

M. Ryan Farrell, MD, MPH, Cedric Lawrenz, BS, Wei Phin Tan, MD and Laurence A. Levine, MD
Rush University Medical Center
Presented By: M. Ryan Farrell, MD, MPH

10:13 a.m. #181 SURGICAL MANAGEMENT OF GENITOPERINEAL HIDRADENITIS SUPPURATIVA: A 12 YEAR EXPERIENCE

Sarah Martin, DO, Brandi Miller, DO and Richard Santucci, MD
DMC
Presented By: Sarah E. Martin, DO

10:17 a.m. #182 OBSERVED INCREASE IN THE INCIDENCE OF TESTICULAR CANCER IN NORTHERN IOWA FROM 2010-2016

Ryan Steinberg, MD, Timothy J. Mulholland, MD, Kevin R. Rier, MD and Christopher E. Adams, MD
1University of Iowa Hospitals & Clinics; 2Mason City Clinics
Presented By: Ryan L. Steinberg, MD
MINIMALLY INVASIVE INGUINAL LYMPHADENECTOMY IN THE MANAGEMENT OF PENILE CARCINOMA
Christopher Russell, MD¹, Simpa S. Salami, MD¹, Adam Niemann, BS¹, Alon Z. Weizer, MD¹, Scott A. Tomlins, MD², Todd M. Morgan, MD¹ and Jeffrey S. Montgomery, MD¹
¹University of Michigan Department of Urology; ²University of Michigan Department of Pathology
Presented By: Christopher M. Russell, MD

OUTCOMES OF STAGED URETHROPLASTY IN MANAGEMENT OF COMPLEX ANTERIOR URETHRAL STRICTURES NOT RELATED TO HYPOSPADIAS
Amanda C. Chi, MD¹, Shree Agrawal², Hadley M. Wood, MD¹ and Kenneth W. Angermeier, MD¹
¹Cleveland Clinic Foundation; ²Case Western Reserve University School of Medicine
Presented By: Amanda C. Chi, MD

POPULATION DISCREPANCIES IN THE MANAGEMENT OF URETHRAL STRICTURES
Eric Kirshenbaum, MD, Ryan Dornbier, MD, Robert Blackwell, MD, Marc Nelson, MD, Arpeet Shah, MD, Gopal Gupta, MD and Ahmer Farooq, MD
Loyola University
Presented By: Ryan Dornbier, MD

MANAGEMENT OF PROSTATIC REMNANT RELATED FLUID COLLECTIONS IN ADULT PATIENTS WITH BLADDER EXSTROPHY
Olga Alexeeva, BS¹, John Hairston, MD², Stephanie Kielb, MD², Robert Nadler, MD², Robert Brannigan, MD² and Matthias Hofer, MD, PhD²
¹Feinberg School of Medicine-Northwestern University; ²Northwestern University
Presented By: Olga Alexeeva, BS

SURGICAL EXCISION FOR MANAGEMENT OF GIANT GENITAL CONDYLOMA ACUMINATA
Andrew Radtke, Dane Johnson, MD and Amy Guise, MD
Medical College of Wisconsin
Presented By: Andrew C. Radtke, MD

LOW TESTOSTERONE LEVELS RESULT IN DECREASED PERIURETHRAL VASCULARITY VIA AN ANDROGEN RECEPTOR-MEDIATED PROCESS: PILOT STUDY IN URETHRAL STRICTURE TISSUE
Matthias Hofer³, Payal Kapur³, Billy Cordon³, Farrah Hamoun³, David Russell³, Jeremy Scott³, Claus Roehrborn³ and Allen Morey³
³Northwestern University; ³UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD
10:45 a.m.  #189  SURVIVAL AMONG FEMALE URETHRAL CANCER PATIENTS 2004-2013, A NATIONAL CANCER DATABASE ANALYSIS
Mary E. Westerman, MD, Vidit Sharma, MD, Derek J. Gearman, MD, Matthew K. Tollefson, MD, Stephen A. Boorjian, MD, Deborah J. Lightner, MD and R. Jeffrey Karnes, MD
Mayo Clinic Department of Urology
Presented By: Mary E. Westerman, MD

10:49 a.m.  #190  PERINEAL URETHROSTOMY FOR SEVERE URETHRAL STRicture DISEASE: A FEASIBILITY STUDY
Raymond Yong, MS31, Peter Tsambarlis, MD1 and Laurence Levine, MD1, Gaurav Pahouja, MD2
1Rush University Medical Center, 2Loyola University Medical Center
Presented By: Gaurav Pahouja, MD

Concurrent Sessions End

11:05 a.m. - 11:10 a.m.  Announcement of Best Bizarre and Interesting Case, Best Video
Presenter:  Bradley F. Schwartz, DO, FACS
Springfield, IL

11:10 a.m. - 11:15 a.m.  Incoming NCS President Remarks
President-Elect:  Gary J. Faerber, MD
Salt Lake City, UT
# PARTICIPANT INDEX

*Author/Presenter, Date, Time, and Abstract Placement*

Due to time limitations, authors who do not have a time and date listed will not be presenting their abstracts at this meeting. See Abstracts section for complete text.

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11/14/2017  8:58 a.m.  AB #8

KAHN, BARBARA  
11/16/2017  9:02 a.m.  AB #149

KANDABAROW, ALEXANDER  
11/14/2017  3:54 p.m.  AB #74  
11/14/2017  3:58 p.m.  AB #75

KHANNA, ABHINAV  
11/14/2017  3:42 p.m.  AB #59  
11/15/2017  11:40 a.m.  AB #121  
11/16/2017  6:30 a.m.  Video #1

KHEM EES, TARIQ  
11/14/2017  4:30 p.m.  Poster #30

KHOURI, ROGER  
11/14/2017  10:50 a.m.  AB #23

KIRK, PETER  
11/14/2017  11:14 a.m.  AB #29

KIRSHENBAUM, ERIC  
11/14/2017  4:30 p.m.  Poster #2  
11/15/2017  10:16 a.m.  AB #120

KLEIN, ERIC  
11/15/2017  8:30 a.m.

KNAPP, PETER  
11/17/2017  10:41 a.m.  AB #176

KNUDSEN, BODO  
11/15/2017  12:30 p.m.

KOHLER, TOBIAS  
11/15/2017  12:30 p.m.

KOTTWITZ, MICHAEL  
11/15/2017  10:12 a.m.  AB #119

LAMOUNIER, FERNANDO  
11/15/2017  11:40 a.m.

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OHL, DANA
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PACKIAM, VIGNESH
11/14/2017  3:54 p.m.  AB #62

PAHOUJA, GAURAV
11/15/2017  9:30 a.m.  AB #104
11/17/2017  10:49 a.m.  AB #190

PAOLONE, DAVID
11/14/2017  3:30 p.m.

PARK, EDWARD
11/15/2017  12:30 p.m.  Poster #54

PATEL, ADITI
11/14/2017  4:30 p.m.  Poster #15

PATEL, DHRUTI
11/17/2017  10:05 a.m.

PATEL, NEIL
11/15/2017  12:30 p.m.  Poster #51
11/17/2017  8:38 a.m.  AB #152
11/17/2017  9:20 a.m.  AB #166

PATEL, PARTH
11/14/2017  4:10 p.m.  AB #78

PAUL, CHARLES
11/14/2017  4:30 p.m.  Poster #13
11/15/2017  9:46 a.m.  AB #108

PEABODY, JAMES
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11/14/2017  3:50 p.m.  AB #61

PENNISTON, KRISTINA
11/15/2017  12:30 p.m.  Poster #55
11/16/2017  8:50 a.m.  AB #136

PENSON, DAVID
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11/14/2017  10:30 a.m.

PESSIS, DENNIS
11/14/2017  4:30 p.m.

PIOTROWSKI, JOSHUA
11/14/2017  4:10 p.m.  AB #90

POLCARI, ANTHONY
11/16/2017  2:15 p.m.

POSIELSKI, NATASZA
11/14/2017  4:02 p.m.  AB #76

POWERS, RYAN
11/15/2017  12:30 p.m.  Poster #49

PREECE, JANAE
11/16/2017  9:06 a.m.  AB #140

RADTKE, ANDREW
11/15/2017  10:10 a.m.  AB #114
11/16/2017  8:30 a.m.  AB #141
11/17/2017  10:37 a.m.  AB #187

RAMBHALA, AMARNATH
11/14/2017  6:45 a.m.
11/16/2017  6:30 a.m.

RICHARDS, KYLE
11/16/2017  3:00 p.m.

RING, JOSHUA
11/16/2017  8:42 a.m.  AB #144

RISK, MICHAEL
11/14/2017  3:54 p.m.  AB #86

RIVERA, MARCELINO
11/15/2017  12:30 p.m.  Poster #61
11/17/2017  10:17 a.m.  AB #170
11/17/2017  10:45 a.m.  AB #177

ROGERS, CRAIG
11/14/2017  9:20 a.m.
11/14/2017  9:20 a.m.  AB #11

RUSSELL, CHRISTOPHER
11/14/2017  8:50 a.m.  AB #6
11/14/2017  9:02 a.m.  AB #9
11/14/2017  3:50 p.m.  AB #85
11/17/2017  10:21 a.m.  AB #183

SABANEK, EDMUND
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11/16/2017  11:05 a.m.

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TAN, WEI PHIN  
11/16/2017 6:30 a.m.  Video #4
11/16/2017 8:38 a.m.  AB #143

TATEM, ALEXANDER  
11/15/2017 12:04 p.m.  AB #127

TELANG, DINESH  
11/14/2017 2:00 p.m.

THOMPSON, R. HOUSTON  
11/14/2017 10:54 a.m.  AB #24
11/14/2017 4:30 p.m.

TOBERT, CONRAD  
11/14/2017 10:46 a.m.  AB #34
11/14/2017 11:06 a.m.  AB #39

TOUSSI, AMIR  
11/14/2017 8:30 a.m.  AB #1
11/14/2017 4:30 p.m.  Poster #26
11/14/2017 4:30 p.m.  Poster #27

TRACEY, JAMES  
11/14/2017 10:58 a.m.  AB #37

TRIEST, JEFFREY  
11/16/2017 2:15 p.m.
11/17/2017 10:05 a.m.

TSAMBARLIS, PETER  
11/15/2017 12:30 p.m.  Poster #52

TURK, THOMAS  
11/15/2017 9:30 a.m.

UGARTE, ROLAND  
11/16/2017 3:00 p.m.

ULCHAKER, JAMES  
11/13/2017 2:15 p.m.
11/13/2017 3:25 p.m.
11/14/2017 6:30 a.m.
11/14/2017 7:55 a.m.
11/14/2017 10:30 a.m.  AB #18
11/15/2017 10:14 a.m.  AB #103
11/15/2017 10:40 a.m.
11/16/2017 11:35 a.m.
11/17/2017 10:05 a.m.
11/17/2017 10:13 a.m.  AB #169

VAN KUIKEN, MICHELLE  
11/14/2017 3:46 p.m.  AB #84
11/15/2017 9:34 a.m.  AB #93
11/17/2017 10:49 a.m.  AB #178

VASAVADA, SANDIP  
11/14/2017 1:30 p.m.

VOURGANTI, SRINIVAS  
11/15/2017 9:30 a.m.

WAN, JOSEPH  
11/15/2017 10:00 a.m.  AB #116

WANG, ALICE  
11/14/2017 4:30 p.m.  Poster #22

WANG, JONATHAN  
11/15/2017 9:50 a.m.  AB #97

WARNER, HAYDEN  
11/14/2017 10:34 a.m.  AB #19

WEIGHT, CHRISTOPHER  
11/14/2017 10:30 a.m.

WESTERMAN, MARY  
11/14/2017 10:46 a.m.  AB #22
11/14/2017 10:58 a.m.  AB #25
11/15/2017 12:30 p.m.  Poster #40
11/17/2017 10:45 a.m.  AB #189

WHELAN, PATRICK  
11/15/2017 9:38 a.m.  AB #106
11/15/2017 12:30 p.m.  Poster #45
11/16/2017 6:30 a.m.  Video #6

WILSON, ALEC  
11/17/2017 9:05 a.m.  AB #161

WINFIELD, HOWARD  
11/14/2017 9:20 a.m.

YANG, DAVID  
11/14/2017 2:32 p.m.  AB #55
11/16/2017 6:30 a.m.  Video #9

YERRAM, NITIN  
11/14/2017 9:24 a.m.  AB #12
11/17/2017 8:35 a.m.  AB #151

YI, YOONI  
11/15/2017 12:12 p.m.  AB #129
11/15/2017 12:30 p.m.  Poster #48

YIH, JESSICA  
11/16/2017 8:38 a.m.  AB #133
PODIUMS

Podium #1
PATHOLOGIC PREDICTORS OF MUSCLE INVASIVE UROTHELIAL CARCINOMA OF THE BLADDER FOLLOWING RADICAL NEPHROURETERECTOMY
Amir Toussi, MD, Tanner Miest, MD, Vidit Sharma, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD
Mayo Clinic
Presented By: Amir Toussi, MD

Introduction:
Intravesical recurrence after radical nephroureterectomy (RNU) ranges from 15% to 50%. Risk factors for muscle invasive bladder cancer (MIBC) after RNU for primary treatment of upper tract urothelial carcinoma (UTUC) remains understudied. We present our data on the clinical course of intravesical recurrence and pathologic features for MIBC following RNU.

Methods:
Between 1995 and 2009 we retrospectively reviewed and identified 395 patients who underwent RNU at Mayo Clinic for urothelial carcinoma. We identified 113 patients who subsequently developed intravesical recurrence. Patients with a prior radical cystectomy were excluded. Kaplan Meier analysis and Cox Proportional hazard regression models were used for statistical analysis.

Results:
Of the 395 patients, 28.6% (113) developed intravesical recurrence and 4.5% (18) had MIBC following RNU; of which 52% (11) were treated with radical cystectomy. Median time to intravesical recurrence was 7.8 months and median time to development of MIBC was 17.9 months. The 5-year probability of developing intravesical recurrence was 37.5%; while the 2, 5, and 10-year estimates of MIBC were 1.1%, 6.0%, and 6.7%, respectively. The 5-year cancer specific survival for patients who developed intravesical recurrence and MIBC after RNU was 86.1% and 65.2%, respectively (p=0.01). Specifically, high grade pathology (HR 3.4), ureteral tumors (HR 6.7) and concomitant CIS (HR 2.7) were associated with an increased risk of MIBC (p<0.05).

Conclusion:
Approximately 5% of patients develop MIBC following RNU for primary UTUC. High grade pathology, ureteral tumors and concomitant CIS at the time of RNU are predictive of MIBC on subsequent intravesical recurrence.

Podium #2
COMPUTED TOMOGRAPHY TEXTURE ANALYSIS IS ASSOCIATED WITH RENAL CELL CARCINOMA HISTOPATHOLOGY AND TISSUE BIOMARKERS
Daniel Shapiro, MD, Jered Nystrom, BS, Meghan Lubner, MD, Perry Pickhardt, MD and E. Jason Abel, MD
University of Wisconsin School of Medicine and Public Health
Presented By: Daniel Shapiro, MD

Introduction:
Computed tomography (CT) texture analysis is used to identify pixel patterns that are not visible to the naked eye but may be clinically meaningful. The purpose of this study is to evaluate associations among CT texture parameters, conventional histopathology and tissue biomarkers for patients with renal cell cancers <4cm.

Methods:
Quantitative texture analysis was performed on non-contrast and portal venous phase abdominal CT scans for 249 RCC tumors <4cm treated surgically. Texture parameters were evaluated for associations between pathologic grade and subtype. For 40 patients, automated immunohistochemical analysis was used to identify tumor protein expression of Ki67, C reactive protein (CRP), and neovascularity (CD135/CD31).

Results:
249 patients (105 women, 144 men; mean age 56.6 years) had portal venous...
PODIUMS

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Conclusion: Approximately 5% of patients develop MIBC following RNU for primary UTUC. High grade pathology, ureteral tumors and concomitant CIS at the time of RNU are predictive of MIBC on subsequent intravesical recurrence.

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Introduction: Computed tomography (CT) texture analysis is used to identify pixel patterns that are not visible to the naked eye but may be clinically meaningful. The purpose of this study is to evaluate associations among CT texture parameters, conventional histopathology and tissue biomarkers for patients with renal cell cancers <4cm.

Methods: Quantitative texture analysis was performed on non-contrast and portal venous phase abdominal CT scans for 249 RCC tumors <4cm treated surgically. Texture parameters were evaluated for associations between pathologic grade and subtype. For 40 patients, automated immunohistochemical analysis was used to identify tumor protein expression of Ki67, C reactive protein (CRP), and neovascularity (CD135/CD31).

Results: 249 patients (105 women, 144 men; mean age 56.6 years) had portal venous
phase images. CT texture features of standard deviation of pixel histogram (SD), mean of the positive pixels, and entropy were associated with histologic cell type (clear vs. non-clear; p<0.001). In the biomarker subset, kurtosis of the pixel histogram was associated with CD135/CD31 (p=0.002). 174 patients (72 women, 102 men; mean age 57.5 years) had non-contrast CT images. SD was found to correlate with CRP (p=0.08), kurtosis with CD135/CD31 (p=0.002), and Ki67 index (p<0.001).

**Conclusion:** CT texture features were significantly associated with histopathologic features and putative tissue biomarkers in small renal cancers.

**Podium #3**

**SECRETED FACTORS FROM MESENCHYMOAL STEM CELLS FOR RENAL ISCHEMIA**

Bradley Gill, MD, MS, Paurush Babbar, MD, Daniel Greene, MD, Dan Li Lin, MD, Mei Kuang, MD, Hui Zhu, MD, PhD and Margot Damaser, PhD

Cleveland Clinic

Presented By: Bradley C. Gill, MD, MS

**Introduction:** Ischemic kidney injury can contribute to renal function loss. Intravenous mannitol before surgical ischemia has no benefit over intravenous fluids. This study investigated the effect of secreted factors from mesenchymal stem cells on renal function after warm ischemia.

**Methods:** Male Sprague Dawley rats (225-250g) underwent right nephrectomy and then 40 minute left renal pedicle clamp 14 days later. Intravenous treatment 5 minutes before ischemia consisted of 300 ul of normal saline(N=13), 50x concentrated conditioned media containing factors secreted from bone marrow-derived mesenchymal stem cells(N=13), or plain culture media (N=13). Before, 2, 5, and 7 days after ischemia, blood urea nitrogen (BUN) and creatinine (Cr) were measured. Renal function was approximated by a Sprague-Dawley rat estimated glomerular filtration rate (eGFR) formula. Kidneys and rat were weighed t nephrectomy, ischemia, and euthanasia.

**Results:** Experimental groups were well matched. Absolute BUN, Cr, and GFR did not differ with treatments at any time point, nor did BUN relative to baseline. When normalized to baseline, day 7 Cr was significantly lower with CCM (114+30%) than saline (147+45%, p 0.043) or plain media (121+44%, p 0.025). Similarly, relative to baseline, day 7 GFR was significantly greater with CCM (94.5+31.7%) than with saline (73.2+19.8%, p 0.030) or plain media (70.8+18.5%, p 0.017).

**Conclusion:** Intravenous pre-ischemia treatment with secreted factors from mesenchymal stem cells was associated with significantly better renal function 7 days after warm ischemia. The treatment did not significantly impact acute kidney injury, but lessened the extent of chronic kidney disease that develops.

**Podium #4**

**DIAGNOSIS OF TRANSLOCATION RENAL CELL CARCINOMAS IS DIFFICULT WITH CONVENTIONAL PATHOLOGY TECHNIQUES**

Daniel Shapiro, MD, Daniel Matson, MD, PhD, Holly Harper, MD, Jennifer Laffin, PhD, Wei Huang, MD and E. Jason Abel, MD

University of Wisconsin School of Medicine and Public Health

Presented By: Daniel Shapiro, MD

**Introduction:** Translocation renal cell carcinomas (tRCC) are distinct RCC subtypes occurring in up to 40% of young patients. Pathologists typically use immunohistochemistry (IHC) to identify tRCC, although accuracy of this technique is unknown. We analyzed two cohorts of RCC patients following surgery to determine IHC diagnostic ability and report the outcomes for tRCC patients.
Methods: Five commercial antibodies were used for IHC of 784 tumor samples from 318 patients diagnosed with clear cell RCC following surgery. Automated IHC analysis was compared to fluorescent in situ hybridization (FISH) as a gold standard for t(6;11) in patients ≤ 50 yrs. A separate cohort not selected for age was used to evaluate Xp11.2 tRCC.

Results: 3/5 antibodies with adequate staining are shown in table. For cohort 1, mean age and tumor diameter were 36.3 years and 3.8cm. t(6;11) was identified in 3 cases (2%) by FISH. 1/3 patients developed recurrence with mean survival of 52 months. For cohort 2, mean age and tumor diameter were 59.3 years and 12cm. Xp11.2 was identified in 3 cases (2%) by FISH. 3/3 patients developed mRCC with mean survival of 35.9 months.

Conclusion: tRCC is rare and associated with aggressive biology. IHC has poor predictive value to detect tRCC and FISH should be used for definitive diagnosis.

<table>
<thead>
<tr>
<th>Antibody</th>
<th>TFE3 (155 cases)</th>
<th>Xp11.2 (155 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive (%)</td>
<td>Negative (%)</td>
</tr>
<tr>
<td>TFE3</td>
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<td></td>
<td>94 (155)</td>
<td>101 (155)</td>
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<tr>
<td>Xp11.2</td>
<td>52 (155)</td>
<td>103 (155)</td>
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<td></td>
<td>5/155</td>
<td>3/155</td>
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</tbody>
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Podium #5

IS PERCUTANEOUS BIOPSY OF SMALL RENAL MASSES COST EFFECTIVE FOR PATIENTS WHO WILL BE TREATED SURGICALLY? A DECISION ANALYSIS MODEL

Amy Lim¹, Peter Langenstroer, MD², Maria Rozo¹ and E. Jason Abel, MD¹
¹University of Wisconsin; ²Medical College of Wisconsin
Presented By: Amy H. Lim, MD, PhD

Introduction: The routine use of percutaneous biopsy to evaluate small renal masses (SRM) in patients considering surgery remains controversial and institution specific. One common criticism is that a biopsy will increase cost because it rarely alters the need for definitive therapy. A decision analysis model was utilized to evaluate whether biopsy resulted in more upfront costs vs. partial nephrectomy (PN) without biopsy.

Methods: 2016 Medicare reimbursement rates were used to estimate costs of renal mass biopsy or PN using comprehensive charges for 30 days following the procedure. A decision analysis model (Treeage Pro 2016) evaluated the cost between renal mass biopsy or PN without prior biopsy. All patients were assumed to undergo surgery in the presence of cancer on biopsy. Inconclusive biopsies were repeated and negative biopsies did not require intervention. One-way sensitivity analysis was used to calculate the threshold costs for each branch of the decision tree. The probabilities for biopsy results were retrieved from the established literature.

Results: Medicare based cost for PN and renal mass biopsy are $12153 and $1696, respectively. The decision analysis demonstrated that at these values it is most cost effective to perform up front biopsies in all patients. The maximal threshold cost for PN to preferentially select PN is $10,710. Similarly if the cost of biopsy exceeds $1924 PN is preferred.

Conclusion: Based on decision cost analysis, biopsy of SRM's has a cost benefit in all cases if the results of a biopsy will impact the decision for surgery vs. observation.
Introduction: Nearly half of all patients undergoing partial nephrectomy (PNx) for cT1 tumors will have adverse final pathologic features such as high Fuhrman grade or pT3a disease. Given that preoperative risk factors associated with pT3a upstaging are not well defined we sought to identify predictors of pT3a disease in patients undergoing PNx for cT1 disease.

Methods: A retrospective chart review was completed to identify patients with cT1 renal masses who underwent open or minimally-invasive PNx between 2000-2014. The primary outcome was upstaging to pT3a disease at final pathology. Univariate and multivariate logistic regression analyses were performed to identify characteristics independently associated with pT3a upstaging.

Results: A total of 508 patients were identified, of which 449 (88%) had final pT1 and 59 (12%) had final pT3a disease. The etiology of pT3a upstaging was perinephric adipose extension in 69% (41/59), renal sinus fat invasion in 28% (14/59), and microscopic segmental or renal vein invasion in 7% (4/59). Patient age (p=0.012), ASA classification (p=0.005), preoperative radiologic tumor size (p=0.079), and high R.E.N.A.L Nephrometry Score complexity (p=0.017) were all associated with pT3a upstaging on univariate analysis. Multivariate analysis demonstrated a significant and independent association of patient age (p=0.025), preoperative radiologic tumor size (p=0.014), and high R.E.N.A.L Nephrometry Score complexity (p=0.019) with pT3a upstaging.

Conclusion: In patients who undergo PNx for cT1 disease, patient age, preoperative radiologic tumor size, and high R.E.N.A.L Nephrometry Score complexity represent readily measurable preoperative characteristics that are associated with increased risk of pT3a upstaging.

Introduction: We have previously reported that office based ultrasound guided RMB (ORMB) is safe, effective, and feasible when performed by urologists for the evaluation of a small renal mass (SRM). This study describes the differences in patient demographics, outcomes, and costs between ORMB performed by urologists and hospital based RMB.

Methods: This is a retrospective study involving 70 patients who underwent ORMB and 155 patients who underwent hospital-based ultrasound (HBUS) or CT (HBCT) guided RMB for the evaluation of a SRM (≤4.0cm) between January 2010 and February 2016.

Results: In the ORMB patients, median age was 69.5 years, median BMI 29.4, and 43/70 (61.4%) were male. There were 103 HBUS (median age 68.0 years, median BMI
29.3, 55/103 (53.4%) male) and 52 HBCT (median age 69 years, median BMI 30.1, 27/52 (51.9%) male) patients. Median tumor sizes were 2.7 cm, 2.2 cm, and 2.1 cm for the ORMB, HBUS, and HBCT patients, respectively (p=0.001). The diagnostic rates were 57/70 (81.4%), 91/103 (88.3%), and 45/52 (86.5%), respectively (p=0.434). Complication rates were 3/70 (4.3%), 14/103 (13.6%), and 7/52 (13.5%) (p=0.096). 0/70 ORMB, 2/103 (1.9%) HBUS, and 1/52 (1.9%) HBCT patients were admitted to the hospital for management of a complication. A cost analysis revealed that costs for the procedures were $1652, $3170, and $4688, respectively.

**Conclusion:** For select patients, ORMB for a SRM is as safe and efficacious as standard hospital based biopsies and potentially offers a greater convenience and availability, as well as decreased healthcare costs for patients and institutions.

**Podium #8**

**RECONSIDERATION OF T1 RENAL CELL CARCINOMA POST-OPERATIVE SURVEILLANCE PROTOCOL FOR PULMONARY METASTASIS**

Alyssa Kahan, Alexander Chow, MD, Christopher Coogan, MD and Kalyan Latchamsetty, MD
Rush University Medical Center
Presented By: Alyssa Kahan

**Introduction:** Pulmonary metastasis (PM) is seen in less than 5% of patients with T1 renal cell carcinoma (RCC). Despite this low incidence, the National Comprehensive Cancer Network (NCCN) and the AUA recommends an annual chest x-ray (CXR) for three years postoperatively. This study aims to evaluate the utility of surveillance CXR in detection of asymptomatic metastases in T1 RCC.

**Methods:** We performed a retrospective review of the UroPartners database of 215 patients treated surgically for T1 RCC from 2000-2015. Charts were examined for patient demographics, tumor pathology, and post-operative surveillance records. The primary outcome measured was the incidence of asymptomatic pulmonary lesion concerning for pulmonary metastasis as detected by CXR

**Results:** 13 (6%) patients had indeterminate lesions on CXR of which only 2 (1.3%) were confirmed to be PM by chest CT. Two additional patients (1.3%) had PM not detected by surveillance CXR. Mean duration of follow up for T1a and T1b was respectively 63.86 and 44.26 months. A mean of 3.27 and 3.0 CXRs were done for T1a and T1b, and 97 patients had surveillance for greater than 3 years. The average time for progression to metastases was 4.64 years. There was no significant difference in the incidence of PM when comparing partial nephrectomy (2/105) (p= 1.00).

**Conclusion:** The CXR is a low yield tool for surveillance of PM in patients with T1 RCC regardless of treatment modality. Pulmonary surveillance guidelines should be reconsidered to five years given the average time to metastatic progression.

**Podium #9**

**MULTI-INSTITUTIONAL SURVIVAL ANALYSIS OF INCIDENTAL PATHOLOGIC T3a UPSTAGING IN CLINICAL T1 RENAL CELL CARCINOMA FOLLOWING PARTIAL NEPHRECTOMY**

Christopher Russell, MD, Amir H. Lebastchi, MD, Juan Chipollini, MD, Adam Niemann, BS, Rohit Mehra, MD, Todd M. Morgan, MD, David C. Miller, MD, Ganesh S. Palapattu, MD, Khaled Hafez, MD, J. Stuart Wolf, MD, Wade J. Sexton, MD, Philippe E. Spiess, MD and Alon Z. Weizer, MD

1University of Michigan Department of Urology; 2 Moffitt Cancer Center, Department of Urology; 3University of Michigan Department of Pathology
Presented By: Christopher M. Russell, MD

**Introduction:** pT3a disease is known to represent a poor prognostic factor in renal cell
carcinoma (RCC), however the impact of incidental pT3a upstaging in patients undergoing partial nephrectomy (PNx) for cT1 disease, is not well defined.

**Methods:** A retrospective chart review was completed at the University of Michigan and Moffitt Cancer Center to identify patients who underwent PNx for cT1 RCC with subsequent pathologic upstaging to pT3a disease. Patients with pT3a disease were compared to controls who underwent PNx for cT1 disease with final pathology confirming pT1 disease. Recurrence-free survival (RFS) and cancer-specific survival (CSS) were estimated using the Kaplan-Meier method.

**Results:** A total of 95 patients with pT3a upstaging were identified and compared to 1164 controls. Median follow up in our series was 38.2 (IQR 11.6-56.8) months. Following PNx, 20 (21%) patients with incidental pT3a upstaging suffered disease recurrence at a median of 28.7 months (IQR 10.3-43.5). In comparison, 8 (0.7%) controls suffered disease recurrence at a median of 46.6 months (IQR 17.7-74.2). In patients with pT3a disease, the 5- and 8-year RFS was 71% and 59%, compared to 88% and 78% in controls (p<0.001). CSS was also significantly different between cohorts, with pT3a patients experiencing a 5- and 8-year CSS of 92% and 79%, compared to 99% and 98% in controls (p=0.001).

**Conclusion:** The data presented here suggests that patients with cT1 disease and incidental pT3a upstaging following PNx experience a significantly reduced RFS and CSS compared to those with final pT1 disease.

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**Podium #10**

**ROBOT ASSISTED RENAL MASS ENUCLEATION HAS PERIOPERATIVE AND FUNCTIONAL BENEFITS WITHOUT COMPROMISING ONCOLOGIC OUTCOMES**

Arpeet Shah, Robert Blackwell, Sarah Capodice, Marcus Quek and Gopal Gupta

Loyola University

Presented By: Arpeet Shah

**Introduction:** Partial nephrectomy has become the gold-standard of therapy for the treatment of renal mass. We compare perioperative, renal functional and oncologic outcomes of robotic-assisted laparoscopic partial nephrectomy by tumor enucleation vs sharp excision.

**Methods:** We retrospectively compared enucleation and sharp excision techniques of RALPN using our institution’s cohort of patients from the years July 2008 to March 2016.

**Results:** A total of 273 patients were identified. 102 underwent enucleation and 171 sharp excision. There were no differences in preoperative variables among the two groups. Enucleation patients had a higher rate of off-clamp, no ischemia surgery (44.1% vs 1.8%, p<0.001). Median total robotic time was lower for enucleation patients (111 vs 143 minutes, p=0.002), as was total surgery time (164 vs 212 minutes, p<0.001). Enucleation patients had lower median estimated blood loss (50 vs 125cc, p<0.001), a shorter median length of stay (1 vs 2 days, p<0.001), a lower rate of major complications (Clavien >= 3) (1.0% vs 5.9%, p=0.048), and a higher estimated GFR at three months follow-up (78 vs 68, p=0.002). There was no difference in positive surgical margins (4.9% vs 4.7%, p=0.6).

**Conclusion:** RALPN using an enucleation technique provides improvement in operative and warm ischemia time, decreased blood loss, complications, and length of stay, with better renal function seen at 3 months postoperatively. These benefits are seen without compromising oncologic outcomes in appropriately selected patients.
Podium #11
CONVERSION OF ROBOTIC PARTIAL NEPHRECTOMY TO RADICAL NEPHRECTOMY: A PROSPECTIVE MULTI-INSTITUTIONAL STUDY

Brian Chun, BSc¹, Deepansh Dalela, MD², Mouafak Tourojman, MD³, Ronney Abaza, MD⁴, Rajesh Ahlewat, MD⁵, James Adsheat, MA, MD⁶, Benjamin Challacombe, MBBS⁷, Prokar Dasgupta, MBBS, MSc, MD⁸, Daniel Moon, MBBS⁹, Giacomo Novara, MD¹⁰, Francesco Porpiglia, MD¹¹, Mahendra Bhandari, MD², Alexander Mottrie, MD¹² and Craig Rogers, MD²
¹Wayne State University School of Medicine; ²Vattikuti Urology Institute, Henry Ford Hospital; ³Henry Ford Hospital; ⁴OhioHealth Dublin Methodist Hospital; ⁵Medanta Institute of Kidney and Urology; ⁶Spire Harpenden Hospital; ⁷Guy’s and St. Thomas’ Hospitals NHS Foundation Trust; ⁸Guy’s Hospital; ⁹Epworth Healthcare; ¹⁰University of Padua; ¹¹University Urology Department at San Luigi Gonzaga Hospital; ¹²OLV Clinic

Presented By: Craig Glenn Rogers, MD

Introduction: During robot-assisted partial nephrectomy (RAPN), an intraoperative decision may be made to convert to radical nephrectomy (RN). We describe the incidence as well as patient and tumor characteristics for RAPN cases that convert to RN using a multi-institutional prospective database.

Methods: We prospectively identified 426 patients who underwent attempted RAPN between 2014 and 2016 at multiple international centers in the Vattikuti Collaborative Quality Initiative (VCQI) database. Patients were permanently logged for RAPN prior to the date of surgery and remained in the prospective database regardless of whether RN conversion was performed.

Results: 5.4% (23 of 426 patients) of scheduled RAPN cases ended with RN. Patients converted to RN were older (mean age 64.3 vs. 59.1, p=0.01) with more comorbidities (mean Charlson age-adjusted comorbidity score 5.57 vs. 4.23, p=0.003), but similar pre-operative eGFR (70.7 to 79.7; p=0.07). Conversions associated with upper pole location (52.2% vs. 31.7%, p=0.04), renal mass score between 10-12 (30.4% vs. 11.7%, p=0.009), higher mean renal mass score (8.17 vs. 7.17, p=0.01), and intraoperative complications (30.4% vs. 4.0%, p<0.0001). On pathological examination, converted patients were more likely to have invasion of perineal fat (21.7% vs. 3.5%, p<0.0001), sinus fat (8.7% vs. 0.7%, p=0.001), Gerota’s fascia (4.3% vs. 0.5%, p=0.03), and renal vein involvement (13.0% vs. 0.5%, p<0.0001).

Conclusion: Prospective data collection of intended RAPN increases the detection of conversions to RN. Difficult cases are initially attempted as RAPN with RN conversion more likely in patients with comorbidities, complex tumors, intraoperative complications, and poor pathologic features.

Podium #12
TRIFECTA OUTCOMES IN MULTIFOCAL TUMORS: A COMPARISON BETWEEN ROBOTIC AND OPEN PARTIAL NEPHRECTOMY

Nitin Yerram, MD, Julien Dagenais, MD, Matthew Maurice, MD, Naveen Nandanan, MD and Jihad Kaouk, MD
Cleveland Clinic
Presented By: Nitin K. Yerram, BS, MD

Introduction: Patients with unilateral, synchronous, multifocal renal tumors pose a significant treatment challenge for urologists. Prior studies have advocated an open approach to partial nephrectomy (PN) for patients with multifocal tumors but emerging data has suggested a robotic approach is also feasible. We report the "trifecta" outcome in patients who underwent multiple excisions for unilateral, synchronous, multifocal tumors using both open and robotic approaches.

Methods: We retrospectively reviewed 80 robotic and open patients who underwent PN and had multiple tumor excisions in an ipsilateral kidney. "Trifecta" was defined as
negative surgical margins, no urologic complications, and absence of AKI. Doubly robust inverse probability of treatment weighting was applied to equilibrate treatment groups and minimize selection bias. A propensity-weighted adjusted logistic regression was also applied to our cohort.

**Results:** 47 robotic and 33 open patients had sufficient data for analysis. In the overall cohort, 21.1% of patients had positive margins, 6.4% had a urologic complication, 47.7% had AKI, and 31.6% achieved trifecta. On logistic regression, robotic PN was equally likely to achieve trifecta outcome compared to open PN (OR 0.53 [95% CI, 0.10-2.76]). Solitary kidneys (OR 0.01 [95% CI, 0.001-0.17]), excisional volume loss (log units, OR 0.33 [95% CI, 0.03-0.64]), and number of excisions (OR 0.13 [95% CI, 0.02-0.67] were negative predictors of trifecta outcome.

**Conclusion:** Surgical resection remains the mainstay for patients with unilateral, synchronous, multifocal renal tumors. We found both open and robotic approaches were equally likely to achieve the “trifecta” outcome in an equilibrated high-risk group of patients.

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**Podium #13**

**PERINEPHRIC DRAIN PLACEMENT IS NOT REQUIRED AFTER ROBOTIC ASSISTED PYELOPLASTY**

Nathaly François, MD¹, Christopher Jaeger, MD¹, Christopher Dall, BS², Michael Sourial, MD¹ and Geoffrey Box, MD¹

¹Ohio State Wexner Medical Center; ²Ohio State University, College of Medicine

**Presented By:** Christopher Jaeger, MD

**Introduction:** Placement of a perinephric drain after pyeloplasty is considered dogma but is not evidence based. Several studies have demonstrated safe omission of drain placement following reconstructive renal surgery. We have transitioned to omitting drains after robotic assisted pyeloplasty (RAP) and are reporting our outcomes.

**Methods:** We retrospectively reviewed patient data from a single surgeon who performed RAP between 2009 and 2016, and compared outcomes between those with and without a drain, those with primary ureteropelvic junction obstruction (UPJO), and those with non-primary UPJO.

**Results:** Seventy-two of 83 patients (86.7%) had primary UPJO while 11/83 patients (13.3%) had non-primary UPJO. Twenty-eight of 83 patients (33.7%) had a drain, including 21/72 patients (29.2%) with primary UPJO and 7/11 patients (63.6%) with non-primary UPJO. All patients had a ureteral stent placed at the time of the operation. Comparing all patients, patients with primary UPJO, and patients with non-primary UPJO; the mean length of stay was 1.1 days/ 1.1 days/ 1.0 day, respectively; mean ureteral stent duration was 40.1 days/ 40.6 days/ 43.1 days; early complication rate was 16.9%/ 18.1%/ 9.1%; and failure rate was 10.8%/ 6.9%/ 36.4%. Failure was documented in 6 patients (21.4%) who had a drain and 3 patients (5.5%) who did not have a drain. There were no reported drain-related complications.

**Conclusion:** The incidence of complications that might benefit from drain placement is very low. Drain placement following RAP did not impact perioperative outcomes. It appears omission of a drain is safe.
Podium #14
Efficacy of Laparoscopic Nephrectomy in the Treatment of Chronic Pain in Patients with Recurrent Ureteropelvic Junction Obstruction
Daniel Szabo, MD, Michael Sourial, MD, Christopher Dall, BS, Christopher Miller, BS, Debra L. Zynger, MD and Geoffrey Box, MD
The Ohio State University Wexner Medical Center
Presented By: Daniel Szabo, MD

Introduction:
Patients with chronic pain from recurrent ureteropelvic junction obstruction (rUPJO) can be difficult to manage. These patients often have limited reconstructive options and may have reasonable differential renal function of the affected kidney. This study assesses the efficacy of laparoscopic nephrectomy in resolving the pain in those who chose nephrectomy.

Methods: This is a retrospective review, single surgeon experience of 84 patients who underwent nephrectomy for benign indications from 2010 through 2015. Resolution of chronic pain postoperatively and other perioperative outcomes were measured.

Results: Sixty-eight of the 84 (81%) patients presented with flank pain due to stone disease, infection, ureteral stricture, and other causes. Pain was related to rUPJO in 8/68 patients (11.8%), who underwent an average of 2.3 (SD = 1.4) prior procedures. Preoperative nuclear scintigraphy revealed an average function of 38% (SD = 11%) in affected kidneys, with 6/8 (75.0%) showing scintigraphy evidence of obstruction. Sixty-three of 67 patients (95.5%; one exclusion for lack of follow up) had resolution of their pain, including 8/8 (100%) of the patients with rUPJO. Postoperative estimated glomerular filtration rate (eGFR) only decreased by an average of 4.2% (SD = 9.8%). The overall and major (Clavien ≥3a) complication rates for all patients at 90 days were 29.4% and 4.4%, respectively, compared to 12.5% and 0% for patients with rUPJO.

Conclusion: Laparoscopic nephrectomy is a safe and effective procedure to relieve chronic flank pain, including patients with rUPJO.

Podium #15
Unique Residency Robotic Curriculum Development Using RoboLog
Petar Bajic, MD, Kristin Greco Baldea, MD and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Petar Bajic, MD

Introduction: Robotic training inherently differs between training programs. A previous pilot study allowed us to identify training deficits specific to our institution. These findings are used to develop a unique robotic curriculum for our residency program.

Methods: We previously developed a web-based tool (RoboLog) to log surgical skill progression, experience, and attending feedback for robotic cases. The most commonly performed robotic procedures were deconstructed to their major steps. Data from a pilot study was utilized to determine which steps were being performed by residents at various PGY levels and which steps were mainly being performed by attending surgeons only. We used this information to create a robotic curriculum which requires residents to demonstrate proficiency in certain steps based on their PGY year, tailored to institution-specific and PGY-level-specific deficits specific to our program.

Results: The curriculum for robotic prostatectomy, nephrectomy and partial nephrectomy is presented along with PGY-based competency requirements. Simpler steps are performed in the earlier PGY years and more challenging steps in the later years. Competency in these steps is determined by attending feedback using the Objective Structured Assessment of Technical Skills for Surgery (OSATS) global rating scale.
Conclusion: The standard system for logging robotic experience is lacking and does not clearly show a resident’s ability to complete an entire robotic procedure. Developing an institution-specific robotic curriculum using RoboLog allows residents to achieve competency in all steps of common urologic procedures by the end of their training. Further validation at other training programs is needed.

Podium #16
TIMING AND RISK FACTORS RELATED TO SYMPTOMATIC LYMPHOCELE FORMATION FOLLOWING OPEN AND ROBOTIC RADICAL PROSTATECTOMY
Raevti Bole, MA, MD, Christina Ogle, MD and Matthew Tollefson, MD
Mayo Clinic
Presented By: Raevti Bole, MD, MA

Introduction: Lymphoceles are the most common complication of radical prostatectomy (RP) and pelvic lymph node dissection (pLND), reportedly resulting in symptoms such as fever or pain in 15% of cases. However studies evaluating the risk factors for and symptomatology of lymphocele formation have been on a relatively small scale. With mounting evidence for improved staging and oncologic control following RP with extended pLND, it becomes more relevant to investigate the frequency and timing of symptomatic lymphocele (SL) formation on a large scale.

Methods: Between 2003 and 2012, 8081 eligible RP patients at our institution were identified with 245 developing SL postoperatively. Analysis was performed to identify demographic, clinical, and/or pathologic factors related to lymphocele formation.

Results: 114 (46.5%) patients developed SL within 1 year postoperatively. Patients undergoing open RP were more likely to develop early SL versus robotic RP patients (55.8% vs 28%, p <0.0001) Univariate analysis revealed statistically significant differences in patient age, preoperative PSA, tumor volume, number of lymph nodes examined, pathologic stage and Gleason score. Multivariate analysis revealed that only total lymph nodes removed remained significant.

Conclusion: Symptomatic lymphocele occurred in less than 5% of patients undergoing RP. Risk factors included older age, higher preoperative PSA, higher tumor volume, greater number of nodes examined, pathologic stage, and Gleason score with number of lymph nodes examined remaining significant on multivariate analysis. Overall, lymphocele occurred in a similar number of open versus robotic prostatectomies.

Podium #17
SURGICAL PLANNING IN HIGH RISK PROSTATE CANCER: PREOPERATIVE MULTI-PARAMETRIC MAGNETIC RESONANCE ALLOWS FOR NERVE-SPARING WITHOUT COMPROMISING SURGICAL MARGINS
Petar Bajic, MD1, Robert Blackwell, MD1, Andrew Choi, BS2, Peter Filip, BS2, Marcus Quek, MD1 and Gopal Gupta, MD1
1Loyola University Medical Center; 2Loyola University Stritch School of Medicine
Presented By: Petar Bajic, MD

Introduction: High-risk prostate cancer patients have traditionally been less likely to undergo nerve-sparing prostatectomy due to concern for positive margins. Multiparametric magnetic resonance imaging (mpMRI) provides anatomic detail of the prostate and may be used for surgical planning, We hypothesize that mpMRI allows for nerve-sparing in select high-risk prostate cancer patients.

Methods: Patients with high-risk, non-metastatic prostate cancer treated with robotic-assisted radical prostatectomy (RARP) were retrospectively identified from a single institution from 2006-2016. Variables assessed included age, preoperative PSA, clinical stage, biopsy Gleason score, preoperative mpMRI, preoperative erectile dysfunction (ED), and surgical margin status. Descriptive statistics were performed, and a logistic regression model was fit to assess predictors of having a nerve-sparing RARP.
Results: High-risk prostate cancer was present in 138 patients who underwent RARP, of whom 22% underwent pre-operative mpMRI. Patients who had nerve-sparing denied ED (60% vs 36.6% for non-nerve sparing, p=0.001), had a lower biopsy Gleason score (p<0.001), and underwent a preoperative mpMRI (28.2% vs 13.5%, p=0.045). On multivariate analysis adjusted for surgeon and patient age, independent predictors of nerve-sparing included preoperative mpMRI (OR 4.0, 95% CI 1.2-13.4, p=0.02) and erectile function (No ED: OR 7.7, 95% CI 2.2-24.7, p=0.007). Surgical margins were positive in 35.5% of patients. Patients who underwent nerve-sparing had lower rates of positive margins (28.2% vs 47.2%, p=0.02), while mpMRI did not significantly affect positive margin rates (31.3% vs 36.5%, p=0.6).

Conclusion: Prostate mpMRI can be used in surgical planning for high-risk prostate cancer patients and increases the rate of nerve-sparing without compromising surgical margins.

Podium #18
COST-EFFECTIVENESS OF TREATMENTS FOR BENIGN PROSTATIC HYPERPLASIA: PHARMACEUTICAL THERAPY, MINIMALLY INVASIVE PROCEDURES, AND SURGERY
James Ulchaker, MD, FACS1 and Melissa Martinson, MS, PhD2
1Cleveland Clinic Foundation; 2Technomics Research LLC
Presented By: James C. Ulchaker, MD, FACS

Introduction: We conducted a cost-effectiveness analysis to address which BPH treatments make most sense clinically and economically.

Methods: A Markov model was constructed to compare combination drug therapy - generic (Rx-G) and brand (Rx-B), Rezum, Prostiva, UroLift, GreenLight, and TURP. Effects were IPSS scores and payer costs were Medicare national-average reimbursements. Improvements in IPSS scores, adverse event rates, treatments for adverse events, and retreatment rates were estimated from medical literature. Incremental cost-effectiveness ratios (ICERs) among pairs of treatments were calculated over 2 years.

Results: The table shows average costs and IPSS scores at two years. Three therapies were most cost-effective: RX-G, Rezum, and TURP. GreenLight was similar to TURP; Prostiva was similar to Rezum. UroLift was similar in effectiveness to Rezum and Prostiva but cost more than twice as much. RX-B was least effective (equal to RX-G) and most costly.

Conclusion: At two years, 3 therapy pairs are most cost-effective: RX-G, Rezum/Prostiva, and GreenLight/TURP. These therapies dominate RX-B and UroLift. If RF therapies continue at the same AE and retreatment rates over 4 years, they will be nearly equal in cost to RX-G but provide much more symptom relief over time. This might justify use of RF therapies as a first-line therapy in patients who value this benefit.
Podium #19
EVALUATING THE LINK BETWEEN AGRICULTURAL CHEMICAL USE WITH KIDNEY, BLADDER, AND PROSTATE CANCER AT THE POPULATION LEVEL IN THE STATE OF ILLINOIS
Hayden Warner, BS, Daniel Sadowski, MD, Georgia Luckey-Mueller, MS, Whitney Zahnd, MS and Kevin McVary, MD
Southern Illinois University School of Medicine
Presented By: Hayden Warner

Introduction: Exposure to agricultural chemicals has been linked to numerous cancers. We aimed to evaluate the association between use of fertilizers, pesticides, and herbicides and the rates of kidney (KCa), bladder (BCa), and prostate cancer (PCa) at the county-level in Illinois.

Methods: The 1982 Census of Agriculture provided data for total county acreage, total farmland acreage, and acreage on which fertilizers, pesticides, and herbicides were used for Illinois' 102 counties. Age-adjusted incidence (1993-2012) and mortality rates (1990-2012) for KCa, BCa, and PCa were included. Population demographics, rural/urban status, physician density, cancer-specific risk factors, and cancer stage were covariates. Correlation and regression analyses were performed.

Results: Farmland accounted for a mean of 79.2% (±17.2%) of total county acreage. Average fertilizer use was observed in 42.3% (±13.2%) of the total county acreage, pesticides in 15.7% (±10.9%), and herbicides in 0.793% (±0.834%). Neither KCa incidence nor mortality was associated with agricultural chemicals on bivariate and regression analyses. BCa incidence was correlated with fertilized acreage (p<0.01) and pesticide use (p=0.04), but significance was lost in regression analysis. BCa mortality was marginally correlated with herbicide use (p=0.06), which was significant in the multivariable model (p=0.01). PCa incidence was weakly correlated with fertilizers on bivariate analysis (p=0.07) and statistically significant with regression analysis (p<0.01). PCa mortality was not associated with the agricultural chemicals.

Conclusion: We found herbicide use was associated with BCa mortality and fertilized acreage with PCa incidence. Fertilizer and pesticide use were correlated with BCa incidence but significance was lost in the regression model.

Podium #20
WITHDRAWN

Podium #21
THE STATE OF UROLOGIC MALPRACTICE: AN ANALYSIS OF RECENT CLAIMS DATA AND TRENDS
M. Ryan Farrell, MD, MPH and Christopher Coogan, MD
Rush University Medical Center
Presented By: M. Ryan Farrell, MD, MPH

Introduction: Given the impact of medical professional liability on practicing urologists, we provide urologic malpractice claims data, associated costs, and recent trends.

Methods: We analyzed urological provider-level medical malpractice claim data from the Physician Insurers Association of America (2010-2014). Data adjusted for inflation and reported in 2014 dollars.

Results: From 2010-2014, 1216 claims were filed, 27% resulted in indemnity payments. Relative to 2005-2009, total claims increased 5.5% (2005-2009, 1153-claims), average indemnity payment increased 1.8% to $360,606; average defense expenses increased 13.3% to $44,339. From 2010-2014, average indemnity paid for closed urologic claims was 4.1% higher than the combined average for 28 medical specialties reviewed; however, average defense expenses for closed urologic claims were 13.6% lower. The majority of urological claims were dropped/withdrawn/dismissed
were covariates. Correlation and regression analyses were performed. Bivariate analysis (p=0.07) and statistically significant with regression analysis (p<0.01). Multivariable model (p=0.01). PCa incidence was weakly correlated with fertilizers on was marginally correlated with herbicide use (p=0.06), which was significant in the regression analyses. BCa incidence was correlated with fertilized acreage (p<0.01) and pesticides in 15.7% (±10.9%), and herbicides in 0.793% (±0.834%). Neither KCa Average fertilizer use was observed in 42.3% (±13.2%) of the total county acreage, introduced urologic claims data, associated costs, and recent trends. Given the importance of medical professional liability on practicing urologists, we provide urologic malpractice claims data, associated costs, and recent trends. We analyzed urological provider-level medical malpractice claim data from the 1990-2012 period, and reported in 2014 dollars. Small claims were included. Population demographics, used for Illinois' 102 counties. Age-adjusted incidence (1993-2012) and mortality rates were modeled for males and females, and reported in 2014 dollars. We found herbicide use was associated with BCa mortality and fertilized acreage with PCa incidence. Fertilizer and pesticide use were correlated with BCa incidence but significance was lost in the regression model. Podium #20

Introduction: Exposure to agricultural chemicals has been linked to numerous cancers. We aimed to evaluate the association between use of fertilizers, pesticides, and herbicides in Illinois and incidence of kidney, bladder, and prostate cancers. Podium #21

The 1982 Census of Agriculture provided data for total county acreage, total farmland acreage, and acreage on which fertilizers, pesticides, and herbicides were used. Podium #22

Conclusion: Urologic claims, indemnity payments, and defense expenses are increasing; however, most claims do not result in indemnity payments. These data may assist urologists when evaluating risk management strategies and may contribute to improving patient outcomes.

Podium #23

Significant Rise in the Number of Female Urology Residency Applicants

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1University of Michigan; 2University of Utah; 3University of Florida; 4University of Toledo; 5University of Washington; 6Univesrity of Michigan

Presented By: Roger K. Khouri Jr., MD

Introduction: The percentage of female urology applicants continues to increase. An improved understanding of this applicant pool is needed. We sought to investigate the motives and interests of today's female Urology applicants as compared to their male counterparts.

Methods: We emailed an electronic survey to all applicants to the participating institutions in the 2016 Urology Match. Applicants were asked what factors influenced their decision to pursue Urology, what they look for in a residency program, and how they envision their careers. Unpaired, two-tailed t-tests were used to assess differences between male and female respondents.

Results: 346 applicants responded, of which 80 (23.1%) were female. Females were less likely to be drawn to urology by new technologies (p<0.001), income potential (p<0.001), prestige of the specialty (p=0.004), or prior research in the field (p=0.022). Both male and female applicants viewed operative experience as the most important factor when evaluating a residency program, and the only difference between them was that females ranked their interactions with current residents higher than did their male counterparts (p=0.030). While females were equally likely to plan to pursue careers in academic urology (p=0.562), they were less likely to plan to pursue subspeciality training in robotics (p<0.001) and more likely to plan to pursue female urology (p<0.001), reconstructive urology (p=0.001), and pediatric urology (p=0.007).

Conclusion: The presence of females in urology continues to increase. While females are equally likely to plan to pursue careers in academic urology as their male counterparts, their motives and interests differ significantly. This information will facilitate continued recruitment of females into the field.

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Podium #24
PREDICTORS OF A SUCCESSFUL UROLOGY RESIDENT USING MEDICAL STUDENT APPLICATIONS
R. Houston Thompson, MD, Christine M. Lohse, MS, Douglas A. Husmann, MD, Bradley C. Leibovich, MD and Matthew T. Gettman, MD
Mayo Clinic
Presented By: R. Houston Thompson, MD

Introduction: There is a paucity of data evaluating features from the medical student application that are associated with a successful urology residency.

Methods: We reviewed the Mayo Clinic experience with 53 urology residents who matriculated between 2000 and 2011. Residents were independently scored 1-10 based on overall quality by the current and incoming program director. Discrepant scoring by >2 was resolved by the former program director. Associations of features available from the medical student application with an excellent score were evaluated with logistic regression.

Results: Discrepant scoring >2 was noted in only 3 (6%) residents. Among the 53 residents, the mean score was 6.2 (range 1-10) and 20 (38%) residents had an excellent score of 8-10. Multiple features were associated with an excellent score (Table). In a multivariable model, no negative comment during the interview (p=0.018), medical school not ranked in the top 50 (p=0.012), and honors grade in all core clinical clerkships (p=0.006) were associated with an excellent score; the c-index for this model was 0.91.

Conclusion: We demonstrate features associated with an excellent urology resident, most notably an honors grade in all core clinical clerkships.
Podium #25
INSTITUTIONAL VARIABILITY OF MEDICAL SCHOOL GRADE DISTRIBUTION AMONG 2016-2017 UROLOGIC RESIDENCY APPLICANTS
Mary E. Westerman, MD, Raevti Bole, MD, Norman S. Turner, MD, Matthew T. Gettman, MD and R. Houston Thompson, MD
Mayo Clinic Department of Urology
Presented By: Mary Elizabeth Westerman, MD

Introduction: To assess the variability among United States medical school (USMS) grade distributions for students applying to a Urology residency.

Methods: Electronic Residency Application Services data submitted to a single institution for the 2016-2017 match cycle were reviewed. Pre-clinical and core clerkship grading characteristics were extracted and compared among public and private universities.

Results: Data was available for 96/136 (70.5%) allopathic USMS representing approximately 75% of graduating US seniors in 2017. Fifty-eight (60%) schools were public and 38 (40%) were private. The majority used pass/fail grading for their pre-clinical years (54%), while only 2% used pass/fail for core clerkship grading. An honors/high pass/pass/fail system was most commonly used for clerkship grading (37.5%); however 9 different grading schemes were identified. The highest available grade was achieved by a median of 30-40% of students per core clerkship, but the range (6-95%) was broad. Students attending a private USMS were more likely to receive the highest available clerkship grade compared to those attending public schools (39% versus 34%, p<0.0001).

Conclusion: There is significant institutional variation in clinical grading practices at USMS. For some core clerkships, up to 95% received the highest grade which diminishes the ability to distinguish applicants. A standardized approach to reporting clinical performance may allow for better comparison of applicants.
Podium #26
SPILLOVER EFFECT OF THE HOSPITAL READMISSION REDUCTION PROGRAM AND RADICAL CYSTECTOMY READMISSION RATES
Matthew Lee, MD1, Tudor Borza, MD1, Mary Oerline, MPH1, Ted Skolarus, MD1, Bruce Jacobs, MD2, Rita Jen, MD1, Amy Luckenbaugh, MD1, Vahakan Shahinian, MD1 and Brent Hollenbeck, MD1
1University of Michigan; 2University of Pittsburgh
Presented By: Matthew Lee, MD

Introduction: Readmission rates after radical cystectomy are among the highest in surgery at 25% and have remained stable. The Hospital Readmission Reduction Program (HRRP) was implemented to reduce costs by penalizing hospitals with excess readmissions for certain conditions, e.g., total hip and knee arthroplasty. We examined whether changes made by hospitals in response to the HRRP had an effect on cystectomy readmissions.

Methods: We used 20% national Medicare data to identify patients undergoing major joint surgery and cystectomy from 2010 to 2014. We calculated annual-adjusted hospital readmission rates for hip and knee arthroplasty to use as a quality measure. We then measured adjusted cystectomy readmission rates according to this measure of hospital quality using a multivariable logistic regression model.

Results: We identified 2,735 patients at 602 hospitals undergoing cystectomy. Patients treated in top-quartile hospitals (greatest reduction in readmission after joint surgery) were similar in age, race, and comorbidity to those in the bottom quartile, but differed in socioeconomic status and residential area. Overall, 26% of patients were readmitted within 30 days post-cystectomy.

Conclusion: We found no correlation between a hospital's ability to reduce readmissions after major joint surgery and readmission after cystectomy. This suggests that each surgical condition may require unique interventions to prevent readmissions given the heterogeneity in patient populations and post-operative complications.

Podium #27
POST-ACUTE CARE AS A DRIVER OF EPISODE PAYMENT VARIATION FOR AMBULATORY STONE SURGERY
John Hollingsworth, MD, MS, Hechuan Hou, James Dupree, Brian Seifman, Adam Kadlec, Anita Tekchandani, David Leavitt, William Roberts and Khurshid Ghani
University of Michigan
Presented By: John M. Hollingsworth, MD, MS

Introduction: Because post-acute care (PAC) services [e.g., emergency department (ED) visit] after surgery are expensive, their use is coming under scrutiny. In this context, we assessed variation in total episode payments for ambulatory stone surgery across hospitals in Michigan, examining PAC as a driver of this variation.

Methods: Working with medical claims (2012-2015), we identified patients who
underwent ambulatory stone surgery at hospitals participating in the Michigan Value Collaborative. We defined surgical episodes that extended from the procedure date through 30 days post-discharge and totaled payments for all relevant services during this window. We then categorized component payments to the hospital for the index surgery, as well as those for professional services, subsequent hospitalizations, and PAC.

**Results:** We identified 7,807 patients who underwent ambulatory stone surgery at 69 hospitals. Mean episode payments totaled $9,538 ($13,044 and $9,037 for episodes associated with and without an ED visit after surgery, respectively) and ranged from $7,317 to $11,914 across quartiles of hospital cost (62.8% difference, P < .001). Payments were higher among hospitals in the highest cost quartile for all payment components. Index surgery payments contributed the most to the variation in total episode payments between high- and low-cost hospitals (64%), followed by those for subsequent hospitalizations (13%), professional payments (12%), and PAC (11%).

**Conclusion:** Significant variation in total episode payments for ambulatory stone surgery exists, which is driven, in part, by payments for PAC. Thus, efforts to reduce the use of PAC services like ED visits are likely to improve cost-efficiency.

**Podium #28**

**AFRICAN AMERICANS WITH STAGE II BLADDER CANCER LESS LIKELY TO UNDERGO RADICAL CYSTECTOMY**

Daniel Sadowski, MD, MPhil, Hayden Warner, BS, Steve Scaife, MS and Kevin McVary, MD
Southern Illinois University School of Medicine
Presented By: Daniel James Sadowski, MD, MPhil

**Introduction:** The gold standard treatment for muscle-invasive bladder cancer (BCa) without metastasis is radical cystectomy. Our objective was to investigate possible treatment disparities for rural versus urban patients with stage II BCa.

**Methods:** Using the SEER-Medicare database, we included all Medicare beneficiaries diagnosed with stage II BCa through 1991-2009. We identified patients who underwent radical cystectomy using ICD-9 codes 57.7, 57.71, 57.79, and 68.8. Rural-Urban Continuum Codes were used to designate rural status of the patient based on county of residence. A multivariable regression model was constructed to evaluate which patients had a radical cystectomy while controlling for demographic and clinical covariates.

**Results:** A total of 16,130 urban and 2,520 rural patients were identified as having stage II BCa. There was no significant difference between rural and urban patients in the proportion who underwent radical cystectomy (26.1% vs. 24.6%, p=0.10) or received lymph node dissection (22.3% vs. 22.1%, p=0.83), yet one year survival was worse (80.6% vs. 82.6%, p=0.01). On multivariable analysis, age group over 80 years old (OR 0.37, CI 0.33-0.41), African American race (OR 0.69, CI 0.59-0.81), unmarried status (OR=0.87, CI 0.78-0.97), and higher Charlson comorbidity score (OR 0.93, CI 0.91-0.95) were associated with a decreased likelihood of undergoing cystectomy. Gender, Hispanic ethnicity, rural status, socioeconomic deprivation, and obesity were not significant.

**Conclusion:** Rural patients were not less likely than urban counterparts to undergo radical cystectomy with lymph node dissection for stage II BCa. A racial disparity was identified and warrants further evaluation.
Podium #29
WITHDRAWN

Podium #30
CHEMOTHERAPY PRIOR TO RADICAL NEPHROURETERECTOMY IN PATIENTS WITH ADVANCED UPPER TRACT UROTHELIAL CARCINOMA
Tanner Miest, MD, PhD1, Amir Toussi, MD1, Jeff Wang, MD1, Stephen Boorjian, MD1, Houston Thompson, MD1, Brian Costello, MD2, Bradley Leibovich, MD3 and Matthew Tollefson, MD1
1Mayo Clinic Department of Urology; 2Mayo Clinic Division of Medical Oncology; 3Mayo Clinic Department of Urology
Presented By: Tanner Miest, MD, PhD

Introduction: Chemotherapy improves survival in muscle-invasive urothelial carcinoma of the bladder. However, its use in the management of upper tract urothelial carcinoma (UTUC) either before or after radical nephroureterectomy remains unclear. Our goal was to determine the outcomes of neoadjuvant chemotherapy in patients with UTUC.

Methods: We identified 676 patients who underwent radical nephroureterectomy for UTUC from 1995-2011 at our institution. Patients were categorized by radiographic and pathologic response to neoadjuvant chemotherapy. Postoperative cancer-specific survival was estimated using the Kaplan-Meier method and compared using the log rank test.

Results: We identified 42 patients (6.2%) that underwent chemotherapy prior to nephroureterectomy. The majority of these patients had clinical lymphadenopathy (25, 59.5%) or limited metastatic disease (8, 19%) prior to chemotherapy. Most patients (40, 95%) received a cisplatin-based regimen. Patients received a median of 4 cycles of chemotherapy prior to surgery. The median reduction in radiographic tumor size was 36%. A total of 13 patients (31%) were downstaged to non-invasive, node negative disease at surgery. Cancer-specific survival was significantly associated with complete radiographic response (p=0.04) and pathologic downstaging to non-invasive, node negative UC (p=0.018). The majority of patients that harbored residual invasive or nodal disease died of UTUC.

Conclusion: Neoadjuvant cisplatin-based chemotherapy demonstrates similar efficacy in downstaging UTUC as bladder urothelial carcinoma. Patients who experience complete radiographic response and/or pathologic downstaging have durable long-term survival. Due to the high mortality of advanced UTUC, further studies into the timing, method and type of chemotherapy are needed.

Podium #31
IN VITRO CHARACTERIZATION OF TWO ONCOLYTIC VIRUSES AGAINST UROTHELIAL CARCINOMA
Tanner Miest, MD, PhD1, Yumei Zhou, PhD2, Jeffrey Karnes, MD1, Stephen Boorjian, MD1, Houston Thompson, MD1, Matthew Tollefson, MD1, Igor Frank, MD1, Kah Whye Peng, PhD2, Stephen Russell, MD, PhD2 and Bradley Leibovich, MD1
1Mayo Clinic Department of Urology; 2Mayo Clinic Department of Molecular Medicine
Presented By: Tanner Miest, MD, PhD

Introduction: Oncolytic virotherapy harnesses replicating viruses for lytic destruction of tumor cells. We developed two transgenic oncolytic viruses expressing the sodium-iodide symporter (NIS) based on measles virus (MV-NIS) and vesicular stomatitis virus (VSV-NIS). In this study, we evaluated infectivity and cell killing of these viruses in low and high-grade urothelial carcinoma (UC) cell lines.

Methods: RT-4 (low grade) and UM-UC-3 (high grade) UC cell lines were obtained from ATCC. MV-NIS and VSV-NIS were generated at Mayo Clinic facilities. In vitro infectivity studies were performed with and without exposure to urine at multiplicity of
infections (MOI) of 0.1, 1 and 3. MV and VSV vectors expressing green florescent protein (GFP) were used to characterize virus spread by fluorescent microscopy.

**Results:** MV-NIS and VSV-NIS both achieved robust infection in RT-4 and UM-UC-3 cell lines. Equivalent viruses expressing green florescent protein (MV-GFP and VSV-GFP) visualized more rapid and widespread virus infection in high-grade UM-UC-3 cells compared to low-grade RT-4 cells. VSV-NIS achieved nearly 80% and MV-NIS achieved nearly 40% cell killing relative to negative controls in RT-4 and UM-UC-3 cell lines, respectively. Importantly, MV-NIS retained significant infectivity and cell killing after incubation in urine.

**Conclusion:** Our data show robust infectivity and cell killing by two clinically tested oncolytic viruses in low and high-grade UC. These data highlight the potential of oncolytic virotherapy as a therapeutic strategy for both invasive and superficial UC. An attractive therapeutic strategy combines the immuno-stimulatory capabilities of oncolytic viruses with the efficacy of check-point inhibition for synergistic tumor killing.

**Podium #32**

**SKELETAL MUSCLE INDEX, ADIPOSITY AND DISCHARGE DISPOSITION AFTER RADICAL CYSTECTOMY FOR BLADDER CANCER**

Jacob Albersheim-Carter, BA, Joseph Renier, BA, Trent Bailey, BS, Suprita Krishna, MBBS, Badrinath Konety, MD, MBA and Christopher Weight, MD, MS

University of Minnesota Medical School

Presented By: Jacob Ari Albersheim-Carter

**Introduction:** Radical cystectomy (RC) is the gold-standard treatment for muscle-invasive urothelial carcinoma (UC), but has consistently been associated with substantial postoperative morbidity. Skeletal muscle index (SMI) has been shown to be a predictor of various outcomes after RC.

**Methods:** Lumbar SMI and fat mass index (FMI) from pre-operative CT scans of 144 patients who underwent RC for UC between 2009 and 2014 were measured using SliceOmatic software. Various clinicopathologic variables were collected on these patients. Univariate and multivariate analyses were performed to determine if SMI, FMI, and the SMI:FMI ratio would be independent predictors of hospital disposition.

**Results:** 49 (34%) patients were discharged to a skilled nursing facility (SNF) from the hospital. On univariate analysis, each unit increase of SMI or FMI was associated with a significant, 5.7% (95% CI: 1.8-9.6, p=0.0036) reduction or a 14% (95% CI: 1.03-27.5, p=0.035) increased chance of discharge to a SNF, respectively. The SMI:FMI ratio had an even more pronounced effect, with 64% reduction in discharge to a SNF per unit increase (95% CI 31-97, p<0.001). On multivariate analysis, when controlling for age, Charlson Comorbidity Index, BMI, and nutritional status, the SMI:FMI ratio remained a significant predictor of discharge to a SNF, with a 55% reduction for each unit increase in the SMI:FMI ratio (p=0.01).

**Conclusion:** Quantitative measurements of skeletal muscle index and adiposity using pre-operative CT scans are significant predictors of discharge disposition. These data are available on most patients and may be used to optimize discharge planning and accurate counseling of patients undergoing RC.
UNDERUTILIZATION OF PELVIC LYMPH NODE DISSECTION DURING PARTIAL CYSTECTOMY FOR BLADDER CANCER: OPPORTUNITY FOR IMPROVEMENT

Podium #33

Vidit Sharma, MD1, Mary E Westerman, MD2, Stephen A Boorjian, MD2, R. Houston Thompson, MD2, R. Jeffrey Karnes, MD2, Igor Frank, MD2 and Matthew K Tollefson, MD2

1Mayo Clinic; 2Department of Urology, Mayo Clinic, Rochester, MN

Presented By: Vidit Sharma, MD

Introduction: Guidelines recommend pelvic lymph node dissection (PLND) during both partial cystectomy (PCx) and radical cystectomy (RCx). Here we analyze practice patterns using the National Cancer Database (NCDB) to determine the utilization of PLND during PCx relative to RCx.

Methods: Localized bladder cancer patients without concurrent malignancies receiving either RCx or PCx were identified using years 2004-2013 of NCDB, a dataset recording ~70% of cancer diagnoses in the United States. Standard descriptive statistics and multivariable logistic regression were used to identify an association of PCx vs RCx and PLND rates.

Results: Of 29,981 patients [14.5%(4,357) PCx and 85.5%(25,624) RCx], PCx patients had lower rates of PLND compared to RCx patients(40.3% vs 90.9%, p<0.001). This discrepancy remained for subsets of patients with cT2 disease (53.2% vs 92.6%), cT3 disease (42.5% vs 90.7%), and cN+ (64.3% vs 95.7%, p<0.001 for all). The incidence of PLND increased from 2004 to 2013 for both PCx (37.3% to 46.5%) and RCx (86.0% to 94.0%, p<0.001 for both). When a PLND was performed during PCx, 16.6% of patients had positive nodes. On multivariable logistic regression analysis, PCx was associated with lower odds of receiving a PLND relative to RCx (OR=0.078, p<0.001) after adjusting for age, Charlson Comorbidity Count, year, Grade, cT stage, cN stage, and academic status.

Conclusion: Using the NCDB, PCx was associated with an independently lower chance of receiving PLND compared to RCx. While PLND rates improved over time, more than half of all PCx patients did not receive a PLND in 2013 in the NCDB.

POSTOPERATIVE OUTCOMES ASSOCIATED WITH PREOPERATIVE MALNUTRITION: A PROSPECTIVE STUDY OF PATIENTS UNDERGOING RADICAL CYSTECTOMY

Podium #34

Conrad Tobert, MD, Nathan Brooks, MD, Lewis Thomas, MD, Chermaine Hung, BS, Sarah Mott, MD and Kenneth Nepple, MD

University of Iowa Hospitals and Clinics

Presented By: Conrad Tobert, MD

Introduction: Malnutrition has emerged as known risk factor for patients undergoing radical cystectomy. We evaluated the impact of malnutrition on complication rates and overall survival.

Methods: All cystectomy patients at our institution from July 2014 to January 2017 were prospectively evaluated at their preoperative visit for malnutrition. 30-day complication rate was classified as Clavien grade 3 or higher, overall survival was estimated using the Kaplan-Meier method and compared with log-ranked test. Variables associated with malnutrition were summarized with hazard ratios.

Results: 41 of 139 (29.5%) patients had preoperative malnutrition. Median length of stay was 7 days (IQR: 5, 8). 26 (18.7%) patients were discharged to a skilled care facility, 34 (24.4%) were readmitted within 30-days, and 54 (38.8%) had a Clavien grade 3 or higher complication within 30 days. The median follow-up was 1.2 years. Malnutrition was not associated with Charlson comorbidity index or length of stay. Malnourished patients were significantly more common to be discharged to a care facility, 34 (24.4%) were readmitted within 30-days, and 54 (38.8%) had a Clavien grade 3 or higher complication within 30 days. The median follow-up was 1.2 years. Malnutrition was not associated with Charlson comorbidity index or length of stay. Malnourished patients were significantly more common to be discharged to a care facility, 34 (24.4%) were readmitted within 30-days, and 54 (38.8%) had a Clavien grade 3 or higher complication within 30 days. The median follow-up was 1.2 years. Malnutrition was not associated with Charlson comorbidity index or length of stay. Malnourished patients were significantly more common to be discharged to a care
Podium #35
OBESEITY MAY BE A RISK FACTOR FOR URETEROENTERIC ANASTOMOTIC STRICTURES AFTER RADICAL CYSTECTOMY WITH URINARY DIVERSION
Belinda Li, MD, Robert H. Blackwell, MD, Bethany K. Burge, MD, Elizabeth L. Koehne, MD and Marcus L. Quek, MD
Loyola University Medical Center
Presented By: Belinda Li, MD

Introduction: Ureteroenteric anastomotic strictures (UAS) are a known long-term complication of radical cystectomy with urinary diversion (RCUD). We assessed our series of RCUD to determine predictors of UAS.

Methods: We completed a retrospective review of consecutive patients who underwent RCUD through 2005-2015 by a single surgeon. Anastomoses were performed in a freely-refluxing end-to-side fashion. Kaplan-Meier time-to-event analysis was performed to estimate the cumulative incidence of UAS. Univariable and multivariable logistic regression were performed to identify predictors of UAS.

Results: RCUD was performed in 287 bladder cancer patients, with median age of 69.9 years (IQR 62.8–76.2) and median follow-up of 21.4 months (IQR 8.9–42.3). Urinary diversions included ileal conduit (164, 57.3%), orthotopic neobladder (114, 39.9%), and continent cutaneous reservoir (8, 2.8%). UAS developed in 29 patients (10.1%), at a median of 6.4 months (IQR 4.4–8.8). The cumulative incidence of UAS was 12.5% (95% CI 8.7–17.7) at 24 months. UAS patients had higher rates of obesity (72.4% vs 28.0%, p<0.001) and longer median follow-up (34.0 vs 20.2 months, p=0.04). On time-to-event analysis, obese (BMI>30) patients had a higher cumulative incidence of stricture than non-obese (25.2% vs 5.9%, p<0.001) at 24 months. On multivariate analysis, only obesity was an independent predictor of UAS (OR 6.4, 95%CI 2.6–156; p<0.001).

Conclusion: Ureteroenteric anastomotic strictures are often a silent event arising...
within the first year of radical cystectomy with urinary diversion. Obese patients are at a significantly increased risk of stricture development, regardless of urinary diversion type or oncologic characteristics.

**Podium #36**

**HEXAMINOLEVULATE GUIDED FLUORESCENCE CYSTOSCOPY DETECTS SIGNIFICANTLY MORE RECURRENCES COMPARED TO CYSTOSCOPY AND CYTOLOGY FOR POST-INTRAVESICAL THERAPY SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER**

Matthew Sloan, BS, Nathan Brooks, MD, Aditi Patel, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD

University of Iowa Hospitals and Clinics

Presented By: Matthew Sloan, BA

**Introduction:** Detection of recurrence after intravesical therapy (IVe) is crucial to prevent delay in therapy in patients with non-muscle invasive bladder cancer (NMIBC). We determined the diagnostic efficacy of hexaminolevulate guided cystoscopy (HAL) in surveillance of patients after IVe for NMIBC.

**Methods:** We retrospectively reviewed a cohort of 79 patients who underwent cytology, white light cystoscopy, HAL, bilateral retrograde pyelograms and washes, targeted, prostatic urethral and random bladder biopsies 6 weeks after completing induction of IVe. We determined the sensitivity, specificity, and predictive values for current standard of care (white light cystoscopy with cytology) and HAL, as well as the NNT to detect 1 additional recurrence with HAL.

**Results:** Forty-two of the 79 patients had recurrence, of which 35 were detected on HAL and 26 were detected with white light and cytology. HAL detected an additional 24% of tumors, of which 16 (84%) were high grade. Two were muscle invasive. The NNT to detect one additional recurrence with HAL was 9.1.

**Conclusion:** The addition of HAL to the current standard of care for the detection of recurrent NMIBC after IVe allowed for the detection of 24% more cases, 84% of which were high grade. Only 9.1 patients would have to receive HAL for detection of one additional recurrence.

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**Podium #37**

WITHDRAWN

**Podium #38**

**TRENDS AND OUTCOMES IN PELVIC LYMPH NODE DISSECTION DURING PARTIAL CYSTECTOMY FOR MALIGNANT BLADDER TUMORS**

John Francis, MD\(^1\), Robert Abouassaly, MD, MS\(^1\), Christopher Gonzalez, MD, MBA\(^1\), Alexander Kutikov, MD\(^2\), Marc Smaldone, MD\(^2\), Stephen Williams, MD\(^3\), Sarah Psutka, MD\(^4\), Kyle Scarberry, MD\(^1\) and Simon Kim, MD, MPH\(^1\)

\(^1\)University Hospitals Cleveland Medical Center; \(^2\)Fox Chase Cancer Center; \(^3\)University of Texas Medical Branch; \(^4\)Cook County Hospital

Presented By: John Francis

**Introduction:** Partial cystectomy (PCx) remains a treatment option for highly selected bladder cancer patients. While a concomitant pelvic lymph node dissection (PLND) is recommended, its current use is poorly described. We seek to analyze the incidence of pelvic lymph node involvement for PCx patients.
and predictors of PLND at the time of PCx.

**Methods:** Patients who underwent PCx were identified through the National Cancer Database between 2004-2013. Multivariable logistical regression was used to identify variables associated with PLND. Short-term morbidity and mortality were compared based on PLND status.

**Results:** Analysis included 5,394 patients with an overall PLND rate of 37.8%. Incidence of PLND rose from 31.7% in 2004 to 46.6% in 2013 (p < 0.001). PLND was associated with private insurance coverage (OR 1.3: CI 1.1-1.5; p = 0.002), treatment at academic hospitals (OR 1.9: CI 1.6-2.1; p < 0.001), adenocarcinoma histology (OR 2.1: CI 1.1-3.8; p = 0.019) and cT2-4 tumor stage (OR 3.0: CI 2.6-3.6; p < 0.001). While there was no difference in 30-day readmission, patients undergoing PLND had lower odds of 90-day mortality compared to omission of PLND (OR 0.69: CI 0.52-0.93; p = 0.013). In the subset of patients who had PLND and reported nodal pathology, 5.5% patients with non-invasive clinical tumor staging were found to have node positive disease.

**Conclusion:** Among patients with bladder cancer treated with PCx, a little over a third underwent a guideline recommended PLND. Pathologic nodal involvement was seen in 5.5% of patients with non-invasive clinical tumor staging. Increased attention is needed to address ways to improve quality of care.

**Podium #39**

**THE PREVALENCE OF PREOPERATIVE MALNUTRITION: A PROSPECTIVE STUDY OF PATIENTS UNDERGOING RADICAL CYSTECTOMY**

Conrad Tobert, MD, Nathan Brooks, MD, Lewis Thomas, MD, Chermaine Hung, BS, Sarah Mott, MS and Kenneth Nepple, MD

University of Iowa Hospitals and Clinics

Presented By: Conrad Tobert, MD

**Introduction:** In cystectomy patients, malnutrition may be under-recognized. In addition to potential clinical impact, accurate clinical documentation using recommended methodology is important for appropriate hospital reimbursement.

**Methods:** All cystectomy patients at our institution from July 2014 to September 2016 were prospectively evaluated by a registered dietician at their preoperative visit using the recently published standard for malnutrition (Consensus Statement of Academy/ASPEN for Identification and Documentation of Malnutrition) based on six clinical characteristics.

**Results:** 139 patients underwent radical cystectomy for urothelial carcinoma. 41 (29.5%) patients had preoperative malnutrition. Of the patients with malnutrition: severity was mild in 18 (43.7%), moderate in 6 (14.5%) and severe in 17 (43.7%). Among the six individual clinical characteristics for malnutrition: 54 (38.8%) had weight loss, 40 (28.7%) had loss of muscle mass, 37 (26.6%) has loss of subcutaneous fat, 32 (23.0%) had decreased grip strength, 31 (22.3%) had decreased caloric intake, and 30 (21.6%) had clinical edema. Malnutrition was more common in patients with a lower BMI (p<0.01, that were female (p=0.02) and those who lived at a longer distance from our institution (p=0.02) Neoadjuvant chemotherapy was not associated with malnutrition or clinical T stage (p=NS). In a multivariate analysis, only lower BMI remained significantly associated with malnutrition (p<0.01)

**Conclusion:** Preoperative assessment with a standardized methodology provides a model for identification of at risk patients and appropriate clinical documentation. Using this approach, preoperative malnutrition was identified in one-third of patients before cystectomy. Preoperative malnutrition presents a potentially modifiable risk factor.
Podium #40
QUALITY OF LIFE IN PATIENTS TREATED WITH BACILLUS CALMETTE-GUERIN (BCG) PLUS INTERFERON
Ryan Steinberg, MD\(^1\), Lewis J. Thomas, MD\(^1\), Sarah L. Mott, MS\(^2\) and Michael A. O'Donnell, MD\(^1\)
\(^1\)University of Iowa Hospitals & Clinics; \(^2\)University of Iowa Holden Comprehensive Cancer Center
Presented By: Ryan L. Steinberg, MD

**Introduction:** Intolerance of intravesical Bacillus Calmette-Guerin (BCG) is expected in 5-10% of patients but reports are limited. We report the Quality of life (QoL) of patients treated with intravesical BCG with interferon (IFN) in the Phase 2 BCG/IFN trial.

**Methods:** Patients were treated with intravesical BCG (full dose if BCG naïve (BCG-N), 1/3 dose if prior BCG failures (BCG-F), 1/10 dose if deemed BCG intolerant (BCG-I)) plus IFN for 6 weekly treatments. A QoL Index, a validated, 4-part questionnaire evaluating various aspects of life (satisfaction, health, general physical condition, general quality of life), was administered before and immediately following induction therapy. Linear mixed effects regression models were applied to determine changes pre-to-post treatment and between groups (p<0.05).

**Results:** A total of 778 pre-induction and 788 post-induction questionnaires were collected from the 508 BCG-N, 394 BCG-F, and 35 BCG-I patients. A statistically significant change in the pre-to-post induction overall QoL score was noted in the BCG-N and BCG-F groups but not the BCG-I group (Figure 1). No differences in overall QoL change between groups were noted.

**Conclusion:** BCG-N and BCG-F patients had a statistically, but not clinically, significant pre-to-post treatment change in QoL. BCG-I patients did not experience a worse overall QoL change with induction as compared to others.

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Podium #41
NEOADJUVANT CHEMOTHERAPY AND POST- RADICAL CYSTECTOMY COMPLICATIONS: A RETROSPECTIVE REVIEW
Mohamed Hendawi, Kathleen Puttmann, Saad Hatahet and Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Mohamed Hendawi

**Introduction:** Neoadjuvant chemotherapy (NAC) followed by radical cystectomy (RC) is the standard of care for locally advanced bladder cancer. We retrospectively reviewed the charts for all patients who underwent radical cystectomy for bladder cancer at the Ohio State University (2008–2014) to define postoperative complications 30 days following surgery and the effect of the neoadjuvant chemotherapy on different
complications categories.

**Methods:** We have identified 345 patients who underwent radical cystectomy between 2008–2014. Complications were classified based on the calvin-klein grading system, unplanned readmission, and unplanned reoperation were reported as well. Univariate and multivariable analysis were used to evaluate variables of interest using SPSS 22.

**Results:** Our analysis showed that 151(43.8%) patients out of 337(279M, 66F) patients received NAC, patient who didn't receive chemotherapy served as control group, there was no significant difference (P>0.05) between the neoadjuvant and the non-chemo group in any of the complication categories. There was no significant difference in unplanned readmission (P >0.05) or unplanned reoperation (P>0.1) rates between NAC group and the non-chemo group. Patients in the NAC did have random occurrences of direct regimen complications around treatment time but that didn't result surgery delay or increased surgery hospitalization.

**Conclusion:** Neoadjuvant chemotherapy was not associated with higher rates of short-term post radical cystectomy complications. Chemotherapy should be encouraged for eligible patients with good performance status. Further investigation needed to determine the effect on neoadjuvant chemotherapy on the long term post-operative complications.

**Podium #42**

**ROLE OF SYNTHETIC MESH RENORRHAPHY AND NEOCAPSULE RECONSTRUCTION TO SALVAGE SEVERELY DAMAGED RENAL ALLOGRAFTS**

Damian Garcher, MD, Carson Smith, MS and Puneet Sindhwani, MD, MS

University of Toledo College of Medicine

Presented By: Damian E. Garcher, MD

**Introduction:** Injured renal allografts are usually discarded without transplantation due to concerns for hemorrhage, urinoma, and non-function. We present an easily replicable technique to salvage damaged renal allografts using Polyglactin mesh after transplantation.

**Methods:** In this technique, 12x12 inch Polyglactin mesh was used in vest-over-pants manner with keyhole hilar exit and slit for ureteral sparing. The two tails of the mesh were then wrapped at the convex border of the allograft and closed with a running suture. This technique was used in cases of capsular injury due to the following: extracorporeal lithotripsy, traumatic laceration, iatrogenic needle laceration, and subcapsular hematoma. Topical hemostatic agents were used in the last two cases in addition to mesh repair. Patients were monitored for urinoma, infection, re-bleed, allograft hydronephrosis and Page Kidney.

**Results:** Using this novel technique, all allografts were salvaged. No patients developed Page kidney, hydronephrosis, urinoma or hemorrhage. As of last follow up, one patient lost the kidney secondary to chronic allograft nephropathy after 7 years, one patient was lost to follow up at 1 year with normal renal function, two patients have normal renal function at years 1 and 6 post transplantation.

**Conclusion:** This simple technique using readily available materials can salvage allografts that would have been potentially explanted or discarded.
Podium #43
KIDNEY TRANSPLANTATION WITH ALEMTUZUMAB INDUCTION PREDICTS SUPERIOR PATIENT SURVIVAL AND REDUCED REJECTION FOR FEMALE ALLOGRAFT RECIPIENTS
Jonathan Demeter, MS, Bradley Buck, MD, Allison Zimmerman, MS, Graham Mitro, BS, Puneet Sindhwani, MD, Michael Rees, MD, PhD and Jorge Ortiz, MD
University of Toledo College of Medicine
Presented By: Jonathan H. Demeter, MS

Introduction: Female kidney transplant recipients experience a greater risk of acute rejection and decreased graft survival compared to male recipients. At our institution, Alemtuzumab (ALE), a monoclonal antibody against CD52, is used for induction. Thus, we sought to compare outcomes of male and female recipients after induction with ALE.

Methods: Between March 2004 and November 2015, 675 patients underwent renal transplantation. Retrospective analysis of both live and deceased donors was completed to assess if gender influenced delayed graft function, acute rejection, patient survival, or graft survival.

Results: Females had superior cumulative patient survival (p = 0.032) and lower rates of rejection at 90 days (12.6% vs 20.7%, p=0.009) and 6 months (15.9% vs 24.6%, p=0.008). However, female recipient death-censored graft survival was inferior at 3- (85.4% vs 91.6%, p=0.034) and 5-years (77.7% vs 86.9%, p=0.019).

Conclusion: Early rejection is mitigated in female renal allografts when ALE is used for induction. However, death-censored graft survival was unfavorable for females at 3- and 5- years. Further studies are needed to develop strategies to improve mid-term graft survival in women.
Podium #44
GLOBAL KIDNEY EXCHANGE: STRIVING FOR TRIFECTA OUTCOMES IN MANAGEMENT OF KIDNEY FAILURE
Omar Khan, MD, David Fumo, MD, Damian Garcher, MD
UTMC
Presented By: Damian Garcher, MD

Introduction: While organ shortage is the major limitation to kidney transplantation in the developed world, in resource poor countries financial barriers prevent kidney transplantation much more often—even when willing living donors are available. Global Kidney Exchange (GKE) is a unique approach that allows mutual benefit between patients-donor pairs in rich and poor nations who face barriers to transplantation.

Methods: We propose that the cost difference between dialysis and transplantation would allow the exchange of kidneys between developed world patient/donor pairs with immunological barriers and developing-world patient/donor pairs with financial barriers.

Results: 3 donors (2 from the Philippines and 1 from Mexico) were identified. Three altruistic donors were identified with no match in the USKPID pool. Each US patient donated to a foreign recipient creating a chain of kidney transplants. A total of 27 kidney transplants have been generated, with each chain producing 12, 9 and 6 transplants respectively. The transplant cost of foreign recipient was paid by Philanthropy. An additional $50,000 was reserved for subsequent immunosuppression for follow-up of the foreign donor. The cost saving from transplanting 24 U.S patients compared with the cost of dialysis will exceed $7.3 million over a 5 year period. At most recent follow-up all patients have excellent renal function.

Conclusion: GKE is an innovative approach that achieves the trifecta (cost reduction, quality of life improvement, and access to kidney transplant) in the management of all patients with End-stage renal disease by providing increased opportunities for transplantation for all blood types and levels of sensitization.
Podium #45
DECEASED DONOR INITIATED NONSIMULTANEOUS EXTENDED ALTRUISTIC DONOR CHAINS THROUGH THE MILITARY SHARE PROGRAM
Daniel Murtagh Jr, MD, Michael Rees, MD, PHD, Obi Ekwenna, MD, Ankita Patel, MD, Alvin Roth, PHD, MS, Kim Krawiec, JD, BA, Jeff Arrington, BS, Jonathan Kopke, BS, Tai Ashlagi, PHD and Jason Hawksworth, MD
1University of Toledo Medical Center; 2Alliance for Paired Donation, University of Toledo Medical Center; 3Walter Reed National Medical Center; 4Stanford University; 5Duke University; 6Buckeye Transplant; 7Alliance for Paired Donation
Presented By: Daniel S. Murtagh Jr., MD

Introduction: The Department of Defense (DoD) announced that they would direct some Military Share deceased donor kidneys (MSDDK) to initiate nonsimultaneous extended altruistic donor (NEAD) chains.

Methods: To study MSDDK-initiated NEAD (MSDDKIN) chains, we simulated match runs using actual data from a national kidney exchange program and actual data from 15 Military Share donors from Jan 1, 2016 through August 1st, 2016.

Results: In reality, 15 MSDDK were allocated to single patients at Walter Reed National Medical Center and provided 15 kidney transplants for patients on the DoD deceased donor waiting list. The BT of the actual recipients was identical to the BT of the MSDDK. Using the same 15 MSDDK in the simulation to create NEAD chains, 11 MSDDKIN-chains were possible using an algorithm allowing unlimited length cycles and chains. All of these chains allowed 2-way, 3-way or longer to be formed. The longest chain identified 16 potential transplants. Had all MSDDKIN-chains achieved the maximum length chain, a total of 89 transplants could have been produced from 11 MSDDK (8.1 transplants/MSDDK). The blood type of the 78 MSDDKIN-recipients were BT-O (36), BT-A (26), BT-B (6) and BT-AB (10). Of the 78 MSDDKIN-recipients, 29 had a PRA of 0%, 23 had a PRA of 20-79% and 26 had a PRA of >80%. The 11 chain-ending kidneys returned to the DoD had the following blood types: BT-O (1), and BT-A (10).

Conclusion: MSDDKIN-chains have the potential to increase the total number of transplants achieved per DDK and increased opportunities for transplantation.

Podium #46
WITHDRAWN

Podium #47
THE IMPACT OF INCONTINENCE ETIOLOGY ON ARTIFICIAL URINARY SPHINCTER OUTCOMES
Adam Miller, MD, Brian Linder, MD, Laureano Rangel, MD, David Yang, MD and Daniel Elliott, MD
Mayo Clinic, Rochester, MN
Presented By: Adam Miller, MD

Introduction: We sought to evaluate the impact of incontinence etiology on artificial urinary sphincter (AUS) device outcomes.

Methods: We identified 925 patients who underwent primary AUS placement from 1983 to 2011. The etiology of incontinence was categorized as radical prostatectomy alone, radical prostatectomy with radiation, benign prostate resection, and those with cryotherapy as a salvage prostate cancer treatment. Hazard regression and competing risk analyses were used to determine the association of the etiology of incontinence with device outcomes.

Results: Distribution of the four etiologies included: 598 patients with prostatectomy alone (64.6%), 206 with prostatectomy and pelvic radiation therapy (22.2%), 104 with benign prostate resection (11.2%), and 17 with prior cryotherapy (1.8%). Patients
Podium #48
CAVERNOUS NERVE CRUSH INJURY INDUCES APOPTOSIS IN THE PELVIC PLEXUS INCLUDING PELVIC AND HYPOGASTRIC NERVES
Marah Hehemann, MD1, Shawn Choe, BS2, Daniel Harrington, PhD3, Samuel Stupp, PhD4, Kevin McVary, MD5 and Carol Podlasek, PhD6
1Loyola University Health Systems; 2University of Illinois at Chicago, Department of Urology; 3University of Texas Health Sciences Center at Houston; 4Northwestern University, Feinberg School of Medicine; 5Southern Illinois University, School of Medicine; 6University of Illinois at Chicago, Departments of Urology, Physiology and Bioengineering
Presented By: Marah Hehemann, MD

Introduction: Seventy-two percent of prostatectomy patients develop stress urinary incontinence (SUI) in the first week after surgery. SUI recovery correlates with neurovascular bundle sparing, suggesting the importance of maintaining neural innervation. The hypogastric (HGN) and pelvic nerves (PN) control bladder contraction/relaxation. We hypothesize that the HGN and PN may be injured during prostatectomy, similar to cavernous nerve (CN) injury, and contribute to SUI development. We examine HGN, PN and CN architecture and signaling in normal pelvic ganglia and in a rat prostatectomy model.

Methods: Pelvic plexus in normal (n=9), sham (n=6) and CN crushed (n=20) adult Sprague Dawley rats was examined for apoptosis and sonic hedgehog (SHH) pathway signaling by immunohistochemical analysis for cleaved caspase-3, -8, -9, SHH and its receptors Patched and Smoothened.

Results: Caspase-3 was present in normal pelvic plexus and increased in the CN and PN with CN injury. Caspase-3 was identified in glial cells surrounding PG neurons and in Schwann cells of the CN, PN and HGN. Caspase-8 increased in PG/CN neurons and glia and in the CN. Caspase-9 increased in CN.

Conclusion: Pelvic plexus injury occurs during prostatectomy, resulting in induction of apoptosis in other regions of the pelvic plexus (PN, HGN), and potentially contributes to SUI development. Involvement of the SHH pathway in maintaining HGN and PN morphology and function is significant, and offers opportunity for clinical intervention.
Podium #50
SONIC HEDGEHOG REGULATION OF RHABDOSPINCTOR MUSCLE
Marah Hehemann, MD1, Shawn Choe, BS2, Danuta Dynda, MD3, Shaheen Alanee, MD3, Daniel Harrington, PhD4, Samuel Stupp, PhD5, Kevin Kevin, MD5 and Carol Podlasek, PhD2
1Loyola University Health Systems; 2University of Illinois at Chicago, Department of Urology; 3Southern Illinois University, School of Medicine; 4University of Texas Health Sciences Center at Houston; 5Northwestern University, Feinberg School of Medicine
Presented By: Marah Hehemann, MD

Introduction: Removal and injury of rhabdosphincter muscle during prostatectomy surgery is a leading cause of stress urinary incontinence (SUI, 44%), which critically impacts patient mental and physical health. With current treatments, including implantation of artificial urinary sphincter, continence pad use is needed and device failure, erosion of the urethra and infection are significant side effects. A critical unmet need exists to develop novel methods to regenerate rhabdosphincter muscle. We have identified sonic hedgehog (SHH) as an important regulator of muscle in another urogenital organ, the penis, and have developed innovative peptide amphiphile nanofiber hydrogel delivery of SHH protein to regenerate penile smooth muscle, post-prostatectomy. If similar SHH signaling mechanisms regulate rhabdosphincter function, this technology may be used to regenerate rhabdosphincter muscle post-

Podium #51
NANOFIBER HYDROGEL DELIVERY OF SHH TO REGENERATE RHABDOSPINCETR MUSCLE
Lauren E Corona, MD1, Anne P Cameron, MD2, J Quentin Clemens, MD2, Edward McGuire, MD2 and John T Stoffel, MD2
1University of Michigan; 2University of Michigan, Department of Urology
Presented By: Lauren E. Corona, MD

Introduction: Need exists to develop novel methods to regenerate rhabdosphincter muscle. We have identified sonic hedgehog (SHH) as an important regulator of muscle in another urogenital organ, the penis, and have developed innovative peptide amphiphile nanofiber hydrogel delivery of SHH protein to regenerate penile smooth muscle, post-prostatectomy. If similar SHH signaling mechanisms regulate rhabdosphincter function, this technology may be used to regenerate rhabdosphincter muscle post-

Podium #49
LENGTH OF DETRUSOR SPHINCTER DYSSYNERGIA EPISODE WHEN CHARACTERIZED BY URETHRAL PRESSURE IS ASSOCIATED WITH CHANGES IN BLADDER STORAGE
Lauren E Corona, MD1, Anne P Cameron, MD2, J Quentin Clemens, MD2, Edward McGuire, MD2 and John T Stoffel, MD2
1University of Michigan; 2University of Michigan, Department of Urology
Presented By: Lauren E. Corona, MD

Introduction: Detrusor Sphincter Dyssynergia (DSD) is defined as loss of coordination between detrusor and urinary sphincters. We examined associations between urethral pressure measurements and bladder physiology during urodynamics among patients with DSD.

Methods: Multiple sclerosis and spinal cord injured patients with DSD on urodynamics were retrospectively identified. All had previous standardized urodynamic testing with a triple lumen catheter which used both bladder and urethral pressure sensors. Urethral pressure DSD was defined as an involuntary >20 cm H2O urethral pressure rise during detrusor contraction. Maximum DSD urethral pressure was defined as the maximal urethral pressure during a DSD episode.

Results: Seventy two patients were identified as having DSD on urodynamics. Of these, 86% met above urethral pressure DSD criteria. Mean duration of urethral pressure DSD episode was 66 seconds and mean maximum urethral pressure was 140 cmH2O. Longer (>30 seconds) DSD episodes were significantly associated with male sex (80.7% v 50%, p 0.013) and higher bladder capacity (389 ml v 219 ml, p 0.0004), trended toward improved bladder compliance (72.42 ccmH2O v 39.97cc/cmH2O, p 0.129), and toward having less detrusor overactivity (76.9% v 92.1%, p 0.08).

Conclusion: Longer DSD episodes were associated with higher bladder capacity and trended toward better bladder compliance and less detrusor overactivity on urodynamics. Additional studies are needed to determine whether length of DSD episode would be associated with favorable long term bladder physiology in spinal cord injury and MS patients.
Podium #50

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podium #51

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urogenital organ, the penis, and have developed innovative peptide amphiphile

identified sonic hedgehog (SHH) as an important regulator of muscle in another

The SHH pathway is active in adult human rhabdosphincter muscle, suggesting that similar mechanisms of muscle homeostasis and regeneration are present as in human penis tissue. Thus, the previously developed peptide amphiphile nanofiber hydrogel delivery of SHH may be useful for rhabdosphincter muscle regeneration.

Podium #51

EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF
NON-OBSTRUCTIVE URINARY RETENTION IN WOMEN WITH SUBACUTE
LOWER LUMBAR INJURY

Naveen Kachroo, MD, PhD, Vicki Irish, NP and Humphrey Atiemo, MD

Vattikuturology Institute, Henry Ford Hospital

Presented By: Humphrey Atiemo, MD

Introduction: Patients with lumbar back injuries often develop persistent urinary symptoms, including urinary retention, which can be difficult to treat. This study aims to determine the success of sacral neuromodulation in treating non-obstructive urinary retention in women with subacute lower lumbar injury.

Methods: A single institution, retrospective analysis of women with a history of lower lumbar injury/surgery and subsequent voiding abnormality who underwent Interstim placement for refractory, non-obstructive urinary retention (proven on clinical and urodynamic evaluation) between January 2015 and August 2016. Median post-operative follow up was 6 months. Differences in voiding frequency, post void residual, catheterization frequency, AUA symptom scores, Quality of life (QOL) scores, Incontinence Severity Index (ISI) and Bother scores pre and post treatment were compared using paired t-tests (SPSS) to determine treatment efficacy.

Results: Ten patients met study inclusion criteria. Mean duration of urinary retention was 31 months (range: 2-223 months). No change was noted in voiding frequency after Interstim placement, however there was a significant reduction in post void residual volume (median pretreatment: 275mls vs post-treatment: 100mls, p=0.003) with most no longer requiring regular intermittent self-catheterization. AUA symptom scores (median: 14 vs 4, p=0.01) and QOL scores (median 6 (terrible) vs 1 (pleased), p=0.007) significantly improved post-treatment. No post-operative complications were reported.

Conclusion: This study demonstrates the effectiveness of Sacral Neuromodulation in the treatment of non-obstructive urinary retention in women with a history of lower lumbar injury. Significant improvement was noted immediately in multiple voiding parameters resulting in a substantial improvement in patient QOL.
Podium #52
LONG-TERM OUTCOMES AND PREDICTORS OF FAILURE AFTER SURGERY FOR STAGE IV APICAL PELVIC ORGAN PROLAPSE
Brian Linder, MD, Sherif El-Nashar, Alain Mukwege, Amy Weaver, Deborah Rhodes, John Gebhart, Chris Klingele, John Occhino and Emanuel Trabuco
Mayo Clinic
Presented By: Brian J. Linder, MD

Objective: To compare outcomes after uterosacral ligament suspension (ULS) or sacrocolpopexy for stage IV apical pelvic organ prolapse (POP).

Methods: Records of patients managed surgically for stage IV apical POP from 2002 to 2012 were reviewed, and they were sent a follow-up survey. Recurrence was defined as prolapse symptoms on validated questionnaire or retreatment. Recurrence-free survival was estimated via Kaplan-Meier method and Cox models were used to evaluate factors associated with recurrence.

Results: Overall 399 had stage IV apical prolapse and were managed with either ULS (n=355) or sacrocolpopexy (n=44). Those undergoing ULS were older (p<0.001) and less likely to have a prior hysterectomy (p=0.001) or prior apical prolapse repair (p<0.001). Median follow-up was 4.3 years (IQR 1.1,7.7). Recurrence-free survival was similar between ULS and sacrocolpopexy (p=0.41), with 5-year rates of 88.2% and 97.6%. Younger age (p=0.04) and prior hysterectomy (p=0.02) were associated with an increased risk of recurrence, whereas type of surgery was not (p=0.09).

Conclusion: Younger age and prior hysterectomy were associated with an increased risk of recurrent prolapse symptoms. Excellent survival-free of prolapse recurrence were obtained with both surgical techniques.

Podium #53
LOW INCIDENCE OF CLEAN INTERMITTENT CATHETERIZATION AND SUBSTANTIAL TREATMENT RESPONSE WITH ONABOTULINUMTOXINA IN OVERACTIVE BLADDER PATIENTS OF DIVERSE AGES: A POOLED POST HOC ANALYSIS OF THREE RANDOMIZED, CONTROLLED TRIALS
David Ginsberg¹, Marcus Drake², Karel Everaert³, Eric Rovner⁴, Roger Dmochowski⁵, Sidney Radomski⁶, Tamer Aboushwareb⁷, Cheng-Tao Chang⁸, Christopher R Chapple⁹ and Victor Nitti¹⁰
¹USC Institute of Urology; ²Bristol Urological Institute, Bristol, UK; ³Ghent University Hospital, Ghent, Belgium; ⁴Medical University of South Carolina, Charleston, SC, USA; ⁵Vanderbilt University Medical Center, Nashville, TN, USA; ⁶University of Toronto, Toronto, Canada; ⁷Allergan plc, Irvine, CA, USA; ⁸Allergan plc, Bridgewater, NJ, USA; ⁹The Royal Hallamshire Hospital, Sheffield Teaching Hospitals, NHS Foundation Trust, Sheffield, UK; ¹⁰New York University, New York, NY, USA
Presented By: David Alan Ginsberg, MD

Introduction: We evaluated the clean intermittent catheterization (CIC) risk, and efficacy and quality of life (QOL) outcomes with onabotulinumtoxinA in diverse age groups of overactive bladder (OAB) patients.

Methods: Pooled data from onabotulinumtoxinA-treated patients in three randomized, controlled trials (N=1177) were analyzed (post-hoc) by age: <40, 40-49, 50-59, 60-69 and ≥70 years. Assessments at week 12 post-treatment included CIC incidence and duration, mean and percent change from baseline in urinary incontinence (UI) episodes/day, proportions of patients with ≥50% UI reduction, positive response (urinary symptoms ‘improved’/‘greatly improved’) on the treatment benefit scale, and change from baseline in Kings Health Questionnaire (KHQ) domains, and adverse events.

Results: After onabotulinumtoxinA treatment, the <40 group had the lowest CIC rate
Younger age (p=0.04) and prior hysterectomy (p=0.02) were associated with an increased risk of recurrence, whereas type of surgery was not (p=0.09). Median follow-up was 4.3 years (IQR 1.1,7.7). Recurrence-free survival was less likely to have a prior hysterectomy (p<0.001) or prior apical prolapse repair (p<0.001). Studies of clinical outcomes were obtained with both surgical techniques.

Podium #54
BACTERIAL CULTURES AT THE TIME OF ARTIFICIAL URINARY SPHINCTER REVISION SURGERY IN CLINICALLY UNINFECTED DEVICES: A PROSPECTIVE CONTEMPORARY SERIES
Matthew Ziegelmann, David Yang, Adam Miller, Brian Linder and Daniel Elliott
Mayo Clinic Rochester
Presented By: Matthew J. Ziegelmann, MD

Introduction: Literature regarding bacteria found on clinically uninfected urologic prostheses is sparse. Here, we evaluated the frequency of bacterial colonization on AUS during revision surgery.

Methods: We prospectively collected cultures from all explanted AUS components (cuff, pump, and reservoir) in patients undergoing revision for urethral atrophy or mechanical failure between February 2016 and October 2016. Cultures from the surgeon’s sterile glove served as a control. Results were reviewed to identify the presence of bacterial colonization.

Results: Cultures were obtained from 66 components including 25 cuffs, 21 pumps, and 20 reservoirs in 26 patients. Median(IQR) time from prior surgery was 6(2;10) years. All three components were explanted and replaced in 18 patients (69%) while a single component (cuff or pump) was replaced in the remaining 8 patients. Positive cultures were identified in 10/66 components (15%), including 6/25 cuffs (24%), 3/21 pumps (14%), and 1/20 reservoirs (5%). 9/26 patients (35%) had at least one positive culture. Bacterial organisms identified included Staphylococcus epidermidis (n=4), Propionibacterium (n=3), Staphylococcus lugdenensis (n=1), Staphylococcus caprea (n=1), and Micrococcus luteus (n=1). Surgeon glove cultures were positive in 3/26 patients, and correlated with the component culture in 1/3.

Conclusion: Herein, we identified positive AUS component bacterial swab cultures in 35% of patients undergoing AUS revision in the absence of clinical infection at a median six years from device placement. These results suggest that bacterial colonization of organisms with low virulence may not lead to device infection. Further study is warranted.

Podium #55
CAN TIME TO FAILURE PREDICT ARTIFICIAL URINARY SPHINCTER COMPONENT FAILURE?
David Y Yang, MD1, Brian J Linder, MD1, Adam R Miller, MD1, Laureano J Rangel, MS2 and Daniel S Elliott, MD,MPH1
1Mayo Clinic, Department of Urology; 2Mayo Clinic, Division of Biomedical Statistics and Informatics
Presented By: David Y. Yang, MD

Introduction: Artificial urinary sphincter (AUS) malfunctions can occur in any of the individual components. As such, we sought to evaluate the relationship of time to failure...
Methods: A total of 1,072 male patients underwent primary AUS placement from 1983-2011. Clinical variables were evaluated for association with component failure. Bootstrap analysis was used to estimate the differences in the time to reach component failure.

Results: One hundred and fifteen patients experienced mechanical device failure at a median follow-up of 4.2 years (IQR, 0.8-7.9). There were no differences in clinical variables between patients with and without device failure. Cuff, reservoir, pump and tubing malfunction occurred in 53 (4.9%), 26 (2.4%), 11 (1.0%), and 25 (2.3%) patients, respectively. Increasing age at time of primary surgery was associated with lower rates of cuff malfunction (HR 0.968, p=0.04). No clinical variables were associated with reservoir, pump or tubing failure. Time to 1% component failure was not significantly different between components. However, time to 3% cuff failure outpaces other component failures (p<0.05).

Conclusion: Clinical predictors for AUS failure continue to be difficult to establish. While time to 1% component failure was not different between components, after 3 years, rate of cuff failure surpasses other components.

Podium #56
BURNOUT IN UROLOGY: RESULTS FROM THE 2016 AUA CENSUS
Amanda North, MD2, Patrick McKenna, MD1, Raymond Fang, Alp Sener, Brian McNeil, Julie Franc-Guimond, William Meek, Steven Schlossberg, Chris Gonzalez and James Clemens
1UW-Madison; 2Montefiore Medical Center
Presented By: Patrick H. McKenna, MD, FAAP, FACS

Introduction: Physician burnout is linked to decreased job performance as well as increased medical errors, interpersonal conflicts, and depression. Two recent multi-specialty studies showed that compared to other physicians in the 29-65 age group, urologists had the highest rate of burnout (54.4% vs. 63.6%). We aimed to more comprehensively establish the prevalence of urologist burnout and to determine factors associated with burnout.

Methods: In the 2015 AUA Census, Maslach Burnout Inventory (MBI) questions were
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Methods: In the 2015 AUA Census, Maslach Burnout Inventory (MBI) questions were randomly assigned to half of the respondents. Using matrix sampling, the 1,126 practicing urologists who received and answered the MBI questions represent the entire 2,301 who completed the Census with a sampling weight of 2.04. Demographic and practice variables were assessed through both univariate descriptive analysis and multivariate logistic analysis to establish correlating factors to burnout.

Results: Overall, 38.8% of urologists met the criteria for burnout. Multivariate analysis revealed that urologist burnout is associated with a variety of factors as shown in the figure.

Conclusion: These results suggest that the burnout rate for urologists, 38.8% overall or 41.3% in urologists ages 29-65, is lower than previously reported and is consistent with rates reported in other medical and surgical specialties. Understanding the causes of burnout in urology will help guide future intervention.

Podium #57

PROSPECTIVE ASSESSMENT OF COMFORT OF PATIENT POSITIONING IN ROBOTIC UROLOGIC SURGERY
Kevin Ginsburg, MD1, Kelsey Pape2, Chase Heilbronn2, Michael Levin, MD1 and Michael Cher, MD1
1Wayne State University Department of Urology; 2Wayne State University School of Medicine
Presented By: Kevin B. Ginsburg, MD

Introduction: To assess patient comfort in two positions commonly used in robotic urologic surgery.

Methods: This was a prospective study to assess the comfort of positioning twenty awake volunteers in the dorsal lithotomy (DL) and lateral decubitus (LD) position. Each volunteer was placed on the operating room table, and then put through the series of sequential steps used to achieve a final position, mimicking what is done with real patients at our institution. A total of four steps were used for DL and 5 steps were used randomly assigned to half of the respondents. Using matrix sampling, the 1,126 practicing urologists who received and answered the MBI questions represent the entire 2,301 who completed the Census with a sampling weight of 2.04. Demographic and practice variables were assessed through both univariate descriptive analysis and multivariate logistic analysis to establish correlating factors to burnout.

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for LD; each step had two options. The Wong-Baker scale (WB) was used to rate pain and discomfort of each option and the preferred option was recorded.

**Results:** We found that volunteers could immediately distinguish differences in comfort levels between position options. In DL, volunteers favored having the arms slightly flexed and pronated, as opposed to being straight and supinated, reflected by statistically lower (less painful) WB scores and option preference. Volunteers also preferred having the neck slightly flexed, as opposed to being flat. In LD, volunteers reported statistically lower pain scores and preference for the use of a foam roll for axilla support, as opposed to a rolled blanket; the table flexed without the kidney rest, as opposed to a raised kidney rest; and the use of the over arm board, as opposed to a rolled blanked for contralateral arm support.

**Conclusion:** This exercise with awake volunteers resulted in immediate changes in positioning for real robotic surgery patients in our practice.

**Podium #58**

**DOES PROVIDER EXPERIENCE LEVEL INFLUENCE OPIATE PRESCRIBING PATTERNS AFTER UROLOGIC SURGERY?**

Anna Zampini, MD, MBA, Yaw Nyame, MD, MBA, Prithvi Murthy, MD, Nicholas Tadros, MD, Sarah Vij, MD, Daniel Sun, MD, JJ Zhang, MD, Edmund S. Sabanegh, MD and Courtenay Moore, MD

Cleveland Clinic Foundation
Presented By: Anna Zampini, MD, MS

**Introduction:** The optimal post-operative pain management regimen after urologic surgery is unknown, with little data to guide analgesia selection. We hypothesize that prescribing practices differs by provider experience, and analyzed the self-reported analgesia and opioid prescribing practices of urology providers at our institution.

**Methods:** 57 urology practitioners completed an anonymous survey to assess the type and quantity of opiates prescribed postoperatively for 15 different urologic surgeries. Differences in type and quantity of opiates prescribed between junior residents (PGY 1-4), senior residents (PGY 5-6), fellows (PGY7+) and attending surgeons were assessed using Fisher’s exact test.

**Results:** Opioids were the exclusive class of analgesia prescribed for 9 of 15 urologic surgeries. The most frequently prescribed regimen was 11-20 tablets. Among major operations, RRP demonstrated the widest variation in prescribing practice, with 26% of providers prescribing non-opioid analgesia. Conversely, minimally-invasive procedures had a high rate of opioid prescriptions with 96% of providers prescribing opioids after transurethral resection (TUR) of prostate and 85% after TUR bladder tumor. Significant differences in prescribing were observed across levels of training for several urologic surgeries, including open and robotic prostatectomy, nephrectomy, ureteroscopy, and percutaneous nephrolithotomy.

**Conclusion:** There is wide variation in self-reported opioid prescribing patterns based on provider experience. This variability suggests that patients may be inappropriately prescribed opioid analgesia following urologic surgery and non-opioid analgesia may be considered for specific open and endoscopic cases. There is a need to determine the ideal post-operative analgesia requirements and develop standardize prescribing practices for providers of all training levels.
Podium #59
PROSPECTIVE POST-OPERATIVE SCREENING OF SERUM TROPONIN TO IDENTIFY PATIENTS AT RISK FOR CARDIOVASCULAR MORTALITY FOLLOWING MAJOR UROLOGIC SURGERY
Yaw Nyame, MD, MBA, Abhinav Khanna, MD, Benjamin Abelson, MD, Venu Menon, MD, Daniel Sessler, MD, Steven Campbell, MD, PhD, Edmund Sabanegh, MD, Eric Klein, MD, PhD and Howard Goldman, MD
Cleveland Clinic
Presented By: Abhinav Khanna, MD

Introduction: A previous retrospective analysis of over 8,000 patients demonstrated a significant mortality increase among patients with elevated serum troponin after major urologic surgery. We aim to identify patients at risk for post-operative intermediate-term cardiovascular mortality through prospective post-operative serum troponin screening.

Methods: Patients undergoing major urologic surgery starting July 1, 2016 were screened with daily post-operative serum troponin assays. Patients with elevated screening troponin were offered cardiology consultation. Major urologic surgeries included adrenalectomy, cystectomy, nephrectomy, prostatectomy, and fistula surgery.

Results: A total of 364 patients underwent major urologic surgery from 7/1/2016 through 10/6/2016. Of 364 eligible patients, 214 (58.8%) had at least one serum troponin ordered. Demographic and clinical characteristics of patients undergoing troponin screening are outlined in Table 1. Among screened patients, 11 (5.1%) had at least one elevated troponin. Table 2 outlines the outcome in each patient with elevated post-operative troponin. There were no mortalities within 30-days of surgery among patients with elevated post-operative troponin.

Conclusion: Previously presented data has suggested an increased risk of post-operative mortality among patients with elevated serum troponin following urologic surgery. We present initial results of a prospective study of post-operative troponin screening among urologic patients.
Introduction: The opioid epidemic is a growing concern in the U.S. and a challenge for physicians when choosing pain management. Our goal was to quantify and identify risk factors for opioid dependence or overdose (ODO) among patients undergoing urologic surgery.

Methods: A retrospective review of patients who underwent urologic surgery from 2007-2011 from the Healthcare Cost and Utilization Project Inpatient, Ambulatory Surgery, and Emergency Department datasets was performed. Validated ICD-9 codes were used to identify patients with a subsequent diagnosis of ODO. Descriptive statistics and multivariate logistic regression was completed to identify predictors of ODO following urologic surgery.

Results: Overall, 675,527 patients who underwent urologic surgery were identified and rates of ODO for these patients are reported in the Table. Patients who developed ODO were younger (51 vs 62), carry non-private insurance (69.6% vs 66%), underwent an inpatient procedure (81% vs 42.4%), had a longer length of stay (median 3 vs 0 days), and carried a history of depression (14.4% vs 3.4%), all p<0.001. On multivariate analysis, a history of depression, non-private insurance, and longer lengths of stay were independent predictors for ODO.

Conclusion: Postoperative rates of ODO in urologic patients are low. Those with a diagnosis of depression, non-private insurance, and higher lengths of stay are at increased risk.
Podium #61
IMPLEMENTING A STATEWIDE PATIENT REPORTED OUTCOMES PROGRAM IN MICHIGAN
Tae Kim, MS^4, M. Hugh Solomon, MD^2, Michael Cher, MD^3, Steven Lucas, MD^3, Jaya Telang, BS^4, Ji Qi, MS^4, Naveen Kachroo, MD^5, Khurshid Ghani, MD^5, James Monile, MD^4, David Miller, MD, MPH^4 and James Peabody, MD^1
^1Henry Ford Hospital; ^2IHA-Urology; ^3Wayne State University, Karmanos Cancer Center; ^4University of Michigan; ^5Henry Ford Hospital--Vattikuti Urology Institute
Presented By: James O. Peabody, MD

Introduction: Measuring patient reported outcomes (PRO) after radical prostatectomy (RP) offers quantitative insight to patient’s functional recovery and provides urologists an opportunity to review their own surgical outcomes for areas of improvement. Herein, we describe the expanded implementation of a statewide web-based PRO program.

Methods: Michigan Urological Surgery Improvement Collaborative (MUSIC) PRO program grew from 5 to 23 practices (currently 64 urologists). Participating patients receive an emailed validated survey before and 3, 6, 12, and 24 months after RP. Patients without email use a paper form. Surgeons’ annualized RP volume and the percentage of MUSIC-PRO RPs were calculated. Response rates at each survey time point were evaluated.

Results: MUSIC-PRO includes 2,072 patients (72% of all MUSIC RP performed annually). 88% of PRO surgeons’ patients were registered for MUSIC-PRO. Baseline response rate was 85%, with 70% completed electronically. Response rate and online use remained high at each subsequent time point (>83% and >69% respectively) (Table 1).

Conclusion: MUSIC implemented an electronic, statewide system for population-based PRO measurement after RP. PRO surgeons receive individualized quarterly outcomes reports, can share these data with patients in clinic, and work with peers to improve population-level outcomes following RP. This approach may provide a model for implementing PRO programs for other diseases and procedures.

Podium #62
A RANDOMIZED TRIAL ASSESSING THE EFFECT OF MUSIC ON ANXIETY AND PAIN DURING TRANSRECTAL PROSTATE BIOPSIES
Vignesh Packiam, MD, Charles Nottingham, MD, Andrew Cohen, MD, Scott Eggener, MD and Glenn Gerber, MD
University of Chicago Medicine
Presented By: Vignesh Packiam, MD

Introduction: Transrectal ultrasound (TRUS) prostate biopsies are uncomfortable procedures. Music has shown mixed results in reducing anxiety and pain for prostate biopsy. We hypothesized that ambient music would result in decreased anxiety and pain during TRUS prostate biopsies.

Methods: A total of 200 patients undergoing office TRUS prostate biopsy at our institution were prospectively enrolled from September 2015 to June 2016. Permuted block randomization assigned patients to two groups: no music (Group 1, n=97) or ambient music (Group 2, n=80). An online music player was used. We examined clinical characteristics, pathologic variables, and baseline anxiety using the Trait
Instrument of State-Trait Anxiety Inventory (STAI-T). Primary outcomes included anxiety assessed by State Instrument of STAI (STAI-S), pain using a Visual Analog Scale (VAS) ranging from 0 to 10, and vital signs.

**Results:** There were no significant differences in baseline characteristics between Group 1 and 2, including median age (65 vs 64 years, \( p=0.3 \)), PSA (6.0 vs 6.6 ng/dL, \( p=0.7 \)), UroNav utilization (11.6\% vs 9.6\%, \( p=0.7 \)), or STAI-T (31.4±7.9 vs 32.5±8.5, \( p=0.4 \)). Most patients (n=177, 93\%) indicated they desired music in pre-procedure survey. There were no significant differences in STAI-S (35.1 ± 10.1 vs 34.0±9.2, \( p=0.4 \)), VAS (2 vs 2, \( p=0.5 \)), or vital signs between Groups 1 and 2, respectively. There were no differences in outcomes between groups when stratified by age, PSA, or number of previous biopsies.

**Conclusion:** This randomized study showed no difference in anxiety or pain scores for patients who had ambient music during TRUS prostate biopsy.

**Podium #63**

**A RESIDENT-LED, MULTIDISCIPLINARY APPROACH TO INCREASING DISCHARGE EFFICIENCY FOR UROLOGY INPATIENTS AT A LARGE, TERTIARY, ACADEMIC MEDICAL CENTER**

Andrew Sun, MD, Anna Zampini, MD, MBA, Hans Arora, MD, PhD, Paurush Babbar, MD, Nitin Yerram, MD, Michelle Ponziano, MSN, RN, Howard Goldman, MD and Venkatesh Krishnamurthi, MD

Glickman Urological and Kidney Institute, Cleveland Clinic

Presented By: Andrew Y. Sun, MD

**Introduction:** Demand for hospital beds sometimes exceeds capacity, leading to delays in patient care, overcrowding, and patient dissatisfaction. The Joint Commission has emphasized that hospitals use data to drive improvements in patient flow processes. The complex inpatient discharge process represents a unique area of opportunity to address patient flow efficiency with a multidisciplinary, team-based approach, led by urology residents.

**Methods:** Discharge data was retrospectively collected for all urology inpatients at a large, tertiary, academic medical center over 20 months. Patients undergoing elective renal surgery (radical/partial nephrectomy, pyeloplasty) were identified as a cohort with generally routine hospital stays, well suited to intervention. Utilizing a team-based, multidisciplinary approach led by residents, a quality improvement plan was developed to increase discharge efficiency. Elements included resident and nursing discharge checklists, patient educational handouts, patient bedside discharge place-mats, and specialized physician orders. These interventions were applied for one month on the selected cohort of patients.

**Results:** Mean Discharge Time (MDT) over 20 months for 743 elective renal surgeries was 3:00pm, similar to the MDT for all 2922 inpatient procedures which was 2:50pm. After one month of intervention, MDT was decreased by 68 minutes to 1:52pm. Furthermore, the percent of patient discharges occurring by noon was increased from 12\% pre-intervention to 21\% post-intervention.

**Conclusion:** A process-based examination of routine hospital practices led by a multidisciplinary team of providers can generate meaningful improvements in efficiency. Residents should increasingly play an active role in quality improvement initiatives, as now emphasized by the ACGME.
Podium #64
INDIVIDUALIZED 3D-LASER PRINTED CALYCEAL MODELS AS SURGICAL PREPARATION FOR TRAINEES
Julia Fiuk, MD and Brad Schwartz, DO
SIU School of Medicine
Presented By: Julia Fiuk, MD

Introduction: As endourologic technology continues to improve, training programs strive to make resident surgical education more effective and safe. The use of surgical models has been established; the drive is to now individualize this training to each particular patient and case. Here we demonstrate the feasibility of producing such an patient individualized model and report preliminary testing data.

Method: Using de-identified patient CT scans as a blueprint, 3D models of the calyces were printed used a tabletop 3D printer. Models were then tested for usability by both the authors and resident volunteers. Timed trials were performed during panchalioscopy. Resident feedback by faculty was evaluated prior to and after using model. Self-assessed improvement was measured by questionnaire.

Results: Six calyceal models were successfully reproduced. All six models were deemed “maneuverable” by both authors. Ten residents were timed performing panchalioscopy, from upper pole through lower pole calyces, and over the course of three runs improved their time by an average of 10.3 seconds. Resident scores on faculty review improved by an average of 3 (out of 10) points when compared prior to and after training on model. Senior residents showed no significant improvement in their self-assessment scores, while junior residents (pgy1-3) showed a mean increase of 4 points (out of 10).

Conclusion: 3D printed patient specific calici-calceal models are a feasible training tool when preparing residents for endoscopic cases.

Podium #65
PERSONALIZED COACHING CAN PROVIDE SUSTAINED IMPROVEMENTS IN PATIENT EXPERIENCE AND LIKELIHOOD TO RECOMMEND SCORES IN AN ACADEMIC UROLOGY CLINIC
Kalen Rimar, MD, Richard S Matulewicz, MD, Alysen L Demzik, BS, Kent T Perry, MD and Edward M Schaeffer, MD, PhD
Northwestern University Feinberg School of Medicine
Presented By: Alysen Demzik, BS

Introduction: With ties to both reimbursement and patient health outcomes, patient satisfaction scores are an important target for improvement. The effect of staff intervention via patient engagement coaching (PEC) on patient satisfaction in an academic urology clinic was studied.

Methods: Academic attending surgeons and their clinic support staff were observed and then individually coached on their clinic practices. Likelihood to recommend (LTR) scores for each surgeon were divided into baseline and post-coaching groups and compared among those who did and did not receive coaching.

Results: 11 surgeons (4 un-coached, 7 coached) were included with 2,456 unique surveys returned, 2402 (97.8%) of which answered the LTR doctor question. Un-coached and coached baseline LTR doctor percentages were 88.8% and 81.8%, respectively. After coaching intervention, those that received coaching improved to 87.3% (p=0.003) while those that did not remained essentially unchanged at 88.6% (p=0.94) (Table 1). Coached groups showed continued above-baseline scores after 6 months.

Conclusion: PEC resulted in a significant sustained improvement of LTR scores.
Podium #66
MISINTERPRETATION OF ONLINE SURGICAL SCORECARD MAY HARM PATIENTS BY INCREASING WILLINGNESS TO PAY OUT-OF-POCKET EXPENSES FOR A VANISHINGLY LOW CHANCE OF LOWERING POSTOPERATIVE COMPLICATION RISK
Jacob Albersheim-Carter, BA, Brett Watson, BS, Lucas Labine, BS, Badrinath Konety, MD, MBA and Christopher Weight, MD, MS
University of Minnesota Medical School
Presented By: Jacob Ari Albersheim-Carter

Introduction: Several websites present estimated complication rates for individual surgeons. It remains unclear how the general population may interpret these complication rates and how these sites may influence the willingness to pay out-of-pocket expenses for out-of-network surgeons.

Methods: We invited attendees of the 2016 Minnesota State Fair to complete our survey. Participants were presented with representative outputs from online surgeon rating websites, then were asked to make hypothetical healthcare decisions based on their interpretation of this information. Some graphics displayed complication rates for one surgeon alone, while others compared multiple surgeons.

Results: 392 participants completed the survey. Median age was 49 (Interquartile range 28-61), the female: male ratio was 3:2, 57% had completed a college or graduate degree, and 85% were Caucasian vs. 15% ethnic minorities. Most respondents poorly estimated complication rates. Many (n=112, 32%) overestimated complication rates by at least 10-fold and were classified as misinterpreters. Misinterpreters demonstrated greater willingness to pay out-of-pocket expenses for a perceived 'better surgeon' (RR 1.5 95% CI 1.3-1.8), and on average were willing to pay more, $5732 vs. $3912 (p=0.02) for a 1 in 252 chance of lowering their post-operative complication risk. College-educated participants were significantly less likely to grossly misinterpret the data, 23% vs. 45% (RR 2.0 p=0.0013).

Conclusion: Online surgeon rating websites are often misinterpreted, particularly by those who did not graduate from college. Misinterpretation of this data may lead to patient harm by compelling patients to pay thousands of dollars of out-of-pocket expenses for an exceedingly low probability of benefit.

Podium #67
HOW VARIATION IN PATIENT EXPERIENCE SURVEY RESULTS DRIVE LIKELIHOOD TO RECOMMEND METRICS IN ACADEMIC UROLOGY
DEPARTMENT
Richard S Matulewicz, MD, Kalen Rimar, MD, Alysen L Demzik, BS, Kent T Perry, MD and Edward M Schaeffer, MD, PhD
Northwestern University Feinberg School of Medicine
Presented By: Alysen Demzik, BS

Introduction: Patient experience surveys are an important metric of quality and patient centered care. Understanding factors that drive positive survey responses will help focus efforts for improving patient satisfaction and health outcomes.

Methods: De-identified outpatient urology clinic survey results collected by a third party from 2013-2016 were assessed. The outcome of interest was a “top” score on any
survey question, defined as the highest possible positive response. Likelihood to recommend (LTR) scores at department and individual surgeon levels were analyzed. Associations between individual question response and LTR responses were assessed using regression analyses.

**Results:** 3,428 unique patient surveys corresponding to 11 surgeons were included. Overall, 79.3% of all questions and 81.9% of LTR responses were “top” scores with standard deviations of 6.5% and 7.2% amongst physicians respectively. Regression modeling identified four unique questions that had significant associations with a “top” LTR doctor response (Table 1).

**Conclusion:** There is moderate physician-level variation among patient survey responses. Factors such as “confidence in doctor,” and “time spent with doctor” align more strongly than others with a “top” LTR response.

**Podium #67**
**Presented By:** Jacob Ari Albersheim-Carter, University of Minnesota Medical School, MD, MBA and Christopher Weight, MD, MS

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**Introduction:**
Patient experience surveys are an important metric of quality and patient-focused efforts for improving patient satisfaction and health outcomes. Understanding factors that drive positive survey responses will help center care. We invited attendees of the 2016 Minnesota State Fair to complete our survey. 392 participants completed the survey. Median age was 49 (Interquartile range 28-61), the female: male ratio was 3:2, 57% had completed a college or graduate degree, and 85% were Caucasian vs. 15% ethnic minorities. Most respondents poorly estimated complication rates. Many (n=112, 32%) overestimated complication rates by at least 10-fold and were classified as misinterpreters. Misinterpreters demonstrated greater willingness to pay out-of-pocket expenses for a perceived ‘better surgeon’ (RR 2.0 95% CI 1.3 -1.8), and on average were willing to pay more, $5732 vs. $3912 for a 1 in 252 chance of lowering their post-operative complication risk. 1.5 95% CI 1.3 -1.8. Associations between individual question response and LTR responses were assessed using regression analyses.

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**Conclusion:** There is moderate physician-level variation among patient survey responses. Factors such as “confidence in doctor,” and “time spent with doctor” align more strongly than others with a “top” LTR response.

**Podium #68**
**HOLMIUM-YAG LASER: IMPACT OF PULSE ENERGY AND FREQUENCY ON LOCAL FLUID TEMPERATURE**
Michael Sourial, MD, Joshua Ebel, MD and Bodo Knudsen, MD
The Ohio State University Wexner Medical Center
Presented By: Michael Sourial, MD

**Introduction:** During laser lithotripsy energy is transmitted to both the stone and the surrounding fluid. As the energy is delivered the temperature will rise. Temperatures ≥ 60°C can cause protein denaturation. The objective of this study is to determine the time it takes from body temperature (37°C) to 60°C at various laser power settings.

**Method:** A Flexiva TracTip 200 optical fiber was submerged alongside a NTC-type thermistor in 4 mL of saline in a glass test tube. A Lumenis VersaPulse Powersuite 100W laser was activated at 0.2 – 1.5 J pulse energies, 6 – 50 Hz frequencies, and 2 – 22.5 W power. Temperature readings were recorded every second from 37 until 60°C. Time and heating rate were measured. The procedure was repeated three times for each setting.

**Results:**
Average time from 37 to 60°C for settings (1) 0.2J / 50Hz, (2) 0.6J / 6Hz, (3) 1J / 10Hz, and (4) 1.5J / 10Hz was 60.3, 172.7, 58, and 43.3 seconds, respectively. Time from 37 to 60°C decreased as frequency increased for every given pulse energy. Average heating rate increased proportionally to power from 0.07 to 0.76°C/second.

**Conclusion:** During laser lithotripsy there is a rapid increase in the temperature of its surrounding fluid and temperatures ≥ 60°C may be reached. This could have local tissue effects and some caution with higher power settings should be employed especially where irrigation is limited. Further studies incorporating irrigation and live

![Table 1: Percentage of "top" response for each individual question. Odds ratios for each individual question response are from a binomial logistic regression model assessing the association of those responses with a "top" LTR doctor and LTR practice response when controlling for all other questions. * indicates significance at p<0.05.](image)
tissue models may aid to further define the risks.

Podium #69
METFORMIN USE ASSOCIATED WITH LOW URINE PH IN NEPHROLITHIASIS PATIENTS
Robert Blackwell, MD, Spencer Hart, MD, Alexander Kandabarow, MD, Parth Patel, MD, Max Drescher, Osaretin Aimuyo, Kristin Baldea, MD and Thomas Turk, MD
Loyola University Medical Center
Presented By: Spencer Hart, MD

Introduction: Diabetes mellitus is associated with low urine pH and increased risk for uric acid urolithiasis. Metformin is a first line therapy for diabetes mellitus. The impact of metformin use on urinary parameters is not clear.

Methods: A retrospective review of patients with nephrolithiasis who had undergone 24 hour urine analysis was performed. Continuous variables are reported as median interquartile range and descriptive statistics performed. The components of the metabolic syndrome (diabetes, hypertension, obesity, and dyslipidemia), baseline renal function, and metformin use were assessed. The primary outcome was urinary pH on a 24-hour urine study. Invariable and multivariable linear regressions were performed.

Results: 24- hour urine studies were completed by 105 patients. The study group carried comorbidities of diabetes mellitus (24.8%), hypertension (42.9%), dyslipidemia (25.7%), obesity (49.5%), and chronic kidney disease (28.6%). Metformin was used by 16.2% of patients. Urine pH was lower in diabetic patients (median 5.3 vs 6.1, p<0.001). Patients on metformin had lower urine pH than the non-diabetic population (5.2 vs 6.0, p<0.001), and non-metformin diabetic patients (5.2 vs. 6.0, p=0.028). On multivariable regression, metformin use was independently with a decrease in pH of -0.8 (IQR: -1.2 - -0.4, p<0.001). This relationship persisted on sensitivity analysis restricted to diabetic patients. Supersaturation index for uric acid was also higher in patients on metformin (2.2 vs 1.1, p<0.001).

Conclusion: Metformin use in diabetic stone formers is associated with a decrease in urinary pH and an increase in uric acid supersaturation when compared to diabetics not on metformin therapy.

Podium #70
NEPHROLITHIASIS IN PREGNANCY: DOES AN ANTEPARTUM STONE ADMISSION INCREASE THE RISK OF PRETERM DELIVERY?
Max Drescher¹, Robert H. Blackwell, MD², Parth Patel, MD², Spencer Hart, MD², Alexander M. Kandabarow, MD², Paul C. Kuo, MD², Ahmer Farooq, DO², Thomas M.T. Turk, MD² and Kristin G. Baldea, MD²
¹Loyola University Chicago Stritch School of Medicine; ²Loyola University Medical Center
Presented By: Max Drescher

Objective: Our objective is to evaluate outcomes and current practice of antepartum urolithiasis management in pregnancy.

Methods: A retrospective review using the Healthcare Cost and Utilization Project State Inpatient Database California and Florida was performed. Women with an inpatient admission for delivery through 2008-2011 were included using previously validated codes. Antepartum inpatient admissions for renal and ureteral stones were identified. Antepartum management was evaluated, including no treatment, urological intervention (ureteral stent/ureteroscopy), or percutaneous nephrostomy tube placement (PCN). Statistical analysis for all categorical variables was preformed using Chi-Squared test, and multivariate logistic regression was performed to identify predictors of preterm delivery.

Results: Overall, 3,904 (0.14%) of the 2,750,776 identified inpatient deliveries were
associated with an antepartum stone admission. Most stone patients (71.40%) were managed conservatively, while 803 (20.6%) underwent urological intervention and 312 (8.00%) underwent PCN. Stone patients had significantly higher rates of urinary tract infection (UTI) at delivery (5.95% vs 0.97%, p<0.001) and preterm delivery (9.07% vs 6.93%, p<0.001). Procedural intervention was associated with a higher rate of UTI (11.72% vs 3.66%, p<0.001) and preterm delivery (13.52% vs 6.93%, p<0.001). The presence of UTI at delivery confers the greatest risk for preterm delivery (OR= 3.5, p<0.001), while a conservatively managed stone (OR 1.3, p<0.001), urologic intervention (OR 1.5, p<0.001), or PCN (OR 2.5, p<0.001) also independently increase this risk.

**Conclusion:** Antepartum urolithiasis is an uncommon event, affecting approximately 1 in 714 pregnancies. An antepartum stone admission increases the risk of UTI at delivery and preterm delivery, especially when intervention is required.

**Podium #71**

**EXPLORING PATIENT PERSPECTIVES ON PAIN FROM NONOBSRUCTING KIDNEY STONES**

Daniel Smith, MD and Michael Borofsky, MD
University of Minnesota
Presented By: Daniel W. Smith, MD

**Introduction:** There is a general sentiment within the urologic community that in the absence of obstruction, small renal stones should not cause pain. Evidence from several small case series suggests this may not necessarily be true. Management of the patient with flank pain in this setting can be challenging, with high potential for patient frustration. Web based resources, particularly message boards; have become popular for similar medical questions that lack clarity in etiology and treatment.

**Methods:** Online resources including medical websites, forums, social media postings, and support groups were searched to identify articles and threads specific to nonobstructing stones and pain. 5 sources focusing on this issue were searched and 43 individual postings describing pain in the setting of small non-obstructing renal stones were identified. Entries were characterized with respect to attitudes about diagnosis, medical consultation patterns, interventions, and outcomes.

**Results:** Most patients (36/43, 83.7%) noted disappointment or anger as a result of being told their stone was unlikely to be causing symptoms. 67.4% (29/43) sought consultation with more than one provider; only 3 (6.9%) reported being offered surgical intervention. Notably, all patients who underwent surgical treatment reported improvement of pain after stone removal.

**Conclusion:** Patients with nonobstructing stones and flank pain present a clinical challenge. Understandably, reports of anger, frustration, and consultation with multiple providers are high among this group. Further investigation into the therapeutic effect of stone removal in such circumstances is warranted to help guide care and confidently direct shared decision making.

**Podium #72**

**PERIOPERATIVE ASPIRIN USE DURING PERCUTANEOUS NEPHROLITHOTOMY (PCNL): OUR SINGLE CENTER EXPERIENCE**

Joshua Ebel, MD and Bodo Knudsen, MD
The Ohio State University
Presented By: Joshua Ebel, MD

**Introduction:** With increasing rates of both heart disease and nephrolithiasis, urologists are increasingly faced with the decision to proceed with the less effective but lower risk ureteroscopy or the higher risk but more effective percutaneous nephrolithotomy (PCNL). Leavitt et al. recently published their experience with PCNL in
Results: Of 199 PCNLs performed at our institution in the range of our study, 27 procedures on 23 patients were conducted without discontinuing aspirin perioperatively. The average patient experienced a 1.3 g/dl drop in hemoglobin perioperatively. The largest drop was 4.1 g/dl, but the lowest post-operative hemoglobin was 8.2 g/dl. No significant associations were found between hemoglobin decline and age, sex, BMI, operative duration, skin-to-stone distance, or stone size. There were no Clavien-Dindo grade III or higher complications in the course of our review, and no patients required a blood transfusion or embolization. In one case, a patient required a three day inpatient stay following stent removal for continuous bladder irrigation.

Conclusion: In our single center experience, PCNLs performed on patients taking aspirin perioperatively were not associated with the need for blood transfusion or the occurrence of high-grade complications. It is our experience that this practice is safe when performed by expert hands.

Podium #73
UTILIZATION AND OUTCOMES OF MEDICAL EXPULSIVE THERAPY IN PREGNANT PATIENTS WITH SYMPTOMATIC NEPHROLITHIASIS

Emily Yura, MD1, Nabeel Hamoui, MD, MBA1, Beverly Onyekwuluje, BA1, Kaitlyn Sacotte, BA1, Nirali Shah, BA1, Mary Kate Fitzgerald, MPH1, Granville Lloyd, MD2 and Stephanie Kielb, MD1
1Northwestern University Feinberg School of Medicine; 2University of Colorado School of Medicine
Presented By: Emily Yura, MD

Objective: To assess the impact of medical expulsive therapy (MET) on pregnant patients with symptomatic nephrolithiasis.

Methods: A retrospective review was performed of pregnant patients admitted with nephrolithiasis at a high-volume women’s hospital from 2002-2016. We compared the utilization of opioids, need for surgical intervention, length of stay (LOS), readmission rates, and perinatal outcomes between patients managed with MET and without MET.

Results: 304 pregnant patients diagnosed with symptomatic nephrolithiasis who delivered at our institution were identified. 40 patients (13.2%) received tamsulosin: 2 in the first trimester, 15 in the second, and 22 in the third. Urologic consultation was obtained in 34/40 (85%) of patients who received tamsulosin. 32/695 (10.5%) patients of the study population required surgical intervention. There was a statistically significant higher rate of intervention in the MET group --14/40 (35%)-- compared to 18/264 (6.8%) in the non-MET group (p<0.05). There was a higher readmission rate in the MET group compared to the non-MET group (p<0.05). There was no statistically significant difference in administration of opioids, rate of preterm delivery, LOS, or APGAR scores between the MET and non-MET groups.

Conclusion: Our study represents a review of the largest cohort of pregnant patients with nephrolithiasis treated with MET. The majority of patients were managed with medical therapy alone. MET was not associated with increased rates of preterm delivery or decreased APGAR scores. There was a statistically significant increase in the rates of readmission and operative intervention in the MET group, but this may reflect worsened symptom severity.
Objective: To characterize risk factors for the development of bilateral urolithiasis with discordant stone composition and to compare urinary mineral excretion between compositionally discordant and concordant stone patients.

Methods: A single-institution retrospective review of 1533 endourologic stone interventions from 2000 to 2013 was performed. The effect of patient demographic factors, metabolic syndrome factors, and renal function on the presence of bilaterally discordant stone composition was statistically analyzed using logistic regression. Additionally, 24-hour urinary mineral excretion was compared between compositionally discordant and concordant stone patients using a Student’s t-test.

Results: One hundred ninety-two stone compositions were analyzed in patients with bilateral urolithiasis. Of those stones, 42 (22%) were found to be compositionally discordant from their contralateral pair. Younger age (OR [95% CI] 0.923 [0.884 – 0.963], p < 0.01) and Asian race (12.5 [2.44 – 64.4], p < 0.01) were independently associated with discordant stone composition. Bilaterally discordant stones were associated with lower urinary citrate (mean [95% CI] 304 mg/day [180 – 428] vs. 498 mg/day, p < 0.01), uric acid (419 mg/day [312 – 528] vs. 536 mg/day, p = 0.04), and oxalate (26.5 mg/day [21.4 – 31.6] vs. 37.6 mg/day, p < 0.01) compared to bilaterally concordant stones.

Conclusion: Patients with bilaterally discordant stone composition are more likely to be younger and of Asian race, and have lower levels of urinary oxalate, citrate, and uric acid. More research is needed to determine the interaction between these patient characteristics and the mechanisms of bilaterally discordant stone formation.

Objective: To characterize risk factors for the development of bilateral urolithiasis and to compare stone composition and urinary mineral excretion of patients with bilateral urolithiasis to those with unilateral disease.

Methods: A single-institution retrospective review of 1533 endourologic stone interventions from 2000 to 2013 was performed. The effect of patient demographic factors, metabolic syndrome factors, and renal function on the presence of bilateral urolithiasis was statistically analyzed using logistic regression. Additionally, stone composition and 24-hour urinary mineral excretion were compared between bilateral and unilateral stone patients using a Student’s t-test.

Results: Three hundred (20%) renal stones intervened upon were in patients with bilateral urolithiasis. Of these stones, 223 (76%) were analyzed for composition. Urinary mineral excretion analysis was performed in 140 (48%) cases. Younger age (OR [95% CI] 0.988 [0.977-0.999], p = 0.04) and hypertensive medical therapy (1.53 [1.08 – 2.16],
p = 0.02) were independently associated with bilateral urolithiasis. There was no observed difference in stone composition between patients with unilateral versus bilateral disease. Bilateral stones were associated with lower urinary citrate (mean [95% CI] 420 mg/day [351 – 489] vs. 508 mg/day, p = 0.01) and higher urine pH (6.23 [6.10 – 6.37] vs. 6.06) compared to unilateral stones.

**Conclusion:** Patients with bilateral urolithiasis are more likely to be younger and be prescribed antihypertensive medication than patients with unilateral urolithiasis. While bilateral stones are compositionally similar to unilateral stones, these patients have lower urinary citrate and higher urine pH.

**Podium #76**

**AUTOMATED RADIOGRAPHIC STONE MEASUREMENTS: A NEW LEVEL OF STANDARDIZATION FOR STONE SIZE AND DENSITY**

Natasza Posielski, MD¹, John Roger Bell, MD¹, Perry Pickhardt, MD² and Stephen Nakada, MD, FACS¹

¹University of Wisconsin, Department of Urology; ²University of Wisconsin, Department of Radiology

Presented By: Natasza Posielski, MD

**Introduction:** Stone size and density often guide treatment, yet there is no standardized method of measuring stones. Prior work has shown significant variability in manual measurements (Patel J Urol 2012). We tested a novel stone software program designed to provide a comprehensive radiographic stone profile.

**Methods:** Urinary stones identified on CT scans were measured by a single reader (JRB) to obtain linear and volumetric measurements and density. Stone volume was calculated using the formula 0.52xLxWxH. Stones were then assessed with computer software, capable of automatically providing stone length, density and volume. Percent differences were calculated between manual measurements and automated software data.

**Results:** Eighty-five stones were identified on 42 CT scans in 17 patients. Stones were an average of 8mm (1.9-21mm) with mean maximum density of 451 HU (21-1492) and average stone volume of 182mm3 (2.8-266mm3). The automated program closely approximated manual measurements with a mean percent error of 21.6% for length, 12.4% for density, and 59.2% for volume.

**Conclusion:** Comprehensive stone profiling was most concordant measuring density, followed by length and volume. The tool was capable of assessing stones as small as 1.9mm, as well as stones with complex geometry. This software minimizes inter-observer variability and may offer an acceptable rapid comprehensive stone profile useful for making clinical decisions.
Podium #77
FATE OF UPPER TRACT STONES IN SPINAL CORD INJURED PATIENTS
Rachel Mann, BA1, John Stoffel, MD2, William Roberts, MD2, J. Quentin Clemens, MD2, Diana Covalschi, MPH1 and Anne Pelletier-Cameron, MD2
1University of Michigan Medical School; 2Michigan Medicine, Department of Urology
Presented By: Rachel Ann Mann, BA

Introduction: There are no established guidelines to direct management of urinary tract stones in spinal cord injured (SCI) patients. We sought to determine the frequency of surgical interventions and the fate of observed stones amongst SCI patients with upper tract calculi.

Methods: SCI patients with upper tract stones were retrospectively reviewed from an institutional Neurogenic Bladder Database.

Results: There were 53 stone diagnoses amongst 37 patients with SCI followed over an average of 60 months (range 2-226), with an average stone burden of 2.5 stones (range 1-12) per diagnosis. In our cohort there were 18 surgical interventions (34%) within 12 months of stone discovery. Of the 35 diagnoses that did not require immediate intervention, stones passed spontaneously in 14 (40%) of the cases over an average of 35.2 months (range 12-83), and 15 (43%) were followed with periodic upper tract imaging for an average of 65 months (range 8-226) with no symptoms or renal deterioration. Delayed surgical intervention was required in six cases (17%) an average of 55 months after initial discovery (range 15-72 months). Reasons for delayed surgical intervention included > 50% stone growth (3 cases), pain (3 cases), recurrent bladder infections (2 cases, both elective procedures without sepsis), and gross hematuria (2 cases), with some meeting more than one criteria.

Conclusion: In our cohort, the majority of stone diagnoses in SCI patients did not warrant immediate operative management. Of those deemed safe for observation only 17% required eventual intervention, all for non-emergent indications.

Podium #78
EFFECT OF RENAL FUNCTION ON STONE COMPOSITION AND URINARY MINERAL EXCRETION
Parth Patel, MD1, Alex M. Kandabarow, MD1, Spencer Hart, MD1, Robert H. Blackwell, MD1, Max Drescher2, Osaretin Aimuyo2, Ahmer Farooq, DO1, Kristin G. Baldea, MD1 and Thomas M.T. Turk, MD1
1Loyola University Medical Center; 2Loyola University Chicago Stritch School of Medicine
Presented By: Parth Patel

Objective: To determine the effect of renal function on stone composition and urinary mineral excretion in patients undergoing surgical intervention for nephrolithiasis.

Methods: A single-institution retrospective review of 665 patients who underwent interventions for nephrolithiasis between 2000 and 2013 was performed. The patients were grouped by the estimated glomerular filtration rate (eGFR), and kidney stone composition as well as 24-hour urinalysis was reported for each group. The effect of renal function on the aforementioned variables was statistically analyzed using multivariate linear regression models.

Results: A statistically significant difference was noted between the groups, with uric acid stones being associated with lower eGFR and calcium phosphate stones associated with higher eGFR. Lower renal function also demonstrated a statistically significant correlation with decreased urine pH, calcium, uric acid, and citrate. Total volume of the 24-hour collection and urine creatinine were independent of renal function.

Conclusion: Patients with poor renal function may be predisposed to uric acid nephrolithiasis due to low urinary pH and hypocitraturia. Renal function can be
Podium #79
HOW DOES A CT-BASED SOFTWARE TOOL COMPARE TO THE ELLIPSOID FORMULA IN ESTIMATING STONE VOLUME?

Rajat Jain, MD, Mohamed Omar, MD, Hemant Chaparala, MD, Leonard Kahn, MD, Adam Kahn, Nishant Patel, MD, Vishnu Ganesan, MD and Sri Sivalingam, MD
Cleveland Clinic Foundation
Presented By: Rajat Jain, MD

**Introduction:** Renal/ureteral calculus size and volume are typically reported as longest diameter (LD) and with ellipsoid formula (EF,π*l*w*d*0.167), which are suboptimal in assessing stone burden of irregular/larger stones. CT software-based algorithms are promising in assessing stone volume. The purpose of our study was to compare EF and CT algorithm estimate against true volume (TV) in an ex-vivo model.

**Methods:** Ninety radio-opaque phantom stones were created using clay mixed with contrast (0.5-40cm3, 814HU±91) and scanned with CT. For each stone, LD was measured, and volume was estimated using EF and CT algorithm. TV was calculated by water displacement. Matched-pair analysis was performed to compare each estimate to TV.

**Results:** Overall, EF vs TV was significantly different (p < 0.0001) but CT vs TV was not (p=0.5). For small stones (<2cm3), CT vs TV was different (p=0.003), but EF vs TV was not (p=0.15). For intermediate stones (2-6cm3), EF vs TV was different (p<0.001) but CT vs TV was not (p=0.44). For larger stones (>6cm3), CT (p=0.01) and EF (p<0.0001) both differed from TV; however, the mean difference for CT vs TV was marginal compared to EF vs TV (0.68±0.70 vs 5.65±5.55).

**Conclusion:** CT-based volume measurement corresponds well to true volume. CT algorithm was more accurate than ellipsoid formula for intermediate/large stones.
Podium #80
PROSTATE CANCER GRADE AND VOLUME IN SEPTUAGENARIANS (MEN AGES 70-79)
Paul Yonover, MD, FACS1,2, Laurel Sofer, MD1, Richard Harris, MD2, Justin J. Cohen, MD1, Dimitri Papagiannopoulos, MD3, Harpreet Wadhwa, MD1, Lester Raff, MD2 and Kalyan Latchamsetty, MD2,3
1University of Illinois College of Medicine at Chicago; 2Uropartners, LLC; 3Rush University Medical Center
Presented By: Laurel Sofer, MD

Introduction: Significant controversy exists regarding PSA screening for prostate cancer and at what age screening is no longer appropriate. To help clarify this, we sought to measure the burden of high grade prostate cancer in septuagenarians (men ages 70-79) in our practice.

Methods: We performed a retrospective review of the prostate cancer database of our large urology group practice and identified 1698 consecutive prostate biopsies positive for cancer (including biopsies done for active surveillance) all analyzed in our centralized pathology lab, over a 13 month period.

Results: Of 1698 positive biopsies, 488 (28.2%) were in men ages 70-79. Of these 488 patients, 28.3% (n=138) had > 50% of total number of cores involved, a metric for high volume disease; 62.7% (n=306) had Gleason > 7 disease (ISUP2-5); and 20.9% (n=102) had Gleason > 8 (ISUP3-5) NCCN High Risk disease.

Conclusion: We found that a significant number of men ages 70-79 harbor high grade prostate cancer and high disease burden, many of whom are NCCN High Risk. Because these cancers often cause significant morbidity/mortality, we believe our findings should potentially influence prostate cancer screening attitudes and policies in otherwise healthy septuagenarians.

Podium #81
IsoPSA: DIRECT CLINICAL PERFORMANCE COMPARISON BETWEEN EXPRESSION AND STRUCTURE AS A BASIS FOR DEFINING A BIOMARKER FOR PROSTATE CANCER
Eric Klein, MD2, Arnon Chait, PHD3, Jason Hafron, MD4, Kenneth Kernen, MD4, Kannan Manickam, MD5, Andrew Stephenson, MD2, Mathew Wagner, MD5, Hui Zhu, MD7, Aimee Kestranek3, Boris Zaslavsky, PHD3 and Mark Stovsky, MD, MBA1
1Cleveland Clinic, Cleveland Diagnostics, Inc.; 2Cleveland Clinic; 3Cleveland Diagnostics, Inc.; 4Michigan Institute Of Urology; 5Chesapeake Urology Associates; 6Kaiser Permanente Northwest; 7Louis Stokes VA Medical Center
Presented By: Mark D. Stovsky, MD, MBA, FACS

Introduction: We report interim results of a prospective multi-center trial evaluating the clinical performance of IsoPSA™, a structure based biomarker, compared to serum PSA.

Methods: 261 plasma samples were obtained from multiple clinical sites, with blood PSA between 2 and 44.5 ng/ml. 12 core TRUS or MRI-Fusion biopsy results were used as the gold standard. Results were obtained for discrimination between cancer and benign findings, and between high grade (Gleason≥7) and low grade (Gleason=6) cancer and benign findings using standard TRUS biopsy as the pathologic comparator. In this trial, the IsoPSA™ assay is used to assign a single parameter to investigate the myriad structural isoforms of PSA in serum using a novel aqueous partitioning step prior to conventional ELISA.

Results: The Area Under the Curve for overall cancer vs. benign was 0.79 vs. 0.61 (IsoPSA™ single index structural parameter vs. PSA expression) and 0.81 vs. 0.69 for high grade cancer vs. low grade and benign disease. Decision Curve Analysis demonstrated superior clinical benefit of the IsoPSA™ structural index vs. PSA.
expression and also vs. no biopsy, all biopsy and predictive results from the PCPTRC 2.0 risk calculator at any threshold probability level. The prevalence of all cancer was 53% and of high-grade cancer was 34%.

**Conclusion:** Structure-based IsoPSA™ outperformed concentration-based PSA as a cancer specific biomarker for the assessment of overall and high grade prostate cancer risk. If validated, use of IsoPSA™ could reduce the rate of unnecessary biopsies.

**Podium #82**
WITHDRAWN

**Podium #83**
STANDARD OF CARE VERSUS METASTASIS-DIRECTED THERAPY FOR PELVIC NODAL RECURRENCES OF PROSTATE CANCER FOLLOWING RADICAL PROSTATECTOMY AND POST-OPERATIVE RADIOThERAPY: A CASE-CONTROL STUDY

Thomas Steuber², Vidit Sharma, MD¹, Piet Ost³, Karel Decaestecker⁴, Tom Claey⁴, Thomas Zilli⁵, Barbara A Jereczek-Fossa⁶,⁷, Cordula Jilg⁸ and R. Jeffrey Karnes⁹
¹Mayo Clinic; ²Martini-Klinik Prostate Cancer Center, University Hospital Hamburg-Eppendorf, Hamburg, Germany; ³Department of Radiotherapy, Ghent University Hospital, Ghent, Belgium; ⁴Department of Urology, Ghent University Hospital, Ghent, Belgium; ⁵Department of Radiotherapy, European Institute of Oncology, Milan, Italy; ⁶Department of Urology, Medical Center - University of Freiburg, Faculty of Medicine, University of Freiburg, Germany; ⁷Department of Urology, Mayo Clinic, Rochester, MN, USA; ⁸Department of Oncology and Hemato-oncology, University of Milan, Milan, Italy

Presented By: Vidit Sharma, MD

**Introduction:** Retrospective studies of metastasis-directed therapy(MDT), either salvage lymphadenectomy(sPLND) or stereotactic body radiotherapy(SBRT), to PET-detected lymph node recurrences of prostate cancer(PCa) after radical prostatectomy(RP) and postoperative radiotherapy(PORT) lack a standard of care(SOC) control group of patients not receiving MDT. Here we perform a multi-institutional retrospective case-control study comparing MDT vs SOC.

**Methods:** Patients receiving RP+PORT (adjuvant or salvage) from 1996-2013 subsequently experiencing a rising PSA were retrospectively identified at 5 institutions. The SOC-cohort (N=2270 at a single institution: Hamburg) received only systemic treatment (without MDT) at physician discretion. The MDT-cohort (N=227) received sPLND(N=150) or SBRT(N=77) for C11Choline/PSMA PET-detected pelvic nodal recurrences. Multivariable Cox proportional hazard models evaluated the association of MDT with cancer-specific survival(CSS) adjusting for age, PSA, pT&pN, Gleason grade, margins, year. Propensity-score matching (1:1) analysis was performed to compare Kaplan-Meier CSS rates for MDT vs SOC.

**Results:** On multivariable analysis, MDT(N=227) vs SOC(N=2270) was associated with lower PCa mortality (HR=0.29,p<0.01). After propensity score matching, 187 men remained in each cohort (median follow up 64.2months); MDT was associated with improved 10year CSS (98.8% vs 79.4%, p=0.002).

**Conclusion:** MDT for PET-detected nodal recurrences of PCa is associated with improved CSS relative to SOC. These data are hypothesis-generating and may inform future MDT trials.
Podium #84
ROLE OF MPMRI PSA DENSITY AND PIRADS SCORE IN PREDICTING UPSTAGING IN MEN ON ACTIVE SURVEILLANCE
Michelle Van Kuiken, MD, Robert H. Blackwell, MD, Spencer Hart, MD, Bryan Bisanz, Ahmer Farooq, DO, Alex Gorbonos, MD, Marcus Quek, MD, Thomas M.T. Turk, MD, Robert Flanigan, MD and Gopal N. Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken, MD

Introduction: Active surveillance (AS) has gained popularity for its role in reducing overtreatment of low-risk prostate cancer; however, concern for potential under staging remains. Using mpMRI of the prostate, we aim to determine which men on AS are at risk of being upstaged.

Methods: We reviewed men on AS who underwent mpMRI followed by MRI-TRUS targeted biopsy between 2014 and 2016. All men also had a 12-core biopsy. Using multivariate logistic regression analyses, we examined the effect of age, race, PSA, PSA density (PSAD), prostate volume, PIRADS score, lesion size, lesion number, and DRE to determine the likelihood of upstaging to Gleason score ≥7.

Results: 101 men on AS underwent MRI-TRUS fusion biopsy. Multivariate regression demonstrated that PSAD ≥0.15 (OR 2.66, p=0.049) and increasing PIRADS score (PIRADS 4: OR 10.6, p=0.004; PIRADS 5: OR 15, p=0.002) were independent predictors of upstaging. Men with a PIRADS score ≥3 with a PSAD ≥0.15 had a 55% chance of being upstaged. Conversely, in men with PIRADS score ≤3 with a PSAD <0.15, no upstaging was seen (Figure).

Conclusion: In men on AS, the combination of mpMRI PSAD and PIRADS score predicts upstaging when PIRADS score is ≥3 with a PSAD ≥0.15.
MULTI-INSTITUTIONAL EVALUATION OF MRI AND FUSION BIOPSY IN CONFIRMATORY BIOPSY FOR ACTIVE SURVEILLANCE

Christopher Russell, MD¹, Amir H. Lebastchi, MD², Matthew Lee, MD², Scott A. Tomlins, MD³, Jeffrey S. Montgomery, MD², Chandy S. Ellimoottil, MD², John T. Wei, MD², Matthew S. Davenport, MD⁴, Nicole Curci, MD², Thomas P. Frye, MD⁵, Matthew Truong, MD⁵, Srinivas Vourganti, MD⁶, Ardeshir Rastinehad, DO⁷, Paras Shah, MD⁸, Vinay Patel, MD⁸ and Arvin George, MD²

¹University of Michigan Department of Urology; ²University of Michigan, Department of Urology; ³University of Michigan, Department of Pathology; ⁴University of Michigan, Department of Radiology; ⁵University of Rochester, Department of Urology; ⁶Rush University, Department of Urology; ⁷Mount Sinai School of Medicine, Department of Urology; ⁸Hofstra School of Medicine, Department of Urology

Presented By: Christopher M. Russell, MD

Introduction: Preliminary single-institution data has suggested a benefit of prostate MRI and fusion biopsy (FBx) in evaluation of patients considered for active surveillance (AS). We aim to determine the utility of MRI/FBx for confirmation of AS candidacy and identify predictors of Gleason upgrading in a multi-institutional cohort.

Methods: A retrospective review was completed at five tertiary referral centers to identify patients with Gleason 3+3=6 or Gleason 3+4=7 prostate cancer with PSA < 15 who underwent 3T prostate MRI and confirmatory FBx. Univariate and multivariate analysis of variance were performed to identify characteristics independently associated with Gleason score upgrading on fusion biopsy.

Results: A total of 225 patients were identified meeting inclusion criteria, of which 209 (93%) had Gleason 3+3=6 and 16 (12%) had Gleason 3+4=7 disease on SBx. Confirmatory FBx resulted in Gleason score upgrading within the targeted ROI in 90 patients (40%). FBx did not miss any high risk PCa, while identifying 10 patients (12.5%) with high risk disease missed on SBx alone. Patient age (p=0.003), pre-fusion biopsy PSA (p=0.020), initial standard 12-core Gleason score (p=0.070), prostate volume (p=0.003), and PI-RADSv2 classification (p=0.056) were found to be associated with confirmatory FBx upgrading on univariate analysis. Multivariate analysis demonstrated a significant and independent association of patient age (p=0.001), pre-fusion biopsy PSA (p=0.006), prostate volume (p=0.020), and PI-RADSv2 classification (p=0.050) with FBx upgrading.

Conclusion: Confirmatory FBx improves risk stratification of patients considering AS. Age, pre-FBx PSA, prostate volume, and PI-RADSv2 classification were independently associated with Gleason score upgrading on confirmatory FBx.
Podium #86
AN INDEPENDENT, MULTI-INSTITUTIONAL, PROSPECTIVE STUDY IN THE VETERANS AFFAIRS HEALTH SYSTEM CONFIRMS THE 4K SCORE PREDICTS AGGRESSIVE PROSTATE CANCER
Michael Risk, MD, PhD1, Sanoj Punnen, MD2, Stephen Freedland, MD3, Thomas Polascik, MD4, Stephen Savage, MD5, Stacy Loeb, MD6, Edward Uchio, MD7, Sharad Mathur, MD8, Yan Dong, MD9 and Jonathan Silberstein, MD10
1University of Minnesota and Minneapolis VA Medical Center; 2University of Miami and Miami Veterans Affairs Medical Center; 3Cedars-Sinai Medical Center and Durham Veterans Affairs Medical Center; 4Duke Cancer Institute and Durham Veteran Affairs Medical Center; 5Medical University of South Carolina and Ralph H. Johnson Veterans Affairs Medical Center; 6Department of Urology, New York University and Manhattan Veterans Affairs Medical Center; 7Department of Urology, University of California Irvine and Veterans Affairs Long Beach Health System; 8Pathology and Laboratory Medicine Service, Kansas City Veterans Affairs Medical Center; 9OPKO Diagnostics; 10Tulane University School of Medicine and Southeast Louisiana Veterans Health Care Center
Presented By: Michael C. Risk, MD, PhD

Introduction: The 4Kscore test was previously validated in a large, prospective trial; however this study enrolled a limited number of African American (AA) men. We conducted a multi-institutional, prospective trial to validate the 4Kscore test within the Veterans Affairs (VA) Health System, where a large proportion of those receiving care are AA.

Methods: Men undergoing prostate biopsy were enrolled at 8 VA sites throughout the nation, with phlebotomy for 4Kscore obtained prior to biopsy. We assessed the discrimination, calibration, and clinical utility of the 4Kscore test for predicting Gleason 7 or higher (G7+) prostate cancer compared to a base model consisting of age, DRE and PSA. Additionally, we compared the 4Kscore performance in AA and non-AA men.

Results: Of the 403 enrolled, 366 had complete data available for analysis. Among these men, 208(56%) were AA, and 134(36%) had G7+ prostate cancer. The 4Kscore exhibited better discrimination (AUC: 0.81 vs. 0.74, p=0.011) and higher clinical utility on decision analysis than the base model. There was no difference in the discrimination of the 4Kscore test between AA and non-AA men (0.80 vs. 0.84; p=0.32). The 4Kscore may underestimate the risk of G7+ prostate cancer in AA men though discrimination (0.80 vs. 0.72, p=0.013) and clinical utility were still higher than the base model.

Conclusion: In a multi-institutional, prospective trial in the VA health system, we confirmed that the 4Kscore accurately predicts the likelihood of aggressive prostate cancer and outperforms standard clinical information for biopsy decision making in both AA and non-AA men.

Podium #87
UTILIZATION OF MRI AND GENOMIC MARKERS IN SURVEILLANCE AND TREATMENT SELECTION AMONG PATIENTS DIAGNOSED WITH PROSTATE CANCER
Shree Agrawal, BS1, Nitin Yerram, MD2, Dominic Grimberg1, Karishma Gupta1, Yaw Nyame, MD2, Daniel Sun, MD2, Daniel Greene, MD2, Hans Arora, MD2, Sudhir Isharwal, MD2, Paurush Babbar, MD2, Anna Zampini, MD2, Andrew Sun, MD2, Andrei Purysko, MD2, Ryan Berglund, MD2, Michael Gong, MD2, Andrew J Stephenson, MD2 and Eric Klein, MD2
1Case Western Reserve University School of Medicine; 2Cleveland Clinic
Presented By: Shree Agrawal, BS

Introduction: Contemporary assessment tools for patients with prostate cancer (PCa) include genomic marker testing, and multiparametric magnetic resonance imaging (mp-
The purpose of this study is to assess the utilization of these clinical assessments in the management of NCCN very low to intermediate risk prostate cancer with active surveillance (AS) or primary intervention (radical prostatectomy or radiotherapy).

**Methods:** The records of men diagnosed with NCCN very low to intermediate risk PCa between January 2013 and September 2016 with Oncotype Dx were reviewed. Multivariate logistic regression model was used to assess participation in an AS protocol or primary intervention protocol.

**Results:** A total of 389 men were identified. Patients who selected an AS protocol (235, 60%) or primary intervention (154, 40%) were followed for median of 19 (IQR: 11-31) months. Median age at diagnosis was 64 years (IQR: 59-69). In addition to standard transrectal ultrasound (TRUS) biopsy, 217 (56%) men received MRI/TRUS fusion biopsy. On multivariate logistic regression, a higher genomic prostate score (favorable pathology) correlates with increased participation in an AS protocol (HR=0.67 [0.63-0.71]) had significantly better CaP survival.

**Conclusion:** In our institutional, both Oncotype Dx score and mp-MRI lesions correlated with the shared decision to participate in an AS protocol. Future studies should assess the impact of genomic testing and mp-MRI on intermediate- and long-term oncologic outcomes.
Podium #89

A NOVEL NOMOGRAM FOR PREDICTING ONCOLOGIC OUTCOMES IN MEN WITH LOCALIZED HIGH RISK PROSTATE CANCER UNDERGOING RADICAL PROSTATECTOMY

Yaw Nyame, MD, MBA1, Jeffrey Tosoian, MD, MPH2, Ridwan Alam, BS2, Lamont Wilkins, BS1, Kasra Yousefi, MS3, Meera Chappidi, BS2, Chandana Reddy, BS1, Elizabeth Humphreys, BS2, Debashis Sundi, MD6, Brian Chapin, MD4, Andrew Stephenson, MD, MBA1, Eric Klein, MD1 and Ashley Ross, MD, PhD2

1Cleveland Clinic; 2Johns Hopkins University; 3GenomeDx Biosciences, Inc; 4MD Anderson Cancer Center
Presented By: Yaw A. Nyame, MD, MBA

Introduction: This study aims to develop a predictive nomogram for biochemical recurrence (BCR) and metastasis (mets) from a contemporary cohort of men with NCCN high (HR) and very high risk (VHR) prostate cancer.

Methods: From 2005 to 2015, 1,241 men with NCCN HR or VHR prostate cancer were identified from CCF and JHU. The cohort was divided into training (n = 620) and validation (n = 621) cohorts. Primary endpoints were BCR and mets. Cox multivariable regression was performed to model characteristics and outcomes in the training cohort. Model accuracy was assessed using the time-dependent area under the receiver operator characteristic curve (AUC) in the validation cohort.

Results: 494 men (245 training and 249 validation) developed BCR, and 123 men (64 training and 59 validation) developed mets, with BCR-free and mets-free probability of 49.0% and 86.5% at 5-years, respectively. Predictive nomograms including age, ethnicity, PSA, Gleason grade, clinical stage, and the number of cores with Gleason 8-10 disease were developed. Models for BCR and mets had AUCs of 0.72 and 0.75. By comparison, the MSKCC preoperative nomogram and CAPRA nomogram provided AUCs of 0.69 and 0.68 for predicting BCR and 0.66 and 0.67 for mets.

Conclusion: Individualized risk assessment is imperative for optimal decision making and clinical trial design. The nomograms described here, developed exclusively from a cohort of HR/VHR men, have better discrimination than previously established nomograms of low and intermediate risk men, and may present benefits for predicting oncologic outcomes in men with HR/VHR disease.
Podium #90
PREOPERATIVE MRI IMPROVES RISK CALCULATION AND SELECTION OF SIDE-SPECIFIC NERVE SPARING IN PATIENTS UNDERGOING RADICAL PROSTATECTOMY
Joshua Piotrowski, MD, PhD, Meghan Schafer, MD, Peter Langenstroer, MD, William See, MD and Kenneth Jacobsohn, MD
Medical College of Wisconsin
Presented By: Joshua T. Piotrowski, MD, PhD

Introduction: Increasingly, multi-parametric magnetic resonance imagining (mpMRI) is utilized in prostate cancer evaluation. Use of mpMRI in defining side specific extracapsular extension (ssECE) and planning for side-specific nerve sparing (ssNS) is not well described but is of great surgical interest.

Methods: We retrospectively reviewed patients with a preoperative mpMRI who also underwent RP from June 2014 to September 2016. A validated side-specific nomogram (Steuber et. al. 2006) was used to determine predicted ssECE and plan grade of NS during RP. Grade of MRI-planned NS was determined by findings of ssECE on mpMRI. Parametric statistical tests detected differences in outcomes between nomogram and mpMRI. Combining mpMRI and the prior nomogram produces a more sensitive and specific prediction of ssECE. Preoperative MRI altered 50% of ssNS operative plans.

Results: 183 patients with 364 specific sides were analyzed. MRI alone performed similarly to the nomogram in ssECE prediction. MRI addition to the nomogram provided the most accurate pre-operative prediction of ssECE (AUC 0.87, p = 0.004). In sides with low risk of ECE by nomogram alone, MRI+nomogram widened the grade of NS in 20 patients (17.3%) and narrowed the grade of NS in 86, and 16 patients (53.1%, 55.2%) with moderate to high risk of ECE. Overall, MRI altered ssNS operative plans in 50% of patients.

Conclusion: Prediction of ssECE by mpMRI is similar to a previously validated nomogram. Combining mpMRI and the prior nomogram produces a more sensitive and specific prediction of ssECE. Preoperative MRI altered 50% of ssNS operative plans.

Podium #91
COMPARISON OF PATHOLOGICAL OUTCOMES AT RADICAL PROSTATECTOMY FOR MAGNETIC RESONANCE IMAGING-TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY VERSUS UNTARGETED SATURATION TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY
Hans Arora, MD, PhD, Ahmed Elshafei, MD, Yaw Nyam, MD, MBA, Daniel Sun, MD, Helen Liang, Nitin Yerram, MD, Daniel Greene, MD, Dominic Grimberg, Karishma Gupta, Shree Agrawal, Sudhir Isharwal, MD, Paurush Babbar, MD, Andrew Sun, MD, Khaled Fareed, MD, Michael Gong, MD, PhD, Ryan Berglund, MD, Eric Klein, MD, Andrew Stephenson, MD, MBA, Andrei Purysko, MD and J. Stephen Jones, MD

Introduction: It is unclear whether increased core sampling, rather than magnetic resonance imaging (MRI) targeting, is sufficient for accurate detection of prostate cancer (PCas). This study was conducted to evaluate MRI-transrectal ultrasound (TRUS) fusion-guided biopsy to accurately predict final pathology at the time of prostatectomy compared to saturation TRUS-guided biopsy.

Methods: Of men who underwent radical prostatectomy at our institution from 2006 to 2016, 203 were identified who underwent saturation biopsy and 108 who had fusion biopsy. Continuous and categorical variables were compared using Wilcoxon rank-sum and χ2 test respectively. The primary endpoint of analysis was Gleason score
and $\bar{z}$ test respectively.

The primary endpoint of analysis was Gleason score on biopsy. Continuous and categorical variables were compared using Wilcoxon rank-sum test.

2016, 203 were identified who underwent saturation biopsy and 108 who had fusion biopsies. The comparison of MRI predictions and established clinical data was conducted using receiver operating characteristic (ROC) curves and compared the mpMRI prediction of ssECE to established clinical predictions. A linear regression model produced receiver-operating characteristic (ROC) curves and compared the mpMRI prediction of ssECE to established clinical predictions. Parametric statistical tests detected differences in outcomes between nomogram and MRI addition to the nomogram provided similar to the nomogram in ssECE prediction. MRI addition to the nomogram provided the most accurate pre-operative prediction of ssECE (AUC 0.87, p = 0.004). In sides similarly to the nomogram in ssECE prediction. MRI addition to the nomogram provided the most accurate pre-operative prediction of ssECE (AUC 0.87, p = 0.004).

Methods:

Grade of MRI-planned NS was determined by findings of ssECE on mpMRI. (Steuber et. al. 2006) was used to determine predicted ssECE and plan grade of NS during RP. Grade of MRI-planned NS was determined by findings of ssECE on mpMRI. (Steuber et. al. 2006) was used to determine predicted ssECE and plan grade of NS during RP.

Results:

We retrospectively reviewed patients with a preoperative mpMRI who also undergo a 5% agar gel solution with 3 tablespoons of psyllium for perirectal and surrounding materials. Further validation compared to commercially-available phantoms and in vivo ultrasound is needed.

**Conclusion:**

Of men undergoing TRUS prostate biopsy, MRI-TRUS fusion techniques are equivalent to saturation template in predicting Gleason grade at prostatectomy, but require fewer cores to achieve these similar outcomes.

*Table 1*

<table>
<thead>
<tr>
<th>Median age (years)</th>
<th>MRI-TRUS Fusion Plus</th>
<th>Saturation Template</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>African-American race (%)</td>
<td>9.35</td>
<td>10.5</td>
<td>0.75</td>
</tr>
<tr>
<td>Positive family history (%)</td>
<td>37.4</td>
<td>30.4</td>
<td>0.23</td>
</tr>
<tr>
<td>Median pre-biopsy PSA (ng/mL)</td>
<td>5.65 (IQR 3.86-6.68)</td>
<td>5.78 (IQR 4.3-9.15)</td>
<td>0.3</td>
</tr>
<tr>
<td>Median prostate size (cm$^3$)</td>
<td>47.8 (IQR 38-19)</td>
<td>46 (IQR 37.9-61)</td>
<td>0.9</td>
</tr>
<tr>
<td>History or prior biopsy (%)</td>
<td>59.3</td>
<td>74.8</td>
<td>0.005*</td>
</tr>
<tr>
<td>Median total number of cores retrieved</td>
<td>15.5 (IQR 14.28)</td>
<td>20 (IQR 20-32)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Median number of positive cores</td>
<td>4 (IQR 3-5)</td>
<td>3 (IQR 1-4)</td>
<td>0.207**</td>
</tr>
<tr>
<td>Median percent positive cores (%)</td>
<td>26.7 (IQR 16.7-41.3)</td>
<td>21.6 (IQR 9.5-29.4)</td>
<td>&lt;0.0001*</td>
</tr>
<tr>
<td>Concordance with final pathology (%)</td>
<td>65.1</td>
<td>53.9</td>
<td>0.06</td>
</tr>
</tbody>
</table>

**Podium #92**

DEVELOPMENT OF A LOW COST, REPRODUCIBLE PROSTATE PHANTOM SIMULATOR FOR TRANSRECTAL ULTRASOUND-GUIDED IMAGING PROCEDURES

Paul Guidos and Chad Tracy, MD

University of Iowa Hospitals and Clinics

Presented By: Paul J. Guidos III

**Introduction:** Advances in imaging technology for prostate cancer detection have led to an emphasis on improving prostate biopsy. Commercial phantoms for transrectal ultrasound (TRUS)-guided procedures are expensive and inaccurately reproduce in-vivo images. We developed a low-cost prostate phantom for educational and training purposes.

**Methods:** Using a clay prostate model, a negative mold was created using commercially available silicone and filled with varying concentrations of agar gel. The prostate was suspended in a separate agar/psyllium mixture within a container containing a latex balloon representing the rectum. Image quality and tissue responsiveness was evaluated using a TRUS probe and an optimal model was identified.

**Results:** The material composition resulting in the best tissue responsiveness and accurate imaging characteristics on TRUS was a 5% agar gel solution for the prostate and a 5% agar gel solution with 3 tablespoons of psyllium for perirectal and periprostatic tissue. The cost to create one phantom was approximately $45.

**Conclusion:** A low-cost prostate phantom for use in TRUS-guided imaging procedures is feasible. The developed phantom showed high-contrast between the prostate and surrounding materials. Further validation compared to commercially-available phantoms and in vivo ultrasound is needed.
Podium #93

ANTERIOR PROSTATE LESIONS AND CANCER DETECTED BY MRI IN AFRICAN AMERICAN MEN
Michelle Van Kuiken, MD, Bryan Bisanz, Neelam Balasubramanian, Ahmer Farooq, DO, Alex Gorbonos, MD, Thomas Turk, MD, Marcus Quek, MD, Robert Flanigan, MD and Gopal N. Gupta, MD Loyola University Medical Center Presented By: Michelle E. Van Kuiken, MD

Introduction: African American (AA) men often present with higher risk prostate cancer (CaP) than non-AA men. It’s hypothesized that anterior prostate lesions (APL) are greater and more aggressive in AA men leading to evasion of detection. Using multiparametric MRI of the prostate (mpMRI), we aim to compare the rates and grade of APLs in AA and non-AA males.

Methods: We analysed 463 men without a prior diagnosis of CaP (64 AA, 399 non-AA) who underwent prostate biopsy following mpMRI from 2014 to 2016. mpMRI was used to identify lesions suspicious for CaP. A 3-Tesla MRI and Invivo software was utilized for fusion.

Results: There was no difference in age or gland volume between the two cohorts; however median PSA (7.9 vs. 6.3; \(p<0.001\)) and PSA density (PSAD) (1.134 vs.111; \(p<0.03\)) were higher in AA men. The two cohorts were found to harbor APLs at a similar rate (AA men: 15/64, 23.4%; non-AA men: 112/399, 28.1%, \(p=0.43\)). Additionally, there was no difference in lesion size between the two cohorts (1.42cm vs. 1.49cm, \(p=0.54\)) nor were AA men more likely to have a Gleason \(\geq 7\) from an APL (4/15, 26.7% vs 28/112, 25%, \(p=0.89\)).

Conclusion: AA men were not found to have increased rates of APLs or more Gleason \(\geq 7\) in these lesions compared to a non-AA cohort. Additionally, despite higher PSAD, AA men were equally likely to have clinically significant CaP in general.

Podium #94

TRENDS IN PATIENTS UNDERGOING RADICAL PROSTATECTOMY IN THE ACTIVE SURVEILLANCE ERA: RESULTS FROM A TERTIARY CARE CENTER
Victor Chen, BS1, Pascal Mouracade, MD2, Onder Kara, MD2, Jaya Chavali, MD2, Jihad Kaouk, MD2, Georges-Pascal Haber, MD2 and Robert Stein, MD2
1Case Western Reserve University School of Medicine; 2Glickman Urological and Kidney Institute, Cleveland Clinic Presented By: Victor Chen

Introduction: With the continuing adoption of active surveillance for low risk disease and erratic use of prostate-specific antigen (PSA) screening, higher risk patients are undergoing radical prostatectomy (RP). We sought to assess temporal trends in clinicopathologic features for patients undergoing RP.

Methods: We identified all patients with non-metastatic prostate cancer who underwent RP from 2006-2016 at the Cleveland Clinic Foundation. Patients were stratified based
on time of RP: 2006-2009 (Cohort 1) and 2010-2015 (Cohort 2). Preoperative and pathologic characteristics were compared over time using Chi-Square and Mann-Whitney analyses.

Results: Among 2,710 patients undergoing RP, there were 1,480 (54.6%) in Cohort 1 and 1,230 (45.4%) in Cohort 2. The percentage of D’Amico low-risk patients undergoing RP dropped in 2010-2015 (28%) compared to 2006-2009 (44%; p<0.01). At the same time, D’Amico high-risk patients increased to 18.5% from 14.2% (p<0.01). Pathologic Gleason grade ≤ 6 was lower in Cohort 2 (10.6% vs. 24%; p<0.01), while Gleason grade ≥ 8 was higher (17.3% vs. 12%; p<0.01). Other pathological characteristics that were increased in Cohort 2 included extra-prostatic extension (48.3% vs. 33.2%; p<0.01), seminal vesicle invasion (12.6% vs. 6.9%; p<0.01), positive surgical margin (32.1% vs. 26.4%; p<0.01), and lymph node involvement (4.6% vs. 2.4%; p<0.01).

Conclusion: Over the last decade, patient clinicopathologic characteristics have shifted to more advanced disease at time of RP. This and other evidence may help to guide recommendations for screening and treatment in the future.

Podium #95
USE OF MPMRI PSA DENSITY AND PIRADS SCORE PREDICTS BIOPSY OUTCOME IN BIOPSY NAIVE PATIENTS
Michelle Van Kuiken, MD, Robert Blackwell, MD, Spencer Hart, MD, Bryan Bisanz, MD, Joseph Yacoub, MD, Ari Goldberg, MD, Steven Shea, MD, Thomas Turk, MD, Ahmer Farooq, DO, Marcus Quek, MD and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Spencer Hart, MD

Introduction: Multiparametric MRI (mpMRI) of the prostate improves diagnosis of clinically significant prostate cancer (CSPC). Its role in excluding insignificant cancer is unclear. Using mpMRI in prostate biopsy naive patients, we aim to distinguish which patients have CPSC at time of biopsy and which patients could potentially avoid biopsy.

Methods: Biopsy results of patients who underwent mpMRI followed by MRI-TRUS fusion biopsy between 2014 and 2016. Patients had a simultaneous standard 12-core biopsy performed. Age, race, PSA, PSA density, prostate volume by MRI, PIRADS score, lesion size, number of lesions, and DRE were analyzed. Univariate and multivariate logistic regression was performed.

Results: A total of 164 prostate biopsy naive patients were reviewed. Univariate analysis revealed age, PSA, PSA density, increasing PIRADS score, and 3 or more lesions on MRI increased the odds of CSPC. Multivariate analysis demonstrated that PSA density ≥0.15 (OR 2.82, CI 1.29-6.20, p=0.01) and increasing PIRADS score (PIRADS 4: OR 2.82, CI 1.03-7.92, p=0.043; PIRADS 5: OR 13, CI 3.82-44.3, p<0.001) were independently associated with CSPC. A spectrum of risk was seen when patients were stratified by PSA density and PIRADS score (Figure).

Conclusion: Combination of mpMRI PSA density and PIRADS score allows stratification of prostate biopsy naive patients for their risk of CSPC.
Podium #96
IMPACT OF OBESITY ON PROSTATE CANCER RECURRENCE AFTER RADICAL PROSTATECTOMY
Vidit Sharma, MD1, Mary Beth Westerman, MD2, Michelle Colicchia, Alessandro Morlacco2, Matthew K Tollefson, MD2, Stephen A Boorjian, MD2, R. Houston Thompson, MD2, Igor Frank, MD2, Matthew T Gettman, MD2 and R. Jeffrey Karnes, MD2
1Mayo Clinic; 2Department of Urology, Mayo Clinic, Rochester, MN
Presented By: Vidit Sharma, MD

Introduction: Conflicting data exists linking obesity and prostate cancer (PCa) recurrence after radical prostatectomy (RP), due in part to underpowered cohorts and limited follow up.

Methods: Men undergoing primary RP during 1987-2013 at our institution were grouped by Body Mass Index (BMI) into four categories: <25, 25-29.9, 30-34.9, and >35. In addition to standard descriptive statistics, forced-entry multivariable cox proportional hazard models (adjusting for age, PSA, Gleason Score, pT and pN stage, margins, adjuvant hormones/radiation, year, robotic approach) assessed the association of BMI with metastasis and prostate cancer mortality (PCM).

Results: In a cohort of 18,039 men (median follow-up 9.3 years), 20.6% (3,707), 51.9% (9,348), 21.9% (3,936) and 5.6% (1,016) had BMI <25, 25-29.9, 30-34.9, and >35, respectively. Higher BMI categories had higher rates of Gleason Score 7-10 disease: 38.7%, 40.7%, 46.1%, 54.0%, respectively (p<0.001). Log-rank comparisons found increasing 10-year metastasis and PCM rates across BMI groups (p<0.05 for both). On multivariable cox regression for metastasis, patients with a BMI 30-34.9 (HR 1.307, 95%CI 1.073-1.592, p=0.008) and BMI>35 (HR 1.421, 95%CI 1.071-1.886, p=0.015) had an increased risk of metastasis relative to patients with a BMI <25. Similarly, patients with a BMI 30-34.9 (HR 1.323, 95%CI 1.010-1.733, p=0.042) and BMI>35 (HR 1.620, 95% CI 1.098-2.392, p=0.015) had higher PCM rates relative to patients with BMI<25 on multivariable analysis.

Conclusion: There was an independent association between BMI and PCa metastasis and cancer-specific mortality after RP. Further study is warranted to determine if weight loss can decrease PCa recurrence after RP.
Podium #97
BILATERAL PROSTATE CANCER ON PROSTATE BIOPSY PREDICTS ACTIVE SURVEILLANCE FAILURE: IMPROVED DETECTION NOT PROGRESSION
Jonathan Wang, MD, Pablo Sierra, MD, Kyle Richards, MD, Jason Abel, MD, Tracy Downs, MD and David Jarrard, MD
University of Wisconsin
Presented By: Jonathan H. Wang, MD

Introduction: We assessed factors that can predict active surveillance (AS) failure on serial transrectal ultrasound guided biopsies in patients with low-risk prostate cancer.

Methods: We evaluated the records of 144 consecutive patients enrolled in AS between 2007-2014 at a single academic institution. Inclusion criteria were PSA<10 ng/ml, cT1c or cT2a, Gleason Score 6, <3 positive cores, and <50% tumor in a single core. AS failure was defined as an increase in Gleason Score or tumor volume beyond pre-specified cutoffs. Univariate and multivariate Cox proportional hazards regression analysis was used to determine predictors of reclassification.

Results: A total of 130 men met inclusion criteria with median follow-up of 52 months. The reclassification or AS failure rate was 38.5%, with 40% of patients failing on first follow-up biopsy. Most patients had unilateral disease on diagnostic biopsy (94.6%), but 40.7% had bilateral cancer detected during follow-up. Men with bilateral tumor were more likely to fail AS than patients with unilateral tumors (HR 4.089; P<0.0001) and also failed earlier with a reclassification free survival of 32 vs 119 months respectively. In a matched-pair analysis using a population of 210 patients that chose radical prostatectomy rather than AS, 76% of patients with unilateral cancer on biopsy had bilateral cancer on final pathology.

Conclusion: The presence of bilateral prostate cancer on biopsy is an important predictor of active surveillance failure. Finding bilateral disease may not represent disease progression but rather enhanced detection. Biopsy lateralization should be taken into account when counseling patients enrolled in active surveillance.

Podium #98
PROPENSITY SCORE ANALYSIS OF PATHOLOGICAL OUTCOME AT RADICAL PROSTATECTOMY FOR MAGNETIC RESONANCE IMAGING-TRANSRECTAL ULTRASOUND FUSION PROSTATE BIOPSY VERSUS UNTARGETED EXTENDED TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSY
Hans Arora, MD, PhD1, Ahmed Elshafei, MD1, Yaw Nyame, MD, MBA1, Daniel Sun, MD1, Helen Liang2, Nitin Yerram, MD1, Daniel Greene, MD1, Dominic Grimberg2, Karishma Gupta2, Shree Agrawal2, Sudhir Isharwal, MD1, Paurush Babbar, MD1, Andrew Sun, MD1, Khaled Fareed, MD1, Michael Gong, MD, PhD1, Ryan Berglund, MD1, Eric Klein, MD1, Andrew Stephenson, MD, MBA1, Andrei Puryasko, MD1 and J. Stephen Jones, MD1

1Cleveland Clinic; 2Case Western Reserve University
Presented By: Hans C. Arora, MD, PhD

Introduction: Magnetic resonance imaging-transrectal ultrasound (MRI-TRUS) fusion plus standard template biopsy demonstrates increased detection of clinically significant prostate cancer (PCa) by targeting specific lesions. The study seeks to evaluate the accuracy of fusion biopsy to determine final pathology at radical prostatectomy (RP) as compared to untargeted extended template TRUS biopsy.

Methods: 2,201 patients were identified who underwent both biopsy and RP between 2006 and 2016 from a single institution. Propensity matching was performed with the nearest neighbor method. 101 men who underwent fusion plus standard template biopsies were matched to 404 who underwent untargeted biopsy. Matched covariates included age, initial prostate specific antigen (iPSA), race, clinical stage, total cores retrieved, and prior biopsy history. Continuous and categorical variables were
compared using Wilcoxon rank-sum and χ² test respectively. Concordance of Gleason score from biopsy to RP was assessed.

**Results:** After matching, median age 64 years (IQR 59.5-68.5), median iPSA 5.4 ng/mL (IQR 4.0-8.1), median prostate size 48 grams (IQR 38.5-60), and median number of cores retrieved 15 (IQR 12-20). Of fusion biopsy patients, 67 of 99 (67.7%) showed concordant Gleason grading between biopsy and RP, whereas 204 of 397 (51.4%) of untargeted biopsies were concordant (p<0.01). Fewer fusion biopsies were upgraded (26.3% versus 32.2%) or downgraded (6.1% versus 15.4%) (p<0.01).

**Conclusion:** Of men undergoing biopsy for diagnosis of PCa, fusion techniques have higher concordance with final pathology. MRI-TRUS techniques demonstrated better accuracy with lower rates of upgrading and downgrading compared to untargeted biopsy independent of total number of cores sampled.

**Podium #99**

**MULTIPARAMETRIC MRI INDEPENDENTLY PREDICTS SALVAGE RADIOTHERAPY OUTCOMES AFTER RADICAL PROSTATECTOMY**

Vidit Sharma, MD¹, Avinash Nehra, MD², Michele Colicchia², Mary E Westerman, MD², Adam T Froemming, MD³, Lance A Mynderse, MD² and R. Jeffrey Karnes, MD²

¹Mayo Clinic; ²Department of Urology, Mayo Clinic, Rochester, MN; ³Department of Radiology, Mayo Clinic, Rochester, MN

Presented By: Vidit Sharma, MD

**Introduction:** We investigate if multiparametric pelvic MRI(mpMRI) for biochemical recurrence after radical prostatectomy(RP) improves prediction of PSA recurrence after salvage-radiotherapy(sXRT) relative to the Stephenson Nomogram.

**Methods:** Men undergoing RP at our institution (2003-2013) who had biochemical recurrence and received mpMRI within 12months of sXRT were retrospectively reviewed. Multivariable cox regression analyses (adjusting for Stephenson Nomogram covariates) associated mpMRI findings with PSA recurrence and metastasis after sXRT. mpMRI was categorized in binary fashion: no lesion vs vesicourethral/seminal vesical/prostate fossa lesions.

**Results:** Among 473 sXRT patients, 56.9% (204) had lesions on mpMRI: 25.6% (124) vesicourethral; 27.8% (135) seminal vesical/prostatic fossa; 7.0% (34) nodal; 0.6% (3) bone. Median PSA for mpMRI with lesions was 0.45ng/mL. After excluding nodal/bone lesions, 29.3% (127) had PSA recurrence after sXRT and 14.1% (61) developed metastasis (median follow up 45 months). For patients with a pre-sXRT PSA<0.5ng/mL, negative mpMRI was a significant predictor of PSA-recurrence (38.7% vs 12%, p<0.01) and metastasis (16.3% vs 2.4%, p<0.01) at 4 years after sXRT. When pre-sXRT PSA<0.5ng/mL, the addition of mpMRI to the propensity score (created using Stephenson nomogram covariates) improved the c-statistic from 0.71 to 0.77 for PSA recurrence (negative mpMRI HR 3.60, p<0.01) and 0.61 to 0.74 for metastasis (negative mpMRI HR 4.06, p<0.01).

**Conclusion:** Pre-sXRT mpMRI improves clinicopathologic prognostication of sXRT, particularly in early sXRT setting.
Results: After matching, median age 64 years (IQR 59.5 -68.5), median iPSA 5.4 ng/mL (IQR 4.0- 8.1), median prostate size 48 grams (IQR 38.5-60), and median number of cores retrieved 15 (IQR 12-20). Of fusion biopsy patients, 67 of 99 (67.7%) showed concordant Gleason grading between biopsy and RP, whereas 204 of 397 (51.4%) of untargeted biopsies were concordant (p<0.01). Fewer fusion biopsies were upgraded (26.3% versus 32.2%) or downgraded (6.1% versus 15.4%) (p<0.01).

Conclusion: Of men undergoing biopsy for diagnosis of PCa, fusion techniques have higher concordance with final pathology. MRI -TRUS techniques demonstrated better accuracy with lower rates of upgrading and downgrading compared to untargeted biopsy independent of total number of cores sampled.

Podium #100
WITHDRAWN

Podium #101
IS PSA DENSITY STILL RELEVANT? INCIDENCE AND PREDICTIVE FACTORS OF PROSTATE CANCER UPGRADING
Kelsey Gallo, BS, Alexander Chow, MD, Maxime Montour, BS, Dimitri Papagiannopoulos, MD, Christopher Coogan, MD and Kalyan Latchamsetty, MD
Rush University Medical Center
Presented By: Kelsey Gallo, BS

Introduction: Gleason grade groups (GG) are used to guide treatment strategies and to predict oncologic outcomes. We sought to compare the concordance rate of the highest GG detected on TRUS biopsy (TB) or MRI fusion biopsy (MFB) with final pathology. Furthermore, we aimed to identify factors that may predict accurate GG of final pathology.

Methods: We performed a retrospective review of patients in the UroPartners database who underwent radical prostatectomy (RP) from January 2015 to October 2016. We reviewed clinical and pathological GG, pre -biopsy PSA, prostate volume, and BMI. Univariate and multivariate analyses were performed to identify factors that influence upgrading of disease.

Results: 411 men underwent RP of which 364 (88.6%) were diagnosed by TB and 47 (11.4%) by MFB. For TB and MFB, GG concordance was 53% and 59% (p=0.44), upgrading was 24% and 21% (p = 0.85), and downgrading was 23% and 19% (p = 0.67), respectively. PSA density (OR 5.00, p = 0.002), prostate volume (OR 0.99, p=0.048), and pre-biopsy PSA (OR 1.03, p = 0.021) were predictive of upgrading. Time from biopsy to RP and number of positive cores were not associated with upgrading.

Conclusion: Our concordance and upgrading rates were similar between imaging modalities. PSA density was significantly more predictive of disease upgrading than prostate volume or pre-biopsy PSA individually. PSA density can be an insightful tool for patient counseling to guide treatment decisions and expectations prior to prostatectomy.
Podium #102
POTENTIAL ROLE OF A NOVEL BIOMARKER-BASED RISK SCORE TO SELECT PATIENTS FOR MULTIPARAMETRIC MRI FOR PROSTATE CANCER DETECTION
Rianne Hendricks2, Leander Van Neste, PhD3, Marloes Mulder2, Inge Van Oort2, Todd Morgan, MD1 and Jack Schalken, PhD2
1University of Michigan; 2Radboud University, Nijmegen, The Netherlands; 3Maastricht, The Netherlands
Presented By: Todd Matthew Morgan, MD

Introduction: A novel biomarker-based risk score (SelectMDx) assessing urinary HOXC6 and DLX1 mRNA expression levels combined with traditional clinical risk factors, was developed to predict high-grade PCa (Gleason Score≥7) upon prostate biopsy and to reduce the number of unnecessary biopsies. The aim of this study was to investigate the correlation between the risk score and mpMRI outcomes.

Methods: Patients in this retrospective observational cohort were previously included in the validation study of the SelectMDx risk score, in which urine was collected after digital rectal examination (DRE) from men undergoing prostate biopsies based on an elevated serum PSA level (≥3.0ng/ml) and/or suspicious DRE. A subset of patients underwent a mpMRI after prostate biopsies were performed (n=174). The indications for performing MRI were based on persistent clinical suspicion of PCa after negative prostate biopsies or staging after PCa was found upon biopsy.

Results: 102 or 174 patients (59%) had PCa detected upon prostate biopsy, of which 54 (53%) had high-grade disease and a significantly higher SelectMDx risk score (p<0.001). The median SelectMDx risk score was also significantly higher in patients who had a suspicious lesion on MRI (p<0.001). For 81 mpMRI's the PIRADS classification was reported and there was a positive correlation observed between the risk score and the PIRADS classification. A Kruskal-Wallis test indicated a statistically significant difference in SelectMDx risk scores between the different PIRADS groups (p<0.001).

Conclusion: This study showed promising results regarding the correlation between the SelectMDx risk score with MRI outcomes.

Podium #103
UROLIFT BENEFITS IN THE URINARY RETENTION PATIENT POST BRACHYTHERAPY FOR PROSTATE CANCER: INITIAL RESULTS
James Ulchaker, MD, FACS
Cleveland Clinic Foundation
Presented By: James C. Ulchaker, MD, FACS

Introduction: Patients who develop post brachytherapy urinary retention fall into a conundrum. It is essential for their radiation therapy sources remain in place to kill their prostate cancer cells, but these same sources effects also may cause their urinary retention. Also, transurethral resection of the prostate (TURP) is contraindicated in the immediate post brachytherapy patient for the reason stated above as well as the fact that there is a significant chance that the radioactive iodine can be aerosolized thru the TURP process from fractured sources and negatively affect the thyroid glands of the operating room staff. It is recommended that TURP not be performed until at least four half-lives (8-10 months) have passed to ensure operative staff safety. Herein, we describe an alternate novel treatment method by the use of UroLift for the initial treatment of urinary retention post brachytherapy.

Methods: Eight patients with prostate cancer post brachytherapy who developed post-operative urinary retention were offered the treatment of Urolift 3-12 months post procedure. All patients either had persistent Foley catheter drainage or were on intermittent straight catheterization. All patients underwent pre-procedural urodynamics and cystoscopy.
**Results:** Seven of eight patients who were in retention were out of retention post procedure. These patients were happy that they were no longer Foley catheter dependent or needed intermittent straight catheterization.

**Conclusion:** UroLift is a new plausible options for men who develop post-operative urinary retention post brachytherapy and can safely be performed at a much earlier time-point post procedure than TURP.

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**Podium #104**

**VARIATION IN EMERGENCY DEPARTMENT DISPOSITION OF PATIENTS WITH HYDRONEPHROSIS TREATED AT TWO COMMUNITY HOSPITALS SERVICED BY A SINGLE UROLOGY GROUP: A TARGET FOR QUALITY IMPROVEMENT**

Kimberly Sloan Stakleff, PhD¹, Gaurav Pahouja, MD² and Raymond Bologna, MD, MBA¹

¹Cleveland Clinic Akron General; ²Northeast Ohio Medical University

Presented By: Gaurav Pahouja, MD

**Introduction:** Urolithiasis is a common, costly condition with wide variation in management on initial presentation. The aim of the study was to determine whether there were differences in patient disposition from the emergency rooms of two community hospitals covered by a single urology group.

**Methods:** A retrospective chart review was performed on two community hospital emergency departments in Akron, OH during 2009-2010. ICD-9 codes 591, 592 and 594 to identify patients with presumed ureteral calculus disease and documented hydronephrosis. Clinical management of each patient was documented and descriptive statistics were used to analyze the database.

**Results:** Urologic consultation and hospital admission rates were significantly different between the institutions (both p<0.01) and were associated with degree of hydronephrosis on presentation (both p<0.01). Return emergency department visits and surgical management rates were also significantly different between the two institutions (both p<0.01). Greater urologic consultation and hospital admission at one hospital were also associated with a higher rate of return visits to the emergency department (25% vs. 16%), surgical management (43% vs. 27%) and length of stays that were also associated with degree of hydronephrosis (p<0.01).

**Conclusion:** There were significant differences in the clinical disposition of patients between two hospitals covered by a single urology group for patients presenting with presumed ureteral calculus disease and hydronephrosis. Furthermore, degree of hydronephrosis affected patient disposition in the emergency departments. More consistent radiologic reporting for degree of hydronephrosis and greater standardization in patient disposition is needed across health systems to improve patient care.

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**Podium #105**

**INTRAOPERATIVE IMAGING PATTERNS IN PREGNANT PATIENTS WITH SYMPTOMATIC NEPHROLITHIASIS**

Emily Yura, MD¹, Nabeel Hamoui, MD, MBA¹, Nirali Shahd, BA¹, Beverly Onyekwuluje, BA¹, Kaitlyn Sacotte, BA¹, Mary Kate Fitzgerald, MPH¹, Granville Lloyd, MD² and Stephanie Kielb, MD¹

¹Northwestern University Feinberg School of Medicine; ²University of Colorado School of Medicine

Presented By: Emily Yura, MD

**Introduction:** To evaluate intraoperative imaging usage in pregnant patients with symptomatic nephrolithiasis who were surgically managed and to identify patterns of anesthetic modality, surgery type, and perioperative complications.

**Methods:** A retrospective chart review of pregnant patients diagnosed with
nephrolithiasis who underwent surgical intervention at a tertiary care hospital from 2002-2016 was performed. Intraoperative imaging, patient demographics, indication for and type of surgical intervention, type of anesthesia, and perioperative complications were examined.

**Results:** 45 patients treated surgically for symptomatic nephrolithiasis were identified and underwent a total of 80 procedures. Average maternal age was 31.5 years. Indications for intervention were intractable pain in 36/45 (80%), urinary tract infection in 8/45 (17.7%), and premature labor in 1/45 (2.2%). All procedures were completed without complication. Intraoperative imaging type, mode of anesthesia, and use of definitive treatment varied by trimester as outlined in Table 1.

**Conclusion:** Patients who presented early in pregnancy with symptomatic nephrolithiasis were more likely to undergo definitive management and general anesthetic than those in the second or third trimester. Patients undergoing definitive management did not require increased fluoroscopy compared to those undergoing stent placement/exchange. The majority of procedures relied on ultrasound guidance alone.

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**Podium #106**

**PREDICTORS OF FAILURE IN UNSTENTED PRIMARY URETEROSCOPY FOR NEPHROLITHIASIS**

Patrick Whelan, MD¹, Andrew Mazzone², Corey Koschke² and Christopher Coogan, MD, FACS¹

¹Rush University Medical Center; ²Rush Medical College

Presented By: Patrick Whelan, MD

**Introduction:** Primary ureteroscopy for nephrolithiasis is often completed without prior ureteral stenting. However, a portion is initially unsuccessful due to inability to access the stone and requires ureteral stenting for passive dilation and a second procedure.

**Methods:** We reviewed all primary unstented ureteroscopies for calculus disease performed by four urologists at our institution from November 2007 to November 2016

**Results:** Failure rate for accessing the unstented ureter was 6.44% (31/497). Failures were more likely to have a proximal ureteral stone (48.8% vs. 26.0%, p=0.014). There was no difference in stone size (8.19±4.57mm vs. 8.91±4.70 mm, p=0.437). Females who failed were more likely to have undergone gynecologic surgery (69.2% vs. 37.5%, p=0.041) and have proximal ureteral stones (46.1% vs. 17.0%, p=0.029). Men who failed trended towards more likely to have a proximal ureteral stone (50.0% vs 31.0%, p=0.119), however, this was not significant

**Conclusion:** A majority of renal or ureteral stones are successfully treated without prior
ureteral stenting. Proximal ureteral stones and women who have undergone prior gynecological or retroperitoneal surgery may be at increased risk for failure of primary ureteroscopy and require ureteral stenting and a second procedure for stone disease. This can be used to further counsel patients.

Podium #106
PREDICTORS OF FAILURE IN UNSTENTED PRIMARY URETEROSCOPY FOR NEPHROLITHIASIS
Patrick Whelan, MD1, Andrew Mazzone2, Corey Koschke2 and Christopher Coogan, MD, FACS1
1Rush University Medical Center; 2Rush Medical College
Presented By: Patrick Whelan, MD

Introduction: Primary ureteroscopy for nephrolithiasis is often completed without prior ureteral stenting. However, a portion is initially unsuccessful due to inability to access the stone and requires ureteral stenting for passive dilation and a second procedure.

Methods: We reviewed all primary unstented ureteroscopies for calculus disease performed by four urologists at our institution from November 2007 to November 2016.

Results: Failure rate for accessing the unstented ureter was 6.44% (31/497). Failures were more likely to have a proximal ureteral stone (48.8% vs. 26.0%, p=0.014). There was no difference in stone size (8.19±4.57mm vs. 8.91±4.70 mm, p=0.437). Females who failed were more likely to have undergone gynecologic surgery (69.2% vs. 37.5%, p=0.041) and have proximal ureteral stones (46.1% vs. 17.0%, p=0.029). Men who failed trended towards more likely to have a proximal ureteral stone (50.0% vs 31.0%, p=0.119), however, this was not significant.

Conclusion: A majority of renal or ureteral stones are successfully treated without prior ureteral stenting. Proximal ureteral stones and women who have undergone prior gynecological or retroperitoneal surgery may be at increased risk for failure of primary ureteroscopy and require ureteral stenting and a second procedure for stone disease. This can be used to further counsel patients.

Podium #107
PERIOPERATIVE MANAGEMENT OF LOW-DOSE ASPIRIN IN SURGICAL KIDNEY STONE MANAGEMENT: A SURVEY OF CURRENT ENDOUROLOGIC PRACTICE PATTERNS.
Joshua Ebel, MD1, Brian Eisner, MD2, Michael Lipkin, MD3, Ben Chew, MD4 Bodo Knudsen, MD1 and Michael Sourial, MD1
1The Ohio State University; 2Massachusetts General Hospital; 3Duke University; 4Vancouver General Hospital
Presented By: Michael Sourial, MD

Introduction: Ureteroscopy (URS) is the preferred treatment for patients on continuous antiplatelet regimens, however multiple recent case series have explored the safety of percutaneous nephrolithotomy (PCNL) and extracorporeal shockwave lithotripsy (ESWL) in this setting. We conducted a survey study to further define current practice trends to guide future research.

Methods: An electronic survey was sent to approximately 2000 members of the Endourology Society in September of 2016. The resulting 184 responses from members in six continents were analyzed and associations measured by Pearson’s chi-squared test.

Results: 79% of respondents stated that they routinely performed URS on patients taking 81 mg of Aspirin (ASA) daily as opposed to only 29% when asked the same question with regard to ESWL (p < 0.001) and 29% with regard to PCNL (p < 0.001). Those in academic practice were more likely to perform PCNL (p = 0.02) but not ESWL (p = 0.51) on patients while taking ASA. Respondents from outside North America or Europe rarely reported performing PCNL or ESWL on patients taking ASA (p <0.001, 0.01). If a surgeon performed a fellowship and practiced in North America or Europe, they were significantly more likely to perform PCNL on patients taking ASA (p<.0001). There was a trend toward younger physicians performing PCNL and ESWL on ASA (p = 0.06, 0.05).

Conclusion: There was a wide regional variation in responses. Surgeons in academic
Podium #108
PILOT STUDY TO DETERMINE OPTIMAL STENT DURATION FOLLOWING URETEROSCOPY: 3 VS 7 DAYS
Charles Paul, BS, Nathan Brooks, MD, George Ghareeb, MD and Chad Tracy, MD
University of Iowa
Presented By: Charles J. Paul, BS

Introduction: Prior studies report that many providers elect to place a stent following ureteroscopy for nephrolithiasis, but little data exists on the optimal duration to leave a stent. We sought to determine whether there are any differences in postoperative outcomes for patients with a 3-day versus 7-day stent duration following ureteroscopy.

Methods: We retrospectively reviewed 247 patients who underwent uncomplicated unilateral ureteroscopy with lithotripsy from 2010-2016, 79 of whom removed a stent with an extraction string at either 3 or 7 days post-operatively. The transition from 7-day to 3-day stenting occurred in May 2014. These two groups were compared with regard to demographic information, pre-operative variables, and post-operative outcomes.

Results: 33% of all patients experienced a post-procedure related event (phone call, extra clinic visit, emergency department visit) within 30 days of their procedure, 39% of 3-day stent patients compared to 21% of 7-day patients (p=0.11). Within the 3 days following stent removal, 3-day stent patients were significantly more likely to have a post-procedure related event than 7-day patients (23% vs 3%, p=0.026). There was no difference between the groups in stone-free rate, post-operative hydronephrosis, or hospital readmissions.

Conclusion: One third of patients with a post-operative ureteral stent will seek additional medical care in the 30 days following ureteroscopy. Leaving a stent for 3 days versus 7 days may lead to worse outcomes with regard to post-procedure related events. Further studies are needed to address stent placement and appropriate duration in this population of patients.

Podium #109
MEDICAL DISSOLUTION THERAPY FOR THE TREATMENT OF URIC ACID NEPHROLITHIASIS
Chad Gridley, MD, Michael Sourial, MD and Bodo Knudsen, MD
The Ohio State University
Presented By: Chad Gridley, MD

Introduction: Uric acid (UA) nephrolithiasis represents 10% of kidney stones in the United States with low urine pH and high saturation of UA the main risk factors for stone development. Dissolution therapy for UA kidney stones via urinary alkalization is a strategy for treatment. We present our experience in treating UA nephrolithiasis with medical dissolution therapy.

Methods: A retrospective review was performed of UA stone patients treated between July 2007 and July 2016 with medical dissolution therapy. Patients were identified using ICD-9 codes. Patients were treated with potassium citrate and/or allopurinol. Serial imaging and urine pH were obtained at follow up. Demographics, stone size/burden, time to stone clearance, urine pH (office dip), and complications were recorded.

Results: Twenty-six patients were identified that underwent medical dissolution therapy for UA nephrolithiasis: fifteen men and eleven women. Average age at presentation was 56.6 years. Average BMI was 45.7. Average urine pH was 5.5. Average stone burden at time of presentation measured 36.4mm (standard deviation, 25.6mm). Urine pH in the office was raised to an average of 6.4. Fifteen patients (60%) showed complete resolution of nephrolithiasis while ten patients (40%) showed partial reduction.
One patient showed increased stone burden but was excluded from analysis due to non-tolerance and stoppage of dissolution therapy. Average time to complete stone dissolution was 6.1 months.

**Conclusion:** Medical dissolution therapy is a viable, non-invasive option for UA nephrolithiasis.

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**Podium #110**

**UPPER TRACT IMAGING AFTER URETEROSCOPY: RISK FACTORS FOR HYDRONEPHROSIS**

John Cooper, MD, Nathaly Francois, MD, Michael Sourial, MD, Hiroko Miyagi, BS, Geoffrey Box, MD and Bodo Knudsen, MD
Ohio State Wexner Medical Center
Presented By: John Cooper

**Introduction:** Need for routine upper tract imaging following ureteroscopy (URS) remains controversial. There are concerns regarding use of ureteral access sheaths (UAS) and potential for ureteral injury. We reviewed patients who underwent URS to determine the rate of abnormal follow-up imaging findings and to study UAS use as a potential independent risk factor.

**Methods:** We conducted a retrospective review of patients who underwent URS by two urologists between 1/2012-9/2016. Stone size and location, ureteroscope type, UAS use, laser fiber use, basket extraction of fragments, and pre- and postoperative ureteral stent use were reviewed. Standard follow-up imaging consisted of a renal ultrasound (RUS) and plain x-ray (KUB).

**Results:** 831 ureteroscopic procedures were performed on 768 patients. Postoperative imaging was available following 615 cases (74%). Hydronephrosis was noted following 51 cases (8.3%). Ten patients (1.6%) were symptomatic, seven of which had secondary procedures. Twenty patients had resolution, three had chronic nonobstructive hydronephrosis, and seventeen were lost to follow up. Hydronephrosis was similar regardless of UAS use (6.5% vs 4.8%, p=0.32), basket use (5.8% vs 6.8%, p=0.61), or laser use (6.2% vs 5.8%, p=0.87).

**Conclusion:** Incidence of hydronephrosis after ureteroscopy was similar regardless of UAS, basket, or laser use. The observed rate of postoperative hydronephrosis of 8.3% suggests there remains value in routine follow-up upper tract imaging after ureteroscopy.

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**Podium #111**

**TREATMENT OF NON-OBSTRUCTIVE UROLITHIASIS IS EFFECTIVE IN TREATING RECURRENT URINARY TRACT INFECTIONS**

Deepak Agarwal, MD\(^1\), Francisco Maldonado\(^1\), Mary Beth Westerman, MD\(^1\), Amy Krambeck, MD\(^2\) and John Knoedler, MD\(^1\)
\(^1\)Department of Urology, Mayo Clinic ; \(^2\)Department of Urology, Indiana University
Presented By: Deepak K. Agarwal, MD

**Introduction:** Patients with recurrent UTIs and non-obstructing urologic calculi provide a clinical quandary. There is growing evidence that removing these stones may be beneficial, but further studies are required to validate this.

**Methods:** A retrospective review was performed of patients undergoing elective management of non-struvite upper tract urinary calculi with recurrent UTI from 2009-2016. UTI within 30 days of the operation were considered to be post-operative complications and not recurrence. Beyond 30 days, >3 UTI in a year interval was considered recurrent.

**Results:** 46 patients met inclusion criteria. 42 (91.3%) were female. Median age was 63.7 years (IQR 49.1,73.4). 20 (43.5%) underwent ureteroscopy only, 26 (56.5%) underwent PCNL +/- URS. None underwent ESWL. Stone culture was available for 35
(76%) patients and 19 (54.2%) had a positive culture. Notably, 31.5% of stone cultures were not concordant with preoperative urine culture. Median follow up was 2.9 years (IQR 2.0,4.3).

Twenty-three (50%) patients had a UTI >30 days after treatment, but only five (10.9%) had recurrent UTI after treatment. Of the five, one had recurrent UTIs >1 year after treatment. The presence of residual stone was a risk factor for recurrent UTI after treatment (p<0.046). Diabetes, hypertension, immunosuppression and chronic kidney disease were not.

**Conclusion:** Stone removal for patients with recurrent UTIs has a high rate of success (89.1%) in treatment of recurrent UTIs. Residual stone after treatment increased the risk of subsequent recurrent UTIs.

**Podium #112**

**DOES PREOPERATIVE KNOWLEDGE OF URETERAL DUPLICATION IMPACT SURGICAL OUTCOMES FOR UROLITHIASIS?**

Nathan Chertack, BS¹, Rajat Jain, MD², Manoj Monga, MD² and Sri Sivalingam, MD²

¹Case Western Reserve University School of Medicine; ²Glickman Urological and Kidney Institute, Cleveland Clinic Foundation, Cleveland, OH

Presented By: Nathan Chertack, BS

**Introduction:** To determine the impact of preoperative knowledge of ureteral duplication on urolithiasis surgical management.

**Methods:** Patients with ureteral duplication who underwent extracorporeal shockwave lithotripsy (ESWL), ureteroscopy (URS), or percutaneous nephrolithotomy (PCNL) for urolithiasis were retrospectively identified. Patients were compared by whether the duplication was known preoperatively or identified intraoperatively. Data analysis was performed using Wilcoxon-Rank Sums for continuous variables and Chi-Squared test for binary variables.

**Results:** Ninety-four patients with ureteral duplication underwent 145 procedures (11 ESWL, 95 URS, 40 PCNL). Median age was 55. Twenty-nine patients (31%) had a complete duplication. Ureteral duplication was known preoperatively in 43 (46%) patients. Ureteral duplication was known preoperatively for 7 (64%) ESWL, 50 (53%) URS, and 27 (68%) PCNL. There was no difference between patient groups with respect to stone size (10 v 8mm, p=0.114), operative time (69 v 65min, p=0.552), need for secondary procedures (18 v 19%, p=0.818), or stone free rates (73 v 73%, p=0.996). There was one Clavien 4 or 5 complications (death secondary to sepsis) in the prior knowledge URS group. There was no significant difference in complication rates.

**Conclusion:** Preoperative knowledge of ureteral duplication does not appear to impact outcomes of urolithiasis surgical management.
Conclusion:
RATES.
The prior knowledge URS group. There was no significant difference in complication p=0.996). There was one Clavien 4 or 5 complications (death secondary to sepsis) in for secondary procedures (18 v 19%, p=0.818), or stone free rates (73 v 73%,
respect to stone size (10 v 8mm, p=0.114), operative time (69 v 65min, p=0.552), need URS, and 27 (68%) PCNL. There was no difference between patient groups with
presented basal ureteral duplication was known preoperatively for 7 (64%) ESWL, 50 (53%)
ESWL, 95 URS, 40 PCNL). Median age was 55. Twenty -nine patients (31%) had a
duplication was known preoperatively or identified intraoperatively. Data analysis was
performed using Wilcoxon-Rank Sums for continuous variables and Chi -Squared test
on urolithiasis were retrospectively identified. Patients were compared by whether the
lithotripsy (ESWL), ureteroscopy (URS), or percutaneous nephrolithotomy (PCNL) for
Methods: A retrospective review of consecutive pregnant patients presenting with
suspected renal colic from January 2013 to September 2015 was performed. Patients
were identified based on ICD-9 codes for flank pain or any stone related code. Demographic data, imaging results, treatment plan and final management up to 1 year post-partum was recorded.
Results: Of 213 pregnant patients, who presented to the ER with flank pain, 95% had a
renal ultrasound, 1 patient had a CT, and 1 patient had a KUB xray. Overall, 154 patients
(72%) were diagnosed with urolithiasis, while 59 patients (28%) were given other diagnoses; 54% had imaging findings indicative of a stone. Most were discharged with analgesics and observation; 12 patients underwent stent placement, 8 underwent nephrostomy tube placement, 2 underwent ureteroscopy, and 16 were prescribed Tamsulosin for medical expulsive therapy. Within a year of delivery, 61 patients returned for follow-up with 85% receiving CT. Forty seven patients were found to have stones of which 20 underwent further treatment.
Conclusion: Renal ultrasound was the imaging modality of choice in pregnant patients presenting with flank pain and most were managed conservatively. It is notable that the majority of patients (60%) did not follow up after delivery, while 77% of those who did return for follow-up were found to have stones indicating that closer follow-up is warranted in these patients.

Podium #113
RENAL COLIC IN PREGNANCY - FROM PRENATAL TO POSTPARTUM MANAGEMENT
Wen Min Chen, BS¹ and Sri Sivalingam, MD²
¹Case Western Reserve University School of Medicine; ²Cleveland Clinic
Presented By: Wen Min Chen

Introduction: Renal colic during pregnancy often presents a clinical dilemma. We sought to evaluate current diagnosis and management of renal colic in pregnancy in our tertiary care center.
Methods: A retrospective review of consecutive pregnant patients presenting with suspected renal colic from January 2013 to September 2015 was performed. Patients were identified based on ICD-9 codes for flank pain or any stone related code. Demographic data, imaging results, treatment plan and final management up to 1 year post-partum was recorded.
Results: Of 213 pregnant patients, who presented to the ER with flank pain, 95% had a renal ultrasound, 1 patient had a CT, and 1 patient had a KUB xray. Overall, 154 patients (72%) were diagnosed with urolithiasis, while 59 patients (28%) were given other diagnoses; 54% had imaging findings indicative of a stone. Most were discharged with analgesics and observation; 12 patients underwent stent placement, 8 underwent nephrostomy tube placement, 2 underwent ureteroscopy, and 16 were prescribed Tamsulosin for medical expulsive therapy. Within a year of delivery, 61 patients returned for follow-up with 85% receiving CT. Forty seven patients were found to have stones of which 20 underwent further treatment.
Conclusion: Renal ultrasound was the imaging modality of choice in pregnant patients presenting with flank pain and most were managed conservatively. It is notable that the majority of patients (60%) did not follow up after delivery, while 77% of those who did return for follow-up were found to have stones indicating that closer follow-up is warranted in these patients.

Podium #114
HOLMIUM LASER VERSUS PNEUMATIC LITHOTRIPSY FOR BLADDER CALCULI: WHICH IS FASTER?
Marcus Lacey, BS, Patrick Budny, BS, Michael Avallone, MD and Carley Davis, MD and Andrew Radtke, MD
Medical College of Wisconsin
Presented By: Andrew Radtke, MD

Introduction: Endoscopic management of bladder calculi can be performed with either holmium laser or pneumatic lithotripsy. There is a paucity of data regarding which modality is more efficient in treating bladder calculi. The aim of our study is to determine which lithotripter has greater lithotripsy efficiency.
Methods: Retrospective review was conducted for patients undergoing cystolitholapaxy from 2011 to 2016. Stone size and density was calculated from pre-operative CT imaging and operative data was extracted from the electronic medical record. Statistical analysis was performed with student t test.
Results: 13 patients underwent pneumatic lithotripsy utilizing the Cook Stone Breaker and 26 patients underwent laser lithotripsy with a 100W Holmium laser. There was no significant difference in patient age, cumulative stone volume or stone density. There was a trend towards shorter lithotripsy time with the pneumatic device.
Conclusion: Pneumatic and holmium laser have comparable lithotripsy efficiency in treating bladder stones with cystolitholapaxy.
Podium #115

HOSPITAL VARIATION IN THE RATE OF EMERGENCY DEPARTMENT VISITS AFTER AMBULATORY STONE SURGERY

Casey Dauw, MD1, John Hollingsworth, MD, MS1, Hechuan Hou, MS1, Jim Dupree, MD1, Brian Seifman, MD2, Adam Kadlec, MD3, Dave Leavitt, MD4, William Roberts, MD1, Anita Teckchandani, MD5 and Khurshid Ghani, MD1

1University of Michigan; 2Michigan Institute of Urology; 3Western Michigan Urologic Hospitals in Michigan (2012-2015). We identified those who required an ED visit within 30 days of surgery and calculated individual hospital ED visit rates. We fitted multilevel models to quantify variation across hospitals and associations between ED visit and patient, provider, and hospital characteristics.

Introduction: Emergency department (ED) visits after ambulatory surgery for urinary stone disease are significant events for patients. To inform quality improvement (QI) efforts at limiting these visits, we assessed variability in their frequency across hospitals and factors associated with their occurrence.

Methods: Using claims data from the Michigan Value Collaborative, we identified patients who underwent ureteroscopic stone treatment or shockwave lithotripsy at hospitals in Michigan (2012-2015). We identified those who required an ED visit within 30 days of surgery and calculated individual hospital ED visit rates. We fitted multilevel models to quantify variation across hospitals and associations between ED visit and patient, provider, and hospital characteristics.

Results: The mean adjusted rate of ED visit after ambulatory stone surgery was 12.5%. This rate was stable over time (P=0.47). There was 10-fold variation in this rate across hospitals (3.1% to 32.5%, Figure). Odds of ED visit were lower among patients ≥65 years (OR 0.60; 95% CI 0.52 to 0.69) and higher among those with more comorbid illnesses (OR 1.80; 95% CI 1.52 to 2.13).

Conclusion: Wide variation exists in ED visit rates after ambulatory stone surgery in Michigan. Further, our analysis identifies patient factors that can be used in the design of QI initiatives aimed at reducing these encounters.

<table>
<thead>
<tr>
<th></th>
<th>Holmium (n=25)</th>
<th>Pneumatic (n=13)</th>
<th>p-value</th>
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<tbody>
<tr>
<td>n Female</td>
<td>8</td>
<td>3</td>
<td>0.56</td>
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<tr>
<td>Mean age (years)</td>
<td>60</td>
<td>64</td>
<td>0.61</td>
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<tr>
<td>Mean stone volume cm³</td>
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<td>21.8</td>
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<td>Mean stone density (HU)</td>
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<tr>
<td>Mean Lithotripsy time (minutes)</td>
<td>53.5</td>
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</table>
Podium #116
CREATING AND EVALUATING AN ULTRASOUND TRAINING CURRICULUM FOR UROLOGY RESIDENTS
Joseph Wan, MD, Geoffrey Box, MD and David Bahner, MD
The Ohio State University
Presented By: Joseph Wan, MD

Introduction: Imaging of the genitourinary system is inherent to the daily patient care of every practicing urologist. Despite this, there are no standardized educational requirements for demonstrating ultrasound competency during residency program training. Our study evaluated the quality improvement of urology residents performing ultrasonography following a 3-hour genitourinary focused ultrasound course.

Methods: A 3-hour ultrasound curriculum was administered to residents within our program. The curriculum was created by physicians with expertise in performing and teaching ultrasound. It included a 1-hour lecture covering genitourinary imaging techniques, followed by 2 hours of hands-on instruction using live models and proctored by a registered diagnostic medical sonographer. Participants performed kidney and bladder ultrasound studies on a standardized patient before and after taking part in the curriculum. Results were then scored using the Brightness Mode Quality Ultrasound Imaging Examination Technique (B-QUIET), a published tool for quantifying the quality of ultrasound images.

Results: A total of 9 urology residents underwent standardized training and testing, providing a total of 41 pre and post intervention images. The mean ± SD pre-intervention B-QUIET image score was 23.8 ± 5.0 (59.6% of a maximum score of 40). The mean ± SD post-intervention image score was 32.1 ± 3.2 (80.3% of a maximum score of 40) (p < 0.05).

Conclusion: Our study shows urology residents can make significant improvement in their ability to obtain a high quality focused ultrasound with a 3-hour ultrasound curriculum that includes teaching and hands-on didactics.

Podium #117
EFFICACY OF METHENAMINE HIPPURATE IN REDUCING THE FREQUENCY OF RECURRENT URINARY TRACT INFECTIONS
Asha Jamzadeh, MD1, Zubin Shetty, BS2, Vicki Irish, CNP1, Mireya Diaz-Insua, PhD1 and Humphrey Atiemo, MD1
1Henry Ford Hospital; 2Wayne State University School of Medicine
Presented By: Asha Jamzadeh, MD

Introduction: Patients with recurrent urinary tract infections (UTI) are challenging to manage secondary to its multi-factorial etiologies. Antibiotic prophylaxis with Methenamine has been described for recurrent UTIs in order to reduce antimicrobial resistance. This study aims to evaluate the efficacy of Methenamine in reducing the frequency of UTIs.

Methods: A retrospective chart review was conducted of 52 females prescribed Methenamine by a single urologist from November 2011 to December 2016. Data collected included dates of UTI occurrence, organisms, and antibiotic for up to three positive urine cultures before and during Methenamine treatment, urine pH, and diabetes status. A UTI was considered a urine culture with >103 CFU/ml bacteria with antibiotic treatment. Analysis was based on recurrent events methodology, including multi-state models, using R 3.2.1 and SAS v9.4.

Results: The mean patient age was 66.9 (19.7-95.6). Diabetes was present in 11(21%) patients. The most common UTI organism was E.coli both before and during Methenamine. The mean time between UTIs before Methenamine treatment was 262 days [95% CI 253, 271] compared to 394 days [95% CI 338, 461] after treatment. The number of UTIs one year after Methenamine initiation decreased (3 vs. 2, p<0.001).

The mean ± SD post-intervention image score was 32.1 ± 3.2 (80.3% of a maximum score of 40) (p < 0.05).

Conclusion: Our study shows urology residents can make significant improvement in their ability to obtain a high quality focused ultrasound with a 3-hour ultrasound curriculum that includes teaching and hands-on didactics.
Older and negative diabetes status increased the interval between UTI recurrences (HR=1.03 95% CI 1.00, 1.06), (HR=3.72 (1.07, 12.98)) respectively. 

**Conclusion:** Daily Methenamine prophylaxis significantly lengthens time between UTIs and significantly reduces the annual UTI rate in patients with recurrent UTIs. Therefore, Methenamine should be considered an efficacious first line prophylactic therapy for such patients.

**Podium #118**  
**UROLOGIC EVALUATION FOR VESICOENTERIC FISTULAE: LOW SENSITIVITY COMPARED TO CROSS-SECTIONAL IMAGING IN THE MODERN ERA**  
Matthew Houlihan, DO¹, Florian A. Stroie, BS¹, Daniel J. Mazur, MD², Brian J. Mcardle, DO¹, Patricia P. Vidal, MD¹, Sarah P. Psutka, MD¹ and Courtney M.P. Hollowell, MD¹  
¹Cook County Health & Hospitals System; ²Northwestern University - Feinberg School of Medicine  
Presented By: Matthew Houlihan, DO

**Introduction:** Vesicoenteric fistulae (VEF) often present with urologic complaints. Reported rates of diagnosis of VEF on cystoscopy are highly variable, ranging between 35% and 90%. The objective of this study was to assess the diagnostic accuracy of cystoscopy in VEF. We hypothesized that evaluation with cystoscopy would have a low sensitivity compared to current cross-sectional imaging modalities.

**Methods:** With IRB approval, we performed a single center retrospective review of surgically confirmed VEF from the years 2002 - 2016.

**Results:** The study cohort consisted of 51 patients with surgically confirmed VEF of whom 41 (80%) were male. Presenting complaints included pneumaturia (76%), fecaluria (59%), surrapubic pain (50%), dysuria (49%), hematuria (41%), and frequency (34%). Diagnostic evaluation included cross-sectional imaging with CT (100%), colonoscopy (82%), cystoscopy (75%), cystography (53%), and barium enema (26%). Cystoscopic evaluation definitively demonstrated evidence of VEF in 34% of patients while 55% of patients had nonspecific urothelial changes. In comparison, the sensitivity of cystography 25%, and the sensitivity of CT was 84%.

**Conclusion:** To the authors' knowledge, the current study offers one of the largest contemporary series of VEF. Diagnostic work-up of VEF was variable, however, CT demonstrated the highest sensitivity for diagnosis of VEF while cystoscopy and cystography were relatively ineffective in ascertaining the diagnosis. The results suggest that cystoscopic evaluation of VEF appears to offer minimal additive benefit over cross-sectional imaging. The study suggests that cystoscopy could be eliminated from diagnostic evaluation of VEF with potential for minimizing invasive testing and controlling health care expenditures.

**Podium #119**  
**PULL MY HANDLE: DOES EXPERIENCE MATTER IN TENSION APPLIED DURING STONE BASKETING?**  
Michael Kottwitz, MD¹, Tom Tieu, MD¹, Zahra Majafi, MS², Ajay Mhajan, PhD² and Bradley Schwartz, DO¹  
¹Southern Illinois University School of Medicine; ²University of Akron  
Presented By: Michael Kottwitz, MD

**Introduction:** Ureteral avulsion during ureteroscopic basketing is a devastating complication. Urologists in training learn through experience how much tension can be safely applied. We use a simulation model to analyze how experience with ureteroscopy influences how much tension a user applies.

**Methods:** Two simulations were performed: benchtop basket pull without visual feedback, and porcine model ureter with visual feedback. Users consisted of attending
and urology residents with varying years of training and experience with real 
ureteroscopy. **Results:** In the benchtop model, variance in tension applied increased as the user level 
of experience decreased. Attendings had a variance total of 0.19N², compared to 
interns who had a variance total of 55.8N². Absolute difference in the level of tension 
when compared across experience levels did not follow a pattern. The PGY-2 year 
group was closest to matching attending results with a total difference of 1.8N. In the 
porcine model with visual feedback, the same result was seen with an increasing level 
of variance from attending to interns, while the overall difference between attending and 
residents was smallest with PGY-2s and largest with PGY-3s. **Conclusion:** User to user variance in tension applied to a basket became less as 
experience level increased. There was no clear pattern of overall improvement from 
residents of matching attending results when resident experience was taken into 
account. These models can serve as a useful training tool to teach urologists in training 
what level of tension is appropriate during ureteroscopy.

**Podium #120**

**COMPLICATIONS OF RECOGNIZED AND UNRECOGNIZED IATROGENIC URETERAL INJURY: A POPULATION-BASED ANALYSIS**

Eric Kirshenbaum, MD, Robert Blackwell, MD, Arpeet Shah, MD, Paul Kuo, MD, 
Gopal Gupta, MD and Thomas Turk, MD

Loyola University

Presented By: Eric Kirshenbaum, MD

**Introduction:** Ureteral injury represents an uncommon but potentially morbid 
complication of abdominal and pelvic surgery. This study sought to characterize the 
complications of iatrogenic ureteral injury, and assess the effect of intraoperative 
ureteral injury recognition and repair vs delayed injury recognition on patient outcomes. 
**Methods:** Hysterectomy patients were identified in the Healthcare Cost and Utilization 
Project State Inpatient Database for California, years 2007-2011. Ureteral injuries were 
identified and categorized as recognized (diagnosed and repaired the day of 
hysterectomy) and unrecognized (diagnosed or repaired postoperatively). Outcomes of 
90-day readmission, nephrostomy tube placement, urinary fistula, acute renal failure, 
sepsis, and mortality were assessed, and the independent effects of recognized and 
unrecognized ureteral injuries were determined on multivariate analysis. 

**Results:** Ureteral injury occurred in 1,753 of 223,872 (0.78%) hysterectomy patients, 
and was unrecognized in 1,094 (62.4%) cases. Readmission within 90 days increased 
from a baseline of 5.7% to 13.4% with recognized injury, and up to 67.3% with an 
unrecognized injury. Nephrostomy tubes were required by 2.3% of recognized and 
23.4% of unrecognized ureteral injury patients. Recognized and unrecognized ureteral 
injury independently increased the risk of sepsis (OR 3.0 and 11.5), acute renal 
insufficiency (OR 2.1 and 23.5), and urinary fistula (OR 12.1 and 122). 

**Conclusion:** Iatrogenic ureteral injury increases the risk of readmission and potentially 
life-threatening complications. Unrecognized ureteral injuries markedly increase these 
risks, warranting a high level of suspicion for injury and low threshold for diagnostic 
investigation.
ASSOCIATIONS BETWEEN PREPAREDNESS FOR PROSTATECTOMY AND SHORT-TERM PATIENT-REPORTED OUTCOMES IN MEN UNDERGOING PREOPERATIVE GROUP-EDUCATION

Abhinav Khanna, MD1, Bradley Gill, MD, MS, Anna Zampini, MD, MBA, Diana Baker, RN, Kathryn Dunlap, PA, Brandon Mooney, PA, Daniel Hettel, Hadley Wood, MD and Edmund Sabanegh, MD
Cleveland Clinic
Presented By: Abhinav Khanna, MD

Introduction: Radical prostatectomy significantly impacts quality of life, particularly in sexual and urinary domains. Greater preparedness for surgery may lead to improved post-operative patient-reported outcomes. We assess pre-operative preparedness and patient-reported outcomes in a cohort of men undergoing group education before prostatectomy.

Methods: From January 2015 through October 2016, all men were offered a group education session before prostatectomy, where the perioperative process, recovery period, and potential quality of life outcomes were reviewed. Surveys were completed at the conclusion of the session and telephone surveys administered 3-weeks post-operatively. Chi-square and logistic regression analyzed associations between preparedness and post-operative patient-reported outcomes.

Results: Eighty-two men completed baseline surveys and 32 (39%) completed 3-weeks post-operative surveys. The class was viewed positively and resulted in high levels of preparedness for surgery, the peri-operative course, and expected outcomes. At 3-week post-operative follow-up, most men felt the group education session was useful, and that their overall recovery and urinary/sexual function were ‘as expected’ or better. Men reporting greater preparedness for surgery at baseline were more likely to rate their recovery process (p = 0.033) and pain level (p= 0.029) as ‘better’ or ‘much better’ than expected. Men who better understood the possibility of incontinence (p 0.015) and the potential of up to 1 year for urinary recovery (p = 0.010) were more likely to report their overall recovery process was ‘as expected’.

Conclusion: A group education platform resulted in high levels of pre-operative preparedness, and preparedness is associated with better patient reported outcomes following radical prostatectomy.

UROLOGY RESIDENTS' EXPERIENCE AND ATTITUDE TOWARDS SURGICAL SIMULATION: PRESENTING OUR FOUR-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI-MODALITY SIMULATION MODEL

Alexander Chow, MD1, Benjamin Sherer, MD1, Emily Yura, MD2, Stephanie Kielb, MD2, Ervin Kocjancic, MD3, Scott Eggener, MD4, Thomas Turk, MD5, Sangtae Park, MD6, Sarah Psutka, MD7, Michael Abern, MD3, Kalyan Latchamsetty, MD8 and Christopher Coogan, MD1

1Rush University Medical Center; 2Northwestern University Medical Center; 3University of Illinois at Chicago; 4University of Chicago; 5Loyola University Medical Center; 6North Shore Health System; 7John H. Stroger Jr. Hospital of Cook County
Presented By: Alexander Chow, MD

Introduction: Surgical simulation with authentic and high fidelity simulators is increasingly used to improve surgical technical skills, decrease learning curve and to improve surgical outcomes and patient safety. This study presents our four-year experience with a multi-modality, multi-institutional workshop model of urologic simulation for resident education.

Methods: Residents from six area urology programs rotated through simulation stations in four consecutive sessions from 2014 to 2017. Workshops included...
greenlight photovaporization of the prostate, endoscopic stone extraction, laparoscopic peg transfer, 3D laparoscopy rope pass, transobturator sling placement, intravesical injection, HD video system trainer (VITOM), vasectomy, and Urolift. Faculty members provided teaching assistance, objective scoring, and verbal feedback. Participants completed a non-validated questionnaire evaluating utility of the workshop and soliciting suggestions for improvement.

Results: 63 of 75 (84%) participants (PGY 1–6) completed the exit questionnaire. On a scale from 1-10, median rating of each exercise’s usefulness ranged from 7.5 to 9. Cumulative median scores of the course remained high over the four years: time limit (9/10), faculty instruction (9/10), ease of use (9/10), face validity (8/10) and overall course (9.10). On multivariate analysis, there was no difference in rating of domains between post-graduate years. Most participants (67%) believe that simulation training should be a requirement of Urology residency. 63 (97%) participants viewed the lab as beneficial to their education.

Conclusion: Our multi-institutional, multi-modality model provides excellent content validity and faculty teaching. Most participating residents believe that this model is a valuable training experience should be a requirement for Urology residency.

Podium #123
RACIAL VARIATION IN THE REFUSAL OF INITIAL TREATMENT PLAN AMONG MEN DIAGNOSED WITH LOCALIZED PROSTATE CANCER
Kelly Scarberry1, Kyle Scarberry, MD2, Robert Abouassaly, MD2, Christopher Gonzalez, MD2, Cary Gross, MD3, Nilay Shah, PhD4 and Simon Kim, MD, MPH5
1Case Western Reserve University School of Medicine; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio; 3Yale University, Department of Internal Medicine, New Haven, Connecticut; 4Mayo Clinic, Division of Health Care Policy and Research, Rochester, Minnesota
Presented By: Kyle Scarberry, MD

Introduction: Racial disparities in prostate cancer treatment and outcomes are a persistent public health problem. We sought to assess racial variation in patient refusal of primary therapy among patients with localized prostate cancer and to assess outcomes of refusal of primary therapy.

Methods: Using the National Cancer Database, we identified all men diagnosed with localized prostate cancer from 2004 to 2013. Primary outcomes were refusal of primary therapy and overall survival. Multivariable logistic regression analysis was performed to determine factors associated with refusal of primary therapy. We examined the association of overall survival with refusal of therapy using Cox proportional hazards regression.

Results: Of the 791,563 men identified, 17,182 men refused their recommended primary therapy (2.2%). Compared to white men, African American (AA) men were more likely to refuse recommended primary radical prostatectomy (RP) and receive radiation therapy (RT) (1.3% vs. 0.9%, p<0.001) and were more likely to refuse any recommended treatment option (1.2% vs. 0.6%, p<0.001). On multivariate analysis, AA men were more likely to refuse treatment after controlling for income, insurance status, and clinical factors (OR=1.95, CI: 1.8-2.1) Refusal of RP but receiving RT (HR=1.08, CI: 1.01-1.16) and refusal of both RP and RT (HR=1.69, CI: 1.6-1.8) were associated with higher all-cause mortality.

Conclusion: AA men diagnosed with localized prostate cancer are more likely to refuse primary therapy, which is associated with worse survival. Increased attention is needed to improved shared decision-making about disease severity and the merits of different primary therapies.
Podium #124
INTRAOPERATIVE INTRAVENOUS MANNITOL NOT ESSENTIAL DURING PARTIAL NEPHRECTOMY
Caleb Cooper, Cheuk Fan Shum, MD, M Francesca Monn, MD, MPH and Chandru Sundaram, MD, FACS
Indiana University School of Medicine
Presented By: Caleb Alan Cooper, BS

Introduction: Intraoperative mannitol is routinely administered for renoprotection in partial nephrectomy (PN). However, there is a paucity of evidence supporting mannitol’s renoprotective effect. We performed a retrospective study on mannitol’s role in PN, with the largest database to date.

Methods: Using an institutional database, patients undergoing PN from 2006-2016 were retrospectively identified and divided into two groups based on mannitol use. Mannitol use was dependent on surgeon preference. Student’s t test was used to compare 1 and 6-month serum creatinine (SCR). Bivariate correlation was used to calculate Pearson coefficient between mannitol dose and 6-month SCR. Multivariate linear regression was used to estimate 6-month SCR when adjusting for multiple covariates considered clinically relevant to post-operative renal function. Cases with missing SCR were excluded.

Results: 483 patients were eligible for analysis. 292 received mannitol. There was no significant difference in 1- or 6-month SCR between groups (see Table). No significant correlation between mannitol dose and 6-month SCR was found. Factors associated with 6-month SCR were age, pre-operative SCR, and solitary kidney status (p=0.032, p<0.001, and p=0.019, respectively see Table).

Conclusion: Mannitol did not demonstrate renoprotective effects based on 1 or 6-month SCR. Additionally, neither surgical approach nor use of renal cooling significantly predicted post-op renal function.
Podium #125
A REAL-WORLD STUDY OF PATTERNS OF BACILLUS CALMETTE-GUERIN USE AND OUTCOMES IN ELDERLY UNITED STATES (US) PATIENTS WITH NON-MUSCLE INVASIVE BLADDER CANCER
Kyle Richards, MD1, Shih-Wen Lin2, Ching-Yi Chuo2, Christina Derleth2, Marko Zivkovic3, Sarika Ogale2, Sandip Prasad4, Guarionex J. Decastro5 and Gary Steinberg6
1University of Wisconsin-Madison; 2Genentech, Inc., South San Francisco, CA; 3Genesis Research, Hoboken, NJ; 4Medical University of South Carolina, Charleston, SC; 5Columbia University Medical Center, New York, NY; 6University of Chicago Medicine, Chicago, IL
Presented By: Kyle Richards, MD

Introduction: Intravesical Bacillus Calmette-Guérin (BCG) use in non-trial patients (pts) with non-muscle invasive bladder cancer (NMIBC) is not well understood.

Methods: In this retrospective, observational cohort study we identified pts ≥ 66 y old with NMIBC diagnosed between 1992-2011 (with follow-up through 2013) from the US Surveillance, Epidemiology, and End Results (SEER)–Medicare linked database. NMIBC risk groups were defined by the tumor grade and stage from SEER: low: low grade, Ta; intermediate: high grade, Ta; high: any grade, T1 or Tis. Intravesical BCG claims were used to characterize BCG treatments as induction or maintenance instillations.

Results: The 50,779 NMIBC pts who met selection criteria were mostly male (75%) with mean age of 77 y; 51% were low risk, 15% intermediate risk, and 34% high risk. Approximately 42% (21,148) of NMIBC pts received BCG after diagnosis, with a median of 8 instillations. Among BCG-treated pts, 89% had ≥ 1 induction course (82% had ≥ 5 induction instillations) and 41% had maintenance instillations. BCG treatment was substantially more common among intermediate-risk (55%) and high-risk (55%) pts than low-risk (29%) pts (Table).

Conclusion: Despite recommendations, almost half of intermediate- and high-risk NMIBC pts do not receive BCG treatment. Adherence to guidelines for receiving both induction and maintenance therapy is lacking.
Podium #126
EFFECTICITY OF PHYSICAL THERAPY IN THE TREATMENT OF FEMALE PELVIC PAIN
Jacob Henrichsen, BS¹, Natalie Gaines, MD², Jamie Bartley, DO³, Laura Nguyen, MD², Priyanka Gupta, MD², Kim Killinger, RN, MSN³, Robert Petrossian, BS, BA¹, Jason Gilleran, MD³, Kenneth Peters, MD³ and Larry Sirls, MD³
¹Oakland University William Beaumont School of Medicine; ²Beaumont Health; ³Oakland University William Beaumont School of Medicine, Beaumont Health; ⁴University of Michigan Department of Urology
Presented By: Jacob Lee Henrichsen, BS

Introduction: Female pelvic pain is poorly understood, often thought to arise from the bladder but in the Beaumont experience is more commonly from pelvic floor muscle dysfunction (PFMD). Pelvic floor physical therapy (PFPT) is first line treatment for PFMD. We hypothesize that PFPT will be an effective treatment for pelvic pain.

Methods: A retrospective chart review was performed for women with a primary diagnosis of pelvic pain who presented to a multidisciplinary clinic for PFPT in 2015. Data reviewed included pertinent history, initial and post-treatment scores for validated questionnaires [Pelvic Floor Distress Inventory Questionnaire (PFDI) and the Pelvic Floor Impact Questionnaire (PFIQ)], and patient-reported pain levels.

Results: 208 underwent PFPT for primary indication of pelvic pain in 2015. Mean age was 45 yr. ± 15. Mean number of visits was 9.3 ± 6.7 and mean pain level decreased from 4.6 to 2.2 by the last visit (p<0.0001). Pre and post treatment PFDI and PFIQ questionnaires were completed by 90/208 (43%) and 88/208 (42%) women respectively. Table 1 shows the mean scores for each questionnaire and the minimally important difference (MID) for PFDI, PFDI, PFIQ, and pain scores improved significantly. PFDI did not meet the MID.

Conclusion: PFPT significantly improves validated pain scores in women presenting with pelvic pain.

Podium #127
CONTEMPORARY REPORT OF A MULTI-INSTITUTIONAL EXPERIENCE WITH FOURNIER’S GANGRENE
Barbara E Kahn, MD², Alexander Tatem, MD³, Daniel J Mazur, MD², James Wren, MD¹, Marah Hehemann, MD³, Anuj S Desai, MD², Mary Kate Keeter², Patrick Hensley, MD³, Kevin Lewis, BS², Matthew J Mellon, MD¹, Jason R Bylund, MD³, Nelson E Bennett, MD² and Robert E Brannigan, MD²
¹Indiana University; ²Northwestern University; ³Loyola University; ⁴University of Kentucky
Presented By: Alexander Tatem, MD

Introduction: Fournier's gangrene is a rare necrotizing soft tissue infection requiring emergent surgical debridement that is morbid and often fatal. Mortality rates reported in the literature have historically been as high as 20-40%. However, contemporary series suggest survival rates are improved. Our objective was to determine the patient characteristics, clinical course, and outcomes for patients treated for Fournier's gangrene at three large academic tertiary care institutions.

Methods: In this multi-institutional retrospective study, cases of Fournier's gangrene were identified by ICD-9 (608.83) and CPT (11004, 11005, 11006) codes and chart
review after obtaining IRB approval. Data on comorbidities, hospital course, length of stay, and mortality were extracted from the medical record.

**Results:** A total of 147 men (ages 24-81, median 52 years) treated for Fournier's gangrene between 2006 and 2016 were identified. 67% percent of these men had diabetes mellitus. Patients underwent an average of 2.5 (range 1-7, median 2) debridements with an average length of stay of 19 (range 2-96, median 15) days. 55% percent of patients required multidisciplinary surgical management with 22% requiring fecal diversion. 76% percent of men required ICU care and 59% required mechanical ventilation. 27% of wounds were treated with wound vats. Inpatient mortality was 7.4%, which is lower than prior case series.

**Conclusion:** Great strides have been made in reducing the mortality of Fournier's gangrene, but morbidity is still high. These findings offer insight into contemporary outcomes for men affected by this devastating condition.

**Podium #128**

**RELATIONSHIP BETWEEN READMISSION RATE AND INTENSITY AFTER CYSTECTOMY**

Rita Jen, MD, MPH¹, Tudor Borza, MD, MS¹, Mary Oerline, MS¹, Ted Skolarus, MD, MPH², Bruce Jacobs, MD, MPH², Matthew Lee, MD¹, Amy Luckenbaugh, MD¹, Vahakn Shahinian, MD, MS¹ and Brent Hollenbeck, MD, MS¹

¹University of Michigan; ²University of Pittsburgh

Presented By: Rita P. Jen, MD

**Introduction:** One in four cystectomy patients are readmitted. Variation among hospital readmission rates could result from institution-specific practices. We aim to characterize whether hospitals with higher readmission rates are readmitting patients with less serious complications, translating to lower intensity of readmission.

**Methods:** Using a 20% national Medicare sample we performed a retrospective cohort study of patients undergoing cystectomy between 2010 and 2014. We calculated adjusted hospital level readmission rates for hospitals performing ≥5 cystectomies. Hospitals were stratified into low, medium, and high readmission tertiles. We compared readmission length of stay (LOS) and mortality rates between low and high tertiles.

**Results:** We identified 2,470 cystectomies. Adjusted readmission rates for low, medium, and high tertiles were 11%, 25%, and 42%, respectively. Top tertile hospitals were more likely to be in metropolitan counties and be teaching hospitals (both p<0.001). Patient characteristics or median LOS during the readmission (Figure) were not different among tertiles. The odds of mortality at low tertile hospitals were not significantly different compared to high tertile hospitals (OR 0.56, p= 0.57).

**Conclusion:** Readmission rates by tertile varied substantially from 11% to 42%. However, hospitals with highest readmission rates did not have lower intensity readmissions. Identifying unmeasured patient factors may account for the difference in readmission rates and help reduce readmissions.
Introduction: To evaluate the change in patient discharges in the practice of a fellowship-trained genitourinary reconstructive surgeon at a tertiary care center. To determine patient factors associated with same-day discharge versus overnight admission and its outcomes.

Methods: A retrospective review of anterior urethroplasties performed during the initial three years of a newly established reconstructive urology practice was completed to assess for discharge practice patterns in the first, second and third years.

Results: There were 106 anterior urethroplasties performed between 2012 and 2015. In the years 1, 2, and 3, there were 25, 45, and 36 anterior urethroplasties performed. Of these, 0, 15 and 16 were performed as same-day discharges, respectively. Recurrence was noted in 6 patients. In invariable analysis, there was no significant association between same day discharge and urethroplasty success. In comparing the two populations, same day discharge patients were younger (Mean 42.6 vs. 50.5 p = 0.03), had shorter strictures (2.8 vs. 6.8cm (p <0.001) and the proportion of anastomotic repairs was higher in this group (13/28 vs 18/78 p=0.02). There were no differences noted in complications between the two populations.

Conclusion: Same day discharge was increasingly utilized and did not impact urethroplasty outcomes or complication rates. The group of patients who underwent same day urethroplasty discharge was more likely to be younger with shorter strictures and had more primary anastomotic repairs.

Introduction: We examined the impact of treatment choice and baseline comorbidities on the satisfaction with overall state of health (SOSOH) in patients with localized prostate cancer (PCa).

Methods: A validated Prostate Health-Related Quality of Life Questionnaire was administered at the time of treatment selection, 1, 3, 12 and 24 months’ follow-up to the patients with localized PCa. SOSOH was measured on two scales: health care gamble (HCG) score defined as how much risk of death patient was willing to take to be cured of his existing health problems, and health care utility score (HCU) defined as how patient felt about his current state of health (0-100).

Results: Treatment options selected by the patients were active surveillance, brachytherapy, open, & robotic radical prostatectomy. There was no difference in mean HCG and HUC scores at baseline between the treatment groups (p>0.05). Please see table for results for the predictors of HCU and HCG score. There was no significant time trend noted in both HCG and HUC scores from baseline to 24 months. Baseline HCG score was significant predictor of 24 months HCG score.

Conclusion: In patients with localized PCa, treatment choice is not associated with baseline or follow-up SOSOH. Baseline SOSOH is strongly associated with satisfaction with long term SOSOH.
Podium #131
NATIONAL TRENDS IN VCUG UTILIZATION AFTER THE RELEASE OF THE 2011 AAP GUIDELINES
Ted Lee, MD, Chandy Ellimoottil, MD, John Park, MD, Kate Kraft, MD, Vesna Ivancic, MD, Kathryn Marchetti, MD, Tanima Banerjee, MD, David Bloom, MD and Julian Wan, MD
University of Michigan
Presented By: Ted Lee, MD

Introduction: A paradigm shift in febrile UTI evaluation and diagnosis occurred in 2011, when the American Academy of Pediatrics (AAP) recommended against VCUG after a first-time diagnosis of UTI in children aged 2 to 24 months. The objective of this study was to assess national trends in VCUG utilization over the past 15 years.

Methods: Using Optum claims data from January 2001 - June 2015, we used multiple group interrupted time series analysis to evaluate VCUG utilization trends. Our cohort included all children age ≤10 years who underwent VCUG for UTI, vesicoureteral reflux, or pyelonephritis. We excluded patients with co-existing diagnoses that involve VCUG as part of evaluation.

Results: Post AAP Guideline VCUG rates were significantly decreased compared to preintervention VCUG rates for both the 0-2 and 6-10 year age groups (p≤0.0001, p=0.009). We also identified a significant decrease in VCUG utilization rates between periods 2001 - 2007 and 2007 - 2011 for both age groups (p≤0.0001, p≤0.0001).

Conclusion: There was a significant reduction in VCUG utilization rates following publication of the 2011 AAP Guidelines. We also observed a decrease in VCUG utilization rates in 2007, when the National Institute for Health and Clinical Excellence (NICE) UTI Guidelines recommended the "top-down approach" and against routine VCUG testing after UTI.
Podium #132
WITHDRAWN

Podium #133
THE USE OF NEOADJUVANT CHEMOTHERAPY AND PARTIAL NEPHRECTOMY IN UNILATERAL WILMS TUMORS
Jessica Yih, MD1, Elizabeth Ferry, MD3, Robert Abouassaly, MD1 and Jonathan Ross, MD2
1Urology Institute, University Hospitals Cleveland Medical Center; 2Pediatric Urology, University Hospitals Rainbow Babies and Children's Hospital; 3Dept of Urology, SUNY Upstate Medical University
Presented By: Jessica M. Yih

Introduction: The role of neoadjuvant chemotherapy and partial nephrectomy in unilateral WT is unclear. The aim of our study is to examine use of NC followed by PN in unilateral disease using the National Cancer Database.

Methods: Patients age 12 years diagnosed with WT from 2006-2012 were identified from NCDB; those with concurrent malignancies, or unknown chemotherapy/surgical status were excluded. Univariate and multivariable logistic regression analyses were used to identify the association of PN with NC use and their effect on overall survival (OS).

Results: We identified 1,787 (median age 3 years) patients with unilateral WT who underwent surgical resection. Overall use of PN has been stable, ranging from 6.6-7.7%. NC use appeared to increase, from 15.9% in 2006 to 26.1% in 2012, although not reaching statistical significance (p=0.1056). There was significantly greater chance of having PN after NC (12.7% vs 5.6%, p < 0.0001). After adjusting for patient and disease covariates, tumor size (OR 0.98, 95% CI 0.976-0.986) and NC (OR 3.86, 95% CI 2.359-6.305) were associated with greater use of PN. Compared with radical nephrectomy, PN did not significantly affect 30-day readmission (4.1% vs 3.9%), 90-day mortality (0.3% vs 0.7%), or OS (92.6% vs 92.7%), and had only a small effect on hospital length of stay (median 5 vs 4 days, p<0.001).

Conclusion: In unilateral WT, use of NC is associated with increased use of PN and does not appear to increase surgical morbidity. The role of this approach in an effort to optimize long-term renal function should be considered.
PODIUM #134
FAST-TRACK PROTOCOL FOR CYSTOSCOPY AND URETERAL STENT REMOVAL IN PEDIATRIC PATIENTS

Candace Granberg, MD and Patricio Gargollo, MD
Mayo Clinic
Presented By: Candace F. Granberg, MD

Introduction: Widely variable practices exist regarding anesthesia management for short, minimally-invasive procedures in children. Some mandate placement of an endotracheal tube (ET) or laryngeal mask airway (LMA), require peripheral IV (PIV), or both. We have decreased operating room (OR) time for cystoscopy and ureteral stent removal (CUSR) by creating a “fast-track” protocol: procedure performed on the patient transport cart in frog-leg position with mask-only anesthesia (MOA). To date, safety with this protocol has not been reported.

Methods: Retrospective review of patients age <17y undergoing CUSR utilizing MOA from 2014-2016 was done. Exclusion criteria included concurrent operative procedures and placement of ET/LMA and/or PIV in the OR. Patient demographics, procedure time, and total OR time were recorded. Adverse perioperative events including laryngospasm, conversion from mask to ET/LMA/IV, or need for IV medications in PACU were documented.

Results: 27 patients (17M:10F) underwent CUSR using MOA at mean age 8y (4mo – 17y). Total operative time from scope in to scope out was <1 minute for all cases. Mean total OR time was 20 minutes (12-30). No patients experienced adverse perioperative events. Five cases were done in stirrups on a standard operating table, while 22 (81%) were completed on the patient cart in frog-leg position.

Conclusion: MOA is safe for short procedures like CUSR. Most procedures can be done on the patient cart, eliminating need for transfer to the operating table with stirrups. Conversion of standard practices to a fast-track protocol can decrease anesthesia time and overall OR time, thus decreasing costs.

PODIUM #135
IDENTIFYING SKILLS UROLOGY TRAINEES REQUIRE TO BECOME PROFICIENT AT PEDIATRIC ORCHIOPEXY AND HYPOSPADIAS REPAIR

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Presented By: Max Maizels, MD

Introduction: This research aims to bridge the current gap of needing to train Residents despite fewer hours in the operating room. We do this by surveying staff observations on improvements trainees need in order to become proficient at pediatric urological surgery. We then used these survey results to build new surgery online learning tools for surgical strategies and skills. The index cases chosen were orchiopexy and hypospadias repair as these are two cases which trainees most commonly struggle to master.

Methods: We surveyed 65 Resident Training Programs. The data was coded to identify the surgical strategies or skills which need most improvement. Then, we built online tools to satisfy these needs.

Results: We enrolled 37 attendings and 28 trainees (fellows=10, residents=18). All trainees had done >10 index cases. There were 219 total observations. Strategies and skills most commonly needing improvement for orchiopexy are hernia exposure and ligation (69/110 observations, 62%) and for hypospadias are neourethroplasty (68/109 observations, 62%). We built two online tools to enable trainees to make the needed improvements. The tools provide means to make a case strategy by following a standard order of surgical steps and practice case specific sets of simulation skills exercises.
Conclusion: Our research identifies the most common improvements trainees need to be proficient at orchiopexy and hypospadias repair; we built online tools to enable trainees to make these improvements. We plan to test the effectiveness of these tools.

Podium #136
PEDIATRIC 24-HOUR URINE COLLECTIONS: OUTCOMES AND INDICATIONS
Alison Keenan, MD
UW-Madison
Presented By: Alison Keenan, MD

Introduction: Few studies have assessed 24-hour urine collection outcomes in pediatric patients presenting to a kidney stone clinic. The aim of our study was to identify the most prevalent diagnoses based on 24-hour urine collection in these patients. We hypothesize that the majority of patients presenting to a multi-disciplinary kidney stone clinic will have a diagnosis of low urine volume based on the 24-hour urine collection.

Methods: We retrospectively reviewed 24-hour urine collections from our pediatric multi-disciplinary stone clinic from February 2007 to October 2015. Clinical and laboratory data were documented.

Results: 118 patients were assessed (52 male; 66 female). Mean age was 12.1 ± 4.7 years and mean body mass index was 22.0 ± 7.3 kg/m2. Thirty-six percent (43/118) of patients had a family history of stones. Seventy-three of the 118 patients assessed had 24-hour urine collection results documented in the medical record. The most common diagnoses based on the 24-hour urine collection were as follows: 1) low urine volume (82.2%; 60/73), 2) hypocitraturia (38.4%; 28/73), and 3) hypercalciuria (19.2%; 14/73).

Conclusion: A majority of pediatric patients presenting to a multi-disciplinary stone clinic will have a diagnosis of low urine volume based on 24-hour urine collection. Early intervention with increased fluids before referral to a stone clinic is recommended.

Podium #137
PENILE LENGTH: A NEW AVERAGE
Wesley Baas, MD and Ranjiv Mathews, MD
Southern Illinois University School of Medicine
Presented By: Wesley Baas, MD

Introduction: There is currently sparse data available about what constitutes “normal” penile length in children. The currently used nomogram is based on a 70 year old study of Caucasian children. It is unclear if the findings in this small study still hold true, particularly in other races.

Methods: A retrospective chart review was conducted of measures of stretched penile length in children undergoing penile procedures over a 3 year time period (2014-2017).
Multiple measures of penile length were obtained during the course of the procedure. The current data reviews the standard measure of stretched penile length. **Results Obtained:** 167 children ranging in age from 2 months to 212 months of age had penile measurements obtained. 110/167 (65.9%) identified as “white”, 32/167 (19.2%) identified as “black”, and 25/167 (15.0%) were “other”. A nomogram was created and linearly fitted for each race (Figure 1). R2 values for each linear fit were 0.638, 0.759, and 0.677, respectively. **Conclusion:** Children identified as “white” and “other” had nearly identical penile lengths as a function of age. The nomogram for “African American” children was nearly a centimeter longer for a given age, with that length discrepancy increasing with age. This suggests a need to reevaluate the current nomograms for penile length with consideration for racial variability.
Conclusion: In our study sample, an acute preoperative UJA measured by renal US was associated with resolution of reflux with SBAs. Further investigation into the prognostic utility of UJA is warranted.

Podium #139
CONGENITAL RENAL ANOMALIES IN THE SPINA BIFIDA CLINIC: IS THERE AN INCREASED RISK?
Kristina Suson, MD1, Meredith Perry, DO2, Cortney Wolfe-Christensen, PhD3 and Yegappan Lakshmanan, MD1
1Children’s Hospital of Michigan; 2Jersey Urology Group; 3Cook Children's Health Care System
Presented By: Kristina Dawn Suson, MD

Introduction: Children with neuropathic bladder are at risk of developing long term renal insufficiency and requiring urologic surgeries. We questioned if there was an increased incidence of congenital renal anomalies, and its consequence, in addition to the renal sequelae of neuropathic bladder.

Methods: We performed an IRB-approved retrospective review of patients undergoing renal ultrasound for congenital neuropathic bladder. The primary endpoint was renal anatomy. Secondary renal anomalies (hydronephrosis, vesicoureteral reflux, nephrolithiasis, cortical thinning, or renal asymmetry ≥ 1 cm), urologic surgery, and nephrology referral were also analyzed.

Results: Renal ultrasound was performed on 122 patients with congenital spine anomalies, including: myelomeningocele (84.4%), tethered cord (0.8%), lipomeningocele (9.8%), sacral agenesis (.1%), pseudomeningocele (0.8%). Congenital renal anomalies were identified in 17 patients (13.9%), including: duplicated collecting system (7), horseshoe kidney (3), crossed fused ectopia (3), solitary kidney (2), ectopic kidney (1), multicystic dysplastic kidney (1). Urologic diagnoses secondary to neuropathic bladder occurred in 54 patients (44.3%). Overall, 36.1% had undergone renal or bladder surgeries and 23.8% had seen nephrology. Patients with congenital renal anomalies did not have a statistically significant increase in urologic surgery (52.9% vs 33.3%, p=0.172) or nephrology referral (35.3% vs 21.9%, p=0.356) when compared to those with anatomically normal kidneys. One patient in the series, without anomalies of structure, number or location, developed end stage renal disease and received a renal transplant.

Conclusion: Congenital renal anomalies occur more commonly among children with spina bifida and other congenital abnormalities of the spine than in the general population.

Podium #140
THE STATE OF FEMALE MENTORSHIP IN UNITED STATES PEDIATRIC UROLOGY FELLOWSHIPS
Janae Preece1, Cortney Wolfe-Christensen, PhD2 and Kristina Suson, MD3
1Children’s Hospital of Michigan; 2Cook Children’s Health Care System, Fort Worth, TX; 3Children’s Hospital of Michigan, Detroit, MI
Presented By: Janae Preece, MD

Introduction: Urology and pediatric urology are appealing to increasing numbers of women entering medical training. We questioned the state of female mentorship for women in ACGME-approved pediatric urology fellowships.

Methods: The list of fellowship programs was obtained from the Society of Pediatric Urology website. Data regarding graduating fellows in 2015 and full-time pediatric urologists affiliated with those programs was obtained from associated websites.

Results: There are 29 pediatric urology fellowship programs with 164 pediatric urology
faculties. While 52% of fellows were female, only 18.9% of fellowship faculties were women. Mean years in practice was higher for male than female urologists (16.5±1.0 versus 8.0±1.4 years, p<0.001). 20.6% of programs have no female faculty. Women were as likely to be fellowship program directors as men, with 19% being women (p=0.72). There are no female chairs or chiefs. An ROC analysis identified 10 years as a cut-off for predicting the rank of full professor (area under curve = 0.85, p<0.001). A sub-analysis therefore separated faculty based on years of practice (+/-10 years). Analyses revealed no significant differences in the proportions of males and females in the three academic ranks (assistant, associate, and full professor) within these two groups (p=0.26 and p=0.39).

**Conclusion:** Female representation among fellowship faculty remains low. While female attainment of department/division leadership is low, when adjusting for time in practice, women achieve similar academic stature as men. Further research is warranted into whether differences in faculty achievements persist between genders and whether this impacts potential and current pediatric urology fellows.

**Podium #141**

**ANASTRAZOLE IS AN EFFECTIVE TREATMENT FOR INFERTILE HYPERESTROGENEMIC MEN**

Dane Johnson, MD, Andrew Radtke, MD and Jay Sandlow, MD

Medical College of Wisconsin

Presented By: Andrew Radtke, MD

**Introduction:** The aim of this study is to investigate the effect of anastrazole on semen profiles in infertile eugonadotropic men with hyperestrogenemia.

**Methods:** Following IRB approval, we retrospectively evaluated all patients seen at a single academic Reproductive Medicine Center from January 2011 to June 2016 for infertility. Patients included in this study demonstrated either true (Estradiol >42pg/mL) or relative (defined as Testosterone: Estradiol ratios <10) elevated estradiol levels, with at least 1 abnormal semen analysis, and subsequently underwent treatment with anastrazole. Any patients with palpable varicoceles, hypergonadotrophic hypogonadism, or those receiving any additional hormonally active pharmaceuticals were excluded. Patient characteristics included testicular volume, BMI, as well as their hormonal evaluation, which included serum Follicle-Stimulating Hormone (FSH), Luteinizing Hormone (LH), Testosterone (T) and Estradiol (E2) levels. Semen parameters were compared pre and post-treatment.

**Results:** Seventy-two patients fit inclusion criteria and received anastrazole for either true or relative hyperestrogenism. Of these, 23 patients had adequate post treatment follow up for evaluation. Following initiation of anastrazole therapy, average testosterone, T:E2 ratios, total sperm count and total progressively motile sperm count all significantly increased. Thirteen patients (56%) experienced a >50% increase in total progressively motile sperm counts.

**Conclusion:** Anastrazole therapy can significantly improve semen quality in infertile men with hyperestrogenism.

![Graph showing semen quality improvement](image)
Introduction: Sperm cryopreservation is an important consideration in male adolescents undergoing chemotherapy. However, many pediatric patients may not be physically capable or comfortable with masturbation. Testicular sperm aspiration (TESA) serves as an alternative intervention for sperm retrieval in a population that would otherwise be at risk to the undesired effects of cancer treatment. In this case series we examine our outcomes for patients presenting for cryopreservation of sperm prior to chemo or radiation therapy.

Methods: Following IRB approval, we retrospectively reviewed all patient charts at a single academic medical center seen in consultation for peripubescent sperm cryopreservation from 2012 to 2016. Method of sperm retrieval, operative times and complications were included in this review.

Results Obtained: From 2012 to 2016, nine males (ages 10-17 years) who were unable to provide semen via masturbation were seen in consultation. These patients subsequently underwent TESA (in conjunction with another anesthetic procedure). Patients undergoing TESA had a mean testicular volume of 12.2cc, with Tanner stage ranging from 2-5. Average procedure time was 23.4 minutes, with no post-operative complications reported. Mature sperm, adequate for cryopreservation, was found in 7 of the 9 patients, with average age of 13.6 years and average testis size of 13.8cc.

Conclusion: TESA is a safe and effective procedure to obtain sperm for cryopreservation in peripubescent males. It may be especially beneficial to the younger, less-developed patient cohort that is unable to provide semen via masturbation.

Podium #143
MICRODENERVATION OF THE SPERMATIC CORD FOR POST VASECTOMY PAIN SYNDROME- A SINGLE SURGEON’S EXPERIENCE
Wei Phin Tan, MD¹, Peter Tsambarlis, MD, John Richgels, MD² and Laurence Levine, MD
¹Rush University Medical Center; ²University of Chicago Medical Center
Presented By: Wei Phin Tan, MD

Introduction: Post Vasectomy Pain Syndrome (PVPS) is an uncommon urological problem that remains a challenge to manage. We aim to evaluate the outcomes of patients who underwent microdenervation of the spermatic cord (MDSC) for PVPS at our institution.

Methods: A retrospective study of 161 patients that underwent MDSC by a single surgeon from March 2002 to October 2016. Pain was documented using the visual analogue scale (VAS).

Results: 29 patients underwent MDSC for PVPS. Median follow up was 37 months (range 2-172 months). Median duration of pain prior to surgery was 57 months (range 8-468 months). Pain was bilateral in 14 (48%), left in 11 (38%) and right in 4 (14%) patients. Data on SCB was available on 23 patients with success rate of 96%. Median preoperative pain on VAS score was 7 (range 2-10). Median pain following SCB on VAS score was 0 (range 0-5). Median postoperative pain on VAS score was 0 (range 0-9). Success was obtained in 71% of patients and patients with involvement of multiple structures in the scrotum (i.e: testis, epididymis, spermatic cord) are more likely to have a successful surgery, p=0.016. 5 patients failed a prior epididymectomy and 3 patients failed a vaso-vasostomy for PVPS and this had no correlation with the success of MDSC, p=0.89
Conclusion: MDSC is successful and durable in 71% of our patients and is a valuable approach for PVPS. All but three patients with PVPS had improvement in VAS following MDSC. No patient had a worsening VAS following MDSC.

Podium #144
THE UTILITY OF SEX HORMONE BINDING GLOBULIN IN THE EVALUATION OF CLINICAL HYPOGONADISM AND MALE FACTORY INFERTILITY
Joshua Ring, MD, Charles Welliver, Mike Parenteau, Stephen Markwell, Robert Brannigan and Tobias Kohler
Southern Illinois University School of Medicine
Presented By: Joshua D. Ring, MD, MS

Introduction: We sought to determine what role SHBG played with male infertility patients.

Methods: Retrospective review of 168 males seen in a fertility clinic from 2012-2014, to investigate the accuracy of TT in the biochemical diagnosis of hypogonadism using cBT as the reference value. We used a multivariable analysis to assess SHBG as an independent predictor of infertility.

Results: Computations using cBT as a standard in the measurement of definitive biochemical hypogonadism (<156 ng/dL) revealed a sensitivity, specificity, PPV, and NPV respectively of 81%, 83%, 81%, and 82% in diagnosing hypogonadism with TT alone. Of the 90 men with TT >300 ng/dL, 20% had low BT <156 ng/dL, 52% had borderline low BT <210 ng/dL, and only 48% could be considered biochemically eugonadal by cBT. Of the 80 patients with TT <300 ng/dL, 19% had FT levels >6.5ng/dL and thus could be considered to be eugonadal. SHBG independently predicted by a similar magnitude as FSH decreased sperm concentration (p=.0027) and motility (p=.0447). After excluding men with azoospermia, only SHBG levels differed significantly (p=.0001) in classically hypogonadal men (G1 - TT< 300) and those “missed” but hypogonadal (G2 - cBT < 210). Sperm motility was significantly different in G1 and G2 (p=.014) with more stringent cutoff (cBT < 156).

Conclusion: The addition of SHBG to TT serum testing facilitates more accurate diagnosis with FT and cBT with clinical implications of decreased semen parameters to a similar magnitude as FSH, warranting further study of SHBG’s role in male infertility.

Podium #145
COMPARING AUA 2012 VASECTOMY GUIDELINE ADHERENCE AMONG UROLOGISTS AND FAMILY MEDICINE PHYSICIANS
Daniel D. Shapiro, MD¹, Sandra A. Kamnetz, MD² and Brian V. Le, MD MA¹
¹University of Wisconsin-Madison Department of Urology; ²University of Wisconsin-Madison Department of Family Medicine
Presented By: Daniel Shapiro, MD

Introduction: Vasectomy in the United States is performed by various medical professionals. In 2012, the American Urological Association (AUA) released vasectomy guidelines to help implement evidence-based best practices for vasectomy. It is unknown how widely this guideline has reached non-urologists performing vasectomy. To assess how closely practitioners adhere to AUA guidelines, we surveyed and compared urologists and family medicine physicians (FP) about their vasectomy practice patterns.

Methods: Urologists and FPs within a single institution were identified from billing codes and surveyed about their vasectomy practices. Questions regarding volume, counseling, antibiotic administration, technique, and utilization of post-vasectomy semen analyses (PVSA) were addressed.

Results: A total of 23 FMPs and 6 urologists responded to our survey (83% response rate). Collectively they performed 3830 vasectomies over a 5 year period. 78% of FPs
performed <20 vasectomies per year while all urologists performed >50 per year. Only 52% of FPs counseled about chronic scrotal pain vs. 100% of urologists. Need for repeat vasectomy was discussed by 56% of FPs vs. 100% of urologists. 65% FPs vs. 16% urologists send vas segments to pathology. 65% of FPs require two negative PVSA. 86% of FPs vs. 16% urologists would repeat PVSA if rare non-motile sperm were found. If 20,000 motile sperm were found on PVSA, 73% of FPs would repeat PVSA for up to 6 months, whereas 66% of urologists would immediately redo vasectomy.

**Conclusion:** Urologists appear to adhere more closely to AUA guideline recommendations than FPs. However, both display significant heterogeneity in practice patterns.

**Podium #146**  
**USE OF 3D PRINTING TO PROTOTYPE A CUSTOM SHAPE MEMORY ALLOY PENILE PROSTHESIS**  
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Presented By: Brian Van Le, MD, MA

**Introduction:** Herein, we describe the application of a novel process that allows for 3D printing of shape memory alloys (SMA). Using our previously described concept of a SMA penile prosthesis for the treatment of erectile dysfunction, we sought to construct an intracavernosal cylinder using 3D printing technology.

**Methods:** A computer-aided design (Solidworks) 3D construct of the exoskeleton for our SMA penile prosthesis was fed into a computer-controlled 3D Bio Plotter (EnvisionTec, Germany). A novel custom printing ink consisting of pre-alloyed nickel-titanium (Ni-Ti) powder suspended in a Poly Lactic-co-Glycolic Acid (PLGA) and tri-solvent mixture was serially added in a precise 3D pattern to produce a green body reflecting the CAD geometry. Subsequently, the green body was sintered at a temperature of 1200 C, just 20-30 C below the melting point of NiTi, for 5 hours to produce the final product. This was then evaluated for its mechanical properties compared to our Ni-Ti extruded tube.

**Results:** A 1:4 scale version of the exoskeleton of our novel SMA penile prosthesis was constructed using 3D printing technology from Ni-Ti powder suspended in a PLGA/solvent mixture. Total printing time was 20 minutes. After sintering, there was a ~30% volume reduction, which was homogenous in 3 directions. Mechanical properties were evaluated and found to be comparable to non-3D printed prototypes and SMA properties maintained.

**Conclusion:** 3D printing is a viable option for SMA devices, including penile prostheses. This technology opens up the possibility of more complex structures and customization without the constraints of traditional manufacturing techniques.

**Podium #147**  
**ALCOHOL USE AND SEXUAL HEALTH CONCERNS IN A SEXUAL HEALTH CLINIC**  
Kevin Hebert, MD, Matthew Ziegelmann, MD, Francisco Maldonado, Tanner Miest, MD, Jack Andrews, MD, Raevti Bole, MD, Manaf Alom and Landon Trost, MD Mayo Clinic  
Presented By: Kevin J. Hebert, MD

**Introduction:** Alcohol use has been studied as a risk factor for erectile dysfunction, with varying outcomes reported. However, limited data are available on associations between alcohol and other factors relating to sexual behavior and dysfunctions.

**Methods:** We prospectively collected data on men undergoing evaluation for sexual
health concerns between March 2014 and August 2016 at our institution. Detailed information was obtained on both sexual health concerns and patient alcohol/tobacco use. Statistical analysis was performed to evaluate for significant associations between sexual health concerns and the presence of alcohol intake.

**Results:** A total of 822 patients (mean age 59 years) had data available on alcohol usage. 525 patients (64%) reported weekly alcohol use, with a median (IQR) 4 (2;7) drinks per week. On univariate analysis, patients who reported weekly alcohol use had significantly higher IIEF-scores (12.3 vs 10.3) and lower rates of subjective premature ejaculation (PE; 40% vs 51%), orgasmic dysfunction (11% vs 18%), depression (18% vs 31%) and poor concentration (27% vs 34%) compared with patients who did not consume alcohol (all p<0.05). Interestingly, alcohol intake was not associated with the impact of sexual dysfunction on relationship satisfaction, bother or sense of control with PE, severity or presence of Peyronie’s disease, any differences in intravaginal ejaculatory latency time (8 vs 9 min), or frequency of intercourse.

**Conclusion:** Alcohol consumption is associated with notable differences in patient-reported outcomes relating to sexual dysfunction. This preliminary data highlights new potential areas for research to better understand dynamics between social factors and sexual function.

**Podium #148**

**ENCORE ABSTRACT: PENILE PROSTHESIS IN SOLID ORGAN TRANSPLANT RECEPIENTS – A MATCHED COHORT STUDY**

Andrew Sun, MD, Paurush Babbar, MD, Bradley Gill, MD, Kenneth Angermeier, MD and Drogo Montague, MD

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Presented By: Andrew Y. Sun, MD

**Introduction:** Solid Organ Transplantation (SOT) has been considered a contraindication to penile prosthesis (PP) placement due to a perceived increased risk of complications. However, data supporting this are limited.

**Methods:** We retrospectively compared patient outcomes for all patients with a history of both SOT and PP performed at a tertiary academic center. A cohort of age-matched controls was identified for comparison.

**Results:** 26 patients underwent both SOT and PP through 1999-2015, along with an age-matched group of patients who underwent PP alone. Transplants included heart, liver, and kidney, with 4 kidney patients simultaneously receiving a pancreas. Mean follow up was 29.5 months (SOT group) and 13.5 months (PP group). Age at PP did not significantly differ between patients with vs without transplant (p 0.26), nor did BMI (p 0.92), prostate surgery (p 0.39), rectal surgery (p 1.00), hyperlipidemia (p 1.00), hypertension (p 0.25), or heart disease (p 0.093). Peripheral vascular disease was more common in patients with versus without transplant (p 0.021), as was stroke (p 0.05) and diabetes (p 0.016). No significant differences in reoperation rates existed between the two groups (p 1.00), nor for type of organ transplanted (p 1.00) or between implant models (2-piece versus 3-piece) (p 0.47).

**Conclusion:** This study shows that outcomes of PP in SOT patients do not differ from those in non-transplant patients. Additionally both 2-piece and 3-piece implants had similar outcomes. Penile prostheses appear to be a safe option for treating erectile dysfunction in solid organ transplant recipients.
Podium #149
SURGICAL TREATMENT OF MALE FACTOR INFERTILITY: DOES INSURANCE COVERAGE MATTER?
Barbara Kahn, MD1, Daniel Mazur, MD1, Mary Kate Keeter1, Marah Hehemann, MD2, Alexander Tatum, MD3, Anuj Desai, MD1, Kevin Lewis1, Daniel Oberlin, MD1, Sarah Flury, MD1, Nelson Bennett, MD1 and Robert Brannigan, MD1
1Northwestern University; 2Loyola University; 3Indiana University
Presented By: Barbara E. Kahn, MD

Introduction: Disparities in access to fertility treatment are established in the female population, with cost cited as a barrier. 15 states mandate insurance coverage for female infertility; of those, only 8 require coverage for male infertility. Our objective is to compare the utilization of male surgical infertility treatment in states based on insurance coverage.

Methods: ABU case log data provided by urologists between 2001 and 2014 was reviewed. Male fertility procedures were identified by CPT code: 10021, 10022, 54500, 54505, 54900, 54901, 55200, 55300, 55400, and 74440. Men ages 18-64, who had procedures performed in the US were included. US Census Bureau data from 2007 was used to determine median household income and population of men ages 18-64.

Results: 4669 fertility cases were performed. The total number of male infertility cases per million men of reproductive age in the US, in states with coverage, and in states without coverage was 49 (6 WY - 145 DC). 23 states exceeded the national rate, in 3 locations by more than double (DC, TX and UT). None of which have mandated insurance coverage. State-based median household income did not correlate with the number of cases performed.

Conclusion: The number of fertility cases per million men of reproductive age varies widely by state, but does not appear to be related to male infertility insurance coverage status or median household income. The lack of disparity in utilization of male surgical infertility treatment suggests that patients will pursue these treatments regardless of insurance coverage status and income.

Podium #150
INCONSISTENT ADOPTION OF WORLD HEALTH ORGANIZATION V (2010) SEMEN ANALYSIS REFERENCE RANGES IN THE UNITED STATES SIX YEARS AFTER PUBLICATION
Anuj Desai, MD1, Kevin Lewis, BA1; Daniel Mazur, MD1, Barbara Kahn, MD1, Mary Kate Keeter, MPH1, Alex Tatum, MD2, Marah Hehemann, MD3, Emmanuel Ogele, BS1, Brendan Frainey, MD1, Nelson Bennett Jr., MD1 and Robert Brannigan, MD1
1Northwestern University Feinberg School of Medicine; 2Indiana University-Purdue University Indianapolis; 3Loyola Medicine Chicago Stritch School of Medicine
Presented By: Kevin C. Lewis, BA

Introduction: There is no consensus on normal reference ranges for semen analysis (SA), however many laboratories use the World Health Organization (WHO) reference ranges. It is unknown how many laboratories utilize the WHO 5 (2010) criteria, which were released six years ago. We hypothesized that a substantial percentage of laboratories performing SA in the United States have not adopted WHO 5 criteria.

Methods: Clinical Laboratory Improvement Amendments (CLIA) laboratories were identified for query using the CLIA website. Laboratories were contacted by phone or email, and de-identified SA reports and reference ranges used were obtained.

Results: We contacted 280 laboratories in 46 states, of which 129 (46.1%) responded. One hundred one laboratories (76.3% of respondents) in 32 states performed SA. Among these laboratories, 64 (63%) used WHO 5 criteria, 31 (31%) used WHO 4 criteria, and 6 (6%) used other criteria. WHO 5 criteria adoption rates varied by geographic region, ranging from 94% (16/17) in the Midwest to 42% (11/26) in the...
West. Adoption rates did not significantly differ among academic centers (12/14, 86%) compared to non-academic centers (52/87, 60%) (P=0.077).

**Conclusion:** While the majority of laboratories have adopted WHO 5 criteria following its release six years ago, a large percentage (37%) still use what is now considered outdated criteria. This variability could result in a male patient being characterized as "normal" in one center and "abnormal" in another, leading to confusion for the both patient and physician and potentially shifting the burden of the infertility workup to the female.

**Podium #151**

**HCG PRODUCING TESTIS TUMOR AND SUBSEQUENT PITUITARY SUPPRESSION; A RARE CAUSE OF INFERTILITY**

Naveen Nandanan, MD, Nitin Yerram, MD, A Scott Polackwich, MD, Paurush Babbar, MD, Andrew Sun, MD, Abhinav Khanna, MD and Edmund Sabanegh, MD

1Cleveland Clinic; 2Cleveland Clinic/VCU

Presented By: Nitin K. Yerram, BS, MD

**Introduction:**

A rare sequela of testicular cancer is the development of a metachronous tumor occurring in about 2-5% of cases. We present a case of metachronous testicular cancer in a 20-year old causing hormonal imbalance and infertility. The patient was originally diagnosed with Stage I non-seminomatus germ-cell cancer of his right testicle and treated with radical inguinal orchiectomy and subsequent normalization of tumor markers. Three years later, he presented with a metachronous tumor on his left testicle with elevated tumor markers including AFP, HCG, and LDH but with no evidence of metastasis. Additionally, he had an elevated testosterone, with decreased LH and FSH. On pre-operative sperm banking, he was found to be azoospermic. An oncologic microsurgical testicular sperm extraction (Onco-microTESE) was performed during the orchiectomy but no sperm was found. Pathology revealed a malignant mixed (non-seminomatous) germ-cell tumor and he was referred for adjuvant chemotherapy vs. RPNLD.

**Discussion:**

Since hCG possesses the same α subunits and similar β subunits as LH, it affects the HPG hormonal axis similarly. We hypothesize that the significantly elevated hCG could be contributing to the decreased sperm production by acting as an analog for LH. By doing so, it stimulated testosterone production, resulting in an elevated T concentration, but simultaneously provided feedback inhibition to the HPG axis, lowering the production of LH and FSH. The diminished LH and FSH levels in our patient support this. This decrease in FSH, which is necessary for sperm production and maturation, may have been the cause for his azoospermia.

**Podium #152**

**INSTITUTIONAL CASE SERIES OF PENILE RING ENTRAPMENT**

Julia Fiuk, MD, Neil Patel, MD and Ahmed El-Zawahry, MD

SIU School of Medicine

Presented By: Neil Patel, MD

**Introduction:** Penile entrapment by an encircling object is a rare but significant urologic emergency. Urologists must know an armamentarium of techniques for prompt and safe treatment.

**Methods:** We conducted a retrospective chart review on three penile ring patients at our institutional

**Results:** The first patient is a 60 year old white male presenting in a delayed fashion with a ring entrapping his penis and his scrotum. A ring block was performed and olive oil was applied to the gentialia. A tongue blade was inserted between the ring and soft
tissues and compression was applied. Once the edema had decreased, the ring was removed. All soft tissues were pink and viable.

The second patient is a 28 year old white male who presented with a wedding ring around the base of his penis. Under general anesthesia needle decompression of the corpora was attempted but was unsuccessful. Ultimately a diamond tipped Midas drill was required to split the ring in half. Flexible cystoscopy revealed no distinct urethral injury.

The third patient is a 42 year old male who presented to the emergency department with a metal washer pushed all the way to the base of the penis. The patient was determined to avoid a general anesthetic. Attempts at twisting the lubricated ring off were unsuccessful. Ultimately a vice clamp and drummel tool were utilized. Post procedural UA revealed no hematuria.

**Conclusion:** An urologist must have varied removal algorithms in order to preserve penile tissue and function.

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**Podium #153**

**CROSS-FUSED RENAL ECTOPIA WITH CONCOMITANT ABSENT LEFT TESTICLE**

David Drevna, MD\(^1\), Bryant van Leeuwen, BS\(^2\) and Joseph Dankoff, MD\(^3\)

\(^1\)Cleveland Clinic Akron General; \(^2\)Northeastern Ohio Medical University; \(^3\)Summa Health System

Presented By: David W. Drevna, MD

**Introduction:** Cross-fused renal ectopia is a rare congenital anomaly. A 30 year old Caucasian male who presented with left lower quadrant pain and nausea/ emesis was found to have left-to-right cross-fused ectopia and obstructing distal calculus.

**Methods:** On physical exam, an absent left testicle was noted. The patient had scrotal surgery as a child and no testicle was found. Blood and urine analyses, ultrasounds and CAT scans were obtained. Retrograde urograms identified the location of the ureteral calculus and laser lithotripsy was used.

**Results:** Laboratory tests and ultrasounds showed mild acute kidney injury and blood in the urine. CAT scan exposed cross-fused renal ectopia with hydronephrosis in the lower pole moiety and a distal ureteral calculus. The lower pole ureter crossed the midline and inserted the bladder at the left trigone and the upper pole moiety had a separate ureter that inserted into the right trigone. Normal appearing bladder with orthotopic inserting right and left ureteral orifices were observed. Urograms revealed a distal filling defect of the left ureteral orifice consistent with a calculus and visualization of the lower pole moiety crossing the patient's midline. A stent was placed after lithotripsy and the patient was discharged in stable condition.

**Conclusion:** Care must be taken when dealing with cross-fused ectopia patients due to aberrant anatomy, the renal unit’s vasculature, and the ureter crossing the midline. The condition is associated with genetic disorders and urogenital anomalies which may provide an interesting link with this patient having concomitant absent left testicle.

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**Podium #154**

**PLAYING THE LONG SURVEILLANCE BALL GAME: METACHRONOUS TESTICULAR TUMOR DEVELOPING THREE YEARS AFTER EXTRAGONADAL GERM CELL TUMOR**

Alexander Chow, MD, Edward Capoccia, MD, Patrick Whelan, MD and Jerome Hoeksema, MD

Rush University Medical Center

Presented By: Alexander Chow, MD

**Introduction:** Approximately 3-7% of germ cell tumors are of extragonadal origin. Long term outcome of metachronous testicular tumor (MTT) after treatment of extragonadal
germ cell tumor (EGCT) is quite limited due to the rarity of the disease. Furthermore, there is no consensus on a surveillance protocol for MTT given the infrequency of this phenomenon.

**Methods/Results:** A 32 year old man presented with abdominal pain and was found to have enlarged para-aortic and mediastinal lymph nodes on computed tomography. A retroperitoneal biopsy of the lymph nodes was consistent with mixed germ cell tumor. At the time of diagnosis, lactic dehydrogenase, human beta-chorionic gonadotropin, and alpha-fetoprotein were all significantly elevated. Testicular ultrasound and testicular exam was normal at the time. He received four courses of chemotherapy (etoposide and cisplatin) with excellent response and no clinical disease progression. His tumor markers remained negative. Three years later, he developed a 6 cm right testicular mass concerning for malignancy. A right radical orchiectomy was performed and histology revealed seminoma with negative margins (pT1Nx)

**Conclusion:** Metachronous testicular tumor can occur after treatment and remission of EGCT despite normal surveillance scrotal ultrasound and tumor markers. Extended follow up with close testicular examinations is imperative.

**Podium #155**

**A SHOCKING CASE OF ERECTILE DYSFUNCTION: THE AT-HOME TRAIN CONDUCTOR’S ELECTRO-ERECITION SET**

Bradley Buck, MD and Timothy Schuster, MD

1University of Toledo; 2Promedica Genitourinary Surgeons

Presented By: Bradley J. Buck, MD

**Introduction:** We present an interesting case of attempted, at-home electro-erection and electro-ejaculation using a 120V alternating-current model train speed controller and a 24 gauge copper wire on a urethra.

**Methods:** The patient is a 64-year-old male, model train hobbyist with a long-standing history of erectile dysfunction secondary to insulin-dependent, diabetes mellitus type 2. He had previously trialed oral PDE-5 inhibitors and intracavernosal injections without success. Placement of a penile prosthesis was denied by his insurance company. After reading about electro-ejaculation on the Internet, the patient manufactured his own electro-erection/electro-ejaculation device using his model train speed controller and a 24 gauge copper telephone cord. He hypothesized the train speed controller would provide safe and reliable increasing rigidity with increasing current. Unfortunately, the copper wire heated with application of current, causing the wire to break-off in his urethra. He then presented to our clinic.

**Results:** The device did not produce an erection. The copper wire was noted on plain x-ray of the penis (x-ray will be presented), and endoscopic retrieval was performed (endoscopic pictures will be presented). Fortunately, only a small area of urethral mucosa was “burnt” and the patient healed without issues.

**Conclusion:** Alternating current model train speed controllers coupled to intra-urethral copper wires do not produce safe and reliable erectile function.

**Podium #156**

**DIY URETHRAL DILATION, DO NOT TRY THIS AT HOME: ENDOSCOPIC EXTRACTION OF FOREIGN BODY FROM BLADDER**

Chad Gridley, MD and Lawrence Jenkins, MD

The Ohio State University

Presented By: Chad Gridley, MD

FV is a thirty-three year old female with history of anorectal malformation status post repair with urethral reconstruction as a child and neurogenic bladder requiring intermittent catheterization who presented overnight in the emergency room with bladder pain and report of a foreign body bladder insertion. The patient reported having
difficulty performing catheterization and attempted to dilate her urethra with a “needle.” CT imaging confirmed the presence of a slender foreign body that measured fifteen centimeters in length. This was noted to perforate the superior bladder and came to rest on the aortic bifurcation. The patient was taken to the operating room by Urology with Trauma Surgery on standby in the event of clinical deterioration. Using a rigid ureteroscope and a rigid grasper, the foreign body was grasped at the proximal portion and extracted out of the bladder. The foreign body was confirmed to be a darning needle on inspection. Intraoperative cystogram showed no obvious intraperitoneal extravasation of contrast, Foley catheter was left in place, and the case was ended. Patient subsequently had an exploratory laparotomy by Trauma Surgery for continued abdominal pain which was negative. CT Cystogram on postoperative day eleven was negative for extravasation and Foley catheter was removed. Patient resumed intermittent catheterization.

Podium #157
A PATIENT'S NOVEL ATTEMPT AT PENILE ELONGATION
Adam Miller, MD¹, George Bailey, MD¹, Alonso Carrasco, MD², Joseph Scales, MD¹ and Amy Krambeck, MD³
¹Mayo Clinic, Rochester, MN; ²Children's Hospital Colorado, Aurora, CO; ³Indiana University School of Medicine, Indianapolis, IN
Presented By: Adam Miller, MD

Introduction: For centuries, Kayan women have used sequential metal rings to alter their anatomy, creating the illusion of a longer neck. We present the first case of a patient attempting to apply this principle to alter penile anatomy.

Case Presentation: A 73-year old man applied sequential metal key rings to his penis in an attempt to elongate his penis. After going into urinary retention, he modified a Bic pen and inserted it into his urethra to drain his bladder. He presented 3 days later with penile strangulation. CT scan showed a distended bladder, urethral foreign body, and multiple strangulating penile rings. Rings were removed under anesthesia with wire snips, and a tourniquet that was wrapped around the distal penis, fed under the ring, and then unwound to move the ring distally down the penile shaft. A total of 22 rings were removed. The Bic pen spontaneously extruded from the meatus after ring removal. Cystoscopy demonstrated mild urethral abrasions. Catheter removal and evaluation 2 weeks later demonstrated no voiding complaints and a well healed phallus.

Conclusion: Sequential metal rings for penile elongation is ill-advised and may result in penile strangulation with urinary retention. Patients desiring penile elongation should be directed to evidence-based penile traction devices.
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Conclusion: Sequential metal rings for penile elongation is ill-advised and may result in penile strangulation with urinary retention. Patients desiring penile elongation should be directed to evidence-based penile traction devices.

Podium #158
TREATMENT OF PROSTATE CANCER IN MALE-ASSIGNED 46 XX PATIENT WITH UNTREATED CONGENITAL ADRENAL HYPERPLASIA
Michael Atwell, BA1 and Timothy Kresowik, MD2
1U of Illinois College of Medicine - Peoria; 2Urological Associates, PC/U of Iowa Adjunct
Presented By: Michael F. Atwell

Introduction: We describe the management of a male-assigned 46 XX patient with prostate cancer whose diagnosis of virilizing congenital adrenal hyperplasia was unknown to the treatment team.

Methods/Results: This is a 62-year-old male with Gleason 3+4 prostate cancer who was treated with radical retropubic prostatectomy and pelvic lymph node dissection in 2010. Aberrant anatomy was noted at surgery and margins were positive, therefore he received adjuvant radiation. He was not forthcoming with his medical history. He developed PSA recurrence which was refractory to Trelstar and Firmagon and his serum testosterone did not change. At this point, records were found from childhood reporting 46 XX karyotype, surgical removal of fallopian tubes and ovaries, and treatment with glucocorticoids when patient was young. Patient had not had treatment since childhood. The patient’s PSA level responded quickly to Casodex and remains undetectable.

Conclusion: To our knowledge there are no previous reports of an XX Male with prostate cancer. While anatomic abnormalities were found at the time of surgery further investigation was prompted by failure to respond to GnRH agonists and GnRH receptor antagonists. This unusual case illustrates the need for adrenal androgen blockade in patients with prostate cancer and missing or non-functional testicles.

Podium #159
A RARE CASE OF MALIGNANT TRITON TUMOR INVOLVING THE BLADDER OF A YOUNG CHILD WITH NEUROFIBROMATOSIS TYPE I
Derek Lomas, MD, PharmD1, Amy Hou, MD2 and Yuri Reinberg, MD2
1Mayo Clinic; 2Pediatric Surgical Associates, Minneapolis, MN
Presented By: Derek J. Lomas, MD, PharmD

Introduction: Neurofibromatosis type I (NF1) is an autosomal dominant disorder characterized by various neurocutaneous manifestations. Involvement of the GU system is rare. Malignant titron tumors (MTT) are an extremely rare type of sarcoma with the majority presenting in patients with NF1.

Methods: We report a case of MTT involving the bladder of a patient with NF1.

Results: A 2 year old female with NF1 and a biopsy proven, clinically stable pelvic
plexiform neurofibroma presented with a 3 week history of increasing abdominal girth, pain, and poor intake. On exam she had a large, firm, palpable abdominal mass with prominent veins over the abdominal surface. MRI of the abdomen/pelvis demonstrated a lobulated infiltrating mass involving the bladder, uterus, cervix, vagina, urethra and perineum measuring 13.7 cm. Due to the extensive nature of the lesion and patient’s symptoms, debulking with subtotal resection of the tumor and partial cystectomy was undertaken. Intraoperatively, there was noted to be perivesical lymphadenopathy and omental tumor deposits. Pathology revealed MTT. Further staging revealed metastatic disease to the lungs. The child subsequently was treated with chemotherapy.

**Conclusion:** This case highlights a rare and aggressive tumor involving the GU tract in patient with NF1.

**Podium #160**

**RECURRENT NEPHROLITHIASIS AS A RESULT OF RENAL ANGIO-EMBOLIZATION**

Michael Fenstermaker, MD, MS and Casey Dauw, MD
Univeristy of Michigan, Department of Urology
Presented By: Michael Fenstermaker, MD

**Introduction:** Ms. E is a 54-year-old female with a history of chronic right flank pain, recurrent nephrolithiasis, and recurrent urinary tract infections who presented to our clinic for right flank pain. CT scan revealed a 12mm radio-opaque conglomeration of stone near the right uretero-pelvic junction (Figure 1a). Of note, she had previously undergone right percutaneous nephrolithotomy in 2008 for a large obstructing stone. This was complicated by pseudoaneurysm formation, requiring angio-embolization of bleeding vessels near the right renal pelvis.

**Methods:** Case report

**Results:** The patient was taken to the OR for right ureteroscopy and laser lithotripsy. Direct visualization of the right renal pelvis revealed that her previous embolization coils had eroded into the renal pelvis, with overlying stone formation (Figure 1b,1c). The overlying stone was fragmented with laser lithotripsy, and the exposed coils were ablated.

**Conclusion:** As this case report demonstrates, delayed migration and erosion of angio-embolization coils into the renal collecting system can occur. These foreign bodies can serve as a nidus for later recurrent stone formation and recurrent urinary tract infections. Exposed coils can be endoscopically ablated with holmium laser, though long-term efficacy in preventing further stone episodes is uncertain.

**Podium #161**

**OBSTRUCTIVE UROPATHY SECONDARY TO AN INGESTED FOREIGN BODY -- A CASE REPORT**

Alec Wilson, MD and David Kearney, MD
Beaumont Health Dept of Urology
Presented By: Alec Wilson

**Introduction:** Foreign body (FB) ingestion is a relatively common occurrence; however the associated morbidity is heavily dependent on the characteristics of the ingested object. Rates of intestinal perforation in toothpick ingestion, for example, have been reported as high as nearly 80% in case series. FB ingestion resulting in ureteral obstruction, however, is extremely rare, reported only a few times in the literature.

**Methods/Results:** A 38 year old male presented to the emergency center roughly 24 hours after a barbecue with right sided abdominal pain and hematuria. CT of the abdomen revealed right sided hydronephrosis and hydroureter proximal to a thin, radiopaque FB extending from the duodenum. Initial attempts at endoscopic retrieval of the FB were unsuccessful. Following cystoscopy with retrograde pyelogram and ureteral stent insertion, an exploratory laparotomy was performed with the aid of intraoperative fluoroscopy to localize and retrieve the FB - a small wire bristle.

**Discussion:** We describe an exceedingly rare case of right ureteral obstruction secondary to migration of an ingested FB. Whereas the ingested FB in this case was radiopaque, migration of a radiolucent FB should be suspected in patients who present after FB ingestion with hydronephrosis and no discernable inciting lesion on imaging.
PODIUMS

**Podium #160**

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Michael Fenstermaker, MD, MS and Casey Dauw, MD
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**Methods:**

**Case report**

**Results:**

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Podium #163
A HARD "ACT" TO FOLLOW: A CASE OF OBSTRUCTING URETERAL STONE AS THE NIDUS FOR RETROPERITONEAL ACTINOMYCOSIS
Colby Dixon, MD, Elizabeth Bearrick, BS and Michael S. Borofsky, MD
University of Minnesota
Presented By: Colby A. Dixon, MD

Introduction: Actinomycosis is a condition in which Actinomyces, a normal component of the oral and gastrointestinal flora, becomes pathogenic in the setting of damaged tissue, leading to tissue disruption across fascial planes. There are no reported cases of a kidney stone serving as a nidus for development of actinomycosis.

Methods: We present a case of retroperitoneal actinomycosis in the setting of obstructing nephrolithiasis.

Results: A 48 year old female with a history of substance abuse, malnutrition, and gastric bypass presented with a 3 week history of abdominal pain and fevers. Workup revealed a 9 millimeter obstructing right ureteral stone with associated perinephric fluid collection concerning for fornixal rupture. Left hydronephrosis was also identified. She underwent emergent decompression where bilateral duplicated collecting systems were identified requiring stent placement in all four moieties. Urine cultures grew Escheria coli and Candida. The patient continued to deteriorate despite appropriate antibiotic therapy; repeat scan revealed progression of her perinephric fluid collection into an abscess. A percutaneous drain was placed and 500 milliliters of pus evacuated. Fluid cultures grew Actinomyces. She was treated with one month of IV penicillin and six months of oral penicillin with resolution of her abscess. All stones were ultimately treated with ureteroscopy.

Conclusion: Actinomycosis is an invasive infection caused when Actinomyces colonizes damaged tissue. We present the first reported case of nephrolithiasis inciting this process via tissue damage caused by obstruction and infection. Although rare, heightened suspicion is warranted among immunocompromised hosts who do not improve after decompression in such scenarios.

Podium #164
“DOC, I THINK I HAVE A THIRD TESTICLE” – THE DIFFERENTIAL DIAGNOSIS OF A PERINEAL MASS
Daniel Shapiro, MD and David Paolone, MD
University of Wisconsin School of Medicine and Public Health
Presented By: Daniel Shapiro, MD

Introduction: Perineal masses are rare entities with a wide differential diagnosis. The masses can be separated into both benign and malignant causes. Among malignant tumors, sarcomas are the most commonly encountered entities, including leiomyosarcomas, liposarcomas, and rhabdomyosarcomas. Benign masses include lipomas, epidermoid cysts, and rarely ectopic testicles. Ectopic testicles represent only 5% of undescended testicles. We present a case of a middle aged male patient presenting with a perineal mass.

Methods: A 40-year-old male presented with a painless, 4cm perineal mass below the scrotum causing discomfort whenever the patient sat down. MRI imaging was performed concerning for possible supernumerary ectopic testicle. The patient underwent surgical excision and pathologic evaluation of the mass.

Results: The mass was successfully excised through a midline perineal incision without violation of the capsule. Pathologic evaluation demonstrated a 4.5cm cyst containing keratinous debris consistent with an epidermoid cyst. The patient was...
discharged the same day and had uneventful post-operative recovery without cyst recurrence.

**Conclusion:** The presentation of a perineal mass is a rare event, and a wide differential diagnosis must be considered by the urologist as these masses encompass both benign and malignant etiologies.

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**Podium #165**

**PERFORATION OF BLADDER SECONDARY TO MIGRATION OF HARRINGTON ROD: A CASE REPORT**

Jacob Stephens, BS and Ayman Mahdy, MD, PhD  
University of Cincinnati College of Medicine  
Presented By: Jacob Robert Stephens, BS

**Introduction:** Cerebral palsy (CP) is a disorder that is associated with scoliosis (21-64% of CP patients) and urinary tract issues (55.5% of CP patients) including neurogenic bladders, among other complications.

**Methods:** We present an interesting case of bladder perforation caused by migration of a Harrington spinal rod through the iliac crest.

**Results:** A 30-year-old female with a history of CP and scoliosis status-post bilateral rod placement in 2003 (Figure 1a) presented to an outside hospital with signs and symptoms of sepsis. Computed tomography imaging demonstrated erosion of a Harrington spinal rod into and perforating the bladder (Figure 1b). The patient underwent exploratory laparotomy with subsequent repair of the bladder perforation. Because the rod was not exposed intraperitoneally, it was not removed. Due to the patient’s chronic neurogenic bladder, it was hypothesized that the perforation was due to urinary retention resulting in an over-distended bladder. After repair of the perforation, a Foley catheter was placed to decompress the bladder.

**Conclusion:** Distal migration of a spinal rod is an extremely rare complication of spinal stabilization surgery, and to our knowledge, there have been no cases of bladder perforations due to rod migration.
Podium #167

CHANGES IN UROLOGIC MEDICATIONS WITH TRANSURETHRAL PROSTATE PROCEDURES FOR BENIGN PROSTATIC HYPERPLASIA

Navin Sabharwal, BA¹, Elodi Dielubanza, MD², James Ulchaker, MD², Khaled Fareed, MD², Daniel Shoskes, MD² and Bradley Gill, MD²

¹Cleveland Clinic Lerner College of Medicine; ²Glickman Urology and Kidney Institute, Cleveland Clinic

Presented By: Navin Sabharwal, BA

Introduction: Comparative analyses of changes in urologic medications (Rx) across benign prostatic hyperplasia (BPH) procedures are needed. This study tests the hypothesis that transurethral prostate procedures (TUPP) that resect tissue result in greater Rx discontinuation rates than procedures that induce tissue necrosis.

Methods: Retrospective review of all TUPP at a tertiary center from 2001-2016 was completed. Procedure type and Rx use before, 3-12 months after, and >12 months after TUPP were analyzed with simple prostatectomy (SP) as a comparator. Tissue-necrosing procedures (microwave therapy (TUMT) and radiofrequency ablation (TUNA)) were analyzed together.

Results: 5150 TUPP were analyzed (Figure) with mean age 69.1-71.8 by type. Rx used (5-alpha reductase inhibitors (5ARI), alpha-blockers, anticholinergics, beta-3 agonists) significantly varied across TUPP types (Figure). At baseline, alpha-blockers were the most common Rx and beta-3 agonists were least. Discontinuation rates varied significantly by TUPP type for 5ARIs and alpha-blockers only. Relative to TUPP, SP had the highest Rx discontinuation and lowest resumption and initiation rates. Tissue-necrosing procedures had the lowest Rx discontinuation and highest resumption and initiation rates. TURP and PVP had higher Rx discontinuation rates with lower resumption and initiation rates compared to tissue-necrosing procedures.

Conclusion: Tissue-eliminating TUPP were associated with better Rx discontinuation, resumption, and de-novo initiation rates compared to tissue-necrosing procedures.
Podium #168
CONNECTIVE RADIOFREQUENCY WATER VAPOR ENERGY PROSTATE ABLATION (REZUM®) EFFECTIVELY TREATS URINARY RETENTION
Bradley Holland, MD1, Nikhil Gupta, MD1, Kristin Delfino, PhD2, Danuta Dynda, MD1, Sevann Helo, MD1, J Randolf Bears, MD3, Lennart Wagrell, MD4, Ahmed El-Zawahry, MD1, Tobias Kohler, MD, MPH, FACS5 and Kevin McVary, MD, FACS1
1Southern Illinois University School of Medicine, Department of Surgery, Division of Urology; 2Southern Illinois University School of Medicine, Center for Clinical Research; 3Metro Urology; 4Urology Centre
Presented By: Bradley Holland, MD

Introduction: New minimally invasive surgical therapies for lower urinary tract symptoms due to benign prostatic hyperplasia, convective radiofrequency water vapor energy prostate ablation (WaVE), have shown promising results in improving voiding symptoms. However, the initial trials excluded men in urinary retention. This study investigated outcomes of patients with urinary retention treated with WaVE.

Methods: Patients in urinary retention who underwent WaVE were retrospectively identified. Urinary retention defined as an indwelling catheter or performance of clean intermittent catheterization (CIC) for bladder emptying. Baseline values for all patients were recorded. Subjects with successful trials without catheter (TWOC), time to catheter independence and post-procedure PVR and IPSS were recorded. Baseline characteristics between subjects using Mann Whitney U test and T-test for continuous variables and Chi-square test and Fisher’s exact test for non-continuous variables.

Results: 30 patients with urinary retention underwent WaVE. 22 used indwelling catheters, 8 performed CIC. Mean age 76 years. 28/30 subjects had middle lobe treatment (1 treatment per procedure). 23 of 30 subjects (77%) achieved successful TWOC post-procedure. Mean time to catheter independence was 29 days with mean post-procedure PVR 84 mL and post-procedure IPSS 9. No differences between subjects with or without successful TWOC in age, duration of catheter dependence, prostate size, baseline PVR, and baseline IPSS, number of treatments per procedure, or treatment of median lobe.

Conclusion: WaVE can effectively treat patients with urinary retention and successfully render patients catheter independent, including patients with a median lobe. Longer-term follow up is necessary to evaluate the durability of this technology.

Podium #169
TRANSURETHRAL CONVECITIVE RADIOFREQUENCY WATER VAPOR THERMAL THERAPY FOR LOWER URINARY TRACT SYMPTOMS ASSOCIATED WITH BENIGN PROSTATIC HYPERPLASIA: TWO-YEAR OUTCOMES OF A RANDOMIZED CONTROLLED AND PROSPECTIVE CROSSOVER STUDY
James Ulchaker, MD, FACS1, J. Randolf Beahrs, MD2, Lance Mynderse, MD3 and Kevin McVary, MD4
1Cleveland Clinic Foundation; 2Metro Urology; 3Mayo Clinic; 4Southern Illinois University
Presented By: James C. Ulchaker, MD, FACS

Introduction: Report two-year outcomes of a RCT plus one-year results of a crossover trial after transurethral treatment using RF-generated convective water vapor thermal energy (Rezum) for LUTS/BPH.

Methods: In 15 centers men ≥ 50 years old with IPSS ≥13, Qmax ≤ 15 ml/s and prostate volume 30-80 cc were randomized 2:1 to thermal therapy with Rezüm and control (rigid cystoscopy). After unblinding at 3 months, control subjects requalified for crossover study. Thermal water vapor was delivered into obstructive prostate tissue. Primary endpoint compared IPSS reduction at 3 months.

Results: Rezum group’s (n =136) baseline IPSS of 22 ± 4.8 decreased 11.3 points,
Podium #170
CLINICAL AND PATHOLOGIC SIGNIFICANCE OF THE POST-HOLEP UNDETECTABLE PSA
Marcelino Rivera, MD, James Lingeman, MD, Nadya York and Amy Krambeck, MD
Indiana University
Presented By: Marcelino E. Rivera, MD

Introduction: Holmium laser enucleation of the prostate (HoLEP) results in considerable reduction in prostate volume and prostate specific antigen (PSA). While a PSA near 1ng/dl is routinely expected and functions as a surrogate for thoroughness of enucleation, there is currently a paucity of literature investigating the extremely low PSA found after HoLEP.

Methods: An institutional review board approved prospectively maintained database of men undergoing HoLEP from 1998-2016 was utilized for this study. Patients were stratified into three groups based on post-HoLEP PSA: ≤ 0.1ng/dl, >0.1-1ng/dl, >1ng/dl.

Results: We identified 2008 patients treated with HoLEP within our institutional database. A post-operative PSA was available for 828 patients. An undetectable PSA, ≤ 0.1ng/dl, was identified in 33 patients (4%). Patients with undetectable PSAs had a greater resected tissue weight compared to those with PSAs of >0.1-1ng/dl or >1ng/dl (mean (SD) 97.2 (50.6) versus 81.7 (49.9) versus 75.2 gms(49.7), p=0.04, respectively). Patients with an undetectable PSA had a significantly higher percent reduction of PSA (93.5 versus 84.1 versus 65.5%, p<0.001). Patients with post-operative undetectable PSA were less likely to have prostate cancer on the pathologic specimen (3.1% versus 8.7% versus 17%, p=0.001)

Conclusion: While uncommon, individuals undergoing HoLEP can achieve a nadir PSA to undetectable levels. Patients should be counseled that routine prostate cancer screening is still indicated in accordance with AUA guidelines. Patients with a post-operative PSA >1ng/dl had a nearly two-fold incidence of prostate cancer and should be followed closely postoperatively.
Podium #171
COMPARISON OF CONVECTIVE RADIOFREQUENCY WATER VAPOR ENERGY ABLATION OF PROSTATE (REZUM®) TO MTOPS TRIAL COHORT
Nikhil Gupta, MD¹, Bradley Holland, MD², Sevann Helo, MD¹, Danuta Dynda, MD², Tobias Köhler, MD³ and Kevin McVary, MD²
¹Southern Illinois University School of Medicine; ²SIU School of Medicine; ³Mayo Clinic
Presented By: Sevann Helo, MD

Introduction: Convective radiofrequency water vapor energy ablation (WaVE) was compared to a historical cohort receiving medical therapy from the NIDDK-sponsored Medical Therapy of Prostatic Symptoms (MTOPS) study in treatment of LUTS due to BPH (LUTS/BPH).

Methods: Results from the treatment arm of a trial investigating WaVE were compared to the results of the MTOPS cohorts receiving doxazosin, finasteride, or combination. Only those subjects with prostate volume ≥ 30cc, IPSS ≥ 13 were included. IPSS, BPHII, Qmax, post-void residual (PVR) were compared at 3 months, 6 months, 1 year, 2 years. Propensity score weighting was done to eliminate differences in baseline IPSS, QOL, prostate volume between groups.

Results: The cohorts included 129 WaVE, 386 MTOPS subjects. After propensity score weighting, at baseline the groups had similar age, BMI, Qmax, PVR. WaVE cohort had lower PSA. Compared to doxazosin, WaVE had better IPSS (-11.3, 8.9,p=0.0033), and BPHII (-3.7, -2.2,p<0.0001) response, similar Qmax (4.3,4.1,p=0.8318) and PVR (-0.2, 15.3,p=0.0972) improvement at 2 years. As compared to finasteride, WaVE had better IPSS (-11.3, -8.5,p=0.0005), BPHII (-3.7, -3.0,p=0.0204), Qmax (4.3,1.8,p=0.0003) improvement with similar PVR (-0.2, -17.9,p=0.0583). As compared to combination, WaVE had similar IPSS (-11.3, -10.9,p=0.6207) and BPHII (-3.7, -3.4,p=0.2772), and Qmax (4.3,3.8,p=0.4813) improvement and worse PVR (-0.2, -33.9,p=0.0001) improvement.

Conclusion: WaVE was superior to doxazosin of finasteride alone in treating LUTS/BPH and had similar outcomes as combined medical therapy. Primary treatment decisions should depend on discussion of adverse events and medication burden. Longer-term follow-up is necessary to assess the durability of WaVE.

Acknowledgements: Tyson Rogers, NAMS

Podium #172
TRANSURETHRAL RESECTION OF THE PROSTATE (TURP): A COST ANALYSIS OF BIPOLAR AND MONOPOLAR TECHNOLOGIES
David Gregory, MPA, Brittany Blau, MPH and Christina Cool, MPH
Baker Tilly LLP
Presented By: Christina L. Cool, MPH

Introduction: This study evaluated hospital cost differences between bipolar and monopolar transurethral resection of prostate (TURP) procedures, comparing procedure setting, length of stay (LOS), and total cost.

Methods: TURP procedures were identified and then examined in the Medicare Inpatient and Outpatient Standard Analytic Files (01/01/2014-09/30/2015). Procedure setting, total cost (treatment, complications, and device costs), and LOS were analyzed for 416 bipolar and 539 monopolar procedures in 35 hospitals.

Results: Bipolar cases were admitted 41% less than monopolar (p<.001). When admitted, bipolar cases were 27% less expensive (p<.008) and had a shorter LOS (p=.064). Bipolar inpatient cost savings of 22%-48% were seen in laboratory, operating room, pharmacy and room costs, with over 60% savings in intensive care. Outpatient costs were 66% less than inpatient (p<.001). Bipolar index outpatient costs were not statistically different from monopolar after removing hospitals with substantially different costs than the average (“outlier hospitals”) (p=.179). Modeled savings show overall...
bipolar procedure costs were $667.78 less per patient than monopolar ($1,099.66 less for inlier hospitals).

**Conclusion:** Bipolar TURPs generate cost-savings when accounting for procedure setting and care efficiencies, a finding supported by the literature. This is the first US study to show how care efficiency benefits can offset cost differences between TURP technologies while also improving patient experience.

**Podium #173**

**Postoperative Urinary Retention is an Independent Predictor of Short- and Long-Term Future Bladder Outlet Procedure in Men**

Robert Blackwell, MD\(^1\), Arpeet Shah, MD\(^1\), Srikanth Vedachalam\(^2\), Anai Kothari, MD\(^1\), Paul Kuo, MD, MS\(^1\), Gopal Gupta, MD\(^1\) and Thomas Turk, MD\(^1\)

\(^1\)Loyola University Medical Center; \(^2\)Midwestern University

Presented By: Arpeet Shah

**Introduction:** Postoperative urinary retention (POUR) is a common complication across surgical specialties. To date, no literature has examined POUR as a predictor of long-term receipt of surgery for bladder outlet obstruction.

**Methods:** A retrospective review of men who underwent major inpatient, non-urologic surgery in California through 2008-2010. POUR was identified during the index admission, as were bladder outlet procedures (BOP) on a subsequent encounter. Multivariate logistic regression was performed to identify predictors of BOP. Kaplan-Meier time-to-event analysis was performed to determine the cumulative incidence of subsequent BOP by patient groups (Group A: Age ≥60 years, POUR; Group B: Age ≥60 years, no POUR; Group C: Age <60 years, POUR; Group D: Age <60 years, no POUR).

**Results:** Of 769,141 eligible patients, 8,051 (1.1%) developed POUR. Following discharge 1,855 patients (0.24%) underwent a BOP. BOP patients were significantly more likely to have experienced POUR during their index admission (6.3% vs 1.0%, p<0.001). On multivariate analysis, the strongest predictors of subsequent BOP were age ≥ 60 years (OR 7.80, 95%CI 6.50-9.37) and POUR (OR 4.05, 95%CI 3.34-4.92). Within 90 days, BOP was performed on 1.5% of Group A, compared to 0.1% of Group B. Within three years, rates of BOP were 7.0%, 2.1%, 0.8%, and 0.2% in Groups A-D, respectively.

**Conclusion:** In men aged ≥60 years, postoperative urinary retention identifies patients with an increased incidence of bladder outlet procedures in the short- and long-term. Men <60 years have a low rate of subsequent bladder outlet procedure, regardless of postoperative urinary retention diagnosis.
CONVECTIVE RADIOFREQUENCY WATER VAPOR ENERGY ABLATION (REZUM®) EFFECTIVELY TREATS LOWER URINARY TRACT SYMPTOMS DUE TO BENIGN PROSTATIC ENLARGEMENT REGARDLESS OF OBESITY WHILE PRESERVING ERECTILE AND EJACULATORY FUNCTION

Nikhil Gupta, MD1, Sevann Helo, MD2, Tobias Köhler, MD MPH3 and Kevin McVary, MD1
1Southern Illinois University School of Medicine; 2SIU School of Medicine; 3Mayo Clinic
Presented By: Sevann Helo, MD

Introduction: To assess the ability of convective radiofrequency water-vapor thermal therapy (WaVE) to treat LUTS due to BPE (LUTS/BPE) and compare responses of obese and non-obese subjects.

Methods: Men ≥ 50 years, IPSS ≥ 13, peak flow rate (Qmax) 5-15 mL/s, prostate size 30-80cc were randomized 2:1 between WaVE and sham procedure. Comparison was done at 3 months, WaVE arm was followed for 12 months assessing IPSS, Qmax, IIEF-15 and MSHQ-EjF. Achievement of minimal clinically-important difference in erectile function perceived as beneficial (MCID) was determined. Outcomes for obese (BMI>30) and non-obese subjects were compared.

Results: 197 men randomized, 136 WaVE, 61 sham. WaVE group and control group IPSS reduced by 11.2 and 4.3 at 3 months (p<0.0001). WaVE group IPSS decreased by 50% or greater at 3 months onward (p<0.0001). Peak flow rate in WaVE group increased by 6.2 mL/s at 3 months and was sustained (p<0.0001). 30 median lobes were treated with similar outcomes as subjects without median lobes. IIEF-15 and MSHQ-EjF scores were similar between WaVE and control groups at 3 months and were similar in WaVE group to baseline at 12 months. Ejaculatory bother improved 31% in WaVE group over baseline (p=0.0011). 32% WaVE subjects achieved MCID at 3 months, 27% at 1 year. Obese subject outcomes were similar in IPSS, had more severe ED but similar rate of MCID and improved ejaculatory bother as non-obese subjects.

Conclusion: WaVE successfully treats LUTS/BPE through 1 year without anatomical restriction or decreased erectile or ejaculatory function regardless of obesity.

PROSTATIC ARTERY EMBOLIZATION FOR THE TREATMENT OF BENIGN PROSTATIC HYPERPLASIA: INTERIM RESULTS OF A PROSPECTIVE, SINGLE-CENTER, OPEN-LABEL TRIAL

Joseph Kallini, MD, Ahmed Gabr, MD, Ahsun Riaz, MD, Nabeel Hamoui, MD, MBA, Robert Lewandowski, MD, John Hairston, MD and Riad Salem, MD, MBA
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Presented By: Nabeel Hamoui, MD, MBA

Introduction: To evaluate the safety and efficacy of prostate artery embolization (PAE) for the treatment of lower urinary tract symptoms (LUTS) attributed to benign prostatic hyperplasia (BPH).

Methods: A prospective, single-center, FDA-approved study was conducted to evaluate the safety and efficacy of PAE for the treatment of BPH/LUTS. Patients included men ≥45, prostate volume ≥30g, International Prostate Symptom Score (IPSS)>13, peak flow rate (Qmax)<12mL/s, and voided volume ≥125mL. Particle embolization was performed. Patients were evaluated with standardize questionnaires [e.g. IPSS] and clinical measures [e.g. Qmax] at baseline, 1, 3, 6, and 12 months after PAE.

Results: 24 patients (PV 32-187 mL) were included in this interim analysis. At 1 and 3 months post treatment, there are statistically significant improvements in IPSS, QoL and Qmax. At 6 and 12 months post treatment, statistically significant improvements
were observed in IPSS and QoL. No significant reduction in prostate volume has been observed to date. Data is summarized in Table 1. Adverse events include dysuria (n=6), hematuria (n=1), hematospermia (n=2), retrograde ejaculation (n=1), symptomatic bacteriuria (n=1), urinary frequency (n=3), and urinary retention (n=2). No severe adverse events have occurred.

**Conclusion:** Preliminary results show that PAE is a safe treatment for BPH, with statistically significant improvement in qualitative measures and a trend toward lower PV.

**Podium #176**

**COMPARATIVE RESULTS OF UROLIFT IN PATIENTS WITH OBSTRUCTIVE BPH AND PATIENTS WITH COMBINED OBSTRUCTIVE BPH AND MODERATE TO SEVERE OAB**

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¹Urology of Indiana; ²n/a

Presented By: Peter M. Knapp Jr., MD, FACS

**Introduction:** Patients with combined obstructive and irritative voiding symptoms present difficult treatment challenges to urologists. We report an early experience using Urolift in patients with obstructive BPH and patients with combined obstructive BPH and moderate to severe OAB.

**Methods:** 18 consecutive patients treated with Urolift were reviewed. Nine patients had obstructive BPH alone and 9 patients had combined BPH and moderate to severe OAB. All patients with combined BPH and OAB were treated with at least one OAB medication and 3 patients had been treated with Interstim Neuromodulation. All patients were evaluated with pre and postoperative IPSS (International Prostate Symptom Score) and some combination of uroflow, post void residual urine, cystoscopy, transrectal ultrasound, and pressure flow urodynamics.

**Results:** Average postoperative follow up was 6mo (2-12 mo). 17/18 (94%) patients demonstrated reduced IPSS. All patients with combined BPH and OAB reported reduced IPSS. IPSS reduction averaged 12.88 in BPH patients and 11.22 in patients with combined BPH and OAB. No patients complained of worsening irritative voiding symptoms.

**Conclusion:** Early results indicate Urolift is a safe and effective treatment option in patients with obstructive BPH and those with combined obstructive BPH and moderate to severe OAB.
**Podium #177**

**HOLMIUM LASER ENUCLEATION OF THE PROSTATE (HOLEP) IN PATIENTS ON ACTIVE SURVEILLANCE FOR PROSTATE CANCER**

Marcelino Rivera, MD, Nadya York, MD, Mengmeng Zheng, Hazem Elmansy, MD, Amy Krambeck, MD and James Lingeman, MD  
Indiana University  
Presented By: Marcelino E. Rivera, MD

**Introduction:** There is little literature describing patient outcomes after HoLEP while on active surveillance (AS) for prostate cancer (PCa).

**Methods:** We reviewed a prospectively maintained HoLEP database from 1998 - 2016. All patients undergoing HoLEP with pre-existing diagnosis of PCa on AS were identified.

**Results:** We identified 27 patients with a pre-existing diagnosis of PCa on AS who underwent HoLEP over a 18 year period. Median time on active surveillance prior to HoLEP was 2.6 years (IQR 0.6-8.2). Median patient age was 74 years (IQR 68-78). All patients had a diagnosis of Gleason 6 or 7 with the majority of patients (n=21, 78%) having Gleason 6 PCa.

Median weight of tissue removed at HoLEP was 81 grams (IQR 68.3-117), 8 patients (30%) had malignancy confirmed on HoLEP histology, all low risk disease. At six months follow-up, there was an 80% reduction in PSA from a preoperative median of 8.78 (IQR 5.5-14.2) to postoperative median 1.1 (IQR 0.5-1.9). All patients were voiding post-operatively.

At most recent follow-up, only 1 (6%) had rising PSA and underwent subsequent radiotherapy. Prostate cancer specific mortality was zero and no patients progressed to metastatic disease.

**Conclusion:** HoLEP is an attractive option for patients with bothersome LUTS and large glands on active surveillance for PCa. Clinically significant symptom improvement and dramatic PSA reduction was noted. Notably, the overall prostate cancer progression rate in this cohort is very low.

**Podium #178**

**THE MALE BLADDER MICROBIOME AND ITS POTENTIAL ROLE IN BENIGN PROSTATIC HYPERPLASIA**

Michelle Van Kuiken, MD, Bethany Burge, MD, Krystal Thomas-White, Evann Hilt, Travis Price, Larissa Bresler, MD, Jeffrey Branch, MD, Alan Wolfe, PhD and Ahmer Farooq, DO  
Loyola University Medical Center  
Presented By: Michelle E. Van Kuiken, MD

**Introduction:** Millions of men suffer from lower urinary tract symptoms (LUTS) secondary to benign prostatic hyperplasia (BPH); however, symptom etiology is thought to be multifactorial. Our group has repeatedly demonstrated differences in the bladder microbiome of women with and without LUTS. Given this, we hypothesize that men with BPH/LUTS will have a distinct bladder microbiome from that of asymptomatic controls.

**Methods:** For the study group, we recruited men with BPH/LUTS with an AUA Symptom Score (AUA-SS) >=8 and a negative pre-operative urine culture undergoing a bladder outlet procedure. The control group consisted of men without BPH/LUTS undergoing a non-BPH-related procedure. Men were excluded if they had indwelling catheters, performed intermittent catheterization, had urologic cancers or nephrolithiasis, or had taken antibiotics within 30 days. Voided and catheterized specimens were obtained before antibiotic administration. We assessed specimens using our enhanced quantitative urine culture (EQUC) protocol.

**Results:** We recruited 33 men, 19 with BPH/LUTS and 14 controls. The groups were matched by BMI, race, presence of diabetes, tobacco use and circumcision status;
however, men in the BPH group tended to be older and to have hypertension more frequently than controls. 12/33 (36.4%) of the catheterized specimens had bacterial growth via EQUC. Notably, most growth occurred in men with BPH/LUTS (10/19, 52.6%), while only 2/12 (14.3%) control patients had growth, p=0.027. None of the organisms identified were uropathogens. **Conclusion:** We conclude that the bladders of men with BPH/LUTS are more likely to contain live, non-pathogenic bacteria than the bladders of controls without symptoms.

Podium #179
**PRIMARY MALIGNANT MELANOMA OF THE FEMALE URETHRA: MANAGEMENT AND LONG-TERM OUTCOMES AT A TERTIARY REFERRAL CENTER**
Brian Montgomery, MD, Derek Lomas, MD, Vidit Sharma, MD and Deborah Lightner, MD
Mayo Clinic
Presented By: Brian Montgomery, MD

**Introduction:** Malignant melanoma (MM) of the urethra is a rare tumor. We evaluated the management and outcomes of female urethral MM at our institution.

**Methods:** A retrospective analysis of all women presenting with clinically localized primary MM of the urethra from 1950 to 2016.

**Results:** A total of 23 women (median age 71) were identified with MM of the urethra. The majority of masses involved the distal urethra (83%). Concurrent vaginal involvement (pT3) was common (65%). Reason for presentation included bleeding (74%), mass (17%), pain (13%), and dysuria (4%). Surgical resection was first line therapy in all patients. Fifteen (65%) patients had recurrence of disease at a median of 7 months (IQR 4, 13). Local recurrence occurred in 80% of patients (12/15). Metastatic disease was identified in 60% of patients (9/15) with lungs being the most common site (78%), followed by inguinal lymph nodes (44%) and brain (33%). Median OS is 25 months (IQR 9, 53) and CSS is 53 months (IQR 12, 72).

**Conclusion:** MM of the urethra in females commonly recurs (65%) with a large proportion progressing to metastatic disease (80%) at a median of 5 months after initial surgical resection. Patients should be closely monitored for development of systemic disease with timely initiation of adjuvant therapies.
Podium #180
INTERNAL URETHROTOMY WITH INTRALESIONAL MITOMYCIN C: AN EFFECTIVE OPTION FOR ENDOSCOPIC MANAGEMENT OF RECURRENT BULBAR URETHRAL STRICTURES
M. Ryan Farrell, MD, MPH, Cedric Lawrenz, BS, Wei Phin Tan, MD and Laurence A. Levine, MD
Rush University Medical Center
Presented By: M. Ryan Farrell, MD, MPH

Introduction: Mitomycin C (MMC) may improve the durability of direct visual internal urethrotomy (DVIU) for recurrent bladder neck contractures and bulbar urethral strictures (BUS). We describe our updated experience with DVIU and MMC specifically for recurrent BUS.

Methods: We reviewed consecutive patients presenting to our institution with recurrent BUS who underwent DVIU with MMC (2011-2016). Patients were stratified by radiation-induced strictures (RIS) versus non-RIS. Cold knife incisions were made at 12-/3-/9-o’clock positions followed by intralesional injection of 10 mL MMC (0.4mg/mL) and 1 month of daily clean intermittent catheterization (CIC).

Results: All 44 patients (RIS n=18, non-RIS n=26) failed prior endoscopic management and/or urethroplasty. Median stricture length was 2.0 cm (Interquartile range (IQR) 1.0-2.5). Over median follow up of 23.8 months (IQR 11.4-44.1), 75.0% (33/44) of patients required no additional surgical intervention (RIS 12/18, 66.7%; non-RIS 21/26, 80.8%). Median time to stricture recurrence was 10.7 months (IQR 3.9-17.6) (RIS 9.4 months, IQR 3.5-17.6; non-RIS 11.2 months, IQR 8.0-25.6). Four patients (RIS n=2, non-RIS n=2) elected to undergo urethroplasty for recurrence. The remaining recurrences (n=7) underwent a second DVIU with MMC with no further surgical intervention required in 92.5% (37/40) of patients overall (RIS 14/16, 87.5%; non-RIS 23/24, 95.8%). No long-term complications were attributable to MMC.

Conclusion: DVIU with MMC and short term CIC for recurrent, short (<3cm) BUS is a safe and effective endoscopic modality. This approach is useful for poor open surgery candidates and provides an alternative to multiple repeat procedures or urethroplasty, which remains the gold standard.

Podium #181
SURGICAL MANAGEMENT OF GENITOPERINEAL HIDRADENITIS SUPPURATIVA: A 12 YEAR EXPERIENCE
Sarah Martin, DO, Brandi Miller, DO and Richard Santucci, MD
DMC
Presented By: Sarah E. Martin, DO

Introduction: Hidradenitis Suppurativa (HS) is a recurrent inflammatory disease that causes painful lesions, sinus tracts, abscesses and skin fibrosis. We report our experience with surgical management of genitoperineal HS with complete resection and reconstruction using local skin flaps and grafts in 23 patients, the largest series of which we are aware.

Methods: We completed a retrospective chart review from June 2004 to June 2016 of patients treated with complete resection of HS in the genitoperineal region. Patient demographics, previous treatment, incidence/nature of recurrence and complications were analyzed.

Results: From 2004-2016, 23 patients underwent hidradenitis excision. 96% were male, 74% were African American. The average age was 46, with an average BMI of 31.5. The most common comorbidities included tobacco use (69%), obesity (57%), and HTN (39%). Prior to definitive excision, 16 patients (76%) had at least one incision and drainage. STSG was required in 30% of patients. The 30-day complication rate was 48% for Grade 1-2 complications, which included wound infection and dehiscence. 3
patients had a Grade 3B complication with no grade 4 or 5 complications. Recurrence of HS outside of the borders of previous excision occurred 1-42 months after surgery in 8 (35%) patients, most requiring limited re-excision.  
**Conclusion:** Conservative management of HS is ineffective in curing the root cause of the problem. Complete surgical resection followed by local flap or skin graft closure is possible, curative and successful with a low major complication rate. Urologists should endeavor to fix instead of merely manage this difficult problem.

**Podium #182**  
**OBSERVED INCREASE IN THE INCIDENCE OF TESTICULAR CANCER IN NORTHERN IOWA FROM 2010-2016**  
Ryan Steinberg, MD¹, Timothy J. Mulholland, MD², Kevin R. Rier, MD² and Christopher E. Adams, MD²  
¹University of Iowa Hospitals & Clinics; ²Mason City Clinics  
Presented By: Ryan L. Steinberg, MD

**Introduction:** The incidence of testicular cancer continues to rise, most recently estimated at 5.1/100,000 men aged 15-49. A possible increased rate of new testicular cancer diagnoses was observed in Northern Iowa. We aimed to assess if such an elevated rate exists.  
**Methods:** A retrospective analysis of patients treated by urologists in Mason City, Iowa between 2010 and 2016 was performed. All patients undergoing orchiectomy over this time span were identified and charts reviewed to confirm testicular malignancy. The population covered by Mason City Urology was estimated using graphical mapping and 2010 United States (US) Census data. The number of men aged 15-49 in Iowa was obtained from 2010 US Census data and used to estimate this population in Northern Iowa.  
**Results:** A total of 204,624 people are estimated to be covered by Mason City Urology. Approximately 22.02% of the total Iowa population is men aged 15-49, which extrapolates to 45,058 such men covered by Mason City Urology. Thus, 2.29 cases per year or 14 cases over 6 years would be expected. Thirty-four cases of pathologically confirmed testicular cancer were identified. Pathology revealed 18 classic seminomas, 2 pure embryonal tumors, 12 mixed germ cell tumors, and 2 ‘burnt out’ masses. Staging revealed 21 with pT1 disease, 11 with pT2, and no cases of pT3 or pT4 disease.  
**Conclusion:** The incidence of testicular cancer in Northern Iowa through 2010-2016 was almost 3 times the expected rate. Comparative evaluation with other regions of Iowa and for contributing risks factors is warranted.

**Podium #183**  
**MINIMALLY INVASIVE INGUINAL LYMPHADENECTOMY IN THE MANAGEMENT OF PENILE CARCINOMA**  
Christopher Russell, MD¹, Simpa S. Salami, MD¹, Adam Niemann, BS¹, Alon Z. Weizer, MD¹, Scott A. Tomlins, MD², Todd M. Morgan, MD¹ and Jeffrey S. Montgomery, MD¹  
¹University of Michigan Department of Urology; ²University of Michigan Department of Pathology  
Presented By: Christopher M. Russell, MD

**Introduction:** Endoscopic inguinal lymph node dissection (E-ILND) including video endoscopic ILND (VEIL) and robotic-assisted ILND (RAIL) represent alternatives to open ILND in the management of cN+ or high-risk cN0 penile cancer. Herein, we report the largest available series of E-ILND and RAIL procedures.  
**Methods:** We retrospectively identified men with penile cancer who underwent E-ILND. Nodal resection volume, peri-operative parameters, and post-operative complications
were assessed and analyzed.

**Results:** A total of 34 E-ILND, comprising 7 VEIL and 27 RAIL limbs, were performed. Median nodal yield was 10.0 (IQR 6.0-12.5) in all E-ILND limbs and 8.0 (IQR 13.0-23.0) in RAIL limbs. Median length of stay (LOS) was 1 (range 1-3) day following E-ILND and RAIL procedures. The saphenous vein was spared in 57% (4/7) of VEIL and 100% (27/27) of RAIL limbs. Post-operative complications occurred in 33% (6/18) of E-ILND, including 21% (3/14) of RAIL patients. Median follow-up was 5.5 (IQR 3.0-10.8) months, during which time three patients developed regional or distant metastases at a median duration of 1.7 (IQR 0.9-3.9) months.

**Conclusion:** E-ILND is feasible from a technical standpoint and our results demonstrate that lymph node counts are comparable to an open approach. Importantly, E-ILND has the potential to reduce complication rates and time to convalescence when compared to open ILND.
underwent concomitant single-stage repair for bulbar stricture. 95% patients’ repairs remained patent. 11% had complications (2 stricture recurrences, 2 urethrocutaneous fistula). 3 needed revisions, with mean time to revision at 16 (IQR 6–28) months. Age, stricture length or location, prior repairs, location of meatus were not associated with patency, complications, or need for revision. Of the 5 patients who had genital skin flaps to augment the second stage repair, 2 needed revision (p=0.005).

**Conclusion:** Staged urethroplasty has a high patency rate and remains a good modality for repair of complex anterior strictures. We favor augmenting with oral mucosal graft over the use of genital skin flap when needed.

Podium #185

**POPULATION DISCREPANCIES IN THE MANAGEMENT OF URETHRAL STRICTURES**

Eric Kirshenbaum, MD, Ryan Dornbier, MD, Robert Blackwell, MD, Marc Nelson, MD, Arpeet Shah, MD, Gopal Gupta, MD and Ahmer Farooq, MD

Loyola University

Presented By: Ryan Dornbier, MD

**Introduction:** Urethroplasty is the recommended treatment following failed endoscopic management of urethral strictures. We sought to determine whether certain patient populations underwent disproportionate number of endoscopic resections vs urethroplasty.

**Methods:** A retrospective review using the Healthcare Cost and Utilization Project State Inpatient and Ambulatory Surgery and Services Databases for California. Adult men with a diagnosis of urethral stricture who underwent urethroplasty or endoscopic dilation/urethrotomy between 2008-2011 were identified by ICD-9 or CPT codes. The most recent procedure was labeled as the index event, and the number of prior endoscopic procedures was determined. A multivariate model was fit to determine for predictors of receipt of urethroplasty as a definitive management strategy.

**Results:** 15,080 patients were identified with urethral strictures of who 14,105 underwent endoscopic management vs 975 who underwent urethroplasty. Younger and less medically comorbid patients were found to undergo urethroplasty more frequently. Those patients with medicare/medicaid were less likely to undergo urethroplasty as compared to those with private insurance. Lastly, patients who had a history of increasing endoscopic interventions were less likely to undergo urethroplasty.

**Conclusion:** Privately insured, healthier and younger patients disproportionately underwent definitive urethroplasty. Urethroplasty should be considered in all patient populations following failed endoscopic intervention and efforts made to avoid futile endoscopic management.
Podium #186
MANAGEMENT OF PROSTATIC REMNANT RELATED FLUID COLLECTIONS IN ADULT PATIENTS WITH BLADDER EXSTROPHY
Olga Alexeeva, BS¹, John Hairston, MD², Stephanie Kielb, MD², Robert Nadler, MD², Robert Brannigan, MD² and Matthias Hofer, MD, PhD²
¹Feinberg School of Medicine-Northwestern University; ²Northwestern University
Presented By: Olga Alexeeva, BS

Introduction: Adult patients with bladder extrophy reconstructed in infancy can be a challenging population due to a variety of subsequent health problems. Male patients can present with painful cystic fluid collections inferior to the bladder, believed to be accumulations of secretions from prostatic remnant tissue.

Methods: A retrospective chart review was performed of patients who presented through 1998-2016 with pelvic fluid collections. Patients had been followed for a mean of 9 years (1-23).

Results: Three patients were identified. All 3 required urinary diversions at various intervals following their extrophy repair as newborns (one had ureterosigmoidostomy as a newborn; one had bladder augmentation and Mitrofanoff appendicovesicostomy in childhood; one had 2 bladder augmentations in childhood followed by Monti procedure at age 32). All patients had erectile function. All presented with painful fluid collections located inferior to the bladder. Mean age at presentation was 32.3 years (26-38 years). In all patients, sclerosing of fluid collections was performed, which led to durable relief in one patient. Of the remaining 2 patients, one failed multiple attempts at endoscopic drainage and opted for cystoprostatectomy. The third underwent marsupialization of the cyst instead to preserve erectile function, which alleviated reaccumulation of fluid and subsequently his pain.

Conclusion: Adult patients with bladder extrophy can present with painful cystic fluid collections due to secretions of a prostatic remnant. Sclerosing of the cyst can be successful in a subset. While removal of the prostatic remnant tissue is curative, those interested in keeping erectile function may benefit from cyst marsupialization.

Podium #187
SURGICAL EXCISION FOR MANAGEMENT OF GIANT GENITAL CONDYLOMA ACUMINATA
Andrew Radtke, Dane Johnson, MD and Amy Guise, MD
Medical College of Wisconsin
Presented By: Andrew C. Radtke, MD

Introduction: Giant condyloma acuminata, or Buschke-Lowenstein tumors, are verrucous neoplasias often found in the genital, perineal, and perianal area. For larger lesions, surgical excision may be a preferred treatment compared to topical therapies, as these lesions may infiltrate deeper tissues. There is a paucity of data regarding surgical management, especially in the penile, scrotal and inguinal locations.

Methods: We performed a literature search for surgical management of giant condyloma. We also performed a retrospective chart review of cases of surgical excision at our institution over the last 5 years and collected data regarding demographics, surgical approach, outcome, pathology, and follow up.

Results: We performed surgical excision on seven patients with giant condyloma acuminata between 2012 and 2016. All patients were male. Three patients had focally invasive squamous cell carcinoma within the specimen. All margins were negative. Four patients underwent primary wound closure. Two patients required mobilization of a scrotal skin flap. One patient required a split thickness skin graft to the penile shaft. Two patients had wound breakdown that was treated conservatively.

Conclusion: Our series demonstrates that men who are burdened by a large area of genital condyloma acuminata can safely undergo surgical excision for management of
Levels and decreased periurethral vascularity that may contribute to urethral atrophy in men with low testosterone levels. Our results provide a rationale for a mechanistic relationship between low testosterone expression and lower vessel counts in periurethral tissue samples of urethral strictures.

Methods: Among 1200 men having urethroplasty at our institution, we retrospectively identified 11 patients with testosterone levels drawn within 2 years of surgery. Low testosterone was defined as <280ng/dl and detected in 5/11 (45.5%). Urethral tissue samples were analyzed using immunohistochemistry for AR, TIE-2 (a downstream target of activated AR linking it to angiogenesis), and CD31 expression.

Results: Mean testosterone was 179.4ng/dl for patients classified as having low testosterone and 375.0ng/dl for controls (p=0.003). We found a significant decrease of AR expression (1.11%HPF vs. 1.62, p=0.016), TIE-2 expression (1.84%HPF vs. 3.08, p=0.006), and vessel counts (44.47 vessels/HPF vs. 98.33, p=0.004) in men with low testosterone. Expression levels of AR and TIE-2 were directly correlated to testosterone levels (rho 0.685, p=0.029, and 0.773, p=0.005, respectively). We did not find a difference in age, radiation, or co-morbidities among patients with normal or low testosterone levels with the exception of higher body mass index in the latter.

Conclusion: Men with low testosterone levels demonstrate decreased AR and TIE-2 expression and lower vessel counts in periurethral tissue samples of urethral strictures. Our results provide a rationale for a mechanistic relationship between low testosterone levels and decreased periurethral vascularity that may contribute to urethral atrophy in patients with urethral strictures.

Introduction: To describe the practice patterns in management of female urethral cancer in a contemporary cohort.

Methods: Years 2004–2013 of the NCDB were used to identify primary urethral neoplasms among women. Overall survival (OS) was estimated using the Kaplan-Meier method and associations with survival were evaluated using Cox regression models.

Results: Through 2004 and 2013 there were 1,088 cases of primary female urethral cancer in NCDB. Median age at diagnosis was 66 years (IQR 56, 77) and the majority of women were Caucasian (66%). Adenocarcinoma (AC) was the most common histologic subtype (34%). Women with AC were younger (63 years vs 69 for TCC and other histologies).
Patients with urethral strictures.

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Introduction:

To compare expression of androgen receptor (AR) and angiopoietin 1

receptor TIE-2 and vessel density of urethral stricture tissue among eugonadal and

Methods:

samples were analyzed using immunohistochemistry for AR, TIE-2 (a downstream

STUDY IN URETHRAL STRICTURE TISSUE

VASCULARITY VIA AN ANDROGEN RECEPTOR-MEDIATED PROCESS: PILOT

LOW TESTOSTERONE LEVELS RESULT IN DECREASED PERIURETHRAL

Conclusion: Patients with AC are younger, more likely AA, and present later than those with SCC or TCC. Five year OS is poor regardless of histology, but worse among those with AC.

Figure 1: Overall Survival for Female Urethral Cancer by Histologic Subtype

PODIUM #190

PERINEAL URETHROSTOMY FOR SEVERE URETHRAL STRICTURE DISEASE: A FEASIBILITY STUDY

Raymond Yong, MS3, Peter Tsambarlis, MD1 and Laurence Levine, MD1, Gaurav Pahouja, MD2

1Rush University Medical Center, 2Loyola University Medical Center

Presented By: Gaurav Pahouja, MD

Introduction: We evaluate the quality of life (QOL) and surgical outcomes in a group of men treated with a perineal urethrostomy (PU) as the definitive management for refractory stricture disease.

Methods: 11 men underwent PU from 2007 to 2016 for severe recurrent urethral stricture disease as defined by failure of endoscopic management and/or urethroplasty. 4 were lost to follow-up. 7 were surveyed on their QOL via an invalidated, but previously published, questionnaire. The primary endpoint was patient satisfaction. Patients were asked about any sexual, urinary, and psychological issues.

Results: The mean age was 60 years at the time of surgery (range 36-82). Mean follow-up was 50.8 months (SD=42.0 months). 6/7 men (86%) were unable to void standing preoperatively. Overall long-term satisfaction was 100%. 6/7 (86%) reported “good” or “excellent” results. 2/7 men reported issues with sexual function, of which 1 reported this issue as “severe.” 2/7 men reported that the PU caused an issue with their partner, both related to episodes of incontinence. Only 1 man required a repeat procedure (dilation) on his PU.

Conclusion: PU remains an important option for men who have failed previous treatments and/or are not considered candidates for definitive urethroplasty. High satisfaction rates are possible with patient counseling and the establishment of reasonable expectations. Due to the limited number of patients for whom PU would be recommended, a multicenter trial is needed to verify the feasibility of this approach.
Poster #1
HEALTHCARE PROVIDER EXPERIENCES IN TRANSITIONING SPINA BIFIDA PATIENTS FROM PEDIATRIC TO ADULT CARE
Shree Agrawal, BS1, Kimberly Slocombe, CNP2, Tracey Wilson, MD3, Stephanie Kielb, MD4 and Hadley Wood, MD5
1Case Western Reserve University School of Medicine; 2Cleveland Clinic; 3University of Alabama at Birmingham; 4Northwestern University
Presented By: Shree Agrawal, BS

Introduction: The lack of precedent for transitioning patients with spina bifida (SB) from pediatric to adult care has posed a unique challenge. The purpose of this study is to summarize contemporary practices in adult SB management among urology providers in the US.

Methods: For a national survey of practicing urologists treating patients with SB, we identified 174 physician members of the AUA mailing list for urologic congenitalism/ SBA network.

Results: Forty percent responded to the survey, representing urologic subspecialties in pediatrics, genitourinary reconstruction, female pelvic medicine and reconstructive surgery. SB clinics included adult multidisciplinary care (14%), adults in regular clinic (34%), combined adult-pediatric multidisciplinary care (20%), and pediatric multidisciplinary care (28%). Ideal transition from pediatric to adult care was considered at 18 (24%) or 21 (22%) years old. Adult patients with SB not experiencing acute issues were surveilled annually via upper tract imaging with renal ultrasound (91%), serum creatinine to monitor renal function, and cystoscopy to monitor bladder function. 80% of practicing urologists perform urodynamic testing when there is a change in condition only. Providers for patients with SB from 2006 (AHRQ survey) and 2016 report in addition to urology, neurosurgery/neurology (59% vs. 87%), social work (68% vs. 84%), and orthopedics (59% vs. 73%) are essential in the care of adults with SB.

Conclusion: This national survey identified several areas for improvement in the care of adults with SB including national provider resources/standardized guidelines, increased collaboration, access to care, and need for an advanced training pathway.

Poster #2
IMPLICATIONS OF POSTOPERATIVE ASPIRATION FOLLOWING MAJOR UROLOGIC SURGERY
Eric Kirshenbaum, MD, Robert Blackwell, MD, Parth Patel, MD, Marc Nelson, MD, Anai Kothari, MD, Arpeet Shah, MD, Robert Flanigan, MD and Gopal Gupta, MD Loyola University
Presented By: Eric Kirshenbaum, MD

Introduction: Aspiration following major urologic surgery can have devastating consequences. We assessed the incidence of aspiration following major urologic surgery, risk factors for an aspiration event (AE), and the subsequent clinical implications.

Methods: The Healthcare Cost and Utilization Project State Inpatient Database for California through 2007-2011 was used. Patients who underwent cystectomy, prostatectomy, partial nephrectomy and nephrectomy were identified and assessed for an AE by ICD-9 codes. The primary outcome was 30 day mortality while secondary outcomes included total length of stay, acute renal failure, pneumonia, sepsis, and discharge location. A multivariate logistic regression was performed to assess which patients were at increased risk for aspiration.
Patients were at increased risk for aspiration. On multivariate analysis, patients with postoperative ileus, CHF, paraplegia, chronic renal insufficiency, higher Charlson scores and >80yo were at increased risk for aspiration (all p<0.01). The 30 day mortality rate following an AE was 20.7% compared to 0.8% in the absence of such an event (p<0.001). Those patients who had an AE were at increased risk for acute renal failure (p<0.001), pneumonia (p<0.001), sepsis (p<0.001), prolonged length of stay (p<0.001) and discharge to nursing facility (p<0.001).

**Conclusion:** Postoperative aspiration following major urologic surgery is a devastating complication and precautions must be undertaken in high risk patient populations to avoid such an event.

**Poster #3**

**PREDICTORS OF COMPLIANCE WITH STANDARD POST-OPERATIVE FOLLOW-UP PROTOCOLS AFTER ANTERIOR URETHROPLASTY: FINDINGS FROM A PROSPECTIVE OUTCOMES STUDY**

Michael Maidaa, BS, Denise Juhr, James Mason, MD, Christopher Tam and Bradley Erickson, MD
University of Iowa, Carver College of Medicine
Presented By: Michael Maidaa, BS

**Introduction:** Reported success after urethroplasty is high, but the definition of success varies widely as does the means by which researchers assess the reconstructed urethra. The purpose of this study was to identify risk factors that predict for poor compliance with routine cystoscopy.

**Methods:** All urethroplasty patients that were >14 months out from surgery that had enrolled in the prospective outcomes study at our institution were assessed. Compliance was defined as an in-person visit at which objective and/or subjective information regarding the urethroplasty status was obtained > 330 days after surgery. Stricture and surgical characteristics, and unique patient information were then compared between cohorts.

**Results:** Of the 137 men eligible for 1-year follow-up, only 68 (49%) were compliant. Insurance status and marital status were the only significant univariate predictors of compliance, though travel distances were greater and patients were younger in the non-compliant cohort. The most common reasons given for non-compliance were lack of awareness of scheduled visits (44%), feeling they didn't need to return (31%), inability to travel to appointment (19%), moving out of the area (13%) and lack of insurance (6%).

**Conclusion:** Despite enrollment into an IRB approved prospective study, only half of our patients are compliant at one year. Patient interviews suggest that most feel routine follow-up to be unnecessary. While objective information is ideal to assess surgical outcomes, this is not possible for a large percentage of patients. Findings from this study have led us to adopt a remote monitoring protocol, which is currently being validated.

**Poster #4**

**THE REPORTING QUALITY OF DIAGNOSTIC ACCURACY STUDIES IN THE UROLOGIC LITERATURE**

Daniel Smith, MD1, Shreyas Gandhi, BHSc2 and Philipp Dahm, MD1
1University of Minnesota; 2McMaster University School of Medicine
Presented By: Daniel W. Smith, MD

**Introduction:** Transparent study reporting is a critical aspect of high quality research. For studies of diagnostic accuracy, the Standards for Reporting of Diagnostic Accuracy Studies (STARD) statement that was developed initially developed in 2003
and updated in 2015, describes minimal requirement for reporting such studies. We conducted the first systematic assessment of the reporting quality for diagnostic accuracy studies for the urological literature.

**Methods:** A PubMed Clinical Category search was performed of four major urology journals (JU, Eur Urol, BJU Intern and Urology) for studies published from January through December, 2015 relating to questions of diagnostic accuracy. Two independent reviewers performed study selection and data abstraction in duplicate. We performed descriptive statistical analysis using SPSS version 23.

**Results:** The search yielded 818 studies of which 67 were reviewed in full-text with 63 studies meeting inclusion criteria. Studies performed well with regards to explaining the study background (100%), defining the study hypothesis (93.7%) and explaining on what basis patients were enrolled (93.7%). Poor performance was noted in following patient flow via a diagram (20.6%), and less than 15% of studies did not define an intended sample size.

**Conclusion:** While many STARD criteria are well reported, there remains room for improvement. To minimize the risk of bias, urologic investigators should utilize STARD in the design, implementation, and reporting of diagnostic studies.

**Poster #5**

**WHAT HAPPENS TO PATIENTS AFTER FORMALIN INSTILLATION FOR REFRACTORY HEMATURIA?**

Matthew D. Grimes, MD, Brady L. Miller, MD, MPH, Tyler Whittmann, BS, Sarah E. McAchran, MD, David F. Jarrard, MD, Wade A. Bushman, MD, PhD, Daniel H. Williams, MD, Tracy M. Downs, MD, Kyle A. Richards, MD, Sara L. Best, MD and E. Jason Abel, MD

Univ. of Wisconsin Dept. of Urology

Presented By: Matthew D. Grimes, MD

**Introduction:** Intravesical formalin is rarely employed in the management of refractory hematuria when other measures fail. We aimed to evaluate outcomes following treatment with intravesical formalin for refractory hematuria in a modern cohort of patients.

**Methods:** Comprehensive clinical information was reviewed for patients treated with intravesical formalin instillation from 2000-2015.

**Results:** Of 23 included patients, the etiology of hematuria was radiation cystitis in 17 (74%), bladder cancer in 3 (13%), post-surgical in 1 (4%), cyclophosphamide exposure in 1 (4%), and BK viruria in 1 (4%). Patients received a median of 2.5 units (IQR 2-6) PRBCs prior to formalin instillation. Sixteen (69.9%) patients underwent at least one surgical procedure prior to receiving formalin. The median hospital length of stay was 9 days (range 1-127) and 10 (43%) patients were readmitted within 30 days. Fifteen patients (65%) required a median of 1 (range 1-3) additional operation to manage hematuria. At a median follow up of 9.6 months 13 (57%) patients were voiding spontaneously, bilateral nephrostomy tubes were used in 3 (13%) patients, chronic indwelling catheter in 3 (13%) patients, ileal conduit in 3 (13%) patients, and bilateral end cutaneous ureterostomies in 1 (4%) patient. Patients receiving ≥4% formalin were no more likely to require additional procedures or urinary diversion compared to patients receiving <4% formalin (p=0.61, p=0.09).

**Conclusion:** Following intravesical formalin instillation, the majority of patients required additional surgery, blood transfusions and hospital readmission for severe hematuria. Approximately half of patients were able to void spontaneously after hematuria resolved.
Conclusion: define an intended sample size. Following patient flow via a diagram (20.6%), and less than 15% of studies did not on what basis patients were enrolled (93.7%). Poor performance was noted in the study background (100%), defining the study hypothesis (93.7%) and explaining studies meeting inclusion criteria. Studies performed well with regards to explaining Results: We performed descriptive statistical analysis using SPSS version 23. independent reviewers performed study selection and data abstraction in duplicate. through December, 2015 relating to questions of diagnostic accuracy. Two journals (JU, Eur Urol, BJU Intern and Urology) for studies published from January Methods: conducted the first systematic assessment of the reporting quality for diagnostic accuracy studies for the urological literature. and updated in 2015, describes minimal requirement for reporting such studies. We

Poster #6
A REPEATABLE MODEL FOR OBTAINING PATIENT PHYSICAL ACTIVITY MONITOR DATA
Deepak Agarwal, MD1, Boyd Viens, MD1, Marcelino Rivera, MD1, Diedre Nienow, RN1, April Bursiek, MSN2, Amanda DeLano, RN2, Igor Frank, MD1, Matthew Tollefson, MD1, and Matthew Gettman, MD1
1Department of Urology, Mayo Clinic; 2Department of Nursing, Mayo Clinic
Presented By: Deepak K. Agarwal, MD

Introduction: Given popularity of mHealth and physical activity monitors (PAM), there is a potential to collect and utilize patient data for counseling and predicting postoperative outcomes. We sought to determine a method for PAM data to be collected consistently and reliably.

Method: Patients undergoing RARP were screened. Inclusion criteria were having a phone capable of downloading the Fitbit® application and the patients returning for catheter removal for device retrieval. Patients were provided with Fitbit® Charge HR™ (Boston, MA). Generic accounts were created to maintain patient confidentiality. Existing patient accounts were used if account information was willingly provided. Patients were encouraged to wear the device in the perioperative period until catheter removal. The device was removed before surgery, but replaced on the postoperative floor.

Results: Of the 42 patients, 29 (69%) patients had retrievable data after returning the device. There was a 95% daytime and 75% nighttime compliance rate. The reasons for non-compliance included postoperative stress, forgetting to charge the device, changing synchronized devices and not allowing the phone to synchronize with the device. One device was not returned by the patient.

Conclusion: This method for PAM data collection is a simple and effective way to collect PAM data without privacy concerns. We maintained an acceptable rate for data capture despite multiple patient factors. Future studies are needed to validate this method and determine the best way to use this data in patient counseling.

Poster #7
THE FEASIBILITY OF A TWO DAY LENGTH OF STAY IN KIDNEY TRANSPLANTATION
Daniel Murtagh Jr, MD1, Eric Silverman, MS 32, Kevin Frank, MS 32, Matthew Jordan, Pharm3, Jingling Wu, Summer Intern4, Allison Zimmerman, MS 32, Michael Rees, MD, PhD5 and Jorge Ortiz, MD5
1University of Toledo Medical Center; 2The University of Toledo Health Science Campus; 3The University of Toledo Health Science Campus College of Pharmacy; 4The University of Toledo Health Science Campus - Departments of Urology and Pathology; 5The University of Toledo Health Science Campus - Department of General Surgery
Presented By: Daniel S. Murtagh Jr., MD

Introduction: Kidney transplant patients can now leave the hospital after two days with minimal short-term sequela. We use our database to evaluate factors that may help predict a successful shorter hospital stay, and decrease rates of readmission up to 30 days post-discharge. This analysis compares and contrasts patients discharged two days postoperatively to patients that underwent longer initial hospital stays.

Methods: One hundred and sixty-two renal transplant patients at a single center were retrospectively analyzed for associations between initial hospital length of stay (LOS) and rate of readmission.

Results: Weekend discharges had a shorter LOS (p=0.001), while Friday procedures had a longer LOS (p<0.001). Patients under the age of 65 tended to have a shorter LOS than older patients (p=0.023). There was no statistical difference between having
shorter or longer hospital stays on the rate of 30-day readmissions across the groups examined.

**Conclusion**: A two-day LOS post-transplantation is feasible and does not significantly impact 30-day readmissions of patients receiving kidneys from living or deceased donors.

**Poster #8**

**NEUROMODULATION FOR CHRONIC UROGENITAL PAIN: A COMPARISON OF PUEDENDAL AND SACRAL NERVE STIMULATION**

Austin Fan, BA¹, Kim Killinger, RN, MSN², Judith Boura, MS² and Kenneth Peters, MD²

¹Oakland University William Beaumont School of Medicine; ²Oakland University William Beaumont School of Medicine, Beaumont Health

**Presented By**: Austin Fan, BA

**Introduction**: Little evidence exists regarding the effect of neuromodulation on urogenital pain. We evaluated outcomes between pudendal vs. sacral nerve neuromodulation.

**Methods**: Adults in our prospective database with primary/secondary diagnosis of pelvic pain (excluding interstitial cystitis) and undergoing pudendal or sacral neuromodulation were reviewed. History, pain scores, Interstitial Cystitis Symptom/Problem Index (ICSIPI) and Overactive Bladder symptom severity (OABq ss)/health related quality of life (HRQOL) measures were analyzed with descriptive statistics and repeated measures over 1 year.

**Results**: 87 had a lead placed; 72 (83%) had generator implantation. 37/65 that had complete baseline data had a pudendal (12/37 had failed sacral stimulation) and 28 had a sacral lead. Group characteristics were similar except for pudendal had fewer with primary urinary urgency/frequency (8.1% vs. 39.3%; p=0.003). Although a higher proportion of pudendal patients had a primary diagnosis of pelvic pain, this was not statistically significantly (62.2% vs. 38.5%; p=0.06). Median pelvic pain scores were similar between pudendal/sacral groups at baseline and each follow up, and both improved significantly over 1 year (p=0.0003 and p<0.0001). The pudendal group had lower ICSIPI and OABq/ss scores at baseline (p=0.007 and p=0.035, respectively), but both groups improved over 1 year on the ICSIPI (p=0.0001 for both groups), OABq/ss (p=0.005 and p=0.0002 respectively), and OABq HRQOL (p=0.027 and p<0.0001 respectively).

**Conclusion**: Sacral or pudendal neuromodulation can be considered for managing chronic pelvic pain since both groups experienced modest but similar improvements.

**Poster #9**

**PHYSICAL ACTIVITY MONITORS CAN BE SUCCESSFULLY IMPLEMENTED IN PERIOPERATIVE CARE OF UROLOGY PATIENTS**

Deepak Agarwal, MD¹, Boyd Viers, MD¹, Marcelino Rivera, MD¹, Diedre Nienow, RN¹, April Bursiek, MSN², Amanda DeLano, RN², Igor Frank, MD¹, Matthew Tollefson, MD¹ and Matthew Gettman, MD¹

¹Department of Urology, Mayo Clinic; ²Department of Nursing, Mayo Clinic

**Presented By**: Deepak K. Agarwal, MD

**Introduction**: We performed a feasibility study and created a model using physical activity monitors (PAM) to track perioperative patient activity.

**Methods**: Patients undergoing RARP were provided with Fitbit® Charge HR™ devices after meeting inclusion criteria. Patients were instructed to wear the device during the perioperative period. We developed the Mobile Physical Activity Monitor Questionnaire to assess patient feelings about PAM preoperatively/postoperatively. Nursing opinion surveys were performed as well.
Results: Of 45 patients enrolled, survey data was available for 42. Mean time with device preoperatively was 3.4d preoperatively and 7.4d postoperatively. Mean age was 62.7y. 81% felt PAM would benefit their treatment/recovery and 60% felt it increased their activity level. 53% of patients would pay out of pocket for PAM after using it. Of 30 nursing surveys available, 93% felt it did not interfere with nursing care. PAM data is available for 29 patients. Daytime compliance is 95% and nighttime compliance is 75%. Preoperatively versus postoperatively, mean daily steps were 4023 vs 3027 (p<0.04) and time asleep was 382 vs 362 minutes.

Conclusion: Using mHealth and PAM in postoperative Urology patients is feasible and well accepted by patients, nursing and physicians. Continued work is needed to evaluate how this data can be used to study, augment and improve patient outcomes.

Poster #10

LOST REVENUE OPPORTUNITIES FOR RESIDENT ACTIVITY
Patrick Irwin, MD, Sarah Perz, MD and Khaled Shahrour, MD
University of Toledo Medical Center
Presented By: Patrick M. Irwin, MD

Introduction: Despite earning a Doctor of Medicine, residents cannot bill independently for services provided to patients. This leads to unbilled activity by residents occurring in the hospital. We sought to quantify the lost potential revenue opportunities for services provided by urology residents.

Methods: The inpatient activity of 3 residents at a single institution was monitored prospectively over a 6 month period. All independent bedside procedures, independent consultations, and first-assist operating room procedures were tracked. Information was collected daily at sign-out. Reimbursement rates for resident activities were evaluated using the model of a mid-level provider, and reimbursement rates were calculated using Medicare reimbursement by CPT code. All calculated earnings were multiplied by 0.85, in accordance with the practice of mid-level providers. An -80 modifier was applied to all qualifying first-assist operating room procedures. Data was then extrapolated to estimate 1 year revenue totals.

Results: Lost revenue opportunities in the form of unbilled activity were estimated at $25,500 for Urology 1 residents, $24,027 for Urology 3 residents, and $24,699 for Urology 4 residents. Unbilled activity primarily consisted of independent bedside procedures and consultations for younger residents and became increasingly focused on first-assist operating room procedures as residents grew in experience.

Conclusion: Urology residents provide a significant amount of services for which no billing occurs. This represents a potential additional source of revenue for the hospital, which could provide an alternative source of funding for graduate medical education.

Poster #11
WITHDRAWN
Poster #12
VARIATIONS IN SURGICAL OUTCOMES FOLLOWING RADICAL CYSTECTOMY PREDICT IMPROVED OVERALL SURVIVAL AT HIGH-VOLUME CENTERS
Kyle Scarberry, MD¹, Nicholas Berger, MD², Kelly Scarberry, BS³, Christopher Gonzalez, MD³, John Francis, MD³, and Robert Abouassaly, MD³
¹University Hospitals Cleveland Medical Center; ²Medical College of Wisconsin, Division of Surgical Oncology, Milwaukee, Wisconsin; ³University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio
Presented By: Kyle Scarberry, MD

Introduction: Surgical margin status and lymph node yield (LNY) following radical cystectomy (RC) for urothelial carcinoma of the bladder (UCB) affect survival. Variations in positive surgical margins (PSM) or LNY at different care facilities is poorly described. We sought to elucidate the relationship between hospital surgical volume and academic hospital type with surgical outcomes and overall survival (OS).

Methods: Clinical M0 UCB patients who underwent RC were identified from the National Cancer Database (2004-2013). Treatment centers were categorized as academic (ACC) and community cancer centers (CCC). Logistic regression was used to identify risks to PSM status and LNY and multivariable Cox proportional hazards model was used to determine factors associated with OS.

Results: In our cohort, 39,274 patients underwent RC. A lower proportion of PSMs was observed at ACCs relative to CCCs (10% vs.12%; p<0.001). Median LNY was greater at ACCs compared to CCCs (14 vs. 8, p<0.001). On logistic regression, there were lower odds of PSM (OR 0.79, 95% CI 0.74-0.85) and higher odds of high LNY (OR 2.59, 95% CI 2.47-2.72) among patients at ACCs compared to CCCs. Cox proportional hazards analysis demonstrated benefit to OS at high-volume centers (HR 0.91, 95% CI 0.87-0.95) but not based on ACC designation. The OS advantage at high-volume centers is attenuated by PSM status and LNY (HR 0.95, 95% CI 0.91-0.99).

Conclusion: ACCs demonstrate improved surgical outcomes following RC, and a survival advantage attributable to high surgical volume is identified. Centralization of care may lead to improved outcomes.

Poster #13
THE UTILITY OF RANDOM BLADDER AND PROSTATIC URETHRAL BIOPSIEST FOR POST-INTRAVESICAL THERAPY SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER
Charles Paul, BS, Nathan Brooks, MD, Aditi Patel, BS, Matthew Sloan, BS and Michael O’Donnell, MD
University of Iowa
Presented By: Charles J. Paul, BS

Introduction: Non-muscle invasive bladder cancer (NMIBC) recurs in up to 70% of patients. Traditional surveillance includes white light cystoscopy and urine cytology. We sought to determine efficacy of random bladder and prostatic urethral biopsies for post-intravesical therapy surveillance of NMIBC.

Methods: We reviewed 80 patients (213 total restaging procedures) under surveillance following intravesical therapy for NMIBC. Random bladder biopsies and prostatic urethral biopsies were compared to the standard of care of white light cystoscopy and cytology.

Results: Of 109 random bladder biopsies, 28 were positive. Of these, 17 had positive cytology and 4 had findings on cystoscopy. The number needed to screen (NNS) was 9.9 to detect one recurrence and 5.5 to avoid another procedure for confirmatory biopsies. We performed 132 prostatic urethral biopsies, and 17 demonstrated cancer.
In patients with biopsy-proven disease, 6 had positive cytology, and none had visual findings. The NNS to detect one prostatic recurrence was 19.6. **Conclusion:** From all random bladder biopsies, 11 (10%) were not found with cystoscopy or cytology. The NNS to detect recurrence and avoid a second procedure were both under 10. Random bladder biopsies show efficacy in surveillance by detecting occult malignancy and avoiding additional procedures. Random prostatic urethral biopsies found cancer in 13%, and 11 (8.3%) positive biopsies were not found with cystoscopy or cytology. While the NNS was 19.6, prostatic recurrences are not typically well-treated by intravesical therapy, so diagnostic information is particularly useful. Longer-term analyses are necessary to determine improvements in morbidity or mortality for this cohort.

**Poster #14**

**THE ONCOLOGIC IMPACT OF COMPLETE TRANSURETHRAL RESECTION OF BLADDER TUMOR FOR MUSCLE INVASIVE BLADDER CANCER PRIOR TO NEOADJUVANT CHEMOTHERAPY FOLLOWED BY RADICAL CYSTECTOMY**

Saad Hatahet, MD, Mohamed Hendawi, MD and Ahmad Shabsigh, MD, FACS

The Ohio State University

Presented By: Saad Hatahet

**Introduction:** Neoadjuvant chemotherapy (NC) prior to radical cystectomy (RC) for muscle invasive bladder cancer is associated with survival benefit and pathologic response. The impact of complete visual endoscopic resection prior to neoadjuvant chemotherapy is not well defined. The goal of this study is to evaluate the role of complete visual resection on transurethral resection of bladder cancer (TURBT) before NC and RC for invasive bladder cancer.

**Methods:** Medical records of patients who underwent RC after NC between (2009 - 2015) were retrospectively reviewed. Demographic, surgical, pathological and oncologic data were analyzed. Univariate and multivariate regression models were utilized to identify factors associated with pathologic downstaging after radical cystectomy.

**Results:** We identified 130 muscle invasive bladder cancer patients who underwent neoadjuvant chemotherapy followed by RC. 51 patients (39%) had complete TURBT, and 22 (17%) patients underwent redo TURBT for either staging or achieving complete resection. Complete pathologic response (pT0) after NC + RC was seen in 35(27%) patients. There was significant pathologic downstaging on univariate analysis of patients whose TURBT was reported as complete resection when compared with patients with incomplete TURBT (37.3% vs 20.3%, $\chi^2 = 4.553, P=0.03$) respectively. Multivariate analysis revealed that complete TURBT prior to NC + RC is associated with final pathologic downgrading (OR=0.934 95%. CI: 1.114-5.812, P=0.027). However, tumor sizes, histology, and clinical grade did correlate with final pathologic downgrading.

**Conclusion:** This study provides some evidence that complete TURBT may correlate with favorable pathological outcome in patients who are candidate for neoadjuvant chemotherapy followed by radical cystectomy.
**Poster #15**

**UTILITY OF UPPER TRACT WASHINGS AND RETROGRADE PYELOGRAMS FOR THE DETECTION OF UPPER TRACT RECURRENCES AFTER INTRAVESICAL THERAPY IN NON MUSCLE INVASIVE BLADDER CANCER**

Aditi Patel, BS, Nathan Brooks, MD, Matthew Sloan, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD

University of Iowa Hospitals and Clinics

Presented By: Aditi Patel

**Introduction:** Though CT urography is recommended for following patients who are high risk for upper tract urothelial cell carcinoma (UTUCC). This only identifies around 30% of patients with asymptomatic recurrence missing those without an obvious tumor.

**Methods:** We performed a retrospective analysis of 80 consecutive patients who underwent 125 paired ureteral washings (UWs) and 129 paired retrograde pyelograms (RPGs) 6 weeks after receiving an induction course of intravesical therapy. The Number Needed to Screen (NNS) for RPGs as well as UWs was compared to cystoscopy with cytology.

**Results:** Out 129 upper tract washings, 40 had lateralizing washes. 13 of these patients with upper tract recurrence would not have been identified with bladder washings. Of the 125 retrograde pyelograms performed, eight demonstrated a filling defect with a negative cytology. The NNS to detect one upper tract recurrence with RPGs and UWs was 12.

**Conclusion:** Surveillance standards would have missed 8.3% of UTUCC patients with NMIBC after intravesical therapy induction. Early detection is imperative in this high-risk population. Therefore, upper tract surveillance with RPGs and UWs is imperative in patients with a history of high risk NMBIC after receiving induction intravesical therapy.

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**Poster #16**

**IMPACT OF NEOADJUVANT CHEMOTHERAPY PRIOR TO RADICAL CYSTECTOMY FOR BLADDER CANCER: RETROSPECTIVE INSTITUTION EXPERIENCE**

Mohamed Hendawi, Kathleen Puttmann, Saad Hatahet, MD and Ahmad Shabsigh, MD, FACS

The Ohio State University

Presented By: Mohamed Hendawi

**Introduction:** Neoadjuvant chemotherapy (NAC) followed by radical cystectomy (RC) is the standard of care for locally advanced bladder cancer. We retrospectively studied the effect of the neoadjuvant chemotherapy and the impact of Gemcitabin-Cisplatin (GEM-CIS) vs. MVAC regimens within the Ohio State university (2008-2014) using a standardized reporting methodology.

**Methods:** We have identified 345 patients who underwent radical cystectomy between 2008-2014. Univariate and multivariable analysis were used to evaluate variables of interest using SPSS 22.

**Results:** Our analysis showed that 151 (43.8%) patients out of 337 (279M, 66F) patients received NAC, with 80 (23.2%) patients received (GEM-CIS) and 45 (13%) received MVAC. Patients with early terminated regimen were excluded. The neoadjuvant group had better survival rates than non-chemo group (3 years cancer specific survival 73% vs. 64%, p=0.04, 95%CI: 0.43-0.90). There was no significant survival difference between GEM-CIS vs. MVAC groups. Predictors for better survival were, younger age (p=0.02, 95%CI: 1.07-1.10), Low Charlson comorbidity index (p=0.02, 95%CI: 0.29-0.92). Patients with NAC had a higher number of lymph nodes removed (p=0.001, 95%CI: 1.39-4.33). The pT0 was 26.5% (P<0.001, 95%, 0.45-0.71) and no residual muscle-invasive disease <pT2 was 69% (P=0.12) in the NAC group, while the pT0 was 10% and <pT2 was 61% in the non-chemo. There was no significance difference in pT0 (26.3% Vs 26.7%) achievement between MVAC vs. GEM-CIS groups.

**Conclusion:** Neoadjuvant chemotherapy improved survival and down staging significantly. GEM-CIS has similar efficacy as MVAC regimen and should be considered as standard of care. Further investigation needed to evaluate both regimens effect on quality of life and postoperative complications.

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**Poster #17**

**TRENDS IN THE MANAGEMENT OF SQUAMOUS CELL CARCINOMA OF THE BLADDER IN THE UNITED STATES**

Kyle Scarberry, MD1, Robert Abouassaly, MD2, Kelly Scarberry, BS2, John Francis, MD2, Shree Agrawal, BS2 and Simon Kim, MD, MPH2

1University Hospitals Cleveland Medical Center; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio

Presented By: Kyle Scarberry, MD

**Introduction:** Squamous cell carcinoma (SCC) comprises 2-5% of bladder tumors in the U.S. Treatment recommendations include radical cystectomy (RC) with minimal evidence for use of adjuvant and neoadjuvant therapies.

**Methods:** The National Cancer Database (2004-2013) was used to identify all patients with bladder SCC. Primary outcome was treatment provided for localized disease. Chi square analysis was utilized to compare surgical outcomes from 2004-2008 to 2009-2013.

**Results:** 3376 cases of non-metastatic bladder SCC were identified. Muscle invasive disease (MIBC) was more common in SCC patients compared to urothelial carcinoma (UC) patients (75.7% vs 18.3%, p<0.001). SCC patients with MIBC underwent RC at
Poster #16
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Mohamed Hendawi, Kathleen Puttmann, Saad Hatahet, MD and Ahmad Shabsigh, MD, FACS
The Ohio State University
Presented By: Mohamed Hendawi

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Conclusion: Neoadjuvant chemotherapy improved survival and down staging significantly. GEM-CIS has similar efficacy as MVAC regimen and should be considered as standard of care. Further investigation needed to evaluate both regimens effect on quality of life and postoperative complications.

Poster #17
TRENDS IN THE MANAGEMENT OF SQUAMOUS CELL CARCINOMA OF THE BLADDER IN THE UNITED STATES
Kyle Scarberry, MD1, Robert Abouassaly, MD2, Kelly Scarberry, BS2, John Francis, MD2, Shree Agrawal, BS2 and Simon Kim, MD, MPH2
1University Hospitals Cleveland Medical Center; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio
Presented By: Kyle Scarberry, MD

Introduction: Squamous cell carcinoma (SCC) comprises 2-5% of bladder tumors in the U.S. Treatment recommendations include radical cystectomy (RC) with minimal evidence for use of adjuvant and neoadjuvant therapies.

Methods: The National Cancer Database (2004-2013) was used to identify all patients with bladder SCC. Primary outcome was treatment provided for localized disease. Chi square analysis was utilized to compare surgical outcomes from 2004-2008 to 2009-2013.

Results: 3376 cases of non-metastatic bladder SCC were identified. Muscle invasive disease (MIBC) was more common in SCC patients compared to urothelial carcinoma (UC) patients (75.7% vs 18.3%, p<0.001). SCC patients with MIBC underwent RC at
equivalent rates to UC patients (37.5 vs 35.8%, p=0.11), with neoadjuvant chemotherapy utilized more often in the UC group (4.2 vs 9.5%, p<0.001). Primary chemoradiation was administered in 11.0% of SCC patients and 11.1% of UC patients (p=0.86). Cystectomy was performed more commonly for MIBC patients with SCC between years 2009-13 (42.4%) than years 2004-08 (32.1%, p<0.001) while chemoradiation was performed at equivalent rates (11% vs 11%, p=0.97). SCC patients were more likely to have upstaging to T3-T4 disease (70.5 vs 58.1%, p<0.001) and N1-3 disease (22.6 vs 18.9%, p=0.001) in 2009-13 compared to 2004-08 following RC. Delay from diagnosis to RC of >90 days was seen in 17% of patients from 2004-08 compared to 22.5% in 2009-13 (p=0.06).

**Conclusion:** Radical surgery for SCC is more likely to result in disease upstaging in a more contemporary series. Care should be taken to expedite definitive surgical care in these patients.

**Poster #18**

**RE-EXAMINING THE ROLE OF UROVYSION FLUORESCENCE IN-SITU HYBRIDIZATION (FISH) FOR SURVEILLANCE IN NON-MUSCLE INVASIVE BLADDER CANCER**

Nathan Brooks, MD, Matthew Sloan, BS, Aditi Patel, BS, Charlie Paul, BS, Whitney Bash, BS and Michael O'Donnell, MD

University of Iowa Hospitals and Clinics

Presented By: Nathan A. Brooks, MD

**Introduction:** Seventy percent of patients with non-muscle invasive bladder cancer (NMIBC) will have recurrence. UroVysion is a fluorescence in situ hybridization (FISH) assay which is currently FDA approved for surveillance for NMIBC. We determined the negative predictive value of a cytogenetically normal, barbotaged FISH in patients as part of a continued surveillance during and after intravesical therapy.

**Methods:** A retrospective review patients with a history of NMIBC undergoing surveillance with cystoscopy with barbotaged cytology and FISH was performed. We specifically sought to determine if patients with any recurrence of tumor or a high grade recurrence of tumor would ever have a cytogenetically normal fish over the course of follow-up.

**Results:** 162 patients underwent a total of 486 FISH analysis over a median follow-up of 37 months (IQR 61). 83 (51%) of patients experienced a recurrence. The NPV for a cytogenetically normal barbotaged FISH was 0.92 for all recurrences and 0.96 for high grade recurrences, respectively. The specificity of a completely abnormal FISH was 0.98 (95% CI 0.96-0.99) (figure).

**Conclusion:** For patients with NMIBC, very few high grade recurrences will be associated with a cytogenetically normal FISH. Screening intervals could possibly be lengthened. Further validation is warranted especially as health care shifts from a production to a value based model.
Poster #19
RESECTION OF MAJOR ARTERIAL AND VENOUS STRUCTURES DURING SURGERY FOR PELVIC MALIGNANCY
Jason Joseph, MD1, Thomas Bower, MD2 and R. Jeffrey Karnes, MD1
1Department of Urology, Mayo Clinic; 2Department of Vascular Surgery, Mayo Clinic
Presented By: Jason P. Joseph, MD

Introduction: In pelvic malignancy, an R0 resection optimizes oncologic outcomes, and debulking may optimize palliation. In locally advanced tumors, this may require resection of major vascular structures. We herein report the largest series to date of patients undergoing en bloc resection of major pelvic vasculature during pelvic oncologic surgery in order to better understand 1) rate of R0 resection, 2) 30- and 90-day mortality, and 3) oncologic outcomes.

Methods: Following Institutional Review Board approval, records of patients who underwent an operation for pelvic tumors between 1/1/1992 – 11/10/2016 were reviewed. Ten patients who underwent resection of a major vascular structure in the pelvis (common and/or external iliac artery or vein) were identified.

Results: Of 10 patients, six underwent arterial resection and eight underwent venous resection. Of six undergoing arterial resection, five underwent prosthetic arterial reconstruction, and one underwent reconstruction with cryopreserved iliac artery interposition; 90-day patency was 100%. Of eight undergoing venous resection, two underwent venous reconstruction; 90-day patency was 100%. R0 resection rate was 60% (n=6). Thirty-day operation and readmission rates were 0% and 10%, respectively. Thirty and 90-day mortality were 0% and 11% reconstruction respectively. In those whom R0 resection was achieved (n=6), 6-month local recurrence rate was 33%.

Conclusion: En bloc resection of major vascular structures may be necessary to achieve R0 resection and/or maximize debulking in patients with advanced tumors. This may afford improved locoregional control with minimal mortality. Surgical morbidity combined with advanced disease at the time of intervention must be considered when identifying candidates.

Poster #20
TREATMENT TRENDS AND OVERALL SURVIVAL IN MEN DIAGNOSED WITH PROSTATE CANCER PRIOR TO THEIR RECOMMENDED SCREENING AGE
John Francis, MD1, Wenshao Zhu2, Simon Kim, MD, MPH1, Hui Zhu, MD3 and Robert Abouassaly, MD, MS1,3
1University Hospitals Cleveland Medical Center; 2Case Western Reserve University; 3Louis Stokes Cleveland VA Medical Center
Presented By: John Francis

Introduction: Recent treatment trends and their associated survival benefit remain poorly described for men diagnosed with prostate cancer prior to their recommended screening age. We seek to analyze factors influencing treatment decision and overall survival for men in this cohort.

Methods: Patients under age 50 diagnosed with prostate adenocarcinoma were identified from the National Cancer Database through 2004-2013. For men electing treatment, factors associated with receiving radiation or surgery was identified using multi-variable logistical regression. A Kaplan-Meier survival curve was conducted to assess overall survival between the radiation and surgery cohorts. Adjusted survival analysis was performed using the Cox proportional hazards model.

Results: We identified 46,195 patients for inclusion of which 67% (n=30,933) elected for surgery while 16% (n=7,293) elected for radiation. Radiation was more likely for patients with PSA >10 (OR 2.61: p <0.01) and cT3b staging (OR 3.2: p= <0.01). Overall survival was greater for the cohort selecting surgery compared to the radiation
cohort (97.8% v. 91.4%, p= <0.01) with a median survival of 46.6 and 34.9 months for surgery and radiation, respectively. On adjusted survival analysis, surgery was associated with improved survival compared to radiation (OR 0.45: p= <0.01) while cT3b staging was associated with reduced survival (OR 2.67: p= <0.01).

**Conclusion:** We observed that overall survival was improved for prostate cancer patients diagnosed before their recommended screening age who elected for surgical management with clinical stage influencing survival. Further study is needed to assess ways to optimize care in this patient population with prolonged life expectancy.

**Poster #21**
**CLINICAL CHARACTERISTICS ASSOCIATED WITH PATIENT SELECTION OF ACTIVE SURVEILLANCE IN THE TREATMENT OF LOCALIZED PROSTATE CANCER**
Anna Zampini, MD, MBA1, Shree Agrawal, BS2, Joseph Zaball, MD1, Sudhir Isharwal, MD1, Bradley Gill, MD, MS1, Yaw Nyame, MD, MBA1, Michael Kattan, PhD1, Eric A. Klein, MD1 and Andrew Stephenson, MD1
1Cleveland Clinic Foundation; 2Case University School of Medicine
Presented By: Anna Zampini, MD, MS

**Introduction:** In-depth understanding of factors that drive treatment selection in patients with localized prostate cancer may improve patient counseling. We analyzed the baseline patient factors associated with treatment selection of active surveillance (AS) versus definitive surgical treatment (radical prostatectomy (RP) or brachytherapy (BT)).

**Methods:** A cohort of 572 patients with localized prostate cancer prospectively completed a validated Prostate Health-Related Quality of Life Questionnaire at the time of treatment selection. This questionnaire assessed medical comorbidities and the quality of life (QoL) domains of urinary and sexual function. RP, BT, and AS were offered based upon institution treatment standards. Patients receiving external beam radiotherapy were not included.

**Results:** Median age was 62.4 years, 91% self-identified as Caucasian, and prostate cancer stages were T1c (82%) and T2a (14%). The cohort included low (51%), intermediate (41%), and high (7%) NCCN risk groups. AS was selected by 19%, BT by 18%, and RP by 63% of patients. Disease specific factors and QoL domains were included in univariable analyses but were not significant for selection of surgical treatment. Multivariable logistic regression revealed significant associations for increased age (OR:0.9), diagnoses of COPD or asthma (OR:0.4), non-prostate malignancy (OR:0.34), diabetes (OR:0.31), renal disease (OR:0.15), and gastrointestinal disease (OR:0.35).

**Conclusion:** Age and medical comorbidities were significantly associated with patients’ selection of AS. Prostate cancer risk stratification, clinical stage, baseline urinary and sexual function were not significant predictors of treatment choice. This data suggests that comorbidities may most strongly influence treatment selection for men with localized prostate cancer.
Poster #22
CURRENT TRENDS IN PROSTATE CANCER PATHOLOGY IN A SURGICAL SERIES OF A LARGE UROLOGY GROUP PRACTICE
Alice Y. Wang, BS, Jason Huang, BS, Harpreet Wadhwa, MD, Tony Nimeh, MD, Justin J. Cohen, MD, Dimitri Papagiannopoulos, MD, Kalyan Latchamsetty, MD and Paul Yonover, MD FACS
1University of Illinois at Chicago; 2University of Illinois at Chicago, Department of Urology; 3UroPartners, LLC; 4Rush University, Department of Urology; 5UroPartners, LLC, University of Illinois Department of Urology, Rush University Medical Center Department of Urology
Presented By: Alice Yinghui Wang, BS

Introduction: Stage and grade migration of prostate cancer continues to occur as the role of PSA screening evolves, as reflected in the disease burden seen at time of prostatectomy. Using the surgical pathology database of a large urology group practice, we assessed emerging patterns of prostate cancer.

Methods: We report the results of 1293 consecutive radical prostatectomies performed by our surgeons from 2012-2015 at various community hospitals and academic medical centers in the Chicagoland area.

Results: A review of our database revealed the following breakdown: 977 (75.6%) pT2; 227 (17.6%) pT3a; 86 (6.8%) pT3b; 1 patient with pT4; 358 (27.7%) Gleason 3+3=6 (ISUP1); 524 (40.5%) Gleason 3+4=7 (ISUP2); 183 (14.2%) Gleason 4+3=7 (ISUP3); 74 (5.7%) Gleason 4+4=8 (ISUP4); 154 (11.9%) Gleason 9 &10 (ISUP5).

Conclusion: These results reflect the current stage and grade distribution of radical prostatectomies performed by a large community urology practice. It also reveals the impact of the recently introduced ISUP Grade Group system on prostate cancer distribution within Gleason 7 disease.

Poster #23
ROBOTIC PARTIAL NEPHRECTOMY FOR RENAL CONGENITAL ANOMALIES IN ADULTS: TIPS, TRICKS, AND OUTCOMES
Michael Sourial, MD, Nathaly Francois, MD, Christopher Miller, Debra Zynger, MD and Geoffrey Box, MD The Ohio State University Wexner Medical Center
Presented By: Michael Sourial, MD

Introduction: Although they usually present in childhood, renal congenital anomalies may present in adulthood. The literature is sparse on outcomes of adult patients treated with robotic partial nephrectomy for benign congenital renal anomalies.

Methods: Retrospective chart review of patients who underwent robotic partial nephrectomy for symptomatic benign renal congenital anomalies between 2010 and
2016. Demographic, perioperative outcomes, and resolution of presenting symptom was abstracted from patient charts. **Results:** Six patients underwent a robotic partial nephrectomy for various benign renal congenital anomalies: atrophic upper pole/stone (2), ectopic ureter (2), calyceal diverticulum (2). Median (IQR) age was 35 years (33 – 37). Median (IQR) operating time and blood loss was 265 minutes (250 – 280), and 125 mL (100 – 187), respectively. Median (IQR) length of stay was 36 hours (35 – 38). The presenting symptom [pain (4), infection (1), and incontinence (1)] resolved in all patients after the procedure, with full preservation of renal function. One patient had a postoperative meatal stenosis that required a meatotomy. **Conclusion:** Robotic partial nephrectomy for symptomatic renal congenital anomalies is a safe and effective procedure at relieving the presenting symptom.

**Poster #24**
**HISTORY OF PELVIC RADIATION IS ASSOCIATED WITH WORSE OUTCOMES FOLLOWING SURGERY FOR TRANSFUSION-DEPENDENT GROSS HEMATURIA**
Brady L. Miller, MD, MPH, Matthew Grimes, MD, Tyler Wittmann, BS, Sarah McAchran, MD, David Jarrard, MD, Wade Bushman, MD, Daniel Williams, MD, Tracy Downs, MD, Sara Best, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Brady L. Miller, MD

**Introduction:** Gross hematuria requiring blood transfusion is uncommon and often prompts surgical intervention. Prior pelvic radiation is a risk factor for gross hematuria, but has an undefined impact on surgical outcomes. **Methods:** Comprehensive clinical information and outcomes were collected and analyzed for patients with gross hematuria requiring blood transfusion and surgical management from 2000-2015. **Results:** Transfusion-dependent hematuria requiring surgical intervention was identified in 70 patients, including 30 (42.9%) who had received prior pelvic radiation. Most common etiology of hematuria was radiation cystitis (n=20, 28.6%), followed by post-operative bleeding (n=12, 17.1%), traumatic catheterization (n=10, 14.3%), benign prostatic bleeding (n=6, 8.6%), bladder cancer (n=5, 7.14%), prostate cancer (n=5, 7.14%), and hemorrhagic cystitis (n=4, 5.7%). Radiated patients were 9.3 years older than their non-radiated counterparts (p=0.01). Otherwise, baseline characteristics between those with and without a history of pelvic radiation were similar. Length of stay, 90-day readmission rate, or indwelling catheterization at discharge was also similar (Table). At median follow up of 10.9 (IQR 3.7-26.5) months, previously radiated patients were more likely to require long term urinary diversion, 9 (31.0%) versus 3 (8.3%) patients (p=0.02). **Conclusion:** Peri-operative outcomes were similar between radiated and non-radiated patients requiring surgical intervention for gross hematuria. However, nearly one-third of previously radiated patients eventually required urinary diversion.
Poster #25
ROLE OF LYMPH NODE DISSECTION IN SURVIVAL OUTCOMES FOR RENAL CELL CARCINOMA: ANALYSIS OF THE NATIONAL CANCER DATABASE
Victor Chen, BS1, Robert Abouassaly, MD2, Sarah Psutka, MD3, Stephen Williams, MD4, Sandip Prasad, MD5, Kyle Scarberry, MD2, Shree Agrawal, BS1 and Simon Kim, MD, MPH2

1Case Western Reserve University School of Medicine; 2Urology Institute, Case Western Reserve University School of Medicine, Case Comprehensive Cancer Center, University Hospitals Cleveland Medical Center; 3Division of Urologic Surgery, John H. Stroger Jr. Hospital of Cook County; 4Department of Urology, University of Texas Medical Branch; 5Department of Urology, Medical University of South Carolina Health
Presented By: Victor Chen

Introduction: The survival benefit for regional lymph node dissection (LND) for patients with locally advanced or metastatic renal cell carcinoma (RCC) has been mixed. We sought to assess the comparative effectiveness of radical nephrectomy (RN) and regional LND among patients with RCC from a large population-based cohort.

Methods: Using the National Cancer Database, we identified 25,789 patients with varying clinical severity of RCC who underwent RN from 2004 to 2013. Patients were clinically stratified into RCC with large renal masses (T2-T4N0M0), regional lymphadenopathy only (TxN1M0) and metastatic RCC (TxNxM1). The primary outcome was all-cause mortality (ACM). Cox proportional hazards ratios were used to assess for differences in ACM.

Results: Overall, there were 72.3% patients with large renal masses, 5.9% with regional lymphadenopathy only, and 21.8% with metastatic disease. Only 30.7% of patients received regional LND at the time of RN with this being highest among patients with regional lymphadenopathy only (80.3%; p<0.001). On multivariable analysis, regional LND was associated with increased ACM (HR 1.26; p<0.001) for all patients. On subgroup analysis, patients with regional lymphadenopathy had no difference in ACM if they underwent regional LND compared to RN alone (HR 1.08; p=0.41). Interestingly, patients had worse ACM for regional LND compared to RN alone for large renal masses (HR: 1.31; p<0.001) and distant metastasis (HR 1.19;
p<0.001).

**Conclusion:** Regional LND is not associated with an improvement in ACM among patients undergoing RN with varying degree of disease severity.

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**Poster #26**

**MANAGEMENT OF CONTRALATERAL RECURRENCE AFTER RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA**

Amir Toussi, MD, Vidit Sharma, MD, Tanner Miest, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD Mayo Clinic

Presented By: Amir Toussi, MD

**Introduction:** Contralateral recurrence after radical nephroureterectomy (RNU) for upper tract urothelial carcinoma (UTUC) is rare and difficult to manage. We report our experience on management and outcomes of contralateral recurrence in patients after RNU for UTUC.

**Methods:** Between 1995 and 2009 we retrospectively reviewed 480 patients who underwent RNU at Mayo Clinic. We identified 21 (4.3%) patients who developed UC recurrence in the contralateral system following initial RNU. Charts were retrospectively reviewed and statistics were analyzed.

**Results:** Median time to contralateral recurrence from the initial RNU was 12 months. The median number of endoscopic procedures to manage contralateral recurrence was 3 (IQR 2, 4.5). 11 (52%) patients also had intrapelvic instillation either via a nephrostomy tube or reflux through a stent. 6 (29%) patients eventually underwent definitive treatment with a second RNU. Of these, 5 had attempts at endoscopic control before second RNU. The 3-year metastasis free survival was 68% and there was no statistically significant difference in progression to metastatic disease between patients undergoing RNU and those managed with only endoscopic approach (p=0.31). Progression to metastasis was seen more frequently in patients with a history of bladder cancer (p=0.01).

**Conclusion:** Approximately, 5% of patients with UTUC following RNU develop contralateral recurrence. Patients with a history of bladder cancer who develop contralateral recurrence are more likely to develop metastatic disease. Therefore, more studies are needed to elucidate the role of early definitive treatment in this unique patient population.

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**Poster #27**

**OUTCOMES ON ILEAL MUCOSAL CUFF MANAGEMENT DURING RADICAL NEPHROURETERECTOMY**

Amir Toussi, MD, Vidit Sharma, MD, Tanner Miest, MD, Bradley Leibovich, MD, George Chow, MD and Matthew Tollefson, MD Mayo Clinic

Presented By: Amir Toussi, MD

**Introduction:** Patients who undergo radical cystectomy for urothelial cancer are at risk for upper tract urothelial carcinoma (UTUC). However, the effect of ileal mucosal cuff excision in patients undergoing RNU and radical cystectomy (RC) is understudied and we present the first report on outcomes of ileal mucosal cuff management.

**Methods:** Between 1995 and 2009 we retrospectively reviewed 483 patients at Mayo Clinic who underwent RNU for primary UTUC. We identified 41 patients who underwent RNU after having a previous radical cystectomy. Patients with mucosal cuff excision identified pathologically were analyzed and compared to those without a mucosal cuff.

**Results:** A total of 18 (43.9%) patients underwent ileal cuff excision. Between the two groups there was no significant difference in intra-operative, 5 (27.8%) cuff vs. 6 (26.0%) no cuff, or post-operative complications, 4 (23.5%) vs. 8 (44.4%) no cuff (p=0.90 and p=0.19; respectively). At a median follow up of 47 months, there was no
significant difference in 4-year recurrence free survival between the mucosal cuff excision and no mucosal cuff groups (20.4% vs. 30.4%; p=0.61). Moreover, the rate of recurrence in the ileal conduit was comparable between the two groups, 1 (5.5%) cuff vs 3 (13%) no cuff (p=0.41).

**Conclusion:** We found no significant difference in oncologic outcomes or complication rates between patients with ileal mucosal cuff excision and those without a mucosal cuff at the time of RNU. In well-selected patients, oncologic outcomes may not be compromised by lack of ileal cuff excision.

**Poster #28**

**FUNCTIONAL COMPENSATION AFTER RADICAL NEPHRENECTOMY**

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CCF

Presented By: Diego Aguilar Palacios

**Introduction:** Loss of renal function remains a major limitation of radical nephrectomy (RN). In most patients the preserved kidney is able to compensate; however, the timeline of recovery and factors predictive of degree of recovery have not been well-defined after RN.

**Methods:** A retrospective review was performed of all RN performed at our center from 2006-2013. All RN patients with preoperative nuclear renal scan, non-metastatic RCC, and preoperative glomerular filtration rate (GFR)>15ml/min/1.73m2 were analyzed. GFR values were estimated by CKD-EPI. Renal compensation was defined: percent change in GFR of preserved kidney (postoperative GFR/preoperative GFR of contralateral kidney). Multiple regression was used to identify predictive factors of renal compensation.

**Results:** Median age was 67 and 66% of patients were male. Comorbidities before RN included hypertension in 72%, 30% cardiovascular disease, 24% diabetes, 57% were active/former smokers, and 35% had CKD. Median BMI was 30. T3a tumors were found in 46% of cases. Renal compensation was observed at 2 weeks (median 110%) and increased during the first 3 months (median 125%) after RN. Functional stability was then observed to 5 years. Age [-0.82, p=0.02], DM [-20.44, p=0.007], global preoperative GFR [-1.06, p< 0.001] and GFR of removed kidney [1.68, p<0.001] were independent predictors of percent renal compensation.

**Conclusion:** Our data suggest that percent functional compensation after RN is reduced in elderly and diabetics, and increased in patients with greater loss of nephron mass and in those with lower preoperative global GFR. Compensatory changes appear to progress over the first few months after RN followed by functional stability.

**Poster #29**

**SHOULD WE OBSERVE, ABLATE OR EXCISE SMALL RENAL ONCOCYTIC NEOPLASMS?**

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Presented By: Brady L. Miller, MD

**Introduction:** Renal oncocytoma may be diagnosed with percutaneous biopsy but concerns about missed diagnosis of chromophobe RCC (chRCC) complicate clinical decision-making. Prior studies have not compared outcomes among active surveillance, thermal ablation and surgery for oncocytic neoplasms.
Methods: 171 patients were identified with oncocytoma or chRCC from biopsy or surgical pathology from 2003-2016. Repeat pathological review was obtained. Cancer-specific outcomes are described following active surveillance, thermal ablation, partial nephrectomy or radical nephrectomy.

Results: Oncocytoma was diagnosed in 125 patients, 88 (71.0%) with tumors <4 cm at presentation, while 46 were diagnosed with chRCC, 20 (40.5%) with tumors <4 cm. Among those with chRCC per surgical pathology, 31.2% were characterized as oncocytoma on pre-operative biopsy. No patients with discordant pre-operative biopsy had recurrence. Active surveillance was more likely with oncocytoma vs. chRCC (64.8% vs 19.6%, p <0.001). No patients developed metastatic disease during the study period (average follow up 50.3 months). Ablation rate was similar for oncocytoma and chRCC (8.0%, 8.7%, p=0.76). No patients developed metastatic RCC following thermal ablation (average follow up 61.2 months). Following surgery (n=80), 3/46 patients with chRCC (6.5%) developed metastatic disease, 2 (4.3%) died from RCC. All 3 patients were symptomatic at presentation and tumor diameter was >4cm (5, 10, and 13cm).

Conclusion: Biopsy may fail to identify chromophobe RCC for 1 in 3 patients. However, for patients with tumor <4cm, there was no local or metastatic recurrence in patients treated with active surveillance, thermal ablation, or surgery.

Poster #30
COMPARISON OF ONCOLOGIC OUTCOMES AFTER OPEN VERSUS ROBOTIC-ASSISTED RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA
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Presented By: Tariq A. Khemees, MD

Introduction: Prior studies have shown oncological equivalence between open radical nephroureterectomy (ONU) and laparoscopic NU (LNU) for upper tract urothelial carcinoma (UTUC), but data comparing the oncological efficacy of ONU vs. robotic-assisted NU (RNU) have not yet been reported.

Methods: Data from 86 consecutive patients with UTUC who underwent ONU (n=22) or RNU (n=64 between 2007 and 2013 were retrospectively analyzed. Clinicopathological features were compared using chi-squared, Fisher’s exact and Mann-Whitney U tests. The Kaplan–Meier and multivariable Cox regression analyses were used to evaluate the association between surgical approach and overall-survival (OS), cancer-specific survival (CSS), intravesical recurrence-free survival (IVRFS), and extraprostatic RFS (EURFS).

Results: The median (IQR) follow-up duration was 19.6 (6.0-38.4) months. The ONU and RNU groups were well matched and there were no significant differences in IVR (p=0.41), EUR (p=0.83), time to IVR or EUR (p=0.67 and 0.41), or death from disease (p=0.24). In the RNU group, mean age was greater (72.1 vs 65.8 yrs; p=0.04), fewer patients had prior bladder cancer (17% vs. 50%; p=0.002), and there was shorter median follow-up (17 vs. 40 mo; p=0.003). Estimated 2- and 5-year OS, CSS, IVRFS, and EURFS were not statistically different between the two groups. On multivariable analyses, surgical approach (ONU vs RNU) was not significantly associated with OS (HR 1.3; 95% CI 0.5-3.1; p=0.55), CSS (HR 1.2; 95% CI 0.3-5.5; p=0.81), IVRFS (HR 0.8; 95% CI 0.4-1.9; p=0.66), or EURFS (HR 0.7; 95% CI 0.3-1.6; p=0.44).

Conclusion: Survival and recurrence rates are comparable after ONU and RNU.
Introduction: Segmental ureterectomy has been reported to have equivalent oncologic outcomes to nephroureterectomy for upper tract urothelial carcinoma (UTUC). We present our experience with robot-assisted distal ureterectomy (RADU) for management of UTUC of the distal ureter and compare it to open distal ureterectomy (ODU).

Methods: A retrospective chart review of patients who underwent RADU or ODU between 2008 and 2012 was performed obtaining patient demographics, intra/postoperative data, pathology, and oncologic follow-up. Statistical analysis was performed using Wilcoxon rank sum, Fisher's exact, and chi-square tests.

Results: 15 patients were identified who underwent RADU and 23 who underwent ODU. Mean length of follow up was 20 and 22 months for RADU and ODU, respectively. No difference in median operative time (252 vs. 220 minutes, p = 0.08) was observed. RADU was associated with shorter median hospital stay (2 vs. 5 days, p = <0.001) and lower estimated blood loss (100 vs. 200 mL, p = 0.009). One patient in the RADU group was converted to open. 1 RADU and 2 ODU patients developed ureterovesical anastomotic stricture (5 months vs. 3 and 17 months; p = 1.00). There were 3 recurrences in the RADU group and 12 in the ODU group (p = 0.09). None of the RADU recurrences were in the ipsilateral kidney or peritoneum.

Conclusion: RADU is a viable alternative in the management of distal ureteral malignancies with possible benefit of shorter hospital stay and decreased blood loss. We identified no increased risk of recurrence within or outside the urinary tract.

Poster #32
THE EFFECT OF PARTIAL NEPHRECTOMY ON BLOOD PRESSURE IN PATIENTS WITH SOLITARY KIDNEYS
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Presented By: Nikhil Gupta, BS

Introduction: The effect of partial nephrectomy (PN) on blood pressure (BP) short and long term post-operatively is not well characterized. This study investigates changes in systolic and diastolic BP (SBP and DBP) and antihypertensive medications post-operatively in patients with solitary kidney undergoing PN.

Methods: We reviewed all patients with solitary kidney undergoing PN at our institution between 1999 and 2015. All BP measurements and medications recorded at our institution for patients up to five years post-operatively were collected. SBP, DBP, and antihypertensive medications were analyzed using a mixed effects model with random intercept. Patient and operative parameters were also incorporated.

Results: 397 patients with solitary kidneys underwent PN in this timeframe. In the 292 patients who met criteria, SBP decreased by 1.8 mmHg (p = 0.01) on the day of the procedure, and then clinically insignificant decrease continued over time post-operatively (-0.2 mmHg at 5 years, p = 0.01). DBP decreased by 2.3 mmHg (p < 0.001) on the day of the procedure, but increased slightly during longitudinal follow-up
(1.8 mmHg at 5 years, p = 0.002). The use of Satinsky compared to Bulldog clamp was correlated with higher DBP post-operatively (3.0 mmHg, p = 0.0223). The number of antihypertensive medications increased significantly compared to pre-operative values at 5 years (0.4 medications, p < 0.001).

**Conclusion:** Our results suggest minimal change in BP post-PN, suggesting that damage to renal parenchyma or hilar nerves related to vascular occlusion and surgical dissection does not significantly impact BP on a long-term basis.

**Poster #33**

**OUTCOMES ARE SIMILAR FOLLOWING SURGERY OR PERCUTANEOUS THERMAL ABLATION FOR SMALL SPORADIC RENAL CELL CARCINOMA**

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Presented By: Matthew D. Grimes, MD

**Introduction:** Ablative techniques offer a less invasive alternative to surgery for patients with RCC ≤ 4cm. We aimed to compare oncologic, perioperative, and renal functional outcomes after treatment with radical nephrectomy (RN), partial nephrectomy (PN) percutaneous cryoablation (CA), or microwave ablation (MWA) for RCC ≤ 4cm.

**Methods:** Records were reviewed for all patients undergoing percutaneous thermal ablation or surgery for pathologically confirmed RCC ≤ 4cm from 2001-2015.

**Results:** Of 498 patients, 185 underwent PN, 160 RN, 84 MWA, and 69 CA. Local recurrence occurred in 7 patients after CA, which was significantly higher compared to other groups, p<.0001. Rates of metastatic recurrence (MR) were similar between groups and associated with increasing tumor size HR 2.52 (95%CI 1.20-5.32). Cancer specific mortality (CSM) was 1% at a median of 62.5 months follow up, while non-RCC mortality was 13.4%. Groups were similar with regard to overall survival (OS), p=0.28. Perioperative and renal functional outcomes are summarized in Table 1.

**Conclusion:** Cancer specific mortality is rare in patients with small RCC treated with surgery or thermal ablation. There are minimal differences in outcomes or major procedural morbidity following active treatment procedures.
Poster #34

BENIGN MÜLLERIAN INCLUSIONS IN LYMPHADENECTOMIES FOR RENAL CELL CARCINOMA: A RADIOLOGIC AND PATHOLOGIC MIMIC OF METASTASES

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Presented By: Christopher Patrick Dall, BS

Introduction: Benign Müllerian inclusions (BMI), the presence of ectopic fallopian tube epithelium, have been reported in numerous locations, including lymph nodes. These inclusions are a well-described pathologic mimic of metastases, but there is little in the literature regarding an association between BMI in lymph nodes and imaging findings.

Methods: We report two cases of prospectively diagnosed BMI within lymph nodes in women who underwent lymphadenectomy and partial nephrectomy for renal masses. Histologic and immunohistochemical evaluation was performed to confirm the diagnosis of BMI and imaging findings were reviewed. Additionally, a 7-year analysis to calculate the frequency of BMI in regional lymph nodes from renal resections diagnosed by a single genitourinary pathologist (D.L.Z.) was performed.

Results: In both of the patients with BMI, partial nephrectomies demonstrated renal cell carcinoma, clear cell type, pT1N0. In one of the cases, enlarged interaortocaval lymph nodes were observed on CT scan, prompting a lymphadenectomy due to concern for metastatic carcinoma (Fig. 1a). Müllerian origin of the ectopic tissue was confirmed via histologic and immunohistochemical analysis (Fig. 1b-d). Based on a 7-year study period, a 3.3% incidence of Müllerian inclusions in regional lymph nodes of women obtained during partial or complete nephrectomies was calculated.

Conclusion: Müllerian inclusions are a well-described histologic mimic of carcinoma. We demonstrate for the first time that Müllerian inclusions can confound the evaluation of a renal mass by mimicking metastatic disease radiographically. These inclusions must be distinguished from metastatic disease by microscopic examination with confirmation using immunohistochemistry as needed.

Poster #35

THE EFFECTS OF ANTI-EPILEPTIC MEDICATIONS ON MALE HORMONAL AND SEMEN ANALYSIS PARAMETERS

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Presented By: Michael Fenstermaker, MD

Introduction: In vitro studies have suggested a potential link between anti-epileptic medications and deleterious effects on the neurohormonal axis and sperm function. Yet, clinical studies are lacking. Determining the association between these medications and adverse laboratory findings may guide future research and help clinicians identify reversible causes of male-factor infertility.

Methods: We performed a retrospective chart review of all men 18 years or older presenting to our institution since 2012. Men were included if they underwent semen analysis or hormonal testing and listed a psychoactive medication on their intake forms. Medications of interest included Depakote, gabapentin, and other anti-epileptics. Semen analysis and serum testosterone, FSH, LH, prolactin, and estradiol values were compared to those patients who had never been prescribed the above medication classes.

Results: Findings are summarized in Table 1. FSH levels were higher and testosterone levels were lower among men on gabapentin compared with control subjects. Men on Depakote trended towards lower numbers of viable sperm; however,
Further studies are needed to assess the clinical implications of these findings on male fertility. Gabapentin, a commonly prescribed medication for neuropathic pain and epilepsy, is associated with decreased testosterone and elevated FSH levels. Further studies are needed to assess the clinical implications of these findings on male fertility.

Poster #36
EVALUATING THE EFFICACY AND SAFETY OF MAGNETIC INDUCTION ACTIVATION OF SHAPE MEMORY PENILE PROSTHESIS THROUGH ANIMAL TISSUE
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Presented By: Brian Van Le, MD, MA

Introduction: We previously developed a novel shape memory alloy prosthesis using a lasercut Nitinol extruded tube that expands and becomes rigid when heat activated to simulate an erection. To better understand the thermal safety and efficacy of magnetic induction (MI) heat transfer in tissue, we tested MI activation using an in vitro animal tissue model.

Methods: We used a commercially available 1000W magnetic inductor and a custom made 2mm copper coil 4cm diameter. The prosthesis or nitinol tube was inserted down the length of a pork-product sausage. Two thermocouples were placed to measure temperature changes: (1) on the exoskeleton, and (2) 2 mm away in the tissue. The sausage with the embedded prosthesis was positioned in the middle of the coil and the miniductor activated. Temperature tracings were recorded overtime. As a control, the same setup was placed on a laboratory hot plate set at 43C.

Results: With the hot plate, the tissue and prosthesis gradually rose from 23C to 43C over 300 secs with conduction of heat. Using MI to the Nitinol tube, the prosthesis temperature rise from 23C to 43C in 20 secs, with only a 2C change in tissue temperature. With the lasercut prosthesis 43C was reached in 400 secs with a 4-5C rise in surrounding tissue. The activated device simulated previously described erection parameters.

Conclusion: MI effectively penetrates animal tissue and allows for potentially faster heat transfer and activation of a novel shape-memory penile prosthesis. There is no evidence of any thermal damage to local tissues.
Poster #37
HOW IMPORTANT IS PAIN? A DESCRIPTION OF THE NATURAL HISTORY OF PENILE PAIN IN MEN WITH PEYRONIE’S DISEASE
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Presented By: Raevti Bole, MD, MA

Introduction: While pain is a well-documented manifestation of Peyronie’s Disease (PD), there is limited information on its evolution over time. As pain is utilized to define stable disease, we sought to elucidate its natural history through patient surveys.

Method: A survey was mailed to 719 randomly selected PD patients evaluated at our institution from 1990-2012. Specific question stems included evaluation of various treatments and their associated efficacies. Results were summarized as a descriptive report with statistical analyses performed as indicated.

Results: 162 men responded to the survey with a median PD duration of 9.2 years. At diagnosis, 39.4% reported penile pain with resolution occurring in 65.6% and improvement in an additional 16.4% at 12 months. Median penile pain within the last 24 hours was rated 2/10 on the pain scale, with 13% of respondents endorsing flaccid pain as compared to 34.6% with erection-related and 37% with intercourse-related pain at a median PD duration of 8.8 years. When asked their most bothersome symptom, respondents reported intercourse (25.9%), then erection (19.1%), partner impact (11.7%), pain (10.5%), length (9.9%), and curve (8.0%). In contrast, when asked which aspect they most wish improved, 20.4% indicated erection, 9.9% length, 8.6% curvature, 3.7% intercourse, 3.1% pain, and 1.9% partner impact.

Conclusion: Penile pain in PD men usually resolves at 12 months. Among bothersome symptoms, pain ranks below functional aspects of intercourse and is of lower treatment priority. These findings highlight the importance of clarifying patient care goals for treatment.

Poster #38
TREATMENT WITH XIAFLEX INJECTIONS FOR PEYRONIE’S DISEASE: PRELIMINARY ANALYSIS OF PATIENT OUTCOMES AND ADHERENCE TO A STANDARDIZED PROTOCOL
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Presented By: Brian C. Sninsky, MD

Introduction: We reviewed our adherence to the established Xiaflex injection protocol for treatment of Peyronie’s disease and analyzed preliminary data regarding complications and outcomes.

Methods: A single institution retrospective database was used to review men treated with at least one cycle of Xiaflex injections for Peyronie’s disease between December 2014 and December 2016.

Results: Thirty-seven men were included in the study, and a total of 75 cycles were administered (average 2.2 cycles, range 1-4). The average age was 59 years (range 41-77), and average pre-treatment estimated curvature was 42.5 degrees (range 30-60). Within each cycle, duration between injections 1 and 2 was less than 4 days in 100% of patients, and 37/37 (100%) underwent in office penile modeling within 4 days of the second injection of their initial cycle. Ten patients were lost to follow up, and 5 patients remain in treatment with further cycles planned. Among the 22 patients that completed treatment and had adequate follow-up, 15 were actively attempting intercourse at the time of the initiation of treatment and were mechanically unable to have intercourse pre-treatment. After Xiaflex treatment, 12/15 (80%) were able to successfully have intercourse. Of the 75 cycles administered, 31 (41%) had
documented ecchymosis, and no penile fractures were noted. Four patients went on to have a tunical plication for correction of curvature.

**Conclusion:** Our institution has a high rate of adherence to the Xiaflex injection protocol, and preliminary analysis suggests significant improvement in sexual function, with no serious complications documented.

**Poster #39**

**INITIAL DEGREE OF PENILE CURVATURE PREDICTS ABSOLUTE BUT NOT RELATIVE CURVATURE IMPROVEMENT WITH COLLAGENASE CLOSTRIDIUM HISTOLYTICUM FOR PEYRONIE’S DISEASE**

Ross Avant, MD, Matthew Ziegelmann, MD, Brian Montgomery, MD, Francisco Maldonado, Joshua Savage, PA-C and Landon Trost, MD

Mayo Clinic

Presented By: Ross A. Avant, MD

**Introduction:** Collagenase Clostridium Histolyticum (CCH) improves penile curvature in men with Peyronie’s Disease (PD). We evaluated outcomes with CCH based on pre-treatment clinical factors.

**Methods:** A prospective database was maintained for patients treated with CCH at our institution. Patients were recommended to undergo interval curve assessments after two and four series. Chart review was performed to obtain pertinent history including age, duration of PD and curve stability, trauma, baseline degree of penile curvature, plaque calcification, and presence of other deformity. Analysis was performed to identify relevant associations with changes in objective curvature at follow-up.

**Results:** Complete data was available on 86 patients who underwent at least one subsequent curve assessment, including 34 (39.5%) and 52 (60.5%) who completed two and four trials prior to assessment. Mean (SD) initial curvature was 65 (26) degrees, and mean curve improvement was 20 (20) degrees. Only baseline degree of penile curvature was associated with a significant improvement in absolute curvature (Figure , p<0.0001). Specifically, for each 2.5 degree increase in baseline curvature, mean curvature improvement increased by 1 degree. However, no relationship was noted between relative (%) improvement and initial curvature.

**Conclusion:** A higher degree of penile curvature prior to starting CCH is associated with greater absolute, but not relative (%), improvements. This data is useful for counseling patients.
Poster #40
INTERCOURSE FREQUENCY: DOES AGE MATTER?
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Presented By: Mary Elizabeth Westerman, MD

Introduction: To assess intercourse frequency and sexual function among men’s health clinic patients.

Methods: 523 consecutive men presenting to a men’s health clinic from 2014-2016 with sexual partners were included. Descriptive statistics and multivariate linear regression analysis were performed to assess associations with intercourse frequency.

Results: Median age was 62 years and men reported a mean of 3.8 (range 0,30) and median of two (IQR 0,5) episodes of intercourse per month (Figure 1). 93% reported some degree of erectile dysfunction (median IIEF-EFD 7/30) and median Overall Satisfaction Domain score was 4/10. Greater erection strength, presence and strength of nocturnal erections, and younger age were associated with more frequent intercourse (all p<0.01). Partner sexual dysfunctions, increased relation duration, ED duration, prostatectomy, and prostate radiation were associated with less frequent intercourse (all p<0.05). Adjusting for age and self-reported ED, higher libido (p=0.003) and shorter relationship duration (p=0.04) were associated with more frequent intercourse.

Conclusion: Among men being seen in a sexual medicine clinic those with higher libidos and shorter relationship duration report an increased frequency of intercourse, while overall sexual satisfaction is higher among those with longer durations of relationship, increased frequency of intercourse, and higher libido.
Poster #41
DO PREOPERATIVE HORMONE LEVELS PREDICT IMPROVEMENT IN SEMEN PARAMETERS FOLLOWING VARICOCELE LIGATION?
Dane Johnson, MD, Keegan Zuk, MD and Jay Sandlow, MD
Medical College of Wisconsin
Presented By: Keegan Zuk, MD

Introduction: We sought to evaluate the prognostic value of pre-operative serum follicle stimulating hormone (FSH) and total testosterone (T) levels in predicting improvement in semen parameters following varicocelectomy (VL).

Methods: Following IRB approval, we retrospectively reviewed all patients presenting to our Reproductive Medicine Center from January 2005 to January 2016 for infertility. Patients included in this study were found to have clinically palpable varicoceles and at least 1 abnormal semen analysis and underwent microscopic subinguinal varicocelectomy. Pre-operative FSH and T levels and post-operative SA were evaluated. Improvement after VL was defined as > 50% increase in total progressively motile sperm count (TPMC). Pre-operative FSH and T were analyzed as dichotomous variables, and evaluated for correlation with SA improvement using student’s T-test.

Results: 241 patients fit inclusion criteria. Of these, 149 patients (62%) had improvement in SA after VL. Patients with T >550 ng/dL were significantly less likely to experience improvement in post-op SA compared to patients with T<550ng/dL (36% vs 65%, respectively, p<0.01). As groups, patients with preoperative T>550ng/dL did not experience statistically significant improvements in mean SA (TPMC 10.4x106 pre-op vs 13.0x106 post-op, p=0.62), while patients with T<550ng/dL were found to have significant improvement in mean SA (TPMC 8.7x106 pre-op vs 19.5x106 post-op, p<0.01). There was no statistical difference in preoperative SA (p=0.56). No other hormone values were predictive for improvement after VL.

Conclusion: Patients undergoing varicocele ligation with preoperative serum testosterone >550ng/dL are less likely to have significant improvement in their semen parameters.

Poster #42
NOCTURNAL ERECTIONS ARE AN ACCURATE PREDICTOR OF OVERALL ERECTILE FUNCTION, LIBIDO AND TESTOSTERONE LEVELS
Jack Andrews, MD, Matthew Ziegelmann, MD, Manaf Alom, MBBS, Raevti Bole, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Department of Urology
Presented By: Jack Andrews, MD

Introduction: The presence or absence of nocturnal erections is commonly assessed on sexual health intake surveys to evaluate erectile and sexual function. However, limited data are available on the correlation between patient reported nocturnal erections and other relevant aspects of sexual function.

Methods: We reviewed data on all men undergoing evaluation for sexual health concerns in a men’s sexual health clinic between March 2014 and October 2016 at our institution. Detailed information was obtained on topics including sexual dysfunctions, libido, nocturnal erections, testosterone and International Index of Erectile Function (IIEF) scores. Statistical analysis was performed to evaluate for significant associations between nocturnal erections and other sexual function characteristics.

Results: A total of 761 patients had data available on nocturnal erections, of which 394 patients (52%) reported experiencing nocturnal erections. Men with preserved nocturnal erections had higher testosterone (412 ng/dL vs 303 ng/dL, p<0.01) and libido (7.6 vs 7.1, p=0.01) compared to the remaining cohort. Nocturnal erections also
correlated with higher IIEF scores and each of the subdomains, including erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Notably, the presence or absence of nocturnal erections did not correlate with Peyronie’s disease or hypogonadal symptoms.

**Conclusion:** The presence of subjectively reported nocturnal erections correlates with higher libido, testosterone, and IIEF scores across all domains. Further research is warranted to explore the possibility of loss of nocturnal erections as a potential early marker of testosterone deficiency and sexual dysfunction.

**Poster #43**
**DO PATIENTS WHO REPORT PREMATURE EJACULATION ACTUALLY EJACULATE QUICKER?**
Jack Andrews, MD, Matthew Ziegelmann, MD, Manaf Alom, MBBS, Raevti Bole, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Department of Urology
Presented By: Jack Andrews, MD

**Introduction:** Premature ejaculation is a common complaint among men presenting with sexual dysfunction. However, limited data are available on the correlation between men who report they ejaculate too quickly and subjective intravaginal ejaculatory latency time (IELT).

**Methods:** We prospectively collected data on all men undergoing evaluation in a men’s sexual health clinic between March 2014 and October 2016 at our institution. Statistical analysis was performed to evaluate outcomes in patients reporting premature ejaculation.

**Results:** A total of 317 patients had data available on ejaculation including subjective IELT estimates. Of these men, 199 (63%) reported ejaculating too quickly, with a mean duration of symptoms of 8.2 years. Of patients who reported they ejaculated too quickly, 89% felt bothered by their symptoms, and 47% reported being able to delay ejaculation. Surprisingly, on univariate analysis, patients who reported ejaculating too quickly did not have significantly shorter IELT compared to those not reporting symptoms of rapid ejaculation (mean 8.39 vs 9.14 min, respectively, p=0.549). On subset analysis, men who consumed alcohol were significantly more likely to report rapid ejaculation (p=0.01) despite similar IELT estimates to men who did not consume alcohol. Similar findings were not observed with current or past smokers.

**Conclusion:** Patients who reported that they ejaculate too quickly had similar IELT times to those who did not report symptoms, with only 20% experiencing IELT <1 minute. These interesting findings highlight that perceived premature ejaculation is likely a poor surrogate for actual IELT times.

**Poster #44**
**AN INITIAL DESCRIPTION OF ADULT MEN WITH PROGRESSION OF CHORDEE TO A FIBROTIC DISORDER OF THE TUNICA ALBUGINEA**
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Rush University Medical Center
Presented By: M. Ryan Farrell, MD, MPH

**Introduction:** Congenital curvature from chordee without hypospadias involves excessive tunical elasticity, whereas Peyronie’s disease (PD) involves acquired tunica albuginea fibrosis. We describe a subpopulation of men with congenital curvature from chordee who experienced curvature progression in adulthood.

**Methods:** Retrospective review of all patients (>18 years of age) with chordee without hypospadias presenting to our center from 1/2015-7/2016 for evaluation of worsening curvature.

**Results:** Patients (n=10, mean age 34.0 years, SD 13.7) most commonly presented
with new unsatisfactory penile appearance, worsening deformity, and/or partner discomfort. Patients described mean subjective curvature of 51.5° (SD 21.1°), pain (30%), hinge (10%), shortening (20%), poor erection quality (10%). No traumatic events preceded worsening curvature. Reduced shaft elasticity with palpable fibrosis (septal cord or tunical thickening) was identified in 70%. Via in-office artificial erection, 60% had a maximum rigidity of 8-9/10 with 55.5° mean curvature (range 30.0-90.0°). Ventral curvature was present in 70%, 40% had narrowing, none had hinge or calcification. Seven patients underwent tunica albuginea plication (TAP) – all noted satisfaction with the result and were functionally straight (<15° residual curvature). Pain resolved following TAP in the two patients that presented with pain. One patient with erectile dysfunction underwent 3-piece inflatable penile prosthesis placement/manual modeling, with straight, satisfactory erections postoperatively.

**Conclusion:** Progressive deformity in adult men with chordee without hypospadias may result from reduced elasticity/fibrotic changes representing chronic mechanical stress or new PD. These patients presented with cosmetic and functional sequelae of worsening curvature and can be surgically corrected using a similar algorithm to PD.

**Poster #45
A COMPARATIVE ANALYSIS OF PEYRONIE’S DISEASE IN MEN WITH AND WITHOUT DIABETES**

Medairos Robert², Patrick Whelan, MD¹, Gallo Kelsey² and Levine Laurence, MD, FACS¹

¹Rush University Medical Center; ²Rush Medical College

**Presented By:** Patrick Whelan, MD

**Introduction:** Diabetes (DM) is a risk factor for Peyronie’s Disease (PD). Diabetic men present with worse curvature and penile blood flow. Additionally, there is improvement of PD after improved DM control. However, only a portion of characteristics of diabetics with PD have been described.

**Methods:** We performed a retrospective chart review of 88 men with DM and PD and 239 non-DM men with PD.

**Results:** DM men had worse erectile function on patient reported 1-10 scale, reported length loss >1 inch, shorter initial stretched penile length (SPL), more penile calcifications, and greater inability to perform penetrative intercourse and greater effect on personal emotions. However, there was no difference in PDQ scores. There was no difference in overall surgical rate; however, DM men were more likely to receive an inflatable penile prosthesis (IPP) with manual modeling, while non-DM men trended towards more tunica albuginea plications (TAP) or plaque excision and grafts (PEG).

**Conclusion:** DM men present with worse erectile function and more extreme length loss, resulting in shorter SPL. Although there was no difference in degree of curvature or severity of deformation, the worse erectile function likely leads to more IPP placement and fewer TAP and PEG procedures.
Posters

Poster #45
A COMPARATIVE ANALYSIS OF PEYRONIE'S DISEASE IN MEN WITH AND WITHOUT DIABETES
Medairos Robert2, Patrick Whelan, MD1, Gallo Kelsey2 and Levine Laurence, MD, FACS1
1Rush University Medical Center; 2Rush Medical College
Presented By: Patrick Whelan, MD

Introduction:
Diabetes (DM) is a risk factor for Peyronie's Disease (PD). Diabetic men present with worse curvature and penile blood flow. Additionally, there is improvement of PD after improved DM control. However, only a portion of characteristics of diabetics with PD have been described.

Methods:
We performed a retrospective chart review of 88 men with DM and PD and 239 non-DM men with PD.

Results:
DM men had worse erectile function on patient reported 1-10 scale, reported length loss >1 inch, shorter initial stretched penile length (SPL), more penile calcifications, and greater inability to perform penetrative intercourse and greater effect on personal emotions. However, there was no difference in PDQ scores. There was no difference in overall surgical rate; however, DM men were more likely to receive an inflatable penile prosthesis (IPP) with manual modeling, while non-DM men trended towards more tunica albuginea plications (TAP) or plaque excision and grafts (PEG).

Conclusion:
DM men present with worse erectile function and more extreme length loss, resulting in shorter SPL. Although there was no difference in degree of curvature or severity of deformation, the worse erectile function likely leads to more IPP placement and fewer TAP and PEG procedures.

Poster #46
WITHDRAWN

Poster #47
NO STOMA, ONE, OR TWO? SETTING EXPECTATIONS FOR PATIENTS WITH RECTOURETHRAL FISTULA
Amanda C Chi, MD1, Shree Agrawal2, John M Lacy, MD3, Hadley M Wood, MD1 and Kenneth W Angermeier, MD1
1Cleveland Clinic Foundation; 2Case Western Reserve University School of Medicine; 3University of Tennessee
Presented By: Amanda C. Chi, MD

Introduction:
Rectourethral fistula (RUF) is a challenging condition. We report our experience to aid the identification of candidates for repair with no resultant diversion (no stoma), either urinary or fecal diversion (one stoma), or double diversion (two stomas).

Methods:
We conducted retrospective chart review of patients presenting with RUF between 2005 and 2015. Univariable and multivariable logistic regression models were used for statistical analyses.

Results:
110 patients presented with RUF, of which 7 were excluded due to early lost to follow up. Median age was 63 (IQR 59-70) years. Mean follow up was 31 (IQR 6-42) months. 83% had RUF following PCa treatment (28 surgery alone, 10 surgery+radiation, 16 XRT+brachytherapy, 31 either type of radiation alone). 30 of these patients had secondary treatments (prostate cryotherapy, HIFU, TUNA, urethral or rectal instrumentation). 18 were related to colorectal disease or other causes. 29 had prior failed RUF repair.

53% of all patients had no stoma. 17% and 12% had fecal and urinary diversion respectively, and 17% had 2 stomas. 78% had resolution while 8% had recurrence and 15% had persistence of RUF. 80% of patients had undergone RUF repair at our institution. Of these, 60% had no stoma, 15% and 17% had fecal or urinary diversion,
9% had 2 stomas. Secondary treatments (as listed above) are associated with lower likelihood of “no stoma” (OR 0.28, p=0.049).

**Conclusion:** Patients should be counseled on the possibility of permanent diversion and be carefully selected for optimal surgical management. Those with secondary treatments are less likely to have no stoma.

**Poster #48**

**THE UTILITY OF UROFLOWMETRY PARAMETERS IN URETHROPLASTY SURVEILLANCE IS LIMITED**

Yooni Yi, Paholo Barboglio Romo, MD and Bahaa Malaeb, MD
University of Michigan
Presented By: Yooni Yi, MD

**Introduction:** Limited data supports the use of uroflowmetry parameters (Qmax – max flow; Qave – average flow; VV – voided volume) to assess for stricture recurrence in post-urethroplasty surveillance.

**Methods:** From years 2012-2015, data were collected on 125 patients who underwent anterior and posterior urethroplasties and had follow-up at 3 and 12 months with cystoscopy, International Prostate Symptom Score (I-PSS) and uroflowmetry parameters. The ability to pass a 17 French flexible cystoscope was defined as a successful repair. Analyzing the receiver operating characteristics we calculated the area under the curve (AUC) to compare uroflowmetry parameters and I-PSS against cystoscopy.

**Results:** Of the 208 encounters, there were 164 cystoscopy procedures. Success was determined in 147/164 (90%). Qmax of >10mL/sec has a high positive predictive value (92%) [AUC of 0.75 (p=0.002)]. However, the negative predictive value is limited and cystoscopy showed that half of these subjects with a low flow won’t have a stricture. The AUC for Qmax >15 mL was 0.705 (p = 0.002) with a sensitivity of 92% and specificity of 34%. When comparing Qmax – Qave > 8 to cystoscopy, the AUC was 0.691 (p = 0.018) with a 93% sensitivity and 29% specificity. When assessing the AUC of I-PSS Weakness score of <3, the AUC was not significant.

**Conclusion:** Uroflowmetry parameters of Qmax >10 mL, Qmax >15 mL, Qmax – Qave > 8 mL are not specific enough to determine recurrences of urethral stricture. The I-PSS scores are neither sensitive nor specific enough to detect recurrences.

**Poster #49**

**DISTANCE TO THE HOSPITAL IS INDEPENDENTLY ASSOCIATED WITH INCREASED CANCER SPECIFIC MORTALITY AMONG UNDERINSURED MEN TREATED WITH INGUINAL LYMPH NODE DISSECTION FOR ADVANCED PENILE CARCINOMA**

Ryan Powers, DO, MPH¹, Florian Stroie², Matthew Houlihan, DO³, Edward Park, DO³, Patricia Vidal, MD³, Sarah Psutka, MD³ and Courtney Hollowell, MD³
¹Cook County Health and Hospitals System; ²Midwestern University; ³Cook County Health and Hospital Systems
Presented By: Ryan Powers, DO, MPH

**Introduction:** Penile cancer is a rare malignancy with high morbidity and mortality. Our objective was to assess associations between SES, ethnicity, primary language and distance to care and oncologic outcomes among men treated with inguinal lymph node dissection (ILND).

**Methods:** Retrospective chart review was performed for 27 patients undergoing ILND between 2004 and 2016. Cancer-specific survival (CSS) was estimated using the Kaplan-Meier method and associations between clinicopathologic, SES factors and Cancer Specific Mortality (CSM) were compared using Cox proportional hazard models.
**Results:** Primary tumor stage was Tis: 3.7%, T1: 29.6%, T2: 25.9% and T3: 40.7%. Primary nodal stage was Nx/N0: 59.3%, N1: 3.7%, N2: 22.2% and N3: 14.8%. Median age was 52 years and median income was $39,484. Primary language spoken was English (59.3%), Spanish (33.3%) and Polish (7.4%). Ethnicities were Hispanic (48.2%), African American (37%) and Caucasian (14.8%). Insurance status was uninsured (51.9%), Medicaid (29.6%), Medicare (3.7%), private (14.8%). Median distance to care was 11.4 miles. Median CSS was 9.1 years. Distance to the hospital was associated with increased CSM and number of public transportation transfers and average time if taking public transportation.

**Conclusion:** Multivariate analysis showed that distance to the hospital was independently associated with increased CSM such that there was a 10% increase in risk of CSM with every additional mile from the hospital. Distance to the hospital is independently associated with increased CSM after ILND among underinsured men treated at an urban hospital. This may represent a modifiable barrier to care with implications for improving outcomes in this high-risk population.

**Poster #50**

**TRENDS AND OUTCOMES OF IMMEDIATE RETROPERITONEAL LYMPH NODE DISSECTION FOR STAGE 1A NON-SEMINOMATOUS GERM CELL TUMORS**

John Francis, MD, Robert Abouassaly, MD, MS, Christopher Gonzalez, MD, MBA, Matthew Cooney, MD, Christopher Holmes, DO and Simon Kim, MD, MPH

University Hospitals Cleveland Medical Center

Presented By: John Francis, MD

**Introduction:** Active surveillance is preferred for stage IA non-seminomatous germ cell tumors (NSGCT) however, retroperitoneal lymph node dissection (RPLND) remains an option given the possibility of sub-clinical nodal involvement. We seek to analyze the recent incidence and factors predictive of undergoing immediate RPLND.

**Methods:** Patients were identified through the National Cancer Database between 2004-2013. Univariate analysis and multivariable logistical regression were conducted to assess for predictors of immediate RPLND. Subgroup analysis was conducted on the incidence of failure on active surveillance as demonstrated by receipt of chemotherapy.

**Results:** Our analysis included 3,597 patients with 15.8% (n=569) electing for immediate RPLND with an observed trend of RPLND decreasing over time from 17.4% in 2004 to 11.2% in 2013 (p= 0.01 for trend). RPLND was associated with age < 26 years (OR: 1.4; CI 1.2-1.7 p= <0.01) and travel distance > 50 miles from the treatment facility (OR: 4.2; CI 3.3-5.5; p= <0.01). Pathologic node positive disease was observed in 15.6% of patients in the RPLND cohort while in the active surveillance cohort, 19.7% of patients required subsequent chemotherapy. Patients were more likely to receive chemotherapy with embryonal histology (OR 1.4; CI 1.1-1.8; p= <0.01).

**Conclusion:** Active surveillance and immediate RPLND remain acceptable treatment options for stage IA NSGCT, however, immediate RPLND is being conducted less frequently. Node positive disease was found in 15.6% of patients at the time of RPLND. Attention should be directed to patients with embryonal histology as rates of disease progression and chemotherapy administration are more likely.
MULTIDISCIPLINARY APPROACH TO MANAGEMENT OF COMPLEX SCROTAL LYMPHEDEMA

Neil Patel, Julia Fiuk, MD and Ahmed El-Zawahry, MD
SIU School of Medicine
Presented By: Neil Patel, MD

Introduction: Scrotal lymphedema (SL) is caused by impaired drainage of lymphatics and can be debilitating to a patients quality of life. Data supporting a standardized approach to SL is limited. We present our multidisciplinary approach to patients with SL.

Methods: Assessment and intervention of 2 patients were reviewed. CT scans obtained as needed to rule out malignancy etiology. Surgical approach in collaboration with plastic surgery included removal of the scrotum sparing the testes with skin flaps and/or grafts.

Results: First patient is a 55-year old white male with seven-year history of progressing SL. Because of the size of his scrotum (3l lbs.), he was denied treatment at different centers. The penile skin was completely removed near complete scrotectomy and penectomy were required to completely excise the lymphedema. Skin flaps were used to reconstruct the perineum and scrotum and split-thickness skin grafts (STSG) were used to reconstruct penile skin. A wound vac was applied for 10 days. 30 days post-operatively, the wound was healed and the patient was able to void and function normally. The second patient is a 30 year old white male with hidradenitis affecting the groin, scrotum, abdomen, and axillae complicated by scrotal lymphedema. Scrotal skin was completely removed sparing the testes. STSG was applied by plastic surgeons for scrotal reconstruction.

Conclusion: SL is a complex disease and management is not standardized. Surgical intervention is required and seems to be the only solution so far. Multidisciplinary approach helps to achieve satisfactory outcomes.

THE USE OF COLLAGENASE CLOSTRIDIUM HISTOLYTICUM IN THE MANAGEMENT OF PEYRONIE’S DISEASE: A SINGLE CENTER EXPERIENCE

Raymond Yong, MS3, Peter Tsambarlis, MD and Laurence Levine, MD
Rush University Medical Center
Presented By: Peter Tsambarlis, MD

Introduction: The aim of this study was to objectively evaluate the structural effect and patient experience of CCH on penile curvature associated with Peyronie’s Disease (PD) at our high-volume institution.

Methods: Since the approval of CCH for PD, 45 men have undergone between 1 and 4 treatment cycles (Mean 3.07, standard deviation (SD) = 0.89) at our institution. Primary and secondary curvatures were measured before and after each round of injections. The initial and final degree of curvature and the patient experience were analyzed.

Results: The mean age was 55.2 years (range 34-74). 44/45 (98%) patients completed 2 cycles of treatment, 31/45 (69%) completed 3 cycles, and 18/45 (40%) completed 4 cycles. The mean primary curvature was 53.4 degrees (SD = 16.5); post-treatment mean primary curvature was 47.7 degrees (SD = 18.8), p = 0.13. Secondary curvature was present in 19 men and decreased from 23.9 degrees (SD= 11.6) to 22.6 degrees (SD= 10.2) before and after treatment with CCH (p = 0.71). 17/45 patients discontinued therapy due to dissatisfaction secondary to discomfort (4/17), lack of improvement (11/17), or tunical rupture (2/17). Overall, 37/45 (82%) patients expressed some degree of dissatisfaction with the treatment.

Conclusion: While curvature improvement approaches statistical significance, the
high dissatisfaction rate suggests there is likely limited congruence between statistical and clinical significance in this arena. Ultimately, the goal will be determining predictors of successful treatment with CCH.

Poster #53
SYNCHRONOUS BULBAR STRICTURES ARE COMMON IN ADULT PATIENTS WHO PRESENT WITH POST-HYPOSPADIAS-REPAIR STRICTURE.
Min Jun, DO\textsuperscript{1}, Maha Husainat, MD\textsuperscript{1}, Esther Liu\textsuperscript{2}, Maxx Gallegos, MD\textsuperscript{1} and Richard Santucci, MD\textsuperscript{1}
\textsuperscript{1}Detroit Medical Center; \textsuperscript{2}Michigan State University College of Osteopathic Medicine
Presented By: Min Jun, DO

Introduction: Adults with strictures in previously-repaired congenital hypospadias are an increasingly reported entity. Patients with hypospadias repair strictures may also be at risk for more proximal strictures not associated with the hypospadias segment. We endeavored to describe the incidence of this phenomenon. We hypothesize that previous hypospadias repair is a risk factor for later development of unrelated strictures proximal to the original hypospadias.

Method: This is a retrospective review of patients with post-hypospadias repair strictures referred to a single surgeon at our tertiary center from 2000 to 2016. We collected data on previous hypospadias treatment, location of stricture, and length.

Results: 40 patients presented with post-hypospadias repair strictures of the reconstructed segment. 19/40 (48%) had a previously undetected bulbar stricture. 21/40 (53%) presented with pendulous urethral strictures with intact bulbar urethra. Mean total stricture length in post-hypospadias repair strictures with undetected bulbar stricture vs. pendulous urethral strictures was 7.8 vs. 3.4 cm (p<0.05), respectively.

Conclusion: Studies have shown 2.5% to 11% of patients undergoing hypospadias repair will develop urethral stricture in the reconstructed urethral segment. Thus, a significant population of adults will present with post-hypospadias-repair strictures. We found that 48% of these patients will also have a second stricture in the bulbar urethra, significantly increasing the complexity of care. Forewarning of this fact can alert surgeons to the need to aggressively diagnose and treat these synchronous strictures. To our knowledge, this is the first study demonstrating this high incidence of synchronous native urethral strictures in patients presenting with stricture of the reconstructed hypospadias segment.

Poster #54
SEXUAL AND VOIDING OUTCOMES IN POST-PENECTOMY PENILE CANCER PATIENTS
Edward Park, DO\textsuperscript{1}, Florian Stroie, BS\textsuperscript{2}, Sarah Psutka, MD, MSc\textsuperscript{1} and Patricia Vidal, MD\textsuperscript{1}
\textsuperscript{1}CCHHS Dept of Surgery: Urology; \textsuperscript{2}Midwestern University
Presented By: Edward J. Park, DO

Introduction: Penile carcinoma is traditionally managed with total or partial penectomy. Literature regarding patient reported outcomes and quality of life following penectomy is lacking. Our objective was to investigate how surgical treatment of penile cancer impacted the patient’s sexual, voiding, and psychological function, and overall quality of life.

Methods: Eleven patients who underwent either partial (8) or radical (3) penectomy between 2004 and 2014 at a single center were retrospectively identified to complete the survey consisting of the validated International Index of Erectile Function (IIEF-15) and the Patient-Reported Outcome Measure for Urethral Stricture Surgery questionnaire.

Results: The median age of the participants was 61. Of the 8 organ-sparing surgery
patients, the median erectile function score was 16/30, the median orgasmic function was 5.5/10, and the median intercourse satisfaction was 5/15. Of the total 11 patients, the median sexual desire score was 7/10. The median overall sexual satisfaction was reported at 5/10. Seven of the 11 patients reported moderate satisfaction or greater in overall satisfaction with sex life. 89% reported none or minimal urinary symptoms interfering with daily life. 82% of the patients reported overall satisfaction with the operation outcome.

**Conclusion:** To our knowledge, this is the largest assessment of sexual and urinary function using standardized, validated questionnaires in North American post-penectomy patients. We report a mild-to-moderate dysfunction in overall sexual satisfaction. Overall, patients reported minimal bother related to urinary function. The majority of the participants were satisfied with the overall outcome of the surgery.

**Poster #55**

**STONE COMPOSITION IN PEDIATRIC PATIENTS**

Alison Keenan, MD

UW-Madison

Presented By: Alison Keenan, MD

**Introduction:** It is thought that the composition of children’s kidney stones is similar to adults, with approximately 75-80% being primarily calcium oxalate (CaOx) and 5-10% calcium phosphate (CaP). The aim of this study was to assess the stone composition of pediatric patients presenting to a multi-disciplinary stone clinic.

**Methods:** A retrospective chart review of 118 patients who presented to a multi-disciplinary pediatric stone clinic was conducted. Stones were defined as predominantly CaOx or CaP if they met or exceeded 50%. A 2-sided Pearson Chi-Square test was used for comparison of categorical variables. A p-value < 0.05 was considered significant.

**Results:** Forty-six patients were included in the analyses. Nine of these patients had multiple stone compositions recorded. Nineteen of the patients reported a family history of stones.

Of the 46 stone compositions analyzed, 26 (57%) were predominantly CaOx stones and 10 (22%) were predominantly CaP stones. The majority of reported stones (40/46; 87%) had some combination of CaOx and CaP. On average, stones were 35% CaOx (range, 2-99%) and 28% CaP (range, 1-98%). There was no significant difference between sex, age group, family history of stones, and BMI for prevalence of CaOx stones (p>0.18 for all comparisons). Girls had a tendency for more CaP stones than boys (p=0.056).

**Conclusion:** The majority of patients presenting to our multi-disciplinary pediatric stone clinic had primarily mixed calcium stones. When comparing overall average stone composition of this pediatric cohort to that of U.S. adults, the prevalence of predominantly CaP stones (22%) was higher than expected.

**Poster #56**

**MIRABEGRON IMPROVES URODYNAMIC PARAMETERS AND URINARY SYMPTOM INDICES IN PEDIATRIC PATIENTS WITH NEUROGENIC BLADDER AFTER FAILING PRIOR ANTICHOLINERGIC THERAPY**

Jesse Jacobs, MD\(^1\), Kevin Ginsburg, MD\(^2\) and Kirstan Meldrum, MD\(^3\)

\(^1\)Wayne State University; \(^2\)Wayne State University, Detroit, MI; \(^3\)Spectrum Health, Grand Rapids, MI

Presented By: Jesse Jacobs, MD

**Introduction:** The pediatric spina bifida and myelomeningocele population is at risk for deterioration of kidney function secondary to elevated bladder pressure and detrusor overactivity. Mirabegron, a novel \(\beta\)-3 adrenoreceptor agonist, is known to
improve urgency related symptoms and urodynamic parameters in adult patients with neurogenic bladder. However, limited data exist regarding its use in children. We assessed the effect of mirabegron therapy on urodynamic and clinical parameters in pediatric patients with neurogenic bladders.

**Methods:** Pediatric patients with myelomeningocele/spina bifida treated with mirabegron for refractory detrusor overactivity were retrospectively reviewed for pertinent clinical, radiographic, and urodynamic findings before and after the initiation of mirabegron.

**Results:** Six patients were included (3 male, 3 female, 5 spina bifida/myelomeningocele, 1 sacral agenesis, median age 7). All patients were previously managed on at least one anticholinergic, two had undergone prior bowel and bladder reconstruction and all were currently on intermittent catheterization. Median bladder capacity was 145cc (range 19-225cc) compared to 240cc (range 30-480cc after at least a 6-week trial of mirabegron (p=0.03). Therapy led to a median increase in bladder capacity of 50.4% (range 24.4-350%). Detrusor pressures decreased from a median value of 50cmH2O (range 30-74cmH2O) to 21cmH2O (range 6-40cmH2O, p=0.09). No adverse effects of pharmacotherapy were reported and most parents reported a decrease in leakage.

**Conclusion:** Mirabegron could be an effective option to improve bladder capacity and detrusor pressure in the pediatric neurogenic bladder population. Larger studies are needed to further elucidate the effect of mirabegron on urodynamic parameters and quality of life indices.
Supracostal access in percutaneous nephrolithotomy (PCNL) may be avoided due to concern for thoracic complications. The objective of the study is to report the safety and efficacy of supracostal access utilizing a tubeless (stent only) PCNL technique.

**Methods:** Retrospective review of 70 patients (76 renal units) who underwent a supracostal access tubeless PCNL from July 2010 to Oct 2016. No nephrostomy tubes were left and all patients had a 7F ureteral stent and Foley catheter placed. The nephrostomy sheath was removed with the patient held in expiration and the incision closed primarily.

**Results:** Median stone size was 20 x 21 mm, and 14 (18%) patients had complete staghorn stones. Upper calyx was the site of access in 50 (75%) and 12 (16%) cases, respectively. Thoracic complications occurred in 2 (2.6%) patients: 1 small pneumothorax that resolved with conservative management, and 1 symptomatic ipsilateral pleural effusion requiring thoracocentesis. Other complications occurred in 9 patients (11.8%) including bleeding requiring transfusion (1), fever (4), urinary retention (2), and syncope (2). Median (IQR) length of stay was 30 (28-32) hours. Initial stone-free rate was 67%. Eight patients (11%) underwent an ancillary procedure, with an additional 7 patients becoming stone-free after that procedure (76%).

**Conclusion:** Compared to historical controls, our approach to upper tract PCNL utilizing a nephrostomy tube free approach resulted in an overall low thoracic complication rate and facilitated hospital discharge.
Poster #58
MINIMIZING COMPLICATIONS
SUPRACOSTAL ACCESS TUBELESS PERCUTANEOUS NEPHROLITHOTOMY:
Poster #59
WITHDRAWN

Introduction: Flexible cystoscopy is a commonly performed procedure done with local anesthesia, typically administered through intraurethral injection of aqueous lidocaine solution. Patients often experience significant discomfort as the cystoscope is negotiated through the membranous and prostatic urethra. The objective of the study is to determine whether hydrodistention of the urethra can significantly reduce patient discomfort during flexible cystoscopy.

Methods: Flexible cystoscopy was performed by a single urologist with or without hydrodistention in male patients ages 40-60 who never had cystoscopy performed. 10 cc of Lidocaine 2% HCL aqueous solution was injected in the urethra and left in place for 10 minutes prior to initiation of the procedure. Hydrodistention is obtained by having the patients forcibly compress 250 ml sterile water bag as the cystoscope is negotiated past the membranous/prostatic urethra. Analog pain scale was used to assess pain associated with cystoscopy.

Results: 50 men (mean age 48) underwent flexible cystoscopy. Twenty five men had the procedure with urethral hydrodistention (mean age 47) and twenty five men had the procedure without hydrodistention (mean age 48). Analog pain score was 1.95 in the urethral hydrodistention group and 5.70 in the control group (p<0.001).

Conclusion: Urethral hydrodistention significantly reduces pain associated with flexible cystoscopy in cystoscopy naive male patients. It is reasonable to incorporate urethral hydrodistention as part of the procedure for flexible cystoscopy in male patients.

Poster #60
URETHRAL HYDRODISTENTION SIGNIFICANTLY REDUCES PAIN DURING FLEXIBLE CYSTOSCOPY
William Lin1 and Olivia Niepsuj, BS2
1Northwestern University Feinberg School of Medicine; 2Loyola University
Presented By: William Wei Lin, MD

Introduction: Flexible cystoscopy is a commonly performed procedure done with local anesthesia, typically administered through intraurethral injection of aqueous lidocaine solution. Patients often experience significant discomfort as the cystoscope is negotiated through the membranous and prostatic urethra. The objective of the study is to determine whether hydrodistention of the urethra can significantly reduce patient discomfort during flexible cystoscopy.

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Conclusion: Urethral hydrodistention significantly reduces pain associated with flexible cystoscopy in cystoscopy naive male patients. It is reasonable to incorporate urethral hydrodistention as part of the procedure for flexible cystoscopy in male patients.

Poster #61
PREVALENCE OF CYSTINE STONE FORMERS CREATING NON-CYSTINE STONES
Marcelino Rivera, MD1, Vernon Pais, MD2, Cody Rissman, Kevin Heinsimer, MD1, James Lingeman, MD1 and Amy Krambeck, MD1
Indiana University; 2Dartmouth College
Presented By: Marcelino E. Rivera, MD

Introduction: One treatment of cystinuria is urinary alkalinization to a urinary pH close to 7.0. To date, there are no reports in the literature surrounding cystinurics forming non-cystine stones, specifically calcium phosphate. We aim to identify and describe this cohort of stone formers.

Methods: Cystine stone formers were identified from two institutional stone databases. All available records of surgical interventions, 24-hour urinalysis, stone analysis as well as current and former medication regimens from patients were identified.

Results: A total of 29 patients (14 male, 15 female) were identified who underwent 144 procedures with 94 available stone analyses. Of the available stone analyses 83 were pure cystine, 8 with a combination of cystine and apatite and 3 with calcium oxalate stone in the analysis. At least one mixed stone analysis was present in 7 (24%) patients. There were no differences in 24-hour urinalysis between mixed stone formers and pure cystine stone formers with regards to volume (3.1 versus 3.0 L, p=0.88), cystine supersaturation (1.1 versus 1.0 p=0.41), capacitance (-38.1 versus -5.1, p=0.40), pH (6.9 versus 6.9, p=0.69) and mean 24-hour sodium (240.8 versus 214.6 mmol/d, p=0.21). Interestingly, mean cystine excretion was higher in the mixed stone group (1057.7 versus 838.1 mg/d, p<0.005).
Conclusion: Nearly one in four cystine stone formers had at least 1 mixed stone analysis. This raises the question as to whether stone formers should undergo a standard 24-hour urinalysis as well. Larger multi-institutional series are needed to validate our findings.

Poster #62
CURRENT USE OF MEDICAL EXPULSIVE THERAPY AMONG ENDOUROLOGISTS
Donald Fedrigon, Rajat Jain, MD and Sri Sivalingam, MD
Cleveland Clinic
Presented By: Donald Charles Fedrigon III, BS

Introduction: To characterize current practice patterns and perspectives among endourologists on medical expulsive therapy (MET) for the treatment of acute ureteral calculi.

Methods: An online survey was administered to Endourological Society members. Respondents’ MET usage and index case management (i.e. afebrile patient with a ureteral calculus <10mm and adequately controlled pain) were compared based on international status, practice setting, interval since training completion, and endourological fellowship training. Statistical analysis was performed via Pearson chi-square and Student’s t-tests.

Results: Of the 238 complete responses, 64.3% of respondents were international. Seventy percent preferred MET as their initial approach, with increasing utilization for more distal stones and for stones <8mm. While 82% were aware of the SUSPEND trial, which discouraged MET, 70% of respondents reported that it had not altered their use of MET. Mean MET prescription length was 19.9 +/- 10.3 days and was significantly longer for respondents who were US-based (p=0.001), in an academic setting (p<0.001), and with an interval of <10 years since training (p<0.001). US-based respondents were also more likely to use MET for proximal and mid-ureteral stones (68% vs 43%, p<0.001) as well as for stones >10mm (13% vs 4%, p=0.009).

Conclusion: MET continues to be the preferred approach for patients with ureteral calculi among endourologists, and more so in distal stones and those <8mm in size. Our data is encouraging in that current use of MET is in line with the latest AUA practice guidelines, however, most endourologists believe further research is warranted in this area.

Poster #63
ASSOCIATION OF RACE AND MARGIN STATUS AMONG PATIENTS UNDERGOING ROBOTIC PARTIAL NEPHRECTOMY FOR T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT
Victor Chen, BS¹, Robert Abouassaly, MD², Christopher Gonzalez, MD², Alexander Kutikov, MD³, Marc Smaldone, MD³, Neal Meropol, MD⁴, Sarah Psutka, MD⁵, Stephen Williams, MD⁵, Rebecca O’Malley, MD⁷, Hillary Sedlacek, MS² and Simon Kim, MD, MPH²
¹Case Western Reserve University School of Medicine; ²Urology Institute, Case Western Reserve University School of Medicine, Case Comprehensive Cancer Center, University Hospitals Cleveland Medical Center; ³Fox Chase Cancer Center, Division of Urologic Oncology and Urology; ⁴Seidman Cancer Center, University Hospital Cleveland Medical Center; ⁵John H. Stroger Jr. Hospital of Cook County, Division of Urologic Surgery; ⁶University of Texas Medical Branch, Department of Urology; ⁷Albany VA Medical Center
Presented By: Victor Chen

Introduction: With robotic partial nephrectomy (RPN) increasingly used in the surgical management of T1 renal tumors, little is known about whether the quality of care for RPN varies by race. In this context, we sought to assess the relationship of
race and margin status among patients undergoing RPN for localized renal tumors in a contemporary population-based cohort.

**Methods:** Using the National Cancer Database (NCDB), we identified patients with early-stage renal cell carcinoma (clinical T1N0M0) who underwent RPN from 2010-2013. The primary outcome was positive surgical margins (PSM). Multivariable logistic regression analyses were used to assess the association between race and PSM adjusting for patient clinicopathologic and hospital factors.

**Results:** Among 12,515 patients undergoing RPN in our cohort, 8.3% had PSM (n = 1,045). When compared to white patients undergoing RPN for T1 RCC with PSM (7.9%), we observed a higher proportion of PSM among African-American (AA) (10.8%; p=0.005) and Hispanic/Latino patients (8.8%; p=0.005), respectively. On multivariable analysis, AA patients had higher odds of PSM compared to white patients (OR 1.40; p=0.008). Other factors associated with higher odds of PSM were treatment at non-academic centers relative to academic centers (10.4% vs. 6.9%; OR 1.57; p<0.001). There were minimal changes in the proportion of patients having PSM over time across all races.

**Conclusion:** In this population-based cohort, AA patients undergoing RPN for localized RCC tumors are at higher risk for PSM. These results suggest potential differences in quality of care and diffusion of advanced treatment technology across racial lines.

**Poster #64 MINIMALLY INVASIVE ADRENALECTOMY FOR PRIMARY ADRENAL MALIGNANCY – ROBOTIC APPROACH IMPROVES FEASIBILITY**

Kirtishri Mishra, MD, Matthew J. Maurice, MD, and Robert Abouassaly, MD

1University Hospitals Cleveland Medical Center; 2Glickman Urological and Kidney Institute, Cleveland Clinic, Cleveland, OH, USA; 3Urology Institute, University Hospitals – Cleveland Medical Center, Cleveland, OH, USA; 4Division of Urology, Louis Stokes Veterans Affairs Medical Center, Cleveland, OH, USA

Presented By: Kirtishri Mishra, MD

**Introduction:** For suspected adrenal malignancy, open resection is recommended over laparoscopic adrenalectomy (LA) due to oncological and technical concerns. Given the technical advantages of robotic-assisted surgery over standard laparoscopy for complex renal surgery, we sought to compare surgical outcomes between LA and robotic adrenalectomy (RA).

**Methods:** Using the National Cancer Database, we identified patients who underwent LA or RA for non-metastatic primary adrenal malignancy from 2010-2013. Primary outcomes were need for open conversion, surgical margin status, and performance of regional lymphadenectomy. Secondary outcomes were length of stay, readmission, and perioperative mortality. Baseline characteristics and outcomes were compared between approaches using the chi-square, Fisher’s exact, and Mann-Whitney-U tests.

**Results:** 238 (82%) LA and 51 (18%) RA cases were identified. The LA and RA groups were similar in terms of patient age (p=.31), gender (p=.97), race (p=.19), Charlson score (p=.80), tumor laterality (p=.18), size (p=.98), histology (p=.39), grade (p=.38), hospital type (p=.70), and case volume (p=.38). The rate of open conversion was 5.9% for RA vs. 17.2% for LA (p=.04). There were no significant differences in rates of positive margins, lymphadenectomy, inpatient stay, readmission, or mortality.

**Conclusion:** RA significantly decreases need for open conversion compared to LA. Although RA improves technical feasibility, the oncological adequacy of minimally invasive resection remains uncertain.
Comparing Laparoscopic and Robot-Assisted Radical Cystectomy: Variation in Lymph Node Yield and Intermediate-Term Survival

Kyle Scarberry, MD1, Simon Kim, MD, MPH2, Jessica Yih, MD2, John Francis, MD2, Shree Agrawal, BS2, Kelly Scarberry, BS2 and Robert Abouassaly, MD2

1University Hospitals Cleveland Medical Center; 2University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio

Presented By: Kyle Scarberry, MD

Introduction: Equivalent oncologic outcomes in open radical cystectomy and minimally-invasive techniques, including laparoscopic-assisted (LARC) and robot-assisted radical cystectomy (RARC), have been demonstrated. Although the latter approaches are often grouped for the purposes of analysis, we hypothesize that there are significant differences in outcomes.

Methods: We identified patients with pathologic T1-4 bladder cancer undergoing LARC and RARC from the National Cancer Database (2010-2013). The primary outcomes were surgical margin status, lymph node yield (LNY), and overall survival (OS). Logistic regression and Cox proportional hazards model was used to assess risk of insufficient LNY and overall survival (OS) following LARC and RARC.

Results: We identified 18,597 cystectomy patients (3501 RARC, 2601 LARC). RARC procedures performed accounted for 14.6% of all cystectomy cases in 2010 compared to 21.9% in 2013. Neoadjuvant chemotherapy was utilized in 20% of LARC versus 27% of RARC patients (p<0.001). Median LNY was 11 nodes in LARC and 16 nodes in RARC (p<0.001). Positive margins were identified in 11.6% of LARC patients versus 10.5% of RARC (p=0.21). Equivalent rates of 90-day mortality were observed in laparoscopic (6.3%) compared to RARC (5.4%) (p=0.20). On logistic regression adjusting for relevant clinicopathologic variables, LARC is significantly associated with LNY less than 20 nodes (HR=1.14, 95% CI 1.05-1.23). Multivariate analysis reveals risk to OS in LARC compared to RARC (HR=1.15, 95% CI 1.03-1.27). Adjusting for LNY diminishes this association (HR=1.12, 95% CI 1.00-1.24)

Conclusion: Our study suggests an advantage in lymph node yield and perhaps OS with robotic approach to radical cystectomy.
MEMBERSHIP INFORMATION

COMPARING LAPAROSCOPIC AND ROBOT-ASSISTED RADICAL CYSTECTOMY: VARIATION IN LYMPH NODE YIELD AND INTERMEDIATE-TERM SURVIVAL

Kyle Scarberry, MD, Simon Kim, MD, MPH, Jessica Yih, MD, John Francis, MD, Shree Agrawal, BS, Kelly Scarberry, BS, Robert Abouassaly, MD

1 University Hospitals Cleveland Medical Center; 2 University Hospitals Cleveland Medical Center, Case Western Reserve University School of Medicine, Cleveland, Ohio

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Conclusion: Our study suggests an advantage in lymph node yield and perhaps OS with robotic approach to radical cystectomy.

ANNUAL BUSINESS MEETING AGENDA

I. Call to Order: James C. Ulchaker, MD, FACS
II. Minutes of the 2016 Annual Business Meeting: Jeffrey A. Triest, MD
III. Secretary Report: Jeffrey A. Triest, MD
IV. Treasurer Report: Mark D. Stovsky, MD, MBA, FACS
V. Historian Report: Edward E. Cherullo, MD
VI. Committee Reports
   a. Audit and Budget Committee: James C. Ulchaker, MD
   b. Board of Directors Report: Jeffrey A. Triest, MD
   c. 2017 Local Arrangements Committee: Norm D. Smith, MD
   d. Program Committee: Jeffrey A. Triest, MD
   e. Editorial and Awards Committee: Aaron J. Milbank, MD
   f. Health Policy Committee: Matthew T. Gettman, MD
   g. Long Range Planning Committee: Jeffrey A. Triest, MD
   h. Young Urologists Committee: Anthony J. Polcari, MD
   i. Bylaws Committee: Aaron J. Milbank, MD
   j. Education Committee: Bradley F. Schwartz, DO, FACS
VII. Representative to the Board of Directors of the AUA: Chandru P. Sundaram, MD
VIII. Future Meeting Report: Jeffrey A. Triest, MD
IX. Membership Committee Report and Election of New Members: Gary M. Kirsh, MD
X. Unfinished Business
XI. New Business
XII. Nominating Committee Report and Elections: Gary M. Kirsh, MD
XIII. Introduction of Incoming President
XIV. Adjournment
MEMBERSHIP CANDIDATES AND TRANSFERS

* Application Not Complete

CANDIDATES FOR MEMBERSHIP

Active
* BENSON, MD Jonas
  DANIELS II, MD David
  FRAUMANN FARIS, MD Sarah
* GANGEL, MD Michael
  KADLEC, MD Adam
  LAVERS, MD Ann
  MCINTIRE, MD Linda
  NOAH, MD Thomas
  PLATTNER, MD Courtney
  RUTCHIK, MD Scott
  SCHWARTZ, MD Ian
  SHREVE, MD Eric
  WIRTZ, MD Patrick
  WOZNIAK, MD Andrea

Associate
  ALMALLAH, MD Yahia
  BALDEA, MD Kristin
  BAILEY, MD George
  BLACKWELL, MD
  BROCKMAN, MD John
  BUDZYN, MD Brian
  CHARCHENKO, MD Cameron
* CHU, MD David
  DEHAAN, DO Alexander
  DIMATTEO, DO Anthony
  FLYNN, MD Ryan
  GELLHAUS, MD Paul
  GUDEMAN, MD Suzanne
  HERREL, MD, MS Lindsey
  JENKINS, MD, MBA Lawrence
  KAFFENBERGER, MD Samuel
  KAIMAKLIOTIS, MD Hristos
  KHURANA, MD Kiranpreet
  LLOYD-HARRIS, MD, MPH Jennifer
  LUEA, DO Andrew
  LYNAM, DO John
  MERRILL, DO Megan
  MOREIRA, MD Daniel
  NAEEM, MD Naveed
  OHLANDER, MD Samuel
  PAGANI, MD Rodrigo
  PATEL, MD Dhruti
  PHELPS, MD Jessica
* RIEDER, MD Jocelyn
  RIVERA, MD Marcelino
  SCHOMBURG, MD John
MEMBERSHIP INFORMATION

SHIEPIS, DO Christopher
SOURIAL, MD Michael
TOMASINI, MD Jeffrey
* VINSON, MD Mohabe
ZABELL, MD Joseph

TOTAL APPLICANTS 41

INTERNAL TRANSFERS

To Active Membership
WALKER, MD Adam

To Associate Membership
DUFFEY, DO Branden
ISAC, MD Wahib

To Senior Membership
BERGER, MD Israel
BHAT, MD Jayant
BORKON, MD William
BRUNK, MD Glen
DI LORETO, MD Robert
GUIGNON, MD Michael
HALL, MD Robert
HATCH, MD David
JANO, MD Farid
JOHNSON, MD David
JONES, MD William
KAHNOSKI, MD Richard
KRAUS, MD Charles
LEWIS, DO, FACOS Robert
MOORE, MD Andrew
NOVSAM, MD Ned
PENCE II, MD Jack
STEFANCIW, MD Wayne
WALSH, MD Patrick
WONNELL, MD Dirk

TOTAL INTERNAL TRANSFERS 23
MEMBERSHIP SUMMARY REPORT

Active
Active Member 1,016
Active Member - Transfer into Section 1
Total Active Count: 1,017

Affiliate
Affiliate Member 1
Total Affiliate Count: 1

Associate
Associate Member 81
Associate Member-Transfer into Section 2
Total Associate Count: 83

Honorary
Honorary 1
Total Honorary Count: 1

Senior
Senior Member 534
Senior Member - Transfer Internal 20
Total Senior Count: 554

TOTAL MEMBERSHIP COUNT: 1,656
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 at the annual meeting 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, Research Scientist Members, International Members, Allied Members, Advanced Practice Provider Members, International Members-in- Training, Resident/Fellow Members and Medical/Graduate Student 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:
1) Possession of an unlimited license to practice medicine and surgery in the state, province or country of the applicant’s residence.
2) Membership in good standing in the American Urological Association, Inc. and practice within its geographical boundaries.
3) 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.
4) Limitation of practice to the specialty of Urology.
5) Certification by the American Board of Urology ("ABU"), the Royal College of Surgeons 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.

6) Recommendation for membership by two (2) voting members of the Section, except if certified within the last 24 months as provided in item (5) above.

7) 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 (5) above.

Section 7 – Senior Members
Members are eligible for Senior Membership in the Section if they have been Active Members for 20 years in either the Section or the AUA and are 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-urologist MDs or Doctors of Osteopathy who are significantly contributing to the field of urology through clinical practice. 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 - 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 - 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
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 19 – 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 20 – 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 21 – 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 22 – 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 23 – 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 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 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.

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:
   1) President-Elect
   2) Secretary (every third year)
   3) Treasurer (every third year)
   4) Secretary-Elect (every third year)
   5) Treasurer-Elect (every 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.

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 when 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. 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.

f) 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.

g) 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.

h) 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.

i) The representatives to the AUA AudioVisual Committee shall be appointed by the AUA President in consultation with the Section for a one-year term.

j) 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 the 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 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. At the discretion of the Chairman, one member of the committee will report to the Board of Directors at the Interim Board 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.

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 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.

Edward R. Garrity, MD
Aurora, IL

Raymond Harkavy, MD
Bayside, WI

Robert E. McKendry, MD
Lake Bluff, IL

Gilson M. Vieiralves, MD
Cocoa Beach, FL

William K. Whitehouse, MD
Columbus, OH

Joseph A. Zalar Jr., MD
Champaign, IL
AWARD RECIPIENTS

* Indicates Deceased Member

Traveling Fellowship Recipients
2016  Matthias Hofer, MD, PhD; Chicago, IL
2015  Brian J. Linder, MD; Rochester, MN
2014  Brian J. Minnillo, MD; Cleveland, OH
2013  Florian R. Schroeck, MD, MS; Ann Arbor, MI
2012  Bruce Jacobs, MD, MPH; Ann Arbor, MI
2011  Sandip Prasad, MD, MPhil; Charleston, SC
2010  Cory M. Hugen, MD; Chicago, IL
2009  Michael C. Large, MD; Chicago, IL
2008  Tullika Garg, MD; New York, NY
2007  R. Houston Thompson, MD; Byron, MN
2007  Brian L. Gallagher, MD; West Des Moines, IA
2007  Brian R. Lane, MD; Grand Rapids, MI
2006  Brian L. Gallagher, MD; West Des Moines, IA
2006  R. Houston Thompson, MD; Byron, MN
2005  Ronney Abaza, MD; Columbus, OH
2005  Herkanwal S. Khaira, MD; San Francisco, CA
2004  Herkanwal S. Khaira, MD; San Francisco, CA
2004  David Allan Anderson, MD; Springfield, MO
2003  David C. Miller, MD, MPH; Ann Arbor, MI
2003  David S. Sharp, MD; Columbus, OH
2002  Richard C. Sarie, MD; Dearborn, MI
2001  Mihir M. Desai, MD; Highland Heights, OH
2001  Fernando J. Bianco Jr., MD; Coral Gables, FL
2000  Stephanie J. Kielb, MD; Chicago, IL
2000  Lee E. Ponsky, MD; Moreland Hls, OH
1999  Bijan Shekarriz, MD; Virginia Beach, VA
1998  Sanjay Ramakumar, MD; Tucson, AZ
1997  Steven G. Roberts, MD; Aptos, CA
1996  Jeffrey S. Palmer, MD, FACS, FAAP; Beachwood, OH
1995  Bradley P. Kropp, MD; Oklahoma City, OK
1994  Gregory D. Haselhuhn, MD; Toledo, OH
1993  Joel B. Nelson, MD; Pittsburgh, PA
1992  Earl Y. Cheng, MD; Chicago, IL
1991  Eric J. Dybal, MD; Elk Grove Village, IL
1990  Eugene D. Kwon, MD; Rochester, MN
1989  William A. See, MD; Milwaukee, WI
1988  Kevin T. McVary, MD; Chicago, IL
1987  Hugh A. Kennedy II, MD; Hartford, CT
1986  Julie R. Spencer, MD; Chicago, IL
1985  John E. Garnett, MD; Chicago, IL
1984  Raleigh G. Humphries, MD; Greensboro, NC
1983  Michael E. Kuglitsch, MD; Columbus, WI
1982  Max Maizels, MD; Chicago, IL
1982  Steven H. Selman, MD; Toledo, OH
1981  Philip T. Hoekstra, MD; Grand Rapids, MI
1980  Jeffrey P. Bolduan, MD; Goshen, IN
1979  William E. Kolbusz, MD; Oak Brook, IL
1978  C. Peter Fisher, MD; Ypsilanti, MI
Thirlby Award Recipients

2016  Chirag N. Dave, MD; Royal Oak, MI
2015  Mahmood A. Hai, MD, FICS; Westland, MI
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; Decature, IL
2006  Surendra M. Kumar, MD; Westland, MI
2005  Serge P. Marinkovic, MD; Decature, IL
2004  Serge P. Marinkovic, MD; Decature, 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
1992  Thomas J. Maatman, DO; Grand Rapids, MI
1991  Jerrold J. Widran, MD; Palm Desert, CA
1990  Ahmad Hamidinia, MD; Cincinnati, OH
1989  Thomas J. Maatman, DO; Grand Rapids, MI
1988  Stephen W. Leslie, MD; Omaha, NE
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<tr>
<td>1964</td>
<td>*William S. Jasper Sr., MD</td>
<td>Meidna, OH</td>
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<td>1980</td>
<td>Paul R. Hartig, MD</td>
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<td>1977</td>
<td>James J. Meyer, MD</td>
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<td>1976</td>
<td>Everette J. Duthoy, MD</td>
<td>Naples, FL</td>
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<td>1981</td>
<td>Jerrold J. Widran, MD</td>
<td>Palm Desert, CA</td>
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<td>1983</td>
<td>Riad N. Farah, MD</td>
<td>Detroit, MI</td>
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<tr>
<td>1986</td>
<td>Jeffery Wacksman, MD</td>
<td>Bonita Springs, FL</td>
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<td>1987</td>
<td>William C. Mobley, MD</td>
<td>Davenport, IA</td>
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<td>1974</td>
<td>Stanley J. Antolak Jr., MD</td>
<td>Edina, MN</td>
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<tr>
<td>1972</td>
<td>Lorriss M. Bowers, MD</td>
<td>Brimfield, IL</td>
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<td>1982</td>
<td>Carl R. McKinley, MD</td>
<td>Minneapolis, MN</td>
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<td>1979</td>
<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>1984</td>
<td>Gerald W. Koos, MD</td>
<td>Duluth, MN</td>
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<tr>
<td>1983</td>
<td>Riad N. Farah, MD</td>
<td>Detroit, MI</td>
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**John D. Silbar Award Recipients**

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<th>Location</th>
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<td>2016</td>
<td>Laura A. Bertrand, MD</td>
<td>Iowa City, IA</td>
</tr>
<tr>
<td>2015</td>
<td>Matthew A. Uhlman, MD, MBA</td>
<td>Iowa City, IA</td>
</tr>
<tr>
<td>2014</td>
<td>Adam Kadlec, MD</td>
<td>Elmhurst, IL</td>
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<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>
<td>Cleveland, OH</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>Dave 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>2002</td>
<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>2000</td>
<td>Courtney M.P. Hollowell, MD</td>
<td>Chicago, IL</td>
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<td>1999</td>
<td>Steven Elliott Kahan, MD</td>
<td>Portsmouth, NH</td>
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<td>1999</td>
<td>Steven E. Kahan, MD, JD</td>
<td>Portsmouth, NH</td>
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<td>1998</td>
<td>Daniel S. Elliott, MD</td>
<td>Rochester, MN</td>
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<td>1997</td>
<td>Sheila K. Gemar, MD</td>
<td>Willmar, MN</td>
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<td>1996</td>
<td>Cheryl T. Lee, MD</td>
<td>Ann Arbor, MI</td>
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<td>1995</td>
<td>Jerald A. Hochstetler, MD</td>
<td>Goshen, IN</td>
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<td>1994</td>
<td>Mark J. Waples, MD</td>
<td>Milwaukee, WI</td>
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</tbody>
</table>
Bizarre and Interesting Case Award Recipients
2016  Samer W. Kirmiz; Grand Rapids, MI
2016  Aron Liaw, MD; San Francisco, CA
2015  Benjamin Carpenter, MD; Indianapolis, IN
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
2016  John Roger Bell, MD; Madison, WI
2016  Naveen Kachroo, MD, PhD; Detroit, MI
2016  Thomas Tieu, MD; Springfield, IL
2016  Paholo G. Baboglio Romo, MD, MPH; Ann Arbor, MI
2015  Khaled Shahrouz, MD; Toledo, OH
2015  Jessica H. Hannick, MD; Chicago, IL
2015  Kristina L. Penniston, PhD, RD; Madison, WI
2015  Kenneth G. Nepple, MD; Iowa City, IA
2014  Grace B. Delos Santos, MD; Chicago, IL
2014  Kristin A. Greco, MD; Maywood, IL
2014  Ronne 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
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
2016  Luke L. Wang, BS; Detroit, MI
2016  Michael S. Borofsky, MD; Minneapolis, MN
2016  Kevin B. Ginsburg, MD; Royal Oak, MI
2016  Andrew Todd, MD; Columbus, OH
2016  Eric Kirshenbaum, MD; Chicago, IL
2016  Matthew J. Ziegelmann, MD; Rochester, MN
2015  Robert A. Gaertner, MD; Woodbury, MN
2015  Julia Fiuk, MD; Springfield, IL
2015  Melissa A. St. Aubin, MD; Milwaukee, WI
2015  Derek J. Lomas, MD; Rochester, MN
2015  Ahmad M. El-Arabi, BS; Milwaukee, WI
2015  Samay Jain, MD; Toledo, OH
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. Stovisky, 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

2016 Katherine J. Cotter, MD; Minneapolis, MN
2016 Joseph Ford, MD; Walled Lake, MI
2016 Daniel S. Murtagh, MD; Toledo, OH
2016 Joseph Rodriguez, MD; Chicago, IL
2015 Luke R. Frederick, MD; Springfield, IL
2015 Ian D. McLaren, MD; Ann Arbor, MI
2015 Hanhan Li, MD; Detroit, MI
2015 Luke Edwards, MD; Madison Heights, MI
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

2016 David Y. Yang, MD; Rochester, MN
2015 Firas G. Petros, MD; Columbus, OH
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

2016 Duncan R. Morhardt, MD, PhD; Ann Arbor, MI
2015 Lindsey A. Herrell, MD, MS; Ann Arbor, MI
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 103 residents, representing 21 of the Section’s 25 residency programs, will participate in the annual meeting.

Case Western Reserve University (5)
Edward E. Cherullo, MD
University Hospitals Cleveland
11100 Euclid Avenue
Cleveland OH 44106

John Francis, MD                     Kyle Scarberry, MD
Kirtishri Mishra, MD                 Jessica M. Yih
Anudeep Mukkamala, MD

Cleveland Clinic Foundation (9)
Steven C. Campbell, MD, PhD
Glickman Urological Kidney Ins
9500 Euclid Avenue, Q10-1
Cleveland OH 44195

Diego Aguilar Palacios            Yaw A. Nyame, MD, MBA
Hans C. Arora, MD, PhD            Andrew Y. Sun, MD
Paurush Babbar, MD                Nitin K. Yerram, BS, MD
Bradley C. Gill, MD, MS           Anna Zampini, MD, MS
Abhinav Khanna, MD

Henry Ford Hospital (2)
Humphrey O. Atiemo, MD
Vattikuti Urology Institute, K
2799 West Grand Boulevard
Detroit MI 48202

Asha Jamzadeh, MD                  Naveen Kachroo, MD, PhD

Indiana University Medical Center (1)
Chandru P. Sundaram, MD, FACS
Department of Urology
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Indianapolis IN 46202

Alexander Tatem, MD

Loyola University (9)
Thomas M.T. Turk, MD
2160 South First Avenue
A-353100
Maywood IL 60153

Petar Bajic, MD                     Belinda Li, MD
Spencer Hart, MD                    Parth Patel
Marah Hehemann, MD                  Arpeet Shah
Alex M. Kandabarow, MD              Michelle E. Van Kuiken, MD
Eric Kirshenbaum, MD
Mayo School of Graduate Medical Education (Rochester) (16)
Matthew T. Gettman, MD
200 First Street S.W.
Rochester MN 55905
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Jack Andrews, MD  Adam Miller, MD
Ross A. Avant, MD  Brian Montgomery, MD
Raevti Bole, MD, MA  Vidit Sharma, MD
Timothy C. Boswell, MD  Amir Toussi, MD
Kevin J. Hebert, MD  Mary E. Westerman, MD
Jason P. Joseph, MD  David Y. Yang, MD
Derek J. Lomas, MD, PharmD  Matthew J. Ziegelmann, MD

Medical College of Wisconsin (4)
R. Corey O’Connor, MD
9200 W Wisconsin Avenue
Milwaukee WI 53226
Johnathan Doolittle, MD  Andrew C. Radtke, MD
Joshua T. Piotrowski, MD, PhD  Keegan Zuk, MD

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Akron OH 44302
David W. Drevna, MD

Northwestern University Feinberg School of Medicine (3)
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Northwestern University
303 East Chicago Avenue, Tarry
Chicago IL 60611
Channa A. Amarasekera, MD  Emily Yura, MD
Nabeel Hamoui, MD, MBA

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David S. Sharp, MD
915 Olentangy River Road
Columbus OH 43212
John Cooper  Tariq A. Khemees, MD
Joshua Ebel, MD  Daniel Szabo, MD
Chad Gridley, MD  Joseph Wan, MD
Christopher Jaeger, MD
Rush University Medical Center (6)
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1653 W Congress Parkway
Suite 348 Professional Building
Chicago IL 60612
Edward Capoccia, MD     Wei P. Tan, MD
Alexander Chow, MD      Peter Tsambarlis, MD
M. Ryan Farrell, MD, MPH  Patrick Whelan, MD

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Ranjiv Mathews, MD
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P.O. Box 19665
Springfield IL 62794
Wesley Baas, MD      Neil Patel, MD
Julia Fiuk, MD         Joshua D. Ring, MD, MS
Bradley Holland, MD    Daniel J. Sadowski, MD, MPhil
Michael Kottwitz, MD

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Vignesh Packiam, MD

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Craig S. Niederberger, MD
820 S. Wood Street, CSN 515
MC/955
Chicago IL 60612
Ryan W. Dobbs, MD     Laurel Sofer, MD

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James A. Brown, MD
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Iowa City IA 52242
Nathan A. Brooks, MD     Ryan L. Steinberg, MD
Paul J. Guidos III     Conrad Tobert, MD

University of Michigan Medical Center Department of Urology (9)
Kate H. Kraft, MD
1500 East Medical Center Drive
TC 3875 Box 0330
Ann Arbor MI 48109
Lauren E. Corona, MD     Ted Lee, MD
Michael Fenstermaker, MD  Christopher M. Russell, MD
Rita P. Jen, MD          James Tracey, MD
Roger K. Khouri Jr., MD  Yooni Yi, MD
Matthew Lee, MD
University of Minnesota (2)
James K. Anderson, MD
MMC 394
420 Delaware Street, SE
Minneapolis MN 55455
Colby A. Dixon, MD Daniel W. Smith, MD

University of Toledo (5)
Obi O. Ekwenna, MD
3000 Arlington Avenue
MS 1091
Toledo OH 43614
Bradley J. Buck, MD Omar A. Khan, MD
Damian E. Garcher, MD Daniel S. Murtagh Jr., MD
Patrick M. Irwin, MD

University of Wisconsin (Madison) (7)
Daniel H. Williams IV, MD
Department of Urology
1685 Highland Ave, 3rd Floor
Madison WI 53705
Matthew D. Grimes, MD Daniel Shapiro, MD
Amy H. Lim, MD, PhD Brian C. Sninsky, MD
Brady L. Miller, MD Jonathan H. Wang, MD
Natasza Posielski, MD

Wayne State University (2)
Steven M. Lucas, MD
4201 St. Antoine, UHC
Department of Urology
Detroit MI 48201
Kevin B. Ginsburg, MD Jesse Jacobs, MD

William Beaumont Hospital (1)
Jay B. Hollander, MD
3535 W 13 Mile Road
Suite 438
Royal Oak MI 48073
Alec Wilson
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Fairmont Chicago, Millennium Park
Chicago

NCS 93rd Annual Meeting
September 10 - 14, 2019
Swissotel Chicago
Chicago