The Officers and Board of Directors welcome you to Chicago for the 90th Annual Meeting of the North Central Section of the AUA, Inc.
**Table of Contents**

Schedule at a Glance ........................................................................................................ 4  
Hotel Directory .................................................................................................................. 8  
Promotional Partners ......................................................................................................... 9  
Exhibitors and Contributors .......................................................................................... 10  
Industry Satellite Symposium Events .............................................................................. 11  
Needs and Objectives ...................................................................................................... 13  
CME Accreditation ........................................................................................................... 15  
2015 – 2016 Board of Directors .................................................................................. 17  
2015 – 2016 Committee Listing .................................................................................... 18  
NCS Members Serving in the AUA .............................................................................. 21  
Past Presidents and Annual Meeting Sites ................................................................... 22  
Board of Directors and Committee Meetings ............................................................. 24  
General Meeting Information ....................................................................................... 25  
Evening Functions ........................................................................................................... 26  
Speaker Information ......................................................................................................... 27  
Full Scientific Program .................................................................................................... 28  
Alphabetical Index of Moderators, Discussants, Panelists, Debaters, and Guest and Invited Speakers ........................................................................................................... 98  
Alphabetical Index of Abstract Presenters .................................................................... 101  
Podiums in Presentation Order ...................................................................................... 107  
Posters in Presentation Order ......................................................................................... 239  
Annual Business Meeting Agenda ................................................................................ 284  
Membership Candidates and Transfers ....................................................................... 285  
Membership Summary Report ....................................................................................... 287  
Proposed Bylaws Changes ............................................................................................. 288  
North Central Section of the AUA Bylaws .................................................................... 289  
In Memoriam .................................................................................................................. 304  
Award Recipients ............................................................................................................. 305  
NCS Urology Residency Programs ............................................................................... 311  
AUA Foundation Research Scholars ............................................................................ 315  
AUA Officers .................................................................................................................... 316  

**POLICY: Filming, Photography, Audio Recording and Cell Phones**

No attendee/visitor at the 90th Annual Meeting may record, film, tape, photograph, interview or use any other such media during any presentation, display or exhibit without the express advance approval of the NCS Executive Director. This policy applies to all NCS members, non-members, guests, and exhibitors as well as members of print, online, or broadcast media.
## Schedule at a Glance

*All sessions located in **International Ballroom** unless otherwise noted*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 7:00 a.m. - 5:00 p.m. | Registration/Information Desk Hours  
                      | *International Foyer*                                                 |
| 7:00 a.m. - 5:00 p.m. | Speaker Ready Room Hours  
                      | *Royal*                                                               |
| 7:30 a.m. - 11:00 a.m. | Spouse/Guest Hospitality Suite  
                      | *Embassy*                                                             |
| 6:30 p.m. - 8:30 p.m. | Exhibit Hall Hours  
                      | *Imperial Ballroom*                                                   |
| 6:30 p.m. - 8:30 p.m. | Welcome Reception and Wine Tasting  
                      | *Imperial Ballroom*                                                   |
| 8:00 a.m.         | Live Surgery Transmission from the University of Chicago              |
| 10:30 a.m.        | Break  
                      | *International Foyer*                                                 |
| 11:00 a.m.        | AUA Course of Choice: Geriatric Urology: Basic Principles for Urologic Practice |
| 12:00 p.m.        | Industry Sponsored Satellite Symposium  
                      | *State*                                                               |
| 1:15 p.m. - 5:00 p.m. | Health Policy and Practice Management  
                      | *International Ballroom*                                             |
|                   | Primary Care Update in Urology  
<pre><code>                  | *Rouge*                                                               |
</code></pre>
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>6:00 a.m. - 5:45 p.m.</td>
<td>Registration/Information Desk Hours: <em>International Foyer</em></td>
</tr>
<tr>
<td>6:00 a.m. - 5:45 p.m.</td>
<td>Speaker Ready Room Hours: <em>Royal</em></td>
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<tr>
<td>7:00 a.m. - 4:00 p.m.</td>
<td>Exhibit Hall Hours: <em>Imperial Ballroom</em></td>
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<tr>
<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite: <em>Embassy</em></td>
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<tr>
<td>2:00 p.m. - 4:00 p.m.</td>
<td>NCS Job Fair: <em>Imperial Foyer</em></td>
</tr>
<tr>
<td>6:00 p.m. - 7:00 p.m.</td>
<td>Young Urologists Mixer: <em>Regent</em></td>
</tr>
<tr>
<td>6:30 a.m.</td>
<td>Video Session</td>
</tr>
<tr>
<td></td>
<td><em>Rouge</em></td>
</tr>
<tr>
<td>7:30 a.m.</td>
<td>Endourology Update</td>
</tr>
<tr>
<td></td>
<td><em>International Ballroom</em></td>
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<tr>
<td>8:00 a.m.</td>
<td>President’s Welcome</td>
</tr>
<tr>
<td>8:05 a.m.</td>
<td>Guest Lecture: Immunotherapy:</td>
</tr>
<tr>
<td></td>
<td>The Role of the Urologist</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>Guest Lecture: Advanced Prostate Cancer Therapy:</td>
</tr>
<tr>
<td></td>
<td>The Role of the Urologist</td>
</tr>
<tr>
<td>9:15 a.m.</td>
<td>Panel Discussion:</td>
</tr>
<tr>
<td></td>
<td>Management of Advanced Castrate Resistant Prostate Cancer</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>Prostate Cancer Update 2016</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td>Break – Visit Exhibits:</td>
</tr>
<tr>
<td></td>
<td><em>Imperial Ballroom</em></td>
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<tr>
<td>11:00 a.m.</td>
<td>Patient Safety Podium Session</td>
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<tr>
<td>12:00 p.m.</td>
<td>Industry Sponsored Luncheon</td>
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<tr>
<td></td>
<td><em>Crystal Room</em></td>
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<tr>
<td></td>
<td>Industry Sponsored Luncheon</td>
</tr>
<tr>
<td></td>
<td><em>Regent Room</em></td>
</tr>
<tr>
<td>1:15 p.m.</td>
<td>Female Urology Update: Case Discussion</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Adrenal/ Kidney Malignant/ Benign Podium Session:</td>
</tr>
<tr>
<td></td>
<td><em>Gold</em></td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Penis/ Urethra Podium Session</td>
</tr>
<tr>
<td></td>
<td><em>Rouge</em></td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Prostate Benign Podium Session</td>
</tr>
<tr>
<td></td>
<td><em>International Ballroom</em></td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Prostate Malignant Poster Session:</td>
</tr>
<tr>
<td></td>
<td><em>Ambassador</em></td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Guest Lecture: State of Urology Practice:</td>
</tr>
<tr>
<td></td>
<td>Where We Are and How We Got Here</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Break- Visit Exhibits:</td>
</tr>
<tr>
<td></td>
<td><em>Imperial Ballroom</em></td>
</tr>
<tr>
<td>4:00 p.m.</td>
<td>AUA Guidelines Presentation</td>
</tr>
<tr>
<td>4:30 p.m. - 5:45 p.m.</td>
<td>Prostate Malignant Podium Session:</td>
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<td></td>
<td><em>International Ballroom</em></td>
</tr>
<tr>
<td>4:30 p.m. - 5:45 p.m.</td>
<td>Socioeconomic/ Health Policy Podium Session:</td>
</tr>
<tr>
<td></td>
<td><em>Gold</em></td>
</tr>
<tr>
<td>4:30 p.m. - 5:45 p.m.</td>
<td>Laparoscopy Robotics Poster Session:</td>
</tr>
<tr>
<td></td>
<td><em>State</em></td>
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<tr>
<td>4:30 p.m. - 5:45 p.m.</td>
<td>Endourology/ Stone Disease Poster Session:</td>
</tr>
<tr>
<td></td>
<td><em>Ambassador</em></td>
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</tbody>
</table>
## FRIDAY, SEPTEMBER 9, 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 a.m. - 5:30 p.m.</td>
<td>Registration/Information Desk Hours: International Foyer</td>
</tr>
<tr>
<td>6:00 a.m. - 5:30 p.m.</td>
<td>Speaker Ready Room Hours: Royal</td>
</tr>
<tr>
<td>7:00 a.m. - 11:00 a.m.</td>
<td>Exhibit Hall Hours: Imperial Ballroom</td>
</tr>
<tr>
<td>7:30 a.m. - 11:00 a.m.</td>
<td>Spouse/Guest Hospitality Suite: Embassy</td>
</tr>
<tr>
<td>6:30 p.m. - 11:00 p.m.</td>
<td>Annual Banquet: Imperial Ballroom</td>
</tr>
<tr>
<td>6:30 a.m.</td>
<td>Program Directors Session International Ballroom</td>
</tr>
<tr>
<td>7:30 a.m.</td>
<td>Break- Visit Exhibits: Imperial Ballroom</td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>State-of-the-Art Lecture: BPH</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Management of Nonmuscle Invasive Bladder Cancer: Practical Solutions for Common Problems</td>
</tr>
<tr>
<td>9:30 a.m.</td>
<td>Break- Visit Exhibits: Imperial Ballroom</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td>NCS Resident Bowl: Round 1: Imperial Ballroom</td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td>Bladder Malignant Podium Session Rouge</td>
</tr>
<tr>
<td>12:00 p.m.</td>
<td>Industry Sponsored Luncheon Crystal Room</td>
</tr>
<tr>
<td>1:15 p.m.</td>
<td>NCS Faculty Lecture: Reconstruction, Men's Health</td>
</tr>
<tr>
<td>1:35 p.m.</td>
<td>NCS Faculty Lecture: PCNL Practical Tips</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>AUA Update</td>
</tr>
<tr>
<td>2:15 p.m.</td>
<td>Report from the NCS AUA Foundation Scholar</td>
</tr>
<tr>
<td>2:20 p.m.</td>
<td>Award Presentation: John D. Silbar, Thirlby and Traveling Fellowship</td>
</tr>
<tr>
<td>2:25 p.m.</td>
<td>Presidential Address: Horology and Urology: What We Can Learn From Watchmakers, and What They Can Learn From Us</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Annual Business Meeting</td>
</tr>
<tr>
<td>3:45 p.m.</td>
<td>Guest Lecture: Specific Strategies for Success Under MACRA</td>
</tr>
<tr>
<td>4:30 p.m. - 5:30 p.m.</td>
<td>Pediatric Urology Podium Session Gold</td>
</tr>
<tr>
<td></td>
<td>Outcomes Podium Session International Ballroom</td>
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<tr>
<td></td>
<td>Adrenal/ Kidney Poster Session State</td>
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<tr>
<td></td>
<td>Male and Couple Infertility Poster Session Ambassador</td>
</tr>
</tbody>
</table>
## Schedule at a Glance

*All sessions located in **International Ballroom** unless otherwise noted*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SATURDAY, SEPTEMBER 10, 2016</strong></td>
<td><strong>Registration/Information Desk Hours</strong>&lt;br&gt; <em>International Foyer</em></td>
</tr>
<tr>
<td>6:30 a.m. - 11:55 a.m.</td>
<td><strong>Speaker Ready Room Hours</strong>&lt;br&gt; <em>Royal</em></td>
</tr>
<tr>
<td>6:30 a.m. - 11:55 a.m.</td>
<td><strong>Spouse/Guest Hospitality Suite</strong>&lt;br&gt; <em>Embassy</em></td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td><strong>Male Infertility Podium Session</strong>&lt;br&gt; <em>Rouge</em>&lt;br&gt;</td>
</tr>
<tr>
<td>7:55 a.m.</td>
<td><strong>Roundtable Discussion: Future of Urology</strong>&lt;br&gt;</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td><strong>Bizarre and Interesting Cases Podium Session</strong>&lt;br&gt;</td>
</tr>
<tr>
<td>9:45 a.m.</td>
<td><strong>Break: International Foyer</strong>&lt;br&gt;</td>
</tr>
<tr>
<td>10:00 a.m.</td>
<td><strong>Urinary Incontinence/Trauma Podium Session</strong>&lt;br&gt; <em>International Ballroom</em>&lt;br&gt;</td>
</tr>
<tr>
<td>10:55 a.m.</td>
<td><strong>NCS Resident Bowl Finals</strong>&lt;br&gt;</td>
</tr>
<tr>
<td>11:40 a.m.</td>
<td><strong>Best Poster, Best Video, and Bizarre &amp; Interesting Case Award Presentations</strong>&lt;br&gt;</td>
</tr>
<tr>
<td>11:45 a.m. – 11:55 a.m.</td>
<td><strong>Incoming NCS President Remarks</strong>&lt;br&gt;</td>
</tr>
</tbody>
</table>
Hotel Directory

General Session: International Ballroom
Breakout Rooms: Gold Rouge
Exhibit Hall: Imperial Ballroom
Poster Sessions: Ambassador State
Speaker Ready Room: Royal
Spouse/Guest Hospitality Suite: Embassy
Committee Meetings: Regal
Promotional Partners

NCS Recognizes and Welcomes Our 2016 Promotional Partners  
(as of 8/24/2016)

Platinum Level Partners
AbbVie
Janssen Biotech, Inc.
Medivation/Astellas
OPKO Health
Potomac Center For Medical Education

Silver Level Partners
Astellas Pharma US, Inc.
Dendreon Corporation
Exhibitors and Contributors

Thank You to Our 2016 Exhibitors
(as of 8/24/2016)

AbbVie
Allergan, Inc.
American Urological Association, Inc.
Armune BioScience, Inc.
Astellas Pharma US, Inc.
Bayer HealthCare
BK Ultrasound
Blue Earth Diagnostics
Boston Scientific Corporation
Cellay, Inc.
Cogentix Medical
Coloplast
Cook Medical
Delta Medical Systems, Inc
Dendreon Corporation
Dornier MedTech
EDAP Technomed, Inc.
Endo Pharmaceuticals
Ferring Pharmaceuticals
GenomeDx Biosciences, Inc.
Genomic Health
HealthTronics, Inc.
HIFU Solution, LLC
Hitachi-Aloka Medical
Innovative Medical Products, Inc
Janssen Biotech, Inc.
KARL STORZ
Koelis
Lumenis, Inc.
Marley Drug, Inc
MDxHealth
Medispec, Ltd.
Meditation/Astellas
Medtronic, Inc.
MiMedx Group
Myriad Genetic Laboratories, Inc.
NeoTract, Inc.
NxThera, Inc.
Olympus America, Inc.
OPKO Health
Pacific Edge Diagnostics USA, Ltd.
Photocure
Rational Surgical Solutions
Retrophin
Richard Wolf Medical Instruments
Signostics
Teleflex Medical
Thermi
TOLMAR Pharmaceuticals
Typenex Surgical
United Medical Systems
University Compounding Pharmacy

Thank You to Our 2016 Contributors
(as of 8/24/2016)

Marley Drug, Inc
Myriad Genetic Laboratories, Inc.
Ferring Pharmaceuticals
# Industry Satellite Symposium Events

**Wednesday, September 7, 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Details</th>
</tr>
</thead>
</table>
| 12:00 p.m. - 1:15 p.m. | Industry Sponsored Satellite Luncheon  
*Location: State*  
*“The Evolving Treatment Landscape for Metastatic Castration-Resistant Prostate Cancer”* | Michael A. Carducci, MD, FACP, FASCO  
The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins  
Baltimore, MD |

**Thursday, September 8, 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Details</th>
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</thead>
</table>
| 12:00 p.m. - 1:15 p.m. | Industry Sponsored Satellite Luncheon  
*Location: Crystal Room*  
*“4Kscore Test: Past, Present, Future”* | Scott Eggener, MD  
University of Chicago  
Chicago, IL |

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<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Details</th>
</tr>
</thead>
</table>
| 12:00 p.m. - 1:15 p.m. | Industry Sponsored Satellite Luncheon  
*Location: Regent Room*  
*“Continuing Care for Your Patients with Metastatic CRPC”* | Richard Harris, MD  
CEO/President, UroPartners/RMD Clinical Research  
Melrose Park, IL |
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Location</th>
<th>Presenter Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 p.m.</td>
<td><strong>Industry Sponsored Satellite Luncheon</strong></td>
<td><strong>Crystal Room</strong></td>
<td><strong>Promoting Wellness in 2016: Save Time Reviewing What Works and What Is Worthless</strong></td>
</tr>
<tr>
<td></td>
<td><em>Mark Moyad, MD, MPH</em></td>
<td></td>
<td>Department of Urology, University of Michigan</td>
</tr>
<tr>
<td></td>
<td><em>Ann Arbor, Michigan</em></td>
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</tr>
<tr>
<td>12:00 p.m.</td>
<td><strong>Industry Sponsored Satellite Luncheon</strong></td>
<td><strong>Regent Room</strong></td>
<td><strong>Key Clinical Findings for Patients with MCRPC Who Have Progressed on Androgen Deprivation Therapy</strong></td>
</tr>
<tr>
<td></td>
<td><em>William K. Johnston III, MD</em></td>
<td></td>
<td>Michigan Institute of Urology</td>
</tr>
<tr>
<td></td>
<td><em>Associate Professor, Beaumont School of Medicine</em></td>
<td></td>
<td>Novi, Michigan</td>
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</table>
Needs and Objectives

Educational Needs
The Secretary of the North Central Section (Gary Faerber, MD), consulted with other members of the Program Committee and the Executive Committee members, including the current NCS President, Dr. Gary Kirsh; recent Past-President, Dr. Patrick McKenna; Secretary-Elect, Dr. Jeffrey Triest; Chair of the NCS Education Committee, Dr. Bradley Schwartz; and AUA Secretary, Dr. Manoj Monga, regarding the needs we are attempting to fulfill through our annual scientific program. It was agreed by the above committee members, section officers, and 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 NCS region, and the Past President, AUA Secretary, AUA Chairman of Education, and NCS Board Representative will provide an update on the activities of the AUA.
Educational Objectives
At the conclusion of the 90th 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 a collaborative between payers and providers.
CME Accreditation

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

Credit Designation: The American Urological Association designates this live activity for a maximum of 27.50 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 at: ncsaua.org/docs/meetings/ncs1609/facultydisclosure.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
Off-label or Unapproved Use of Drugs or Devices: It is the policy of the AUA to require the disclosure of all references to off-label or unapproved uses of drugs or devices prior to the presentation of educational content. The audience is advised that this continuing medical education activity may contain reference(s) to off-label or unapproved uses of drugs or devices. Please consult the prescribing information for full disclosure of approved uses.

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

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

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

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

Special Assistance/Dietary Needs: The American Urological Association complies with the Americans with Disabilities Act §12112(a). If any participant is in need of special assistance or has any dietary restrictions, please see the registration desk.
OFFICERS

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President-Elect
James C. Ulchaker, MD, FACS

Secretary
Gary J. Faerber, MD

Secretary-Elect
Jeffrey A. Triest, MD

Treasurer
Mark D. Stovsky, MD, MBA, FACS

Immediate Past President
Patrick H. McKenna, MD, FAAP, FACS

Historian
Edward E. Cherullo, MD

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Indiana
Mark D. Dabagia, MD, FACS

Iowa
Damon J. Dyche, MD

Michigan
Dinesh J. Telang, MD

Minnesota, North Dakota, South Dakota
Roland R. Ugarte, MD, FACS

Ohio
Lawrence J. Litscher, MD

Wisconsin
Michael L. Guralnick, MD, FRCSC

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Chandru P. Sundaram, MD

Young Urologist Committee Chair
Tobias S. Kohler, MD, MPH, FACS

Young Urologist Committee Vice Chair
Stephen A. Boorjian, MD

Executive Director
Wendy J. Weiser

Associate Director
Samantha N. Panicola
AUA SECTION SECRETARIES/MEMBERSHIP COUNCIL
Gary J. Faerber, MD; Salt Lake City, UT (Representative)

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Gary J. Faerber, MD; Salt Lake City, UT (Secretary)
Jeffrey A. Triest, MD; Detroit, MI (Secretary-Elect)
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Mark D. Dabagia, MD, FACS; Fort Wayne, IN (Indiana)
Damon J. Dyche, MD; Ames, IA (Iowa)
Michael L. Guralnick, MD, FRCSC; Milwaukee, WI (Wisconsin)
Tobias S. Kohler, MD, MPH, FACS; Springfield, IL (Illinois)
Lawrence J. Litscher, MD; Dayton, OH (Ohio)
Dinesh J. Telang, MD; Roseville, MI (Michigan)
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Sara L. Best, MD; Madison, WI (Wisconsin Representative)
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**AUA YOUNG UROLOGIST COMMITTEE**
Stephen A. Boorjian, MD; Rochester, MN (Representative)
Past Presidents and Annual Meeting Sites

2015  Patrick H. McKenna, MD, FAAP, FACS  Amelia Island, FL
2014  Christopher S. Cooper, MD, FAAP, FACS  Chicago, IL
2013  Chandru P. Sundaram, MD  Naples, FL
2012  Howard N. Winfield, MD, FACS  Chicago, IL
2011  Peter M. Knapp Jr., MD, FACS  Rancho Mirage, CA
2010  Steven W. Siegel, MD  Chicago, IL
2009  Stephen Y. Nakada, MD, FACS  Scottsdale, AZ
2008  Jay B. Hollander, MD  Chicago, IL
2007  Dennis A. Pessis, MD  Hollywood, FL
2006  David E. Patterson, MD  Coronado, CA
2005  Robert C. Flanigan, MD  Chicago, IL
2004  Frank P. Begun, MD  Miami Beach, FL
2003  Elroy D. Kursh, MD  Vancouver, BC, Canada
2002  R. Bruce Bracken, MD  Chicago, IL
2001  Richard A. Memo, MD  Chicago, IL
2000  J. Randolf Behrs, MD  Scottsdale, AZ
1999 * Richard D. Williams, MD  Chicago, IL
1998  James E. Lingeman, MD  Amelia Island, FL
1997  Ananias C. Diokno, MD  Monterey, CA
1996  Earl H. Johnson, MD  Tucson, AZ
1995 * Joseph W. Segura, MD  Minneapolis, MN
1994  Jack L. Summers, MD, PhD  Boca Raton, FL
1993  Arthur J. Johnson, MD  Milwaukee, WI
1992  Eugene T. McEnery, MD  Dorado, PR
1991  Charles E. Hawtrey, MD  Scottsdale, AZ
1990  Lawrence S. Ross, MD  Colorado Springs, CO
1989  Charles W. Troup, MD  Chicago, IL
1988  Paul R. Hartig, MD  Orlando, FL
1987  Kenneth A. Kropp, MD  Detroit, MI
1986  Joseph C. Cerny, MD  Rancho Mirage, CA
1985 * John D. Silbar, MD  Palm Beach, FL
1984 * Edwin D. Kennedy, MD  Cedar Rapids, IA
1983 * John P. Donohue, MD  Maui, HI
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
1978 * Jack Lapides, MD  Chicago, IL
1977 * Laurence F. Greene, MD  Coronado, CA
1976 * Harry E. Lichtwardt, MD  Palm Beach, FL
1975 * David Presman, MD  Phoenix, AZ
1974 * David A. Culp, MD  Columbus, OH
1973 * Lester Persky, MD  Acapulco, DF, Mexico
1972  George J. Bulkley, MD  Chicago, IL
1971 * Jack N. Taylor, MD  Detroit, MI
1970 * Myron H. Nourse, MD  Cincinnati, OH
<table>
<thead>
<tr>
<th>Year</th>
<th>President</th>
<th>City</th>
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<tr>
<td>1969</td>
<td>James W. Sargent, MD</td>
<td>Milwaukee, WI</td>
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<td>1968</td>
<td>Baxter Allen Smith, Jr., MD</td>
<td>Rochester, MN</td>
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<td>1967</td>
<td>Paul J. Schildt, MD</td>
<td>Cleveland, OH</td>
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<td>1966</td>
<td>Frank B. Bicknell, MD</td>
<td>Chicago, IL</td>
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<td>1965</td>
<td>Ormond Culp, MD</td>
<td>Minneapolis, MN</td>
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<td>1964</td>
<td>Donald J. Jaffar, MD</td>
<td>Columbus, OH</td>
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<td>1963</td>
<td>F. Harold Entz, MD</td>
<td>Chicago, IL</td>
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<td>1962</td>
<td>Charles J. Cooney, MD</td>
<td>Detroit, MI</td>
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<td>1961</td>
<td>Edwin C. Graf, MD</td>
<td>Cincinnati, OH</td>
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<td>1960</td>
<td>T. Brent Wayman, MD</td>
<td>French Lick, IN</td>
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<td>1959</td>
<td>N. Warren Bourne, MD</td>
<td>Chicago, IL</td>
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<td>1958</td>
<td>C. Grafton Weller, MD</td>
<td>Milwaukee, WI</td>
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<td>1957</td>
<td>John L. Emmett, MD</td>
<td>Mackinac Island, MI</td>
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<td>1956</td>
<td>C.D. Creevy, MD</td>
<td>Cleveland, OH</td>
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<td>1955</td>
<td>William J. Butler, MD</td>
<td>Chicago, IL</td>
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<td>1954</td>
<td>Rubin H. Flocks, MD</td>
<td>Detroit, MI</td>
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<td>1953</td>
<td>William J. Engel, MD</td>
<td>Cincinnati, OH</td>
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<td>1952</td>
<td>Reed M. Nesbit, MD</td>
<td>Minneapolis, MN</td>
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<td>1951</td>
<td>William N. Wishard, Jr., MD</td>
<td>Toledo, OH</td>
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<td>1950</td>
<td>Russell D. Herrold, MD</td>
<td>Milwaukee, WI</td>
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<td>1949</td>
<td>James C. Sargent, MD</td>
<td>Grand Rapids, MI</td>
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<td>1948</td>
<td>Robert S. Breakey, MD</td>
<td>Des Moines, IA</td>
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<td>1947</td>
<td>William J. Baker, MD</td>
<td>Cleveland, OH</td>
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<td>1946</td>
<td>Walter M. Kearns, MD</td>
<td>Rochester, MN</td>
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<td>1944</td>
<td>H.W. Plaggemeyer, MD</td>
<td>Chicago, IL</td>
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<td>1941</td>
<td>G.J. Thompson, MD</td>
<td>Detroit, MI</td>
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<td>1940</td>
<td>Ernest Rupel, MD</td>
<td>Milwaukee, WI</td>
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<td>1939</td>
<td>Charles C. Higgins, MD</td>
<td>Indianapolis, IN</td>
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<td>1938</td>
<td>W.G. Sexton, MD</td>
<td>Peoria, IL</td>
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<td>1937</td>
<td>Charles M. McKenna, MD</td>
<td>Madison, WI</td>
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<td>1936</td>
<td>Parke Smith, MD</td>
<td>Cincinnati, OH</td>
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<td>1935</td>
<td>Robert E. Cumming, MD</td>
<td>Rochester, MN</td>
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<td>1934</td>
<td>Frederic E.B. Foley, MD</td>
<td>Cleveland, OH</td>
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<tr>
<td>1933</td>
<td>Vincent J. O'Connor, MD</td>
<td>Chicago, IL</td>
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<td>1932</td>
<td>William N. Taylor, MD</td>
<td>Detroit, MI</td>
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<td>1931</td>
<td>H.M. Stang, MD</td>
<td>St. Paul, MN</td>
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<td>1930</td>
<td>Ira R. Sisk, MD</td>
<td>Indianapolis, IN</td>
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<td>1929</td>
<td>Harry Culver, MD</td>
<td>Rochester, MN</td>
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<td>1928</td>
<td>J.L. Crenshaw, MD</td>
<td>Columbus, OH</td>
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<td>1927</td>
<td>E.O. Smith, MD</td>
<td>Madison, WI</td>
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<td>1926</td>
<td>H.L. Morris, MD</td>
<td>Cincinnati, OH</td>
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<td>1925</td>
<td>N.G. Alcock, MD</td>
<td>Detroit, MI</td>
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<tr>
<td>1924</td>
<td>G.J. Thomas, MD</td>
<td>Iowa City, IA</td>
</tr>
</tbody>
</table>

*Deceased
Board of Directors and Committee Meetings

Tuesday, September 6, 2016

9:30 a.m. - 9:45 a.m.  Executive Committee Meeting  
  Location: Regal

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

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

11:30 a.m. - 12:00 p.m.  Annual Meeting Committee Meeting  
  Location: Regal

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

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

Wednesday, September 7, 2016

7:00 a.m. - 8:00 a.m.  Nominating Committee Meeting  
  Location: Regal

12:00 p.m. - 1:15 p.m.  Young Urologist Committee Meeting  
  Location: Regal

Thursday, September 8, 2016

12:00 p.m. - 1:15 p.m.  Health Policy Council Meeting  
  Location: Regal

Friday, September 9, 2016

12:00 p.m. - 1:15 p.m.  Editorial and Awards Committee Meeting  
  Location: Regal
General Meeting Information

**Scientific Sessions**  
*Location: International Ballroom*  
<table>
<thead>
<tr>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Wednesday, September 7, 2016</td>
<td>8:00 a.m. – 5:00 p.m.</td>
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<tr>
<td>Thursday, September 8, 2016</td>
<td>6:30 a.m. – 5:45 p.m.</td>
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<tr>
<td>Friday, September 9, 2016</td>
<td>6:30 a.m. – 5:30 p.m.</td>
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<tr>
<td>Saturday, September 10, 2016</td>
<td>7:00 a.m. – 11:55 a.m.</td>
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</tbody>
</table>

**Registration/Instruction Desk Hours**  
*Location: International Foyer*  
<table>
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<tr>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Wednesday, September 7, 2016</td>
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<tr>
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<td>6:00 a.m. – 5:45 p.m.</td>
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<tr>
<td>Friday, September 9, 2016</td>
<td>6:00 a.m. – 5:30 p.m.</td>
</tr>
<tr>
<td>Saturday, September 10, 2016</td>
<td>6:30 a.m. – 11:55 a.m.</td>
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</table>

**Exhibit Hall Hours**  
*Location: Imperial Ballroom*  
<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>Wednesday, September 7, 2016</td>
<td>6:30 p.m. – 8:30 p.m.</td>
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<tr>
<td>Thursday, September 8, 2016</td>
<td>7:00 a.m. – 4:00 p.m.</td>
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<tr>
<td>Friday, September 9, 2016</td>
<td>7:00 a.m. – 11:00 a.m.</td>
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</tbody>
</table>

**Spouse/Guest Hospitality Suite Hours**  
*Location: Embassy*  
<table>
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<tr>
<th>Date</th>
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<tbody>
<tr>
<td>Wednesday, September 7, 2016</td>
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<td>7:30 a.m. – 11:00 a.m.</td>
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<tr>
<td>Friday, September 9, 2016</td>
<td>7:30 a.m. – 11:00 a.m.</td>
</tr>
<tr>
<td>Saturday, September 10, 2016</td>
<td>7:30 a.m. – 11:00 a.m.</td>
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</tbody>
</table>
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 Wine Tasting
Date: Wednesday, September 7, 2016
Time: 6:30 p.m. – 8:30 p.m.
Location: Imperial Ballroom
Attire: Casual
Cost: One ticket included in registration; additional tickets are $50.00 for adults and free for children under the age of 13.

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

Young Urologists Mixer
Date: Thursday, September 8, 2016
Time: 6:00 p.m. – 7:00 p.m.
Location: Regent Room
Attire: Business Casual
Cost: This is a free event open to residents and urologists who are within ten years post-training.

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

Annual Banquet
Date: Friday, September 9, 2016
Time: 6:30 p.m. – 7:30 p.m. Cocktails and Hors d’Oeuvres
7:30 p.m. – 11:00 p.m. Dinner and Entertainment
Location: Imperial Ballroom
Attire: Black Tie Optional
Cost: One ticket included in registration; additional tickets are $185.00.

The 2016 Annual Banquet promises to be an affair to remember. This event will feature delicious culinary delights followed by an enthralling evening of music and dancing.

Tables are assigned during the meeting, so be sure to sign up with your friends/colleagues on the boards posted by the NCS registration desk.
The North Central Section thanks all the presenters for their outstanding commitment to the 90th Annual Meeting.

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

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

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

**Speaker Ready Room Hours**

*Location: Royal*

<table>
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<tbody>
<tr>
<td>Wednesday, September 7</td>
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<td>6:00 a.m. – 5:30 p.m.</td>
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<tr>
<td>Saturday, September 10</td>
<td>6:30 a.m. – 11:55 a.m.</td>
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</tbody>
</table>
90th Annual Meeting of the North Central Section of the AUA

All sessions are located in *International Ballroom* unless otherwise noted

**WEDNESDAY, SEPTEMBER 7, 2016**

**OVERVIEW**

7:00 a.m. - 5:00 p.m.  Registration/Information Desk Hours
  Location: International Foyer

7:00 a.m. - 5:00 p.m.  Speaker Ready Room Hours
  Location: Royal

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

7:30 a.m. - 8:30 a.m.  Continental Breakfast
  Location: International Ballroom

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

6:30 p.m. - 8:30 p.m.  Welcome Reception and Wine Tasting
  Location: Imperial Ballroom

**GENERAL SESSION**

8:00 a.m. - 10:30 a.m.  Live Surgery Transmission from the University of Chicago
  Moderator:  Chandru P. Sundaram, MD
  Indianapolis, IN

  Blue Light TURBT
  Surgeon:  Gary D. Steinberg, MD
  Chicago, IL

  Robotic Partial Nephrectomy
  Surgeon:  Arieh L. Shalhav, MD
  Chicago, IL

10:30 a.m. - 11:00 a.m.  Break
  Location: International Foyer

11:00 a.m. - 12:00 p.m.  AUA Course of Choice: Geriatric Urology: Basic Principles for Urologic Practice
  AUA Course of Choice Guest Speaker:  Tomas L. Griebling, MD, MPH
  Kansas City, KS

12:00 p.m. - 1:15 p.m.  Industry Sponsored Satellite Symposium
  Location: State
**Concurrent Sessions Begin**

Concurrent Session 1 of 2

1:15 p.m. - 5:00 p.m. **Health Policy and Practice Management**

1:15 p.m. - 2:45 p.m. **Session I: Legislative Affairs & Health Policy**
Moderators: Lawrence J. Litscher, MD  
*Dayton, OH*  
Norm D. Smith, MD  
*Chicago, IL*

1:15 p.m. - 1:45 p.m. **New Reimbursement Models in the ACA**
Speaker: Christopher M. Gonzalez, MD, MBA, FACS  
*Cleveland, OH*

1:45 p.m. - 2:05 p.m. **Legislative Priorities in Urology: 2016 UROPAC Update**
Speaker: James C. Ulchaker, MD, FACS  
*Cleveland, OH*

2:05 p.m. - 2:25 p.m. **AACU Update**
Speaker: Patrick H. McKenna, MD, FAAP, FACS  
*Madison, WI*

2:25 p.m. - 2:45 p.m. **Health Policy & Advocacy: The Gallagher Scholar Prospective**
Speaker: Norm D. Smith, MD  
*Chicago, IL*

2:45 p.m. - 3:00 p.m. **Break**
*Location: International Foyer*

3:00 p.m. - 5:00 p.m. **Session II: Practice Management and Clinical Operations**
Moderators: Teresa D. Beam, MD, FACS  
*Noblesville, IN*  
Matthew T. Gettman, MD  
*Rochester, MN*  
Douglas P. Roegner, MD  
*Rockford, IL*

3:00 p.m. - 3:20 p.m. **Update on the AUA AQUA Registry**
Speaker: J. Quentin Clemens, MD  
*Ann Arbor, MI*

3:20 p.m. - 3:40 p.m. **Driving Traditional and Non-Traditional Revenue Streams in Private Practice**
Speaker: Peter M. Knapp Jr., MD, FACS  
*Carmel, IN*
3:40 p.m. - 4:00 p.m.  The Urologic Practice of the Future, Now: An Academic Practice Perspective
Speaker: Ted A. Skolarus, MD, MPH
Ann Arbor, MI

4:00 p.m. - 4:50 p.m.  Social Media Implications in Risk Management and Malpractice Claims
Speaker: Thomas L. O’Carroll, JD
Chicago, IL

4:50 p.m. - 5:00 p.m.  NCS/AACU Health Policy Award Ceremony and Award-Winning Presentation
Presenter: Matthew T. Gettman, MD
Rochester, MN

Concurrent Session 2 of 2

1:15 p.m. - 5:00 p.m.  Primary Care Update in Urology
Location: Rouge
Moderator: Ajay Singla, MD
Toledo, OH

1:15 p.m. - 1:35 p.m.  Controversies in Early Detection of Prostate Cancer
Speaker: Philipp Dahm, MD, MHSc, FACS
Minneapolis, MN

1:35 p.m. - 1:55 p.m.  Male Hypogonadism and Testosterone Therapy
Speaker: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL

1:55 p.m. - 2:15 p.m.  Nephrothialisis - Workup and Management
Speaker: Bodo E. Knudsen, MD, FRCSC
Columbus, OH

2:15 p.m. - 2:35 p.m.  Hematuria Workup & What Primary Care Physicians Need to Know
Speaker: Cheryl T. Lee, MD
Ann Arbor, MI

2:35 p.m. - 3:05 p.m.  Break
Location: Rouge

3:05 p.m. - 3:25 p.m.  BPH - For Primary Care New Therapies
Speaker: Kevin T. McVary, MD, FACS
Springfield, IL

3:25 p.m. - 3:45 p.m.  LUTS & OAB in Women
Speaker: Deborah J. Lightner, MD
Rochester, MN
3:45 p.m. - 4:05 p.m. Recurrent UTI's in Women - How to Manage and When to Refer
Speaker: Elizabeth Broghammer Takacs, MD
Iowa City, IA

4:05 p.m. - 4:30 p.m. Erectile Dysfunction - Medical Therapy
Speaker: Nelson Bennett Jr., MD
Chicago, IL

4:30 p.m. - 5:00 p.m. Infertility - ABC for Primary Care
Speaker: Puneet Sindhwani, MD, MS, MBBS, MSBS
Toledo, OH

Concurrent Sessions End

6:30 p.m. - 8:30 p.m. Welcome Reception and Wine Tasting
Location: Imperial Ballroom

THURSDAY, SEPTEMBER 8, 2016

OVERVIEW

6:00 a.m. - 5:45 p.m. Registration/Information Desk Hours
Location: International Foyer

6:00 a.m. - 5:45 p.m. Speaker Ready Room Hours
Location: Royal

7:00 a.m. - 4:00 p.m. Exhibit Hall Hours
Location: Imperial Ballroom

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

2:00 p.m. - 4:00 p.m. NCS Job Fair
Location: Imperial Foyer

Concurrent Sessions Begin

Concurrent Session 1 of 2

6:30 a.m. - 7:30 a.m. Video Session
Location: Rouge
Moderators: Damon J. Dyche, MD
Ames, IA
Aaron J. Milbank, MD
Woodbury, MN
Video #1 CHOOSING THE RIGHT APPROACH TO OPTIMIZE TREATMENT OF LARGE STONES IN THE ECTOPIC PELVIC KIDNEY
Rajat Jain¹, Michael Borofsky, MD², Marwan El Tayeb, MD², Ronald Boris, MD² and James Lingeman, MD²
¹IU School of Medicine; ²Indiana University
Presented By: Rajat Jain, MD

Video #2 ENDOCOPIC URETEROCELE INCISION WHICH BEGINS FROM URETHRAL SEGMENT OF URETEROCELE AND EXTENDS TO BLADDER NECK IS A FEASIBLE AND SIMPLE PROCEDURE
Max Maizels, MD, Dennis Liu, MD, Edward Ming-luan Gong, MD, William E. Kaplan, MD, Earl Y. Cheng, MD
Lurie Children's Hospital
Presented By: Max Maizels, MD

Video #3 ADVANCED WIRE TECHNIQUES FOR COMPLEX PERCUTANEOUS NEPHROLITHOTOMY
Nadya York, MbChB, Michael Borofsky, MD, Casey Dauw, MD, Jessica Mandeville, MD, James Lingeman, MD
Indiana University Methodist Hospital, Indianapolis
Presented By: Nadya York, MbChB

Video #4 HARVEST OF TENSOR FASCIA LATA GRAFT FOR ABDOMINAL SACRAL COLPOPEXY
Maria Voznesensky, MD, Nathan Brooks, MD, Elizabeth Takacs, MD and Karl Kreder, MD
The University of Iowa Hospital and Clinic
Presented By: Nathan A. Brooks

Video #5 ROBOT-ASSISTED RETROPERITONEAL LYMPH NODE DISSECTION (RA-RPLND) IN THE PEDIATRIC POPULATION
Alexander Glaser, MD¹, Diana Bowen, MD¹, Bruce Lindgren, MD² and Joshua Meeks, MD, PhD¹
¹Northwestern University; ²Ann & Robert H. Lurie Children’s Hospital of Chicago
Presented By: Alexander P. Glaser, MD

Video #6 ROBOTIC PARTIAL NEPHRECTOMY FOR A COMPLETELY ENDOPHYTIC POSTERIOR RENAL MASS
Kevin Spellman, BS Chemical Engineering, Sunny Cai, BS, Michael Weintraub, MD, Steven Kheyfets, MD and Chandru Sundaram, MD
IUSM
Presented By: Michael Weintraub, MD
Video #7  
MRI GUIDED SALVAGE CRYOABLATION OF RECURRENT PROSTATE CANCER  
David Y. Yang, MD¹, David A. Woodrum, MD² and Lance A. Mynderse, MD, FACS¹  
¹Mayo Clinic, Department of Urology; ²Mayo Clinic, Department of Radiology  
Presented By: David Y. Yang, MD

Video #8  
PEDIATRIC ROBOT ASSISTED LAPAROSCOPIC MEGAURETER TAPERING WITH URETERAL REIMPLANTATION: TECHNIQUES AND OUTCOMES  
Belinda Li, MD¹, Bruce W. Lindgren, MD², Dennis B. Liu, MD² and Edward M. Gong, MD²  
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children's Hospital of Chicago  
Presented By: Belinda Li, MD

Video #9  
FEASIBILITY OF OMITTING CORTICAL RENORRHAPHY DURING ROBOT-ASSISTED PARTIAL NEPHRECTOMY  
Andrew Vissing  
Indiana University School of Medicine  
Presented By: Andrew Vissing

Concurrent Session 2 of 2

6:30 a.m. - 7:30 a.m.  
Endourology Update  
Location: International Ballroom  
Speakers: Casey A. Dauw, MD  
Indianapolis, IN  
James E. Lingeman, MD  
Indianapolis, IN

Concurrent Sessions End

7:30 a.m. - 8:00 a.m.  
Break- Visit Exhibits  
Location: Imperial Ballroom

8:00 a.m. - 8:05 a.m.  
President's Welcome  
President: Gary M. Kirsh, MD  
Cincinnati, OH

8:05 a.m. - 8:30 a.m.  
Guest Lecture: Immunotherapy: The Role of the Urologist  
Guest Speaker: Neal D. Shore, MD  
Myrtle Beach, SC

8:30 a.m. - 9:15 a.m.  
Guest Lecture: Advanced Prostate Cancer Therapy: The Role of the Urologist  
Guest Speaker: Neal D. Shore, MD  
Myrtle Beach, SC
9:15 a.m. - 10:00 a.m.  Panel Discussion: Management of Advanced Castrate Resistant Prostate Cancer
Moderator: Christopher A. Warlick, MD, PhD
Minneapolis, MN
Panelists: Elisabeth Heath, MD
Detroit, MI
Gary M. Kirsh, MD
Cincinnati, OH
Neal D. Shore, MD
Myrtle Beach, SC

10:00 a.m. - 10:30 a.m.  Prostate Cancer Update 2016
Speaker: William J. Catalona, MD
Chicago, IL

10:30 a.m. - 11:00 a.m.  Break - Visit Exhibits
Location: Imperial Ballroom

11:00 a.m. - 12:00 p.m.  Patient Safety Podium Session
Moderators: Geoffrey N. Box, MD
Columbus, OH
Gary J. Faerber, MD
Salt Lake City, UT
Discussant: John T. Stoffel, MD
Ann Arbor, MI

11:00 a.m.  #1  UTILIZATION OF A VALIDATED, LOW-COST SUPRAPUBIC TUBE MODEL IN UROLOGY RESIDENT TRAINING IMPROVES KNOWLEDGE AND PERFORMANCE OF SUPRAPUBIC TUBE PLACEMENT
Stephanie Kielb, MD and Mary Kate Keeter, MPH
Northwestern University Feinberg School of Medicine
Presented By: Stephanie J. Kielb, MD

11:04 a.m.  #2  RESIDENT AND NURSE COMMUNICATION PRACTICES: RESULTS OF A QUALITY IMPROVEMENT COLLABORATIVE
Duncan Morhardt, MD/PhD¹, Amy Luckenbaugh, MD², Tiffany Hecklinski, MS², Adam Mellem, RN², Christina Reames, MS, RN² and Gary Faerber, MD²
¹University of Michigan; ²University of Michigan Health Systems
Presented By: Duncan R. Morhardt, MD, PhD
11:08 a.m. #3 MISSING MALNUTRITION: A PROSPECTIVE QUALITY IMPROVEMENT PROJECT FOR MALNUTRITION ASSESSMENT IN HIGH-RISK INPATIENT POPULATION
Conrad Tobert, MD¹, Lewis Thomas, MD¹, Douglas Robertson², Bridget Drapeaux², Sarah Bell² and Kenneth Nepple, MD¹
¹University of Iowa Hospitals and Clinics, Department of Urology; ²University of Iowa Hospitals and Clinics
Presented By: Conrad Tobert, MD

11:12 a.m. #4 A QUALITY IMPROVEMENT PROJECT TO REDUCE TRAUMA, INFECTION, AND OVERALL USE OF FOLEY CATHETERS IN A LARGE ACADEMIC COMMUNITY HOSPITAL
Chirag Dave, MD¹, Paras Vakharia², David Pridmore, MD¹, Heather Crossley¹ and Jay Hollander, MD¹
¹Beaumont Health System; ²Oakland University William Beaumont College of Medicine
Presented By: Chirag N. Dave, MD

11:16 a.m. #5 EVALUATION OF THE CURRENT PRACTICE HABITS FOR THE INITIAL MANAGEMENT OF URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT
Neel Parekh, MD¹, Rhys Irvine, MD¹, Scott Poland, MD², Erin Simon, DO¹, Kimberly Sloan Stakleff, PhD¹ and Raymond Bologna, MD¹
¹Akron General Medical Center; ²Northeast Ohio Medical Center
Presented By: Neel Parekh, MD

11:20 a.m. #6 OVERESTIMATING CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTI): THE VALUE OF URINE CULTURE IN EVALUATION OF FEVER
Zachary Gordon, MD, Julie Mangino, MD, Daniel Eiferman, MD, Iahn Gonsenhauser, MD and Susan Moffatt-Bruce, MD, PhD
The Ohio State University Wexner Medical Center
Presented By: Zachary Gordon, MD

11:24 a.m. #7 TRANSVERSUS ABDOMINIS PLANE BLOCKADE AS AN INTEGRAL COMPONENT OF A MULTIMODAL POST-OPERATIVE ANALGESIA PLAN IN RADICAL CYSTECTOMY PATIENTS
Richard Matulewicz, MS MD, Jacqueline Morano, MD, Yasin Bhanji, Mehul Patel, MD, Shilajit Kundu, MD, Joshua Meeks, MD PhD and Anton Nader, MD
Northwestern University Feinberg School of Medicine
Presented By: Richard S. Matulewicz, MS MD
11:28 a.m. #8  30-DAY ALL-CAUSE HOSPITAL READMISSION AFTER CYSTECTOMY NO WORSE FOR RURAL MEDICARE RESIDENTS
Daniel Sadowski, MD, MPhil, Steve Scaife, MS and Shaheen Alanee, MD, MPH, MBA
SIU SOM
Presented By: Daniel Sadowski, MD, MPhil

11:32 a.m. #9  WITHDRAWN

11:36 a.m. #10  ONLINE SUPPORT GROUPS FOR BLADDER CANCER: A QUALITATIVE EXPLORATION
Andrew Cohen, MD, Vignesh Packiam, MD, Charles Nottingham, MD, Norm Smith, MD and Gary Steinberg, MD
University of Chicago
Presented By: Andrew Cohen, MD

11:40 a.m. #11  LOWERING ILLUMINATION INTENSITY CAN REDUCE BURN RISK WITH ENDOSCOPIC FIBEROPTIC LIGHT CABLES
Zachary Gordon, MD, Susan Moffatt-Bruce, MD, PhD, Bodo Knudsen, MD and Geoffrey Box, MD
The Ohio State University Wexner Medical Center
Presented By: Zachary Gordon, MD

11:45 a.m. - 12:00 p.m. Q&A

12:00 p.m. - 1:15 p.m. Industry Sponsored Luncheon
Location: Crystal Room

12:00 p.m. - 1:15 p.m. Industry Sponsored Luncheon
Location: Regent Room

1:15 p.m. - 2:00 p.m. Female Urology Update: Case Discussion
Moderator: Dinesh J. Telang, MD
Roseville, MI
Panelists: Howard B. Goldman, MD
Cleveland, OH
Stephanie J. Kielb, MD
Chicago, IL
Concurrent Sessions Begin

Concurrent Session 1 of 4

2:00 p.m. - 2:55 p.m.  
**Adrenal/Kidney Malignant/Benign Podium Session**  
*Location: Gold*

Moderators:  
- Clinton D. Bahler, MD, MS  
  *Carmel, IN*
- Peter Langenstroer, MD, MS  
  *Milwaukee, WI*

Discussant:  
- Venkatesh Krishnamurthi, MD  
  *Cleveland, OH*

2:00 p.m.  #12  
**SMALL RENAL MASS BIOPSY IS COST EFFECTIVE AND REDUCES SURGERY FOR BENIGN TUMORS**  
Amy Lim, Jennifer Heckman, MD, Timothy Ziemlewicz, MD, Best Sara, MD, Wells Shane, MD, Megan Lubner, MD, J. Louis Hinshaw, MD, Fangfang Shi, MS, Fred Lee, MD, Stephen Nakada, MD and E. Jason Abel, MD  
University of Wisconsin  
Presented By: Amy H. Lim, MD

2:04 p.m.  #13  
**OFFICE BASED ULTRASOUND GUIDED RENAL CORE BIOPSY IS SAFE AND EFFICACIOUS IN THE MANAGEMENT OF SMALL RENAL MASSES**  
Chirag Dave, MD¹, Brian Seifman, MD¹, Rene Frontera, MD¹, Travis Washington², Preston Kerr², Heather Crossley¹ and Edward Schervish, MD¹  
¹Beaumont Health System; ²Oakland University William Beaumont College of Medicine  
Presented By: Chirag N. Dave, MD

2:08 p.m.  #14  
**METASTATIC TUMOR BURDEN DOES NOT PREDICT POOR OUTCOMES; A THREE DIMENSIONAL VOLUMETRIC ANALYSIS**  
Matthew D. Grimes, MD, Michael A. Mann, BS, Michael L. Blute, MD, Timothy J. Ziemlewicz, MD, Josh M. Lang, MD, Christos Kryiakopoulos, MD, David F. Jarrard, MD, Tracy M. Downs, MD, Kyle A. Richards, MD, Fangfang Shi, MS and E. Jason Abel, MD  
University of Wisconsin  
Presented By: Matthew D. Grimes, MD
2:12 p.m.  #15  A CRITICAL ANALYSIS OF PERIOPERATIVE OUTCOMES IN MORBIDLY OBESE PATIENTS FOLLOWING RENAL MASS SURGERY
Matthew D. Grimes, MD, Michael L. Blute, MD, Michael A. Mann, BS, Tracy M. Downs, MD, Fangfang Shi, MS, David F. Jarrard, MD, Sara L. Best, MD, Kyle A. Richards, MD, Stephen Y. Nakada, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Matthew D. Grimes, MD

2:16 p.m.  #16  OUTCOMES FOR COMPLICATED RENAL TUMORS TREATED WITH IRREVERSIBLE ELECTROCORPORATION
Robert Medairos, BS, Preston Smith, MD, Kalyan Latchamsetty, MD, Christopher Coogan, MD and Bulent Arslan, MD
Rush University Medical Center
Presented By: Robert Anthony Medairos

2:20 p.m.  #17  LIFE-TIME RISK OF END STAGE RENAL DISEASE AFTER NEPHRECTOMY: PROGNOSTIC FACTORS AFFECTING RISK OF ESRD
John A Cochrane, BS, Suzanne Kissel, BS, Chandru Sundaram, MD and Clint Bahler, MD, MS
Indiana University School of Medicine
Presented By: John Cochrane, BS

2:24 p.m.  #18  INTRAVESICAL OXYCHLOROSENE (CLORPACTIN WCS-90) SIGNIFICANTLY REDUCES THE INCIDENCE OF INFECTION AND ANTIBIOTIC RESISTANCE IN PATIENTS WITH RECURRENT URINARY TRACT INFECTIONS
Nathan Brooks, MD, Joseph Kowalski, MD, Brad Erickson, MD, Elizabeth Takacs, MD and Karl Kreder, MD
The University of Iowa Hospital and Clinic
Presented By: Nathan A. Brooks

2:28 p.m.  #19  ROLE OF BIOPSY IN MANAGEMENT OF LARGE, LOCALLY ADVANCED, AND METASTATIC RENAL MASSES
Amy Lim, Jennifer Heckman, MD, Timothy Ziemlewicz, MD, Sara Best, MD, Shane Wells, MD, Meghan Lubner, MD, J. Louis Hinshaw, MD, Fred Lee, MD, Stephen Nakada, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Amy H. Lim, MD
2:32 p.m.  #20  ONCOLOGICAL OUTCOMES COMPARING INTRAVESICAL AND EXTRAVESICAL BLADDER CUFF EXCISION FOLLOWING RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA
Amir Toussi, MD, Tanner Miest, MD, Stephen Boorjian, MD, Bradley Leibovich, MD, R. Houston Thompson, MD, George Chow, MD and Matthew Tollefson, MD
Mayo Clinic
Presented By: Amir Toussi, MD

2:36 p.m.  #21  CHARACTERIZING PERI-RENAL NON-ONCOLOGIC RADIOGRAPHIC CHANGES AFTER ROBOT-ASSISTED PARTIAL NEPHRECTOMY
Adam Calaway¹, Trevor Crafts, MS3¹, Timothy Masterson, MD², Thomas Gardner, MD², Chandru Sundaram, MD², Aashish Patel, MD³ and Ronald Boris, MD²
¹Indiana University School of Medicine; ²Indiana University Department of Urology; ³Indiana University Department of Radiology
Presented By: Adam C. Calaway, MD

2:40 p.m. - 2:55 p.m.  Q&A

Concurrent Session 2 of 4

2:00 p.m. - 3:00 p.m.  Penis/Urethra Podium Session
Location: Rouge
Moderators:  Bahaa S. Malaeb, MD
Ann Arbor, MI
Roland R. Ugarte, MD, FACS
Edina, MN
Discussant:  Joshua J. Meeks, MD, PhD
Chicago, IL

2:00 p.m.  #22  HYPOGONADISM IS A RISK FACTOR FOR ARTIFICIAL URINARY SPHINCTER CUFF EROSION
Matthias Hofer, MD, Kunj Sheth, MD, Timothy Tausch, MD, Jordan Siegel, MD, Billy Cordon, MD, Nicholas Kavoussi, MD, Alexandra Klein, BS, Claus Roehrborn, MD and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD
2:04 p.m. #23  INCIDENCE OF URETHRAL STRicture AND LICHEN SCLEROSUS IN PATIENTS WITH CONCEALED PENIS
Aron Liaw, MD, Lanette Rickborn, BSc and Christopher McClung, MD
Ohio State University
Presented By: Aron Liaw, MD

2:08 p.m. #24  PROFOUND INFLUENCE OF ANDROGENS ON HISTOLOGIC ARCHITECTURE OF THE RAT URETHRA
Matthias Hofer, MD¹, Billy Cordon, MD¹, Matthew Bury, BS², Earl Cheng, MD², Arun Sharma, MD², Chris Gonzalez, MD² and Allen Morey, MD¹
¹UT Southwestern; ²Northwestern University
Presented By: Matthias D. Hofer, MD, PhD

2:12 p.m. #25  OUTCOMES OF MEN UNDERGOING IN-OFFICE HYDROCELECTOMY UNDER LOCAL ANESTHESIA
Matthew Ziegelmann, MD and Landon Trost, MD
Mayo Clinic Rochester
Presented By: Matthew J. Ziegelmann, MD

2:16 p.m. #26  PATHOGENIC MECHANISMS OF EPIDIDYMAL CYSTS AND SPERMATOCELE FORMATION
Kathryn LaRusso, MD², Aram Loeb, MD¹, Kahlil Saad, MD¹ and George Steinhardt, MD³
¹Wayne State University; ²Michigan State University; ³Helen DeVos Children's Hospital
Presented By: Kahlil N. Saad, MD

2:20 p.m. #27  MANAGEMENT OF CLINICAL STAGE I SEMINOMA: HEADED IN THE RIGHT DIRECTION, BUT FAST ENOUGH?
Richard Matulewicz, MS, MD¹, Daniel Oberlin, MD¹, Joel Sheinfeld, MD² and Joshua Meeks, MD, PhD¹
¹Northwestern University Feinberg School of Medicine; ²Memorial Sloan Kettering Cancer Center
Presented By: Richard S. Matulewicz, MS, MD

2:24 p.m. #28  THE UTILIZATION OF PARTIAL ORCHIECTOMY IN TREATING SMALL TESTICULAR TUMORS IN THE UNITED STATES
Joseph Clemons, BS, Bradley Holland, BS, Max Nutt, BS, Danuta Dynda, MD and Shaheen Alanee, MD, MPH, MBA
Southern Illinois University School of Medicine
Presented By: Bradley Holland, BS
2:28 p.m.  #29  PENILE CARCINOMA IN THE UNDERINSURED INNER CITY MEN
Edward Park, DO¹, Matthew Houlihan, DO², Sarah Psutka, MD², Patricia Vidal, MD² and Courtney Hollowell, MD²
¹Cook County Health and Hospitals Services; ²Cook County Health and Hospitals Service
Presented By: Edward J. Park, DO

2:32 p.m.  #30  OUTCOMES FOLLOWING SURGICAL EXCISION OF URETHRAL PROLAPSE: EXPERIENCE AT THE UNIVERSITY OF MICHIGAN
Mary Hall, BA¹, Tola Oyesanya, MD¹ and Anne Pelletier-Cameron, MD²
¹University of Michigan Medical School; ²University of Michigan Department of Urology
Presented By: Mary Elizabeth Hall

2:36 p.m.  #31  ARTIFICIAL URINARY SPHINCTER PLACEMENT AFTER URETHROPLASTY
Matthias Hofer, MD, Billy Cordon, MD, Jeremy Scott, BS and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD

2:40 p.m.  #32  ANALYSIS OF CLINICAL AND MORPHOMETRIC RISK FACTORS ASSOCIATED WITH URETHRAL ATROPHY
Matthias Hofer, MD, Nirmish Singl, MD, Billy Cordon, MD, Jeremy Scott, BS and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD

2:45 p.m. - 3:00 p.m.  Q&A

Concurrent Session 3 of 4

2:00 p.m. - 2:55 p.m.  Prostate Benign Podium Session
Location: International Ballroom
Moderators:  Gopal N. Gupta, MD
            Maywood, IL
Kevin T. McVary, MD, FACS
            Springfield, IL
Discussant: James C. Ulchaker, MD, FACS
            Cleveland, OH
2:00 p.m.  #33  CONVECTIVE WATER VAPOR ENERGY THERMAL ABLATION OF THE PROSTATE (REZUM SYSTEM): A MULTICENTER, RANDOMIZED, CONTROLLED TRIAL FOR TREATMENT OF LUTS SECONDARY TO BPH – 1 YEAR RESULTS FROM PIVOTAL TRIAL

Lance Mynderse, MD¹, J. Randolf Beahrs, MD², Michael Rousseau, MD³, James Ulchaker, MD⁴ and Kevin McVary, MD⁵
¹Mayo Clinic; ²Metro Urology; ³The Urology Group; ⁴Cleveland Clinic; ⁵Southern Illinois University School of Medicine
Presented By: Lance A. Mynderse, MD

2:04 p.m.  #34  PRESERVATION OF ERECTILE AND EJACULATORY FUNCTION WITH CONVective WATER VAPOR ENERGY TREATMENT OF LUTS SECONDARY TO BPH: A RANDOMIZED CONTROLLED STUDY

Kevin McVary, MD¹, J. Randolf Beahrs, MD², Michael Rousseau, MD³, James Ulchaker, MD⁴ and Lance Mynderse, MD⁵
¹SIU School of Medicine; ²Metro Urology; ³The Urology Group; ⁴Cleveland Clinic; ⁵Mayo Clinic
Presented By: Kevin Thomas McVary, MD, FACS

2:08 p.m.  #35  WITHDRAWN

2:12 p.m.  #36  MRI IMPROVES VOLUME ESTIMATION COMPARED TO TRANSRECTAL ULTRASOUND IN LARGE PROSTATE GLANDS

Robert Blackwell, MD, Michelle Van Kuiken, MD, Bryan Bisanz, Everardo Arias and Gopal Gupta, MD Loyola University Medical Center
Presented By: Michelle E. Van Kuiken

2:16 p.m.  #37  INCIDENTAL PROSTATE CANCER DIAGNOSED AT HOLMIUM LASER ENucleATION OF PROSTATE - REVIEW OF PATIENT OUTCOMES

Nadya York, MD, Tim Large, MD, Michael S Borofsky, MD, Casey A Dauw, MD, James E Lingeman, MD and Ronald S Boris, MD Indiana University School of Medicine
Presented By: Nadya York, MbChB

2:20 p.m.  #38  HOLEP IS AN EFFECTIVE TREATMENT IN PATIENTS WITH CONCOMITANT BLADDER DIVERTICULA AND OUTLET OBSTRUCTION

Deepak Agarwal, MD and Amy Krambeck, MD Mayo Clinic
Presented By: Deepak K. Agarwal, MD
DESCRIPTION OF A NEW NATIONAL CANCER INSTITUTE FUNDED RANDOMIZED CONTROLLED TRIAL “REASSURE ME” TO SUPPORT EMOTION REGULATION, POSITIVE HEALTH BEHAVIORS, AND ADHERENCE IN A SAMPLE OF MEN WITH PROSTATE CANCER ON ACTIVE SURVEILLANCE AND THEIR SPOUSES

David Victorson, PhD¹, Carly Maletich, MA¹, Bruriah Gutierrez, MA¹, Stephanie Schuette, BA¹, Todd Morgan, MD², Alexander Kutikov, MD³, Shilajit Kundu, MD¹, Scott Eggener, MD⁴ and Charles Brendler, MD⁵

¹Northwestern University; ²University of Michigan; ³Fox Chase Cancer Center; ⁴University of Chicago; ⁵NorthShore University Health System

Presented By: David Victorson, PhD

UNDETECTABLE PSA AFTER KTP LASER ENUCLEATION OF THE PROSTATE

Ryan Dobbs, MD¹, Neha Malhotra, MD¹, David Greenwald, MD¹, Ettore Dalmasso, MD² and Simone Crivellaro, MD¹

¹University of Illinois; ²University of Turin

Presented By: Ryan W. Dobbs, MD

SUCCESSFUL SUSTAINED OUTCOMES WITH A NON-MEDICAL NON-SURGICAL PAINLESS IN OFFICE THERAPY FOR BPH

Craig Smith, MD
Dupage Medical Group

Presented By: Craig A. Smith, MD

COMPARISON OF PERIOPERATIVE OUTCOMES BETWEEN HOLMIUM LASER ENUCLEATION OF THE PROSTATE AND ROBOTIC ASSISTED SIMPLE PROSTATECTOMY

Mimi Zhang, MD¹, Michael S. Borofsky, MD¹, Marawan M. El Tayeb, MD², Casey A. Dauw, MD¹, Nadya E. York, MD¹, Kristofer R. Wagner, MD², Patrick S. Lowry, MD², Erin T. Bird, MD², Tillman C. Hudson, MD² and James E. Lingeman, MD¹

¹Indiana University School of Medicine; ²Baylor Scott and White Health

Presented By: Mimi W. Zhang, MD

Q&A
2:00 p.m. - 3:00 p.m. Prostate Malignant Poster Session  
*Location: Ambassador*  
*Moderators: Ted A. Skolarus, MD, MPH  
Ann Arbor, MI  
Matthew K. Tollefson, MD  
Rochester, MN*

**Poster #1**  
**FEASIBILITY AND RESULTS OF CRYOABLATION OF OLIGOMETASTATIC PROSTATIC CARCINOMA LESIONS**  
Kevin Ginsburg, MD¹, Michael Cher, MD² and Hussein Aoun, MD³  
¹WSU Urology; ²Wayne State University, Department of Urology; ³Wayne State University, Department of Radiology  
Presented By: Kevin B. Ginsburg, MD

**Poster #2**  
**MULTI-PARAMETRIC MAGNETIC RESONANCE IMAGING/ULTRASOUND FUSION BIOPSY, A BETTER DIAGNOSTIC TOOL THAN STANDARD 12-CORE TRANSRECTAL ULTRASOUND GUIDED BIOPSY**  
Wei Phin Tan, MD¹, Mukund Gande, BS¹, Thomas Hwang, BS¹, Paul Yonover, MD, FACS², Daniel Dalton, MD, FACS³, Kalyan Latchamsetty, MD, FACS⁴ and Christopher Coogan, MD, FACS⁴  
¹Rush University Medical Center; ²Uropartners; ³North Western Memorial Hospital, Uropartners; ⁴Rush University Medical Center, Uropartners  
Presented By: Wei Phin Tan, MD

**Poster #3**  
**RISK OF HOSPITALIZATION FOLLOWING OUTPATIENT PROSTATE BRACHYTHERAPY**  
Robert Blackwell, MD, William Gange, Jennifer Saluk, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD MBA, Robert Flanigan, MD and Gopal Gupta, MD  
Loyola University Medical Center  
Presented By: William Gange

**Poster #4**  
**CLINICAL UTILITY OF THE 4KSCORE® TEST IN PATIENTS CONSIDERED FOR PROSTATE BIOPSY IN A LARGE UROLOGY GROUP PRACTICE**  
Chirag Dave, MD¹, Jason Hafron, MD², Danielle Osterhout², Jeffrey Schock, MD², Randy Chudler, MD², Yan Dong, MA³, Gregory Oldford, MD² and Kenneth Kernen, MD²  
¹Beaumont Health System; ²Michigan Institute of Urology; ³Opko Health INC  
Presented By: Chirag N. Dave, MD
Poster #5  CIPROFLOXACIN RESISTANT BACTERIA ON PRE-PROSTATE BIOPSYRECTAL SWAB CULTURE; A NORTHWEST OHIO STUDY
Bradley Buck, MD, Ryan Flynn, MD and Samay Jain, MD
University of Toledo
Presented By: Bradley J. Buck, MD

Poster #6  PILOT STUDY: 9.4 T MAGNETIC RESONANCE ELASTOGRAPHY OF EX-VIVO PROSTATE CANCER
Harpreet Wadhwa, MD¹, Steven Kearney, PhD², Cristian Luciano, PhD², Dieter Klatt, PhD², Thomas Royston, PhD² and Simone Crivellaro, MD³
¹University of Illinois at Chicago; ²Department of Biomedical Engineering, University of Illinois at Chicago; ³Department of Urology, University of Illinois at Chicago
Presented By: Harpeet S. Wadhwa, MD

Poster #7  TESTING THE APPLICABILITY OF EPSTEIN’S ACTIVE SURVEILLANCE CRITERIA IN A LARGE ROBOTIC PROSTATECTOMY COHORT
Naveen Kachroo, MD PhD, Mireya Diaz, PhD, Mani Menon, MD and Ali Dabaja, MD
Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Naveen Kachroo, MD

Poster #8  INFECTIOUS COMPLICATIONS FOLLOWING TRANSRECTAL ULTRASOUND GUIDED PROSTATE BIOPSIES IN PATIENTS RECEIVING TARGETED PROPHYLAXIS FOR FLUOROQUINOLONE-RESISTANT RECTAL SWAB CULTURES
Dimitri Papagiannopoulos, MD¹, Nicholas O'Block, BS¹, Lester Raff, MD², Michael Abern, MD³, Christopher Coogan, MD¹ and Kalyan Latchamsetty, MD¹
¹Rush University Medical Center; ²Uropartners; ³University of Illinois
Presented By: Dimitri Papagiannopoulos, MD

Poster #9  HIGH NEGATIVE PREDICTIVE VALUE OF MPMRI OF THE PROSTATE IN PATIENTS WITH NO IDENTIFIED MRI LESIONS
Michelle Van Kuiken, MD, Robert Blackwell, MD, Everardo Arias, Bryan Bisanz and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken

Concurrent Sessions End
3:00 p.m. - 3:30 p.m.  Guest Lecture: State of Urology Practice: Where We Are and How We Got Here
Guest Speaker: Deepak A. Kapoor, MD
Melville, NY

3:30 p.m. - 4:00 p.m.  Break- Visit Exhibits
Location: Imperial Ballroom

4:00 p.m. - 4:30 p.m.  AUA Guidelines Presentation
Speaker: Deborah J. Lightner, MD
Rochester, MN

Concurrent Sessions Begin

Concurrent Session 1 of 4

4:30 p.m. - 5:40 p.m.  Prostate Malignant Podium Session
Location: International Ballroom
Moderators: Michael L. Cher, MD
Detroit, MI
Robert C. Flanigan, MD
Maywood, IL
Discussant: Badrinath R. Konety, MD, MBA
Minneapolis, MN

4:30 p.m.  #43  PROGNOSTIC SIGNIFICANCE OF PERINEURAL INVASION IN ACTIVE SURVEILLANCE OF PROSTATE CANCER
Charles Dai, BS, Vishnu Ganesan, BS, Yaw Nyame, MD, Daniel Hettel, BS, Nima Almassi, MD, Daniel Greene, MD, Joseph Zabell, MD, Anna Zampini, MD, Samuel Haywood, MD, Chad Reichard, MD, Alice Crane, MD, PhD, Hans Arora, MD, PhD, Ahmed El-Shafei, MD, Robert Stein, MD, Khaled Fareed, MD, Michael Gong, MD, PhD, J. Stephen Jones, MD, Cristina Magi-Galluzzi, MD, PhD, Andrew Stephenson, MD and Eric Klein, MD
Cleveland Clinic Foundation
Presented By: Daniel Hettel, BS

4:34 p.m.  #44  SHOULD MAGNETIC RESONANCE IMAGING BE USED IN THE PREOPERATIVE STAGING OF PROSTATE CANCER TO GUIDE NERVE-SPARING APPROACHES?
Adam Calaway, Clint Cary, MD, Trevor Crafts, MS3, Timothy Masterson, MD, Ronald Boris, MD, Thomas Gardner, MD, Chandru Sundaram, MD and Michael Koch, MD
Indiana University School of Medicine
Presented By: Adam C. Calaway, MD
APPLICATION OF ACTIVE SURVEILLANCE (AS) THRESHOLD TO SERIES OF SAMPLES SUBMITTED FOR COMMERCIAL TESTING

Kirk Wojno, MD¹, Peter Scardino, MD, FACS², Jack Cuzick, PhD³, Steve Stone, PhD⁴, Brent Evans, MS⁴, James Eastham, MD⁵, Tom Keane, MD⁵, John Davis, MD, FACS⁶, Daniel Lin, MD⁷, Michael Brawer, MD⁴ and E. David Crawford, MD⁸

¹Comprehensive Urology; ²Memorial Sloan-Kettering Cancer Center; ³Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London; ⁴Myriad Genetics, Inc.; ⁵The Medical University of South Carolina; ⁶The University of Texas MD Anderson Cancer Center; ⁷University of Washington; ⁸University of Colorado at Denver

Presented By: Kirk J. Wojno, MD

ONCOLYTIC ADENOVIRUS EXPRESSING DECORIN: CO-TARGETING THE TUMOR CELLS AND THE MICROENVIRONMENT FOR THE TREATMENT OF PROSTATE CANCER METASTASIS

Weidong Xu¹, Thomas Neill, PhD², Yuefeng Yang, PhD³, Daniel Shevrin, MD³, Karen Kaul, MD PhD³, Charles Brendler, MD³, Renato V. Iozzo, PhD² and Prem Seth, PhD³

¹Research Institute, NorthShore University HealthSystem; ²Thomas Jefferson University; ³NorthShore University HealthSystem

Presented By: Weidong Xu, PhD, MD

OUTCOMES OF ACTIVE SURVEILLANCE IN A PROSPECTIVELY ENROLLED PROSTATE CANCER COHORT

Alessandro Morlacco, MD, Vidit Sharma, MD and R. Jeffrey Karnes, MD

Mayo Clinic

Presented By: Alessandro Morlacco, MD

COMBINED Sextant AND MRI/US FUSION BIOPSY INCREASES CANCER DETECTION AND IMPROVE THE NEGATIVE PREDICTIVE VALUE OF MRI FOR DETECTION OF CLINICALLY SIGNIFICANT PROSTATE CANCER

Bryan Bisanz, BS Biochemistry¹, Everardo Arias, BS¹, Khalid Alsabban, MBBS², Michelle Van Kuiken, MD², Steven Shea, PhD², Joseph Yacoub, MD², Ari Goldberg, MD², Marcus Quek, MD², Robert Flanigan, MD² and Gopal Gupta, MD²

¹Stritch School of Medicine at Loyola University Chicago; ²Loyola University Medical Center

Presented By: Bryan Bisanz, BS Biochemistry
PROPERTIES OF THE FOUR KALLIKREIN PANEL FOR PREDICTION OF PROSTATE BIOPSY OUTCOME IN MEN WITH HIGH PSA (10-25 NG/ML)

Stephen Zappala, MD, FACS¹, Badrinath Konety, MD², Andrew Vickers³, Daniel Sjoberg⁴, Emily Vertosick⁵, Monique Roobol⁶, Freddie Hamdy⁷, Anders Bjartell⁸, David Neal⁹, Jenny Donovan¹⁰ and Hans Lilja¹¹

¹Andover Urology; ²Univ Minn; ³New York, NY; ⁴Rotterdam, Netherlands; ⁵Oxford, United Kingdom; ⁶Lund, Sweden; ⁷Bristol, United Kingdom

Presented By: Stephen M. Zappala, MD, FACS

MRI-US FUSION TARGETED BIOPSY: TARGET LOCATION AND SIZE AS FACTORS IN CANCER DETECTION

Jane Cho, Clint Cary, MD, MPH, Joseph Jacob, MD, Hristos Kaimakliotis, MD, Timothy Masterson, MD, Thomas Gardner, MD, Fatih Akisik, MD, Temel Tirkes, MD and Michael Koch, MD

Indiana University School of Medicine

Presented By: Jane Cho

BONE DENSITY EVALUATION IS ASSOCIATED WITH INCREASED OSTEOPOROSIS TREATMENT AMONG PROSTATE CANCER SURVIVORS ON ANDROGEN DEPRIVATION THERAPY

Tudor Borza, MD¹, Vahakn B. Shahinian, MD², Samantha L. Solimeo, MD³, Megan Caram, MD⁴, Danil V. Makarov, MD⁵, Jeremy B Shelton, MD⁶, John T. Leppert, MD⁷, Ryan M Blake, BS⁸, Jennifer A. Davis, MS⁹, Brent K. Hollenbeck, MD¹⁰ and Ted A Skolarus, MD¹¹

¹University of Michigan, Department of Urology, Division of Oncology, Division of Health Services Research; ²Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan; ³Center for Comprehensive Access & Delivery Research and Evaluation, Iowa City VA Health Care System, Iowa City, IA; ⁴VA Ann Arbor Healthcare System, Center for Clinical Management and Research; ⁵NYU Langone Medical Center, Departments of Urology & Population Health, VA New York Harbor Healthcare System, NY, USA.; ⁶Veterans Administration Greater Los Angeles Healthcare System, Los Angeles, CA; ⁷Department of Urology, Stanford University School of Medicine, Stanford, California, Veterans Affairs Palo Alto Health Care System, Palo Alto, California; ⁸University of Michigan, Department of Urology, Division of Health Services Research; ⁹University of Michigan, Department of Urology, Division of Oncology, Division of Health Services Research; ¹⁰VA Ann Arbor Healthcare System, Center for Clinical Management and Research, University of Michigan, Department of Urology, Division of Oncology, Division of Health Services Research

Presented By: Tudor Borza, MD
5:06 p.m. #52 VARIATION IN ACTIVE SURVEILLANCE UTILIZATION ACROSS AND WITHIN PRACTICES IN MICHIGAN
Gregory Auffenberg, MD¹, Apoorv Dhir, BBA¹, Brian Lane, MD, PhD², David Miller, MD, MPH¹ and Michael Cher, MD³
¹University of Michigan; ²Spectrum Health; ³Wayne State University
Presented By: Gregory B. Auffenberg, MD

5:10 p.m. #53 ACTIVE SURVEILLANCE IS SAFE FOR SELECTED GLEASON =7 MEN
Samuel Haywood, MD, Yaw Nyame, MD, MBA, Nima Almassi, MD, Daniel Greene, MD, Vishnu Ganesan, BA, Charles Dai, BA, Joseph Zabell, MD, Chad Reichard, MD, Hans Arora, MD, Daniel Hettel, BA, Anna Zampini, MD, Alice Crane, MD, PhD, Ahmed El-Shafei, MD, Robert Stein, MD, Khaled Fareed, MD, Michael Gong, MD, PhD, J. Stephen Jones, MD, Andrew Stephenson, MD and Eric Klein, MD
Cleveland Clinic Foundation
Presented By: Samuel C. Haywood, MD

5:14 p.m. #54 IsoPSA: INITIAL CLINICAL PERFORMANCE EVALUATION OF A NOVEL STRUCTURE-BASED BIOMARKER FOR PROSTATE CANCER IN A MULTICENTER PROSPECTIVE TRIAL FOR GLEASON = 7
Eric Klein, MD¹, Mark Stovsky, MD², Robert Di Loreto, MD³, Jason Hafron, MD³, Kenneth Kernen, MD³, Kannan Manickam, MD⁴ and Victor Kipnis, PhD⁵
¹Cleveland Clinic; ²Cleveland Clinic, Cleveland Diagnostics, Inc.; ³Michigan Institute of Urology; ⁴Chesapeake Urology Research Associates; ⁵National Cancer Institute Biometry Research Group
Presented By: Eric A. Klein, MD

5:18 p.m. #55 EVALUATING THE USE OF A PSA SCREENING DECISION AID IN THE URBAN PRIMARY CARE SETTING
Christopher Warlick, MD, PhD¹, Vikram Narayan, MD¹, Jerica Berge, PhD, MPH², Yen-Yi Ho, PhD³ and Mark Yeazel, MD, MPH²
¹Department of Urology, University of Minnesota; ²Department of Family Medicine and Community Health, University of Minnesota; ³Division of Biostatistics, University of Minnesota
Presented By: Vikram M. Narayan, MD
PHASE IIA, RANDOMIZED PLACEBO-CONTROLLED TRIAL OF SINGLE HIGH DOSE CHOLECALCIFEROL (VITAMIN D3) AND DAILY GENISTEIN (G-2535) VERSUS PLACEBO IN MEN WITH EARLY STAGE PROSTATE CANCER UNDERGOING PROSTATECTOMY

David Jarrard, MD¹, Joel Slaton, MD², Wei Huang, MD³, Tracy Downs, MD⁴, Jill Kolesar, MD⁵, KyungMann Kim, PhD⁶, Tom Havighurst, MS⁶, Badrinath R. Konety, MD⁶, Margaret House’, Howard Parnes⁷ and Howard H. Bailey, MD⁸

¹Department of Urology, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA & Environmental and Molecular Toxicology, University of Wisconsin, Madison, WI, USA & University of Wisconsin Carbone Cancer Center, Madison, WI, USA; ²Department of Urology, University of Minnesota, Minneapolis, MN, USA; ³Department of Pathology and Laboratory Medicine, University of Wisconsin, Madison, WI, USA; ⁴Department of Urology, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA; ⁵University of Wisconsin Carbone Cancer Center, Madison, WI, USA & School of Pharmacy, University of Wisconsin, Madison, WI USA; ⁶Department of Biostatistics and Medical Informatics, University of Wisconsin, Madison, USA & University of Wisconsin Carbone Cancer Center, Madison, WI, USA; ⁷National Cancer Institute, Bethesda, MD, USA; ⁸Department of Medicine, University of Wisconsin School of Medicine and Public Health, Madison, WI, USA & University of Wisconsin Carbone Cancer Center, Madison, WI, USA

Presented By: David F. Jarrard, MD
4:34 p.m.  #58  COST ANALYSIS OF MRI-ULTRASOUND FUSION BIOPSY PLATFORM: IS IT FEASIBLE IN COMMUNITY PRACTICE?
Mikhail Regelman¹, Junqi Qian, MD², Aaron Milbank, MD² and Basir Tareen, MD²
¹Metro Urology; ²Metropolitan Urologic Associates
Presented By: Mikhail Regelman

4:38 p.m.  #59  EMERGENCY DEPARTMENT SWITCHING AND DUPLICATE CT SCANS IN PATIENTS WITH KIDNEY STONES
Parth Shah, MD, Phylis Yan, MA, J. Stuart Wolf, MD, Brent Hollenbeck, MD, MS, Khurshid Ghani, MD and John Hollingsworth, MD, MS
University of Michigan
Presented By: Parth K. Shah, MD

4:42 p.m.  #60  IMPACT OF UROLOGIST DENSITY AND COUNTY RURALITY ON THE PRACTICE OF RETROPERITONEAL LYMPH NODE DISSECTION AND CANCER SPECIFIC DEATH IN PATIENTS WITH NON SEMINOMATOUS GERM CELL TUMORS
Joseph Clemons, BS, Whitney Whitney, MS, Max Nutt, BS, Danuta Dynda, MD and Shaheen Alanee, MD, MPH, MBA
Southern Illinois University School of Medicine
Presented By: Bradley Holland, BS

4:46 p.m.  #61  INITIAL EXPERIENCE WITH ACCREDITATION COUNCIL OF GRADUATE MEDICAL EDUCATION (ACGME) RESIDENCY PROGRAM SELF-STUDY: ASSESSMENT DESIGN AND TIME REQUIREMENTS IN THE FIRST SIX MONTHS
Stephanie Kielb, MD, Kelly Ross and Mary Kate Keeter, MPH
Northwestern University Feinberg School of Medicine
Presented By: Stephanie J. Kielb, MD

4:50 p.m.  #62  DOES MULTIDISCIPLINARY CARE AFFECT THE QUALITY OF CARE PATIENTS RECEIVE FOR PROSTATE CANCER?
Naveen Kachroo, MD, PhD¹, Jesse Sammon, DO¹, Deepansh Dalela, MD¹, Firas Abdollah, MD¹, Akshay Sood, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Quoc-Dien Trinh, MD²
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Brigham and Women’s Hospital, Boston, MA
Presented By: Naveen Kachroo, MD
4:54 p.m. #63 STATE-BY-STATE RACIAL VARIATIONS IN PROSTATE SPECIFIC ANTIGEN (PSA) SCREENING PATTERNS: A NATIONWIDE ANALYSIS
Deepansh Dalela, MD¹, Naveen Kachroo, MD PhD¹, Bjorn Loppenberg, MD¹, Akshay Sood, MD¹, Jesse Sammon, DO¹, Maxine Sun, PhD², Quoc-Dien Trinh, MD², Wooju Jeong, MD¹, Craig Rogers, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Firas Abdollah, MD¹
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Center for Surgery and Public Health, Brigham and Women's Hospital, Boston, MA
Presented By: Deepansh Dalela

4:58 p.m. #64 GENDER-BASED DIFFERENCES ASKED OF UROLOGY APPLICANTS DURING RESIDENCY INTERVIEWS
Ashima Singal, MD, Mary Kate Fitzgerald Keeter, MPH, Nirali Shah, BS and Stephanie Kielb, MD Northwestern University
Presented By: Ashima Singal, MD

5:02 p.m. - 5:17 p.m. Q&A
Concurrent Session 3 of 4

4:30 p.m. - 5:45 p.m. Laparoscopy Robotics Poster Session
Location: State
Moderator: Simon Kim, MD, MPH
              Cleveland, OH
Discussant: Ahmad Shabsigh, MD, FACS
              Columbus, OH

Poster #10 NATIONAL UTILIZATION AND PERIOPERATIVE OUTCOMES OF ROBOTIC RADICAL NEPHRECTOMY FOR CLINICAL T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT
Matthew Bream, MD¹, Robert Abouassaly, MD, MS¹, Marc Smaldone, MD, MS², Alex Kutikov, MD², Christopher Gonzalez, MD, MBA¹, Neal Meropol, MD¹, Hui Zhu, MD³, Joseph Hwang, MS¹ and Simon Kim, MD, MPH¹
¹University Hospitals Case Medical Center; ²Fox Chase Cancer Center; ³Lois Stokes Cleveland VA Medical Center
Presented By: Matthew Bream, MD
Poster #11  ROUTINE EARLY UNCLAMPING OR NO CLAMPING DO NOT NEGATIVELY IMPACT OUTCOMES OF ROBOTIC PARTIAL NEPHRECTOMY
Jatin Gupta, DO, MS, Sean Henderson, DO, Janice Rosenthal, RN and Ronney Abaza, MD, FACS
OhioHealth Robotic Urologic Surgeon
Presented By: Ronney Abaza, MD, FACS

Poster #12  DO SURGEONS MODIFY THEIR CLAMPING TECHNIQUE DURING ROBOTIC PARTIAL NEPHRECTOMY FOR COMPLEX TUMORS?
Leedor Lieberman¹, Ravi Barod, MD², Deepansh Dalela, MD², Mani Menon, MD² and Craig Rogers, MD²
¹Henry Ford Hospital; ²Vattikutti Urology Institute, Henry Ford Health System, Detroit, MI
Presented By: Leedor Lieberman

Poster #13  UNRELIABILITY OF COMPARING LYMPH NODE YIELDS IN ROBOTIC CYSTECTOMY BETWEEN INSTITUTIONS
Sean Henderson, DO, Jatin Gupta, DO, MS, Janice Rosenthal, RN and Ronney Abaza, MD, FACS
OhioHealth Robotic Urologic Surgeon
Presented By: Ronney Abaza, MD, FACS

Poster #14  COMPARISON OF ROBOTIC CYSTECTOMY WITH INTRACORPOREAL VS EXTRACORPOREAL ILEAL CONDUIT: AN INITIAL EXPERIENCE
Takahiro Osawa, MD¹, Jeffrey Montgomery, MD², Cathy Twu-Wong², Christine Schafer², Todd Morgan, MD², Brent Hollenbeck, MD², Nobuo Shinohara, MD¹ and Alon Weizer, MD²
¹Department of Urology, Hokkaido University, Sapporo, Japan; ²Department of Urology, University of Michigan Health System, Ann Arbor, Michigan
Presented By: Takahiro Osawa, MD

Poster #15  INSIGHT INTO RESIDENT SURGICAL INVOLVEMENT USING ROBOLOG
Petar Bajic, MD¹, Kristin Baldea, MD¹, Ryan Thorwarth, BS², Marcus Quek, MD¹ and Gopal Gupta, MD¹
¹Loyola University Medical Center; ²Loyola University Stritch School of Medicine
Presented By: Petar Bajic, MD
Poster #16  
PREDICTORS OF 90-DAY POSTOPERATIVE READINGMISSION AFTER ROBOTIC ASSISTED RADICAL CYSTECTOMY  
Vishnu Ganesan¹, Nima Almassi, MD², Daniel Ramirez, MD², Robert Stein, MD², Jihad Kaouk, MD², Andrew Stephenson, MD², Amr Fergany, MD² and Georges-Pascal Haber, MD, PhD²  
¹Cleveland Clinic Lerner College of Medicine; ²Cleveland Clinic Glickman Kidney and Urological Institute  
Presented By: Vishnuvardhan Ganesan

Poster #17  
OPIOID-FREE ANALGESIA FOLLOWING ROBOT-ASSISTED LAPAROSCOPIC PROSTATECTOMY (RALP)  
Carson Wong, MD, FRCSC, FACS¹, Pankaj Goyal, MBBS² and Chirag Shah, MD³  
¹SouthWest Urology, LLC; ²Rice Memorial Hospital; ³University Hospitals Parma Medical Center  
Presented By: Carson Wong, MD, FRCSC, FACS

Poster #18  
PREDICTORS OF URINARY SYMPTOMS AND PAD USE AFTER ROBOT-ASSISTED RADICAL PROSTATECTOMY (RARP)  
Luchen Wang¹,², Mireya Diaz, PhD² and Craig Rogers, MD²  
¹Wayne State University School of Medicine; ²Vattikuti Urology Institute, Henry Ford Hospital  
Presented By: Luchen Wang, BS

Poster #19  
IMPACT OF OBESITY ON COMPLICATIONS AFTER ROBOTIC AND OPEN PROSTATECTOMY  
Scott Johnson, MD, Vignesh Packiam, MD, Andrew Cohen, MD, Charles Nottingham, MD and Norm Smith, MD  
University of Chicago  
Presented By: Scott C. Johnson, MD

Poster #20  
SURVEY OF ABDOMINAL ACCESS AND ASSOCIATED MORBIDITY FOR ROBOT-ASSISTED RADICAL PROSTATECTOMY (RARP) DOES PALMER’S POINT WARRANT FURTHER AWARENESS AND STUDY?  
William Johnston III, MD¹, Susan Linsell, MHSA², David Miller, MD² and Khurshid Ghani, MD²  
¹Beaumont School of Medicine/Michigan Institute of Urology; ²University of Michigan  
Presented By: William K. Johnston III, MD
COMPARISON OF INTRAOPERATIVE OUTCOMES WITH NEWEST AND PREVIOUS GENERATION DA VINCI ROBOTS FOR ROBOTIC PROSTATECTOMY
Jatin Gupta, DO, MS, Sean Henderson, DO, Janice Rosenthal, RN and Ronney Abaza, MD, FACS
OhioHealth Robotic Urologic Surgeon
Presented By: Ronney Abaza, MD, FACS

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4:30 p.m. - 5:45 p.m. Endourology/Stone Disease Poster Session
Location: Ambassador
Moderators: Amy E. Krambeck, MD
Indianapolis, IN
Jeffrey A. Triest, MD
Detroit, MI
Discussant: Bodo E. Knudsen, MD, FRCSC
Columbus, OH

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STRUVITE STONE RECURRENCE IN PATIENTS WITH AND WITHOUT PREDISPOSING RISK FACTORS FOR INFECTION
Andrew McCall, MD, Matt Ziegelmann, MD and Amy Krambeck, MD
Mayo Clinic
Presented By: Andrew N. McCall, MD

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FOURTEEN FRENCH URETERAL ACCESS SHEATH USE DURING RETROGRADE INTRARENAL SURGERY (RIRS) ALLOWS FOR TREATMENT OF LARGE INTRARENAL CALCULI WITH NO INCREASED RISK OF COMPLICATIONS
George Ghareeb, MD, Nathan Brooks, MD and Chad Tracy, MD
University of Iowa Hospitals & Clinics Department of Urology
Presented By: George M. Ghareeb, MD

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GLOBAL COSTS OF MODERN FLEXIBLE URETEROSCOPY AT A HIGH VOLUME TEACHING HOSPITAL
Michael S Borofsky, MD¹, Casey A Dauw, MD¹, Nadya E York, MD¹, Christine Hoovler² and James E Lingeman, MD¹
¹Indiana University School of Medicine; ²IU Health Methodist Hospital
Presented By: Michael S. Borofsky, MD
Poster #25

STONE VOLUME MEASUREMENT USING REDUCED-DOSE (RD) CT IS COMPARABLE STANDARD-DOSE (SD) CT
Amy Lim, John Bell, MD, Stephen Nakada, MD and Perry Pickhardt, MD
University of Wisconsin
Presented By: Amy H. Lim, MD

Poster #26

PERIOPERATIVE COMPLICATIONS OF PERCUTANEOUS NPHROLITHOMY IN THE SPINA BIFIDA POPULATION
Srikanth Vedachalam, Robert Blackwell, MD, Kristin Baldea, MD, Anai Kothari, MD, Paul Kuo, MD, MBA, Gopal Gupta, MD and Thomas Turk, MD
Loyola University Medical Center
Presented By: Srikanth Vedachalam

Poster #27

PRELIMINARY IN VITRO COMPARISON OF FIXED AND VARIABLE PULSE LASER: EVIDENCE FOR DECREASED RETROPUSSION AND SHORTENED FRAGMENTATION TIME
John R. Bell, MD, Kristina L Penniston, PhD, RD, Sara L Best, MD and Stephen Y Nakada, MD
University of Wisconsin - Madison
Presented By: John R. Bell, MD

Poster #28

IMPLEMENTING FIRST-LINE IMAGING REQUIREMENTS FOR PATIENTS PRESENTING WITH SUSPECTED NEPHROLITHIASIS IN AN OUTPATIENT SETTING
Robert Medairos, BS¹, Kohl Boydston, BS¹, Jacob Hess, BA², Deborah Lamm, MSPH, MS², Christopher Buckle, MD, MBA, FRCPC² and Christopher Coogan, MD¹
¹Rush University Medical Center; ²AIM Specialty Health
Presented By: Robert A. Medairos

Poster #29

COMPLIANCE AND PREDICTORS OF INCREASED FLUID INTAKE IN PATIENTS WITH UROLITHIASIS BASED ON 24-HOUR URINE VOLUME
Aziz Khambati, MD, Rich Matulewicz, MD, Daniel Oberlin, MD, Kent Perry Jr., MD and Robert Nadler, MD
Northwestern University
Presented By: Aziz Khambati, MD

Poster #30

RANDOM BIOPSIES OF UPPER TRACTS DURING URETEROSCOPY SHOW HIGH RATES OF UROTHELIAL CARCINOMA
Adarsh Manjunath, MD, Aziz Khambati, MD, Matthias Hofer, MD, Elodi Dielubanza, MD, Kent Perry, MD and Robert Nadler, MD
Northwestern
Presented By: Adarsh Manjunath, MD
Poster #31  ENOXAPARIN AND URETEROSCOPY: COMPLICATIONS AND OUTCOMES
Mary Beth Westerman, Johann P. Ingimarsson and Amy E. Krambeck
Mayo Clinic Department of Urology
Presented By: Mary Beth Westerman, MD

Poster #32  DO NON-CYSTINE DIBASIC AMINO ACID LEVELS IN CYSTINURICS INFLUENCE CYSTINE LEVELS?
Marcelino Rivera, MD, Vidit Sharma, MD, Ilya Sobol, MD and Amy Krambeck, MD
Mayo Clinic
Presented By: Marcelino E. Rivera, MD

Concurrent Sessions End

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

FRIDAY, SEPTEMBER 09, 2016

OVERVIEW

6:00 a.m. - 5:30 p.m. Registration/Information Desk Open
Location: International Foyer

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

7:00 a.m. - 11:00 a.m. Exhibit Hall Open
Location: Imperial Ballroom

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

6:30 p.m. - 11:00 p.m. Annual Banquet
Location: Imperial Ballroom

Concurrent Sessions Begin

Concurrent Session 1 of 3

6:30 a.m. - 7:30 a.m. Program Directors Session
Location: International Ballroom
Moderator: Jeffrey A. Triest, MD
Detroit, MI

6:30 a.m. - 6:35 a.m. Introduction
Speaker: Jeffrey A. Triest, MD
Detroit, MI
6:35 a.m. - 7:20 a.m.  Ask the Expert: Optimized Resident Evaluation Using the ACGME Milestones
Guest Speaker: Laura Edgar, EdD, CAE
Chicago, IL

7:20 a.m. - 7:30 a.m.  Q&A

Concurrent Session 2 of 3

6:30 a.m. - 7:30 a.m.  Women in Urology Session: Presentation Skills
Location: Rouge
Speaker: Anne K. Pelletier-Cameron, MD
Ann Arbor, MI

Concurrent Session 3 of 3

6:30 a.m. - 7:30 a.m.  Young Urologists Forum: 10 Things I Wish I Knew Before My First Job
Location: Gold
Speaker: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL

Concurrent Sessions End

7:30 a.m. - 8:00 a.m.  Break- Visit Exhibits
Location: Imperial Ballroom

8:00 a.m. - 9:00 a.m.  State-of-the-Art Lecture: BPH
Speaker: Kevin T. McVary, MD, FACS
Springfield, IL

9:00 a.m. - 9:30 a.m.  Management of Nonmuscle Invasive Bladder Cancer: Practical Solutions for Common Problems
Speaker: Cheryl T. Lee, MD
Ann Arbor, MI

9:30 a.m. - 10:00 a.m.  Break- Visit Exhibits
Location: Imperial Ballroom

10:00 a.m. - 10:45 a.m.  NCS Resident Bowl: Round 1*
Location: Imperial Ballroom
Moderators: Bradley F. Schwartz, DO, FACS
Springfield, IL
Jeffrey A. Triest, MD
Detroit, MI

Judges: Patrick H. McKenna, MD, FAAP, FACS
Madison, WI
James C. Ulchaker, MD, FACS
Cleveland, OH

*Not CME Accredited
Concurrent Session 1 of 4

10:45 a.m. - 11:55 a.m.  Bladder Malignant Podium Session

Location: Rouge

Moderators: Tracy M. Downs, MD
Madison, WI
Cheryl T. Lee, MD
Ann Arbor, MI

Discussant: Peter Langenstroer, MD, MS
Milwaukee, WI

10:45 a.m. #65 INTERLEUKIN-17 (IL-17) IS ELEVATED IN MUSCLE-INVASIVE BLADDER CANCER (MIBC) PATIENTS WHO FAILED TO RESPOND TO NEOADJUVANT CHEMOTHERAPY (NC)
Nathan Brooks, MD¹, Lewis Thomas, MD¹ and Kenneth Nepple, MD²
¹The University of Iowa Hospital and Clinic; ²The University of Iowa Holden Comprehensive Cancer Center
Presented By: Nathan A. Brooks

10:49 a.m. #66 CARCINOMA IN SITU INCREASES THE RISK OF URETERAL AND URETHRAL POSITIVE MARGINS AT THE TIME OF CYSTECTOMY
Joseph M. Jacob, MD, Jennifur Yu, BS, Heather L. Hopf, BS, Jane S. Cho, MD, Liang Cheng, MD, Richard Bihrlle, MD, Hristos Z. Kaimakliotis, MD and Michael O. Koch, MD
Indiana University Medical Center
Presented By: Joseph Jacob, MD

10:53 a.m. #67 THE IMPACT OF MESENTERIC WINDOW CLOSURE AFTER HARVESTING ILEUM FOR GENITOURINARY RECONSTRUCTIVE SURGERY
Michael Avallone, MD, Peter Dietrich, BS, Shanta Shepherd, BS, Mona Lalehzari, BS, R. Corey O’Connor, MD, FACS and Michael Guralnick, MD, FRCSC
Medical College of Wisconsin
Presented By: Michael Avallone, MD
10:57 a.m.  #68  COMPLIANCE WITH NONMUSCLE INVASIVE BLADDER CANCER (NMIBC) GUIDELINES: AN UPDATED POPULATION-BASED ASSESSMENT OF CARE DELIVERY WITH A FOCUS ON ACCESS TO UROLOGIC CARE
Bradley Erickson, MD¹, Conrad Tobert, MD¹, Kyla Velaer, MD¹, Bradley McDowell, PhD², Thomas Gruca, PhD³, Mary Charlton, PhD² and Kenneth Nepple, MD¹
¹University of Iowa Hospitals and Clinics, Department of Urology; ²University of Iowa Hospitals and Clinics; ³University of Iowa, Tippie College of Business
Presented By: Conrad Tobert, MD

11:01 a.m.  #69  BARRIERS TO NEOADJUVANT CHEMOTHERAPY AMONG ELIGIBLE PATIENTS WITH MUSCLE INVASIVE BLADDER CANCER
Chandra Flack, MD¹, Jane S. Cho, MD, MPH², Lee-Wei Kao, BS², M. Francesca Monn, MD, MPH², Joseph Jacob, MD², K. Clint Cary, MD, MPH², Timothy A. Masterson, MD², Liang Cheng, MD³, Constantine Albany, MD⁴, Roberto Pili, MD⁴, Michael O. Koch, MD⁴, Richard Bihrlle, MD² and Hristos Z. Kaimakliotis, MD²
¹Indiana University School of Medicine; ²Indiana University Department of Urology; ³Indiana University Department of Pathology; ⁴Indiana University Department of Medical Oncology
Presented By: Chandra K. Flack, MD

11:05 a.m.  #70  REDEFINING THE IMPLICATIONS OF NASOGASTRIC TUBE PLACEMENT FOLLOWING RADICAL CYSTECTOMY IN THE ALVIMOPAN ERA
Vignesh Packiam, MD, Vijay Agrawal, MD, Joseph Pariser, MD, Andrew Cohen, MD, Charles Nottingham, MD, Shane Pearce, MD, Norm Smith, MD and Gary Steinberg, MD
University of Chicago Medical Center
Presented By: Vignesh Packiam, MD

11:09 a.m.  #71  THE EFFECTS OF SORAFENIB IN ADDITION TO BCG ON UROTHELIAL CANCER CELL DEATH
Melissa St. Aubin, MD¹, Meghan Brown, MD¹, Gopit Kumar Shah, PhD¹, Gaung Jian Zhang, MS², Fanghong Chen, PhD² and William See, MD¹
¹Medical College of Wisconsin; ²Clement J. Zablocki Veteran Affairs Medical Center
Presented By: Meghan Brown, MD
11:13 a.m. #72 THE LACE SCORE PREDICTS INCREASED RISK OF 90-DAY MORTALITY FOLLOWING RADICAL CYSTECTOMY
Robert Blackwell, MD, Jennifer Saluk, William Gange, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD, MBA, Gopal Gupta, MD, Marcus Quek, MD and Robert Flanigan, MD
Loyola University Medical Center
Presented By: Jennifer Saluk

11:17 a.m. #73 BACILLUS CALMETTE-GUERIN (BCG) STRAIN HAS NO SIGNIFICANT EFFECT ON RECURRENCE-FREE SURVIVAL WHEN USED INTRAVESICALLY WITH INTERFERON-ALPHA2B FOR NON-MUSCLE INVASIVE BLADDER CANCER.
Ryan L. Steinberg, MD¹, Nathan Brooks, MD¹, Lewis J. Thomas, MD¹, Sarah L. Mott, MS² and Michael A. O'Donnell, MD¹
¹University of Iowa Department of Urology; ²University of Iowa Holden Comprehensive Cancer Center
Presented By: Ryan L. Steinberg, MD

11:21 a.m. #74 A PHASE I/II TRIAL OF PREHABILITATION IN PATIENTS UNDERGOING CYSTECTOMY FOR BLADDER CANCER
Jeffrey Montgomery, MD, Steven Thelen-Perry, Coby Cunningham, Chang He, MS, Christine Schafer, Khaled Hafez, MD, Heidi Iglay-Reger, Christine Parker, Alon Weizer, MD, Brent Hollenbeck, MD and Cheryl Lee, MD
University of Michigan
Presented By: Jeffrey S. Montgomery, MD, MHSA

11:25 a.m. #75 FDG-POSITRON EMISSION TOMOGRAPHY FOR ASSESSING THE RESPONSE TO NEO-ADJUVANT CHEMOTHERAPY IN BLADDER CANCER PATIENTS
Ayman Soubra, MD, Daniel Hayward, MD, Jerry Froehlich, MD, Gautam Jha, MD and Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Ayman Soubra, MD

11:29 a.m. #76 INHIBITION OF HISTONE DEACETYLASES (HDACs) IN BLADDER CANCER RESULTS IN RECOGNITION AND DESTRUCTION BY IMMUNE CELLS
Catherine Eden, MD¹, Gopal Gupta, MD² and Jose Guevara-Patino, MD, PhD²
¹Loyola University Medical Center; ²Loyola University
Presented By: Catherine Eden, MD
11:33 a.m. #77  PREDICTORS OF POSTOPERATIVE ILEUS IN PATIENTS UNDERGOING RADICAL CYSTECTOMY
Vishnu Ganesan¹, Daniel Ramirez, MD², Nima Almassi, MD², Robert Stein, MD², Jihad Kaouk, MD², Andrew Stephenson, MD², Steven Campbell, MD, PhD², Amr Fergany, MD² and Georges-Pascal Haber, MD, PhD²
¹Cleveland Clinic Lerner College of Medicine; ²Cleveland Clinic Glickman Kidney and Urological Institute
Presented By: Vishnuvardhan Ganesan

11:37 a.m. - 11:55 a.m. Q&A

Concurrent Session 2 of 4

10:45 a.m. - 11:55 a.m.  Prostate Malignant II Podium Session
Location: International Ballroom
Moderators:  Mark D. Stovsky, MD, MBA, FACS
            Cleveland, OH
            Matthew K. Tollefson, MD
            Rochester, MN
Discussant:  Dennis A. Pessis, MD
            Chicago, IL

10:45 a.m. #78  ABSORBABLE PERIRECTAL HYDROGEL SPACER INJECTION TO REDUCE RECTAL DOSE IN LOW DOSE RATE PROSTATE BRACHYTHERAPY
Jason Huang, BA¹, Paul LeVan, JD, PhD², William Andre, MS², Harpreet Wadhwa, MD¹, Peter Tsambarlis, MD³, Daniel Tauber, BS³, Kalyan Latchamsetty, MD²,³, Parthiv Mehta, MD² and Paul Yonover, MD, FACS¹,²
¹Department of Urology, University of Illinois at Chicago College of Medicine, Chicago, IL; ²Uropartners, LLC, Chicago, IL; ³Rush University Medical Center, Chicago, IL
Presented By: Jason Huang

10:49 a.m. #79  ROLE OF MRI TARGETED FUSION BIOPSIES IN MEN WITH PREVIOUS NEGATIVE BIOPSIES AND A RISING PSA
Daniel Box, James Jarvis, BS, Farrah Dadabhoy, BS, Krishnanath Gaitonde, MD, Sadhna Verma, MD, James Donovan, MD and Nilesh Patil, MD
University of Cincinnati Medical Center
Presented By: Daniel Box, MD
10:53 a.m. #80 APPROPRIATENESS CRITERIA FOR ACTIVE SURVEILLANCE OF PROSTATE CANCER
Michael Cher, MD¹, Apoorv Dhir², Gregory Auffenberg, MD², Susan Linsell², Yuqing Gao², Bradley Rosenberg, MD³, Mohammad Jafri, MD³, David Miller, MD², Khurshid Ghani, MD², Steven Bernstein, MD², James Montie, MD² and Brian Lane, MD⁴
¹Wayne State University; ²University of Michigan; ³Comprehensive Urology; ⁴Spectrum Health
Presented By: Michael Louis Cher, MD

10:57 a.m. #81 IMPACT OF PROSTATE SIZE ON OUTCOMES OF RADICAL PROSTATECTOMY: A COMPREHENSIVE ANALYSIS FROM A LARGE INSTITUTIONAL SERIES
Vidit Sharma, MD, Boyd R. Viers, MD, Stephen A. Boorjian, MD, Matthew K. Tollefson, MD, R. Houston Thompson, MD, Igor Frank, MD, Matthew T. Gettman, MD and R. Jeffrey Karnes, MD
Mayo Clinic, Rochester, MN
Presented By: Vidit Sharma, MD

11:01 a.m. #82 IsoPSA: INITIAL CLINICAL PERFORMANCE EVALUATION OF A NOVEL STRUCTURE-BASED BIOMARKER FOR PROSTATE CANCER IN A MULTICENTER PROSPECTIVE TRIAL
Eric Klein, MD¹, Mark Stovsky, MD², Robert Di Loreto, MD³, Jason Hafron, MD³, Kenneth Kernen, MD³, Kannan Manickam, MD³ and Victor Kipnis, PhD⁵
¹Cleveland Clinic; ²Cleveland Clinic, Cleveland Diagnostics, Inc.; ³Michigan Institute of Urology; ⁴Chesapeake Urology Research Associates; ⁵National Cancer Institute Biometry Research Group
Presented By: Eric A. Klein, MD

11:05 a.m. #83 COMPARING THE ACCURACY OF PI-RADS v2 TO THE ACCURACY OF PI-RADS v1 IN DETECTING PROSTATE CANCER USING TARGETED BIOPSIES
Ayman Soubra, MD, Brett Watson, Benjamin Spilseth, MD, Christopher Warlick, MD and Badrinath Konety, MD, MBA
University of Minnesota
Presented By: Ayman Soubra, MD
11:09 a.m. #84  COMPARING PATHOLOGIC OUTCOMES AT RADICAL PROSTATECTOMY IN MEN UNDERGOING SATURATION VERSUS STANDARD TRANSRECTAL PROSTATE BIOPSIES
Yaw Nyame, MD, MBA, Ahmed Elshafei, MD, PhD, Daniel Greene, MD, Onder Kara, MD, Hans Arora, MD, PhD, Ganesh Kartha, MD, MS, Ercan Malckoc, MD, Michael Gong, MD, PhD, Khaled Fareed, MD, Andrew Stepheneson, MD, MBA, Eric Klein, MD and J. Stephen Jones, MD, MBA
Cleveland Clinic
Presented By: Yaw A. Nyame, MD, MBA

11:13 a.m. #85  THE 4KSCORE® TEST PREDICTS HIGH GRADE PROSTATE CANCER ON BIOPSY AT PSA LEVELS < 4NG/ML
Stephen Zappala, MD FACS¹, Badrinath Konety, MD², Mohit Mathur, MD³, Vinita Mathur, MD³, Jay Newmark, MD⁴, Grannum Sant, MD⁴ and Mitchell Steiner, MD⁴
¹Andover Urology; ²Univ. Minn.; ³OPKO Health; ⁴OPKO Miami
Presented By: Stephen Michael Zappala, MD FACS

11:17 a.m. #86  HYDROGEL SPACER ("SPACEOAR") IN IMAGE GUIDED INTENSITY MODULATED RADIATION THERAPY (IMRT) FOR PROSTATE CANCER: A SINGLE INSTITUTION COMMUNITY-BASED EXPERIENCE
Jason Huang, BA¹, Paul LeVan, JD, PhD², William Andre, MS², Harpreet Wadhwa, MD¹, Peter Tsambarlis, MD³, Daniel Tauber, BS³, Kalyan Latchamsetty, MD²,³, Parthiv Mehta, MD² and Paul Yonover, MD, FACS¹,²
¹Department of Urology, University of Illinois at Chicago College of Medicine, Chicago, IL; ²Uropartners, LLC, Chicago, IL; ³Rush University Medical Center, Chicago, IL
Presented By: Jason Huang
MAGNETIC RESONANCE IMAGING/ULTRASOUND FUSION GUIDED PROSTATE BIOPSY IS SUPERIOR TO STANDARD 12-CORE TRANSRECTAL ULTRASOUND BIOPSY TO UPSTAGE PATIENTS ON ACTIVE SURVEILLANCE
Mukund Gande, BS¹, Wei Phin Tan, MD¹, Thomas Hwang, BS¹, Paul Yonover, MD, FACS², Daniel Dalton, MD, FACS³, Kalyan Latchamsetty, MD, FACS⁴ and Christopher Coogan, MD, FACS⁴
¹Rush University Medical Center; ²Uropartners; ³North Western Memorial Hospital, Uropartners; ⁴Rush University Medical Center, Uropartners
Presented By: Wei Phin Tan, MD

A COMPARISON OF NODAL STAGING, MORBIDITY, AND ONCOLOGIC OUTCOMES BETWEEN LIMITED, EXTENDED, AND SUPER EXTENDED LYMPHADENECTOMY TEMPLATES DURING RADICAL PROSTATECTOMY FOR INTERMEDIATE AND HIGH RISK PROSTATE CANCER
Vidit Sharma, MD, Alessandro Morlacco, MD, Joseph Jason, MD, Avinash Nehra, MD, Stephen A. Boorjian, MD, Igor Frank, MD, Matthew T. Gettman, MD, R. Houston Thompson, MD, Matthew K. Tollefson, MD and R. Jeffrey Karnes, MD
Mayo Clinic, Rochester, MN
Presented By: Vidit Sharma, MD

A SINGLE-CENTER EXPERIENCE WITH MRI TARGETED FUSION BIOPSY OF THE PROSTATE
Eamonn Bahnson, MD¹, Amanda Harrell, BS², Sadhna Verma, MD³, Krishnanath Gaitonde, MD¹, James Donovan, MD¹ and Nilesh Patil, MD¹
¹University of Cincinnati Division of Urology; ²University of Cincinnati College of Medicine; ³University of Cincinnati Division of Radiology
Presented By: Eamonn E. Bahnson, MD

PATHOLOGICAL AND ONCOLOGIC OUTCOMES OF “FAVORABLE RISK” GS 3+4 PROSTATE CANCER
Alessandro Morlacco, MD, Derek Gearman, MD, Laureano J. Rangel, MS, John C. Cheville, MD and R. Jeffrey Karnes, MD
Mayo Clinic
Presented By: Derek J. Gearman, MD

11:37 a.m. - 11:55 a.m. Q&A
Concurrent Session 3 of 4

10:45 a.m. - 11:55 a.m.  
**Endourology/Stone Disease Podium Session**  
*Location: Gold*  
**Moderators:**  
Mark D. Dabagia, MD, FACS  
*Fort Wayne, IN*  
Bradley F. Schwartz, DO, FACS  
*Springfield, IL*  
**Discussant:**  
Khurshid Ghani, MD, MS, FRCS  
*Ann Arbor, MI*

10:45 a.m.  
#91  
**CHRONIC URETERAL STENTING: A CONTEMPORARY ANALYSIS**  
Julia Fiuk and Brad Schwartz, MD  
SIU  
Presented By: Julia Fiuk, MD

10:49 a.m.  
#92  
**PROSPECTIVE, RANDOMIZED CONTROLLED TRIAL COMPARING THREE DIFFERENT MODALITIES OF LITHOTRITES FOR INTRACORPOREAL LITHOTRIPSY IN PCNL**  
Nadya York, MD, Michael S. Borofsky, MD, Casey A. Dauw, MD and James E. Lingeman, MD  
Indiana University School of Medicine  
Presented By: Nadya York, MbChB

10:53 a.m.  
#93  
**MINI VERSUS STANDARD PCNL: THE IMPACT OF SHEATH SIZE ON INTRA-RENAL PRESSURE AND INFECTIOUS COMPLICATIONS IN A PORCINE MODEL**  
Bryan Hinck, MD, Christopher Loftus, MD, Iryna Makovey, MD, Sriharan Sivalingam, MD and Manoj Monga, MD  
Cleveland Clinic  
Presented By: Bryan D. Hinck, MD

10:57 a.m.  
#94  
**FLEXIBLE URETEROSCOPY AND LASER LITHOTRIPSY FOR RENAL STONES USING 'POP-DUSTING': COMPARISON OF OUTCOMES BETWEEN TRADITIONAL DUSTING VERSUS ULTRA-HIGH FREQUENCY SETTINGS**  
Duncan Morhardt, MD, PhD¹, James Tracey, MD², Galina Gagin, BA², John Hollingsworth, MD² and Khurshid Ghani, MBBS²  
¹University of Michigan; ²University of Michigan Health Systems  
Presented By: Duncan R. Morhardt, MD, PhD
11:01 a.m.  #95  PERCUTANEOUS NEPHROLITHOTOMY IN THE SUPER-OBESE: A COMPARISON OF OUTCOMES BASED ON BODY MASS INDEX
Casey A. Dauw, MD, Michael S. Borofsky, MD, Nadya York, MD and James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Casey A. Dauw, MD

11:05 a.m.  #96  NATIONAL TRENDS IN OPEN AND MINIMALLY-INVASIVE PYELOLITHOTOMY
Charles Nottingham, MD, Joseph Pariser, MD, Andrew Cohen, MD, Vignesh Packiam, MD and Glenn Gerber, MD
University of Chicago
Presented By: Charles U. Nottingham, MD, MS

11:09 a.m.  #97  PARAVERTEBRAL BLOCK FOR PERCUTANEOUS NEPHROLITHOTOMY: A PROSPECTIVE, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY
Kristin G. Baldea, MD, Grace Delos Santos, MD, Chandy Ellimoottil, MD, Elizabeth R Mueller, MD, Ahmer Farooq, DO, Scott Byram, MD and Thomas MT Turk, MD
Loyola University Medical Center
Presented By: Kristin G. Baldea, MD

11:13 a.m.  #98  A SINGLE INSTITUTION SURVEY OF POINT-OF-CARE RENAL ULTRASONOGRAPHY FOR RENAL COLIC
Nathan Chertack, BS¹, Wen Min Chen¹, Hemant Chaparala, BS¹, Michael Byrne, MD², Michael Phelan, MD³, Sri Sivalingam, MD³ and Manoj Monga, MD³
¹Case Western Reserve University School of Medicine; ²Virginia Urology; ³Cleveland Clinic
Presented By: Nathan Chertack, BS

11:17 a.m.  #99  ACCURACY OF ENDOSCOPY, FLUOROSCOPY, AND CYTOLOGY TO DETECT UPPER TRACT UROTHELIAL CARCINOMA
Adarsh Manjunath, MD, Aziz Khambati, MD, Matthias Hofer, MD, Elodi Dielubanza, MD, Kent Perry, MD and Robert Nadler, MD
Northwestern
Presented By: Adarsh Manjunath, MD
11:21 a.m. #100 HYBRID GUIDEWIRES: ANALYSIS AND COMPARISON OF THE MECHANICAL PROPERTIES AND SAFETY PROFILES
Bryan Hinck, MD¹, Mohamed Omar, MD¹, Sarah Tarplin, MD², Sriharan Sivalingam, MD¹ and Manoj Monga, MD¹
¹Cleveland Clinic; ²University of Chicago
Presented By: Bryan D. Hinck, MD

11:25 a.m. #101 USE OF MICRO-CT IN THE CHARACTERIZATION OF STONES GROWING ON RANDALL’S PLAQUE
Michael S. Borofsky, MD, James C. Williams Jr., PhD, Casey A. Dauw, MD, Andrew P. Evan, PhD and James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Michael S. Borofsky, MD

11:29 a.m. #102 PLASMAKINETIC BIPOLAR VERSUS MONOPOLAR TRANSURETHRAL RESECTION OF BLADDER TUMOR: ANALYSIS OF PERIOPERATIVE COMPLICATIONS
Michael Avallone, MD, Bryan Sack, MD, Ahmad El-Arabi, BS and William See, MD
Medical College of Wisconsin
Presented By: Michael Avallone, MD

11:33 a.m. #103 NOVEL ANTICOAGULANTS AND URETEROSCOPY: COMPLICATIONS AND OUTCOMES
Mary Beth Westerman, Johann P. Ingimarsson and Amy E. Krambeck
Mayo Clinic Department of Urology
Presented By: Mary Beth Westerman, MD

11:37 a.m. - 11:55 a.m. Q&A
Concurrent Session 4 of 4

10:45 a.m. - 12:00 p.m. Pediatrics Poster Session
Location: Ambassador
Discussant: Kate H. Kraft, MD
Ann Arbor, MI

Poster #33 ROBOT-ASSISTED LAPAROSCOPIC EXTRAVESICAL URETERAL REIMPLANT: A CRITICAL LOOK AT SURGICAL OUTCOMES
Daniel Herz, MD², Molly Fuchs, MD, Andrew Todd, MD¹, Daryl McLeod, MD, MPH, Seth Alpert, MD and Venkata Jayanthi
¹Ohio State University Wexner Medical Center; ²Attending, Nationwide Children’s Hospital, Ohio State University
Presented By: Andrew M. Todd, MD
**Poster #34** EARLY EXPERIENCES WITH A COLLABORATIVE PEDIATRIC DYSFUNCTIONAL ELIMINATION SYNDROME CLINIC
Kristine Bonnett, ARNP, Laura Fuller, PhD, Christopher Cooper, MD, Angela Arlen, MD and Douglas Storm, MD
University of Iowa Hospitals and Clinics
Presented By: Douglas W. Storm, MD

**Poster #35** DELAYED BLADDER PERFORATION AFTER AUGMENTATION CYSTOPLASTY: WHAT IS THE BEST MANAGEMENT?
Ted Lee, MD, David Kozminski, BS, Rebekah Beach, MD, Julian Wan, MD, David Hanauer, MD, David Bloom, MD and John Park, MD
University of Michigan
Presented By: Ted Lee, MD

**Poster #36** USE OF RETROGRADE PYELOGRAM PRIOR TO OPEN PEDIATRIC PYELOPLASTY TO PLAN FOR MUSCLE-SPLITTING, MINIMALLY INVASIVE INCISION
Jessica Casey, MS, MD, Joshua Roth, MD, Benjamin Whittam, MS, MD and Mark Cain, MD
Division of Pediatric Urology, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, Indiana
Presented By: Jessica Casey, MS, MD

**Poster #37** MODIFIED TECHNIQUE OF TRIAMCINOLONE INJECTION FOR THE TREATMENT OF MITROFANOFF STOMAL STENOSIS: OPTIMIZING RESULTS AND REDUCING COST OF CARE
Andrew Strine, MD, Pramod Reddy, MD, Brian VanderBrink, MD, Trisha Reddy, BS, Paul Noh, MD, William DeFoor Jr., MD, MPH, Eugene Minevich, MD and Curtis Sheldon, MD
Division of Pediatric Urology, Cincinnati Children's Hospital Medical Center
Presented By: Andrew C. Strine, MD

**Poster #38** COMPARISON OF ROBOTIC AND OPEN PYELOPLASTY IN INFANTS
Andrew Strine, MD, Marion Schulte, MHSA, RN, Brian VanderBrink, MD, William DeFoor Jr., MD, MPH, Eugene Minevich, MD, Curtis Sheldon, MD, Pramod Reddy, MD and Paul Noh, MD
Division of Pediatric Urology, Cincinnati Children's Hospital Medical Center
Presented By: Andrew C. Strine, MD
COMPARISON OF STENTLESS AND STENTED ROBOTIC PYELOPLASTY IN CHILDREN
Andrew Strine, MD, Marion Schulte, MHSA, RN, Brian VanderBrink, MD, William DeFoor Jr., MD, MPH, Eugene Minevich, MD, Curtis Sheldon, MD, Pramod Reddy, MD and Paul Noh, MD
Division of Pediatric Urology, Cincinnati Children's Hospital Medical Center
Presented By: Andrew C. Strine, MD

FOCUSING ON ORGAN PRESERVATION AND FUNCTION – PARADIGM SHIFTS IN THE TREATMENT OF PEDIATRIC GENITOURINARY RHABDOMYOSARCOMA
Daniel D. Shapiro, MD and Patrick H. McKenna, MD, FACS, FAAP
UW Madison School of Medicine and Public Health
Presented By: Daniel D. Shapiro, MD

SINGLE SURGEON OUTCOMES OF LIVE ROBOTIC SURGERY IN PEDIATRIC UROLOGY
Joseph Rodriguez, MD and Mohan Gundeti, MD
University of Chicago
Presented By: Joseph Rodriguez, MD

THE COMPLETE PRIMARY REPAIR OF EXSTROPHY – SINGLE PROCEDURE OR STAGED RECONSTRUCTION?
Joshua Ring, MD, Kristin Delfino, PhD and Ranjiv Mathews, MD
Southern Illinois University School of Medicine
Presented By: Joshua D. Ring, MD, MS

Concurrent Sessions End

12:00 p.m. - 1:15 p.m.  Industry Sponsored Luncheon
Location: Crystal Room

12:00 p.m. - 1:15 p.m.  Industry Sponsored Luncheon
Location: Regent Room

1:15 p.m. - 1:35 p.m.  NCS Faculty Lecture: Reconstruction, Men's Health
Speaker: Edward E. Cherullo, MD
Cleveland, OH

1:35 p.m. - 2:00 p.m.  NCS Faculty Lecture: PCNL Practical Tips
Speaker: Amy E. Krambeck, MD
Indianapolis, IN
2:00 p.m. - 2:15 p.m.  
**AUA Update**
AUA President-Elect:  
J. Brantley Thrasher, MD, FACS  
*Kansas City, KS*

2:15 p.m. - 2:20 p.m.  
**Report from the NCS AUA Foundation Scholar**
Presenter:  
Christina B. Ching, MD  
*Columbus, OH*

2:20 p.m. - 2:25 p.m.  
**Award Presentation: John D. Silbar, Thirlby and Traveling Fellowship**
Presenter:  
Aaron J. Milbank, MD  
*Woodbury, MN*

2:25 p.m. - 3:00 p.m.  
**Presidential Address: Horology and Urology: What We Can Learn From Watchmakers, and What They Can Learn From Us**
President:  
Gary M. Kirsh, MD  
*Cincinnati, OH*

3:00 p.m. - 3:45 p.m.  
**Annual Business Meeting**

3:45 p.m. - 4:30 p.m.  
**Guest Lecture: Specific Strategies for Success Under MACRA**
Guest Speaker:  
Deepak A. Kapoor, MD  
*Melville, NY*

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**Concurrent Sessions Begin**

Concurrent Session 1 of 4

4:30 p.m. - 5:30 p.m.  
**Pediatric Urology Podium Session**
*Location: Gold*
Moderators:  
Patrick H. McKenna, MD, FAAP, FACS  
**Madison, WI**
Douglas W. Storm, MD  
**Iowa City, IA**
Discussant:  
Kate H. Kraft, MD  
**Ann Arbor, MI**

4:30 p.m.  
#104  
**PREGNANCY AND CESAREAN SECTION IN WOMEN WITH LOWER URINARY TRACT RECONSTRUCTION: WHAT IS THE ROLE OF THE UROLOGIST?**
Joshua Roth, MD, Richard Rink, MD, Mark Cain, MD, Rosalia Misseri, MD and Jessica Casey, MS, MD  
*Indiana University*
Presented By:  
Jessica Casey, MS, MD
4:34 p.m. #105 MURINE RESPONSE TO SUBTOTAL CYSTECTOMY REVEALS FEATURES OF SCARRING, INFLAMMATION AND REGENERATION
Jessica Wetterlin, MD¹, Paula Firmiss, BS², Grace Delos Santos, MD¹, Robert Dettman, PhD² and Edward Gong, MD²
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children's Hospital of Chicago
Presented By: Jessica Wetterlin, MD

4:38 p.m. #106 ABDOMINAL AND PELVIC ELECTROMYOGRAPHY PATTERNS IN PATIENTS WITH POSTERIOR URETHRAL VALVES
David D. Shapiro, MD, S. Farshid Moussavi-Harami, PhD, Christina J. Sauder, MS and Patrick H. McKenna, MD, FACS, FAAP
UW Madison School of Medicine and Public Health
Presented By: David D. Shapiro, MD

4:42 p.m. #107 URINARY TRACT INFECTIONS IN CHILDREN WITH PRENATAL HYDRONEPHROSIS: A RISK ASSESSMENT FROM THE SOCIETY FOR FETAL UROLOGY HYDRONEPHROSIS REGISTRY
Rebecca S. Zee, MD, PhD², Anthony Herndon, MD³, Christina Kim, MD, FAAP⁴, Patrick H. McKenna, MD, FACS, FAAP¹, Christina J. Sauder, MS¹ and Katherine W. Herbst, MS⁴
¹UW Madison School of Medicine and Public Health; ²University of Virginia School of Medicine; ³University of Virginia School of Medicine; ⁴Connecticut Children's Medical Center
Presented By: Patrick H. McKenna, MD, FAAP, FACS

4:46 p.m. #108 EFFECTIVENESS OF A PEDIATRIC-SPECIFIC CATHETER-ASSOCIATED URINARY TRACT INFECTION REDUCTION PROGRAM
David D. Shapiro, MD, Patrick H. McKenna, MD, FACS, FAAP and Christina J. Sauder, MS
UW Madison School of Medicine and Public Health
Presented By: David D. Shapiro, MD
4:50 p.m.  #109  CAN WE PREDICT COMPLICATIONS IN PEDIATRIC ROBOTIC-ASSISTED UROLOGIC SURGERY? ANALYSIS OF 250 INITIAL CASES FROM A SINGLE SURGEON
Eric D. Schadler¹, Vignesh T. Packiam² and Mohan S. Gundeti²
¹Pritzker School of Medicine, The University of Chicago Medical Center, Chicago, IL; ²Section of Urology, Department of Surgery, The University of Chicago Medicine, Comer Children's Hospital, Chicago, IL
Presented By: Eric D. Schadler, BS

4:54 p.m.  #110  PREVALENCE OF RE-AUGMENTATION ENTEROCYSTOPLASTY
Zaheer Alam, MD, William DeFoor, MD, Pramod Reddy, MD, Brian Vanderbrink, MD, Curtis Sheldon, MD and Eugene Minevich, MD
Cincinnati Children's Hospital Medical Center
Presented By: Zaheer Alam, MD

4:58 p.m.  #111  SURGICAL OUTCOMES AND LONG-TERM FOLLOW-UP OF PERCUTANEOUS NEPHROLITHOTOMY IN PEDIATRIC PATIENTS
Derek Lomas, MD, Amy Krambeck, MD, David Patterson, MD, Matthew Gettman, MD and Candace Granberg, MD
Mayo Clinic
Presented By: Derek J. Lomas, MD, PharmD

5:02 p.m.  #112  UPJO IN A PATIENT WITH MEGACALYCOSIS? DON'T TRUST A MAG3!
Jessica Casey, MS, MD¹, Boaz Karmazyn, MD², Joshua Roth, MD¹, Benjamin Whittam, MS, MD¹, Rosalia Misseri, MD¹, Richard Rink, MD¹, Mark Cain, MD¹ and Martin Kaefer, MD¹
¹Division of Pediatric Urology, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, Indiana; ²Division of Pediatric Radiology, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, Indiana
Presented By: Jessica Casey, MS, MD

5:06 p.m.  #113  CHARACTERIZATION OF URINARY TRACT INFECTIONS IN CHILDREN WITH VESICOURETERAL REFLUX: THE IMPACT OF THE AMERICAN ACADEMY OF PEDIATRICS (AAP) GUIDELINES ON PRACTICE
Jill Haxel, BS, Xin Yu, MD, Aaron Moore, BS, Kristin Delfino, PhD, Danuta Dynda, MD and Ranjiv Mathews, MD
Southern Illinois University School of Medicine
Presented By: Jill Haxel
AMBULATORY PATIENTS WITH SPINA BIFIDA ARE 50% MORE LIKELY TO BE CONTINENT OF STOOL AFTER A MACE PROCEDURE
Tim Large, MD, MS¹, Konrad Szymanski, MD, MPH², Rosalia Misseri, MD², Benjamin Whittam, MD, MS², Hubert Katherine, MD, MPH², Martin Kaefer, MD², Rink Richard, MD² and Cain Mark, MD²
¹Indiana University-Purdue University Indianapolis; ²IU Riley Faculty
Presented By: Tim Large, MD, MA

5:15 p.m. - 5:30 p.m. Q&A

4:30 p.m. - 5:30 p.m. Outcomes Podium Session
Location: International Ballroom
Moderator: John M. Hollingsworth, MD, MS
Ann Arbor, MI
Discussant: Philipp Dahm, MD, MHSc, FACS
Minneapolis, MN

4:30 p.m. #115 IMPACT OF VARIATION IN DISPOSABLE SUPPLY UTILIZATION ON COST FOR HIGH VOLUME PROCEDURES
Lauren Hemsley, MPH, Badrinath Konety, MD, MBA and James K. Anderson, MD University of Minnesota
Presented By: Lauren Hemsley

4:34 p.m. #116 CHALLENGING THE MICROHEMATURIA GUIDELINES: BACK TO THE FUTURE?
Richard Matulewicz, MS, MD, Oana Popescu, Donald Lloyd-Jones, MS, MD and Joshua Meeks, MD, PhD Northwestern University Feinberg School of Medicine
Presented By: Richard S. Matulewicz, MS, MD

4:38 p.m. #117 DO PERIOPERATIVE TROPOIN CONCENTRATIONS PREDICT MORTALITY IN PATIENTS HAVING MAJOR UROLOGIC SURGERY?
Yaw Nyame, MD, MBA, Benjamin Abelson, MD, Venu Menon, MD, Daniel Sessler, MD, Eric Klein, MD and Howard Goldman, MD Cleveland Clinic
Presented By: Yaw A. Nyame, MD, MBA
4:42 p.m. #118  UROLOGIC SIMULATION: 3-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI MODALITY MODEL
Alexander Chow, MD¹, E Yura, MD², B Sherer, MD¹, K Latchamsetty, MD¹, M. Abern, MD³, E. Kocjančič, MD³, S. Eggener, MD⁴, T. Turk, MD⁵, S. Park, MD⁶, S. Psutka, MD⁷ and C. Coogan, MD¹
¹Rush University Medical Center; ²Northwestern University; ³UIC; ⁴University of Chicago; ⁵Loyola University; ⁶Northshore University Health System; ⁷John H. Stroger Jr. Hospital of Cook County
Presented By: Alexander Chow, MD

4:46 p.m. #119  A LONGITUDINAL ASSESSMENT OF THE METHODOLOGICAL QUALITY OF SYSTEMATIC REVIEWS IN UROLOGY (1998-2015)
Julia Han, MD, Pharm D², Shreyas Gandhi³, Crystal Bockoven⁴ and Philipp Dahm, MD, MHSc¹
¹Minneapolis VAMC and University of Minnesota; ²University of Florida; ³McMaster University; ⁴University of Minnesota
Presented By: Philipp Dahm, MD, MHSc, FACS

4:50 p.m. #120  COMPARATIVE COMPETITIVE ANALYSIS OF THE BEST COMORBIDITY INDEX FOR THE PREDICTION OF OUTCOMES AFTER RADICAL CYSTECTOMY FOR BLADDER CANCER
Nathan Brooks, MD¹, Joshua Bleicher, BS², Sarah Bell, MS³, Lewis Thomas, MD¹, Paul Morrison, MD¹, Brad Erickson, MD¹, Yu Han, BS⁴ and Kenneth Neppl, MD¹
¹The University of Iowa Hospital and Clinic; ²The University of Iowa Carver College of Medicine; ³The University of Iowa Holden Comprehensive Cancer Center; ⁴The University of Iowa
Presented By: Nathan A. Brooks

4:54 p.m. #121  THE FRAGILITY OF STATISTICALLY SIGNIFICANT RESULTS FROM RANDOMIZED TRIALS IN UROLOGY
Vikram Narayan, MD¹, Shreyas Gandhi, BHSc², Kristin Chrousler, MD, MPH³, Nathan Evaniew, MD⁴, Yen-Yi Ho, PhD⁵ and Philipp Dahm, MD, MHSc³
¹Department of Urology, University of Minnesota; ²McMaster University; ³Minneapolis Veterans Affairs Health Care System and Department of Urology, University of Minnesota; ⁴Division of Orthopedics, McMaster University; ⁵Division of Biostatistics, University of Minnesota
Presented By: Vikram M. Narayan, MD
FOLLOW-UP CARE AFTER ED VISITS FOR KIDNEY STONES—A MISSED OPPORTUNITY
Amy Luckenbaugh, MD¹, Phyllis Yan, MA², J. Stuart Wolf Jr., MD¹, Khurshid Ghani, MBChB, MS², Brent Hollenbeck, MD, MS² and John Hollingsworth, MD, MS²
¹University of Michigan Department of Urology; ²Dow Division of Health Services Research, Department of Urology, University of Michigan
Presented By: Amy Luckenbaugh, MD

WHAT DO UROLOGY RESIDENCY APPLICANTS LOOK FOR IN A TRAINING PROGRAM?
Amir Lebastchi, MD¹, Ian McLaren, MD¹, Roger Khouri Jr., BS¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD², Thomas Stringer, MD², Ajay Singla, MD³, Matthew Sorensen, MD⁴, Hunter Wessells, MD⁴ and Sapan Ambani, MD¹
¹University of Michigan Department of Urology; ²University of Florida Department of Urology; ³University of Toledo Department of Urology; ⁴University of Washington Department of Urology
Presented By: Amir Lebastchi, MD

THE EFFECT OF PRE-TREATMENT MULTIDISCIPLINARY CARE ON CANCER-SPECIFIC AND ALL-CAUSE MORTALITY IN MEN WITH LOCALIZED PROSTATE CANCER
Naveen Kachroo, MD PhD¹, Jesse Sammon, DO¹, Deepansh Dalela, MD¹, Firas Abdollah, MD¹, Akshay Sood, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Quoc-Dien Trinh, MD²
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Brigham and Women’s Hospital, Boston, MA
Presented By: Naveen Kachroo, MD

WITHDRAWN

Q&A
Concurrent Session 3 of 4

Adrenal/Kidney Poster Session
Location: State
Moderators: Clinton D. Bahler, MD, MS
Carmel, IN
Edward W. Schervish, MD
St. Clair Shores, MI
Discussant: E Jason Abel, MD
Madison, WI
Poster #43  A NOVEL PRE-OPERATIVE MODEL TO PREDICT 90-DAY SURGICAL MORTALITY IN PATIENTS BEING CONSIDERED FOR EXTRIPATIVE SURGERY FOR RENAL CELL CARCINOMA
Adam Calaway, M. Francesca Monn, MD, Clint Cary, MD, Clinton Bahler, MD and Ronald Boris, MD
Indiana University School of Medicine
Presented By: Adam C. Calaway, MD

Poster #44  SEQUENCE OF NEPHRECTOMY VERSUS INFERIOR VENA CAVA THROMBECTOMY IN PATIENTS WITH RENAL CELL CARCINOMA WITH INFERIOR VENA CAVA THROMBUS
Sarah Vij, MD, Karin Westesson, MD, Joseph Zabell, MD, Amr Fergany, MD, John Rabets, MD and Venkatesh Krishnamurthi, MD
Cleveland Clinic Foundation
Presented By: Sarah C. Vij, MD

Poster #45  SEVERITY OF PREOPERATIVE PROTEINURIA IS A RISK FACTOR FOR OVERALL MORTALITY IN PATIENTS UNDERGOING NEPHRECTOMY
David Y. Yang, MD¹, R. Houston Thompson, MD¹, Harras B. Zaid, MD¹, Christine M. Lohse, MS², Andrew D. Rule, MD³, Stephen A. Boorjian, MD¹, Bradley C. Leibovich, MD¹, John C. Cheville, MD⁴ and Matthew K. Tollefson, MD¹
¹Mayo Clinic, Department of Urology; ²Mayo Clinic, Division of Biomedical Statistics and Informatics; ³Mayo Clinic, Division of Nephrology and Hypertension; ⁴Mayo Clinic, Department of Pathology
Presented By: David Y. Yang, MD

Poster #46  ONCOLOGIC OUTCOMES FOLLOWING MINIMALLY-INVASIVE RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA
Amir Toussi, MD, Tanner Miest, MD, George Chow, MD and Matthew Tollefson, MD
Mayo Clinic
Presented By: Amir Toussi, MD

Poster #47  PREOPERATIVE NEUTROPHIL-TO-LYMPHOCYTE RATIO >3 IS INDEPENDENTLY ASSOCIATED WITH CLAVIEN III–V COMPLICATION RATES FOLLOWING RESECTION OF LARGE RENAL CELL CARCINOMAS IN AN URBAN UNDERINSURED POPULATION
Brian McArdle, DO, MBA, Sarah P Psutka, MD, MSc, Matthew Houlihan, DO, Mark Wille, MD and Courtney MP Hollowell, MD
Cook County Health and Hospitals System
Presented By: Brian J. McArdle, DO, MBA
SHOULD PATHOLOGIC DIAGNOSIS BE OBTAINED PRIOR TO RENAL MASS ABLATION?
Amy Lim, Matthew Grimes, MD, Tyler Wittmann, MD, Sara Best, MD, J. Louis Hinshaw, MD, Fred Lee, MD, Meghan Lubner, MD, Timothy Ziemlewicz, MD, Shane Wells, MD, Stephen Nakada, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Amy H. Lim, MD

ESTIMATING THE AMOUNT OF HEALTHY KIDNEY PARENCHYMA REMOVED DURING PARTIAL NEPHRECTOMY: A COMPARISON BETWEEN WHOLE MOUNT AND SINGLE CROSS-SECTIONAL SLICE TECHNIQUES
Clinton Bahler, MD, MS and Chandru Sundaram, MD
Indiana University School of Medicine
Presented By: Clinton D. Bahler, MD, MS

TREATMENT TRENDS AND LONG-TERM SURVIVAL ASSOCIATED WITH CRYOTHERAPY AND PARTIAL NEPHRECTOMY FOR SMALL RENAL MASSES IN THE NATIONAL CANCER DATABASE USING PROPENSITY SCORE MATCHING
Weston Kitley, BS, Clint Bahler, MD, MS and Chandru Sundaram, MD
Indiana University School of Medicine
Presented By: Weston Kitley, BS

TWO DIMENSION SIMULATION OF URINE FLOW IN A URETER UNDER PERISTALTIC CONTRACTIONS WITH AND WITHOUT OBSTRUCTION
Zahra Najafi, MS², Thomas Tieu, MD¹, Bradley Schwartz, DO¹, Abhilash Chandy, PhD² and Ajay Mahajan, PhD²
¹Southern Illinois University SOM; ²University of Akron
Presented By: Thomas Tieu, MD

CYSTOSCOPY AT THE TIME OF HYSTERECTOMY IMPROVES DETECTION OF URETERAL INJURY: A POPULATION BASED ANALYSIS
Eric Kirshenbaum, MD, Robert Blackwell, MD, Elizabeth Dray, MD, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD, Robert Flanigan, MD, Elizabeth Mueller, MD and Gopal Gupta, MD
Loyola University
Presented By: Eric Kirshenbaum, MD
Concurrent Session 4 of 4

4:30 p.m. - 5:30 p.m.  Male and Couple Infertility Poster Session

Location: Ambassador
Moderators: Tobias S. Kohler, MD, MPH, FACS
            Springfield, IL
            Lawrence J. Litscher, MD
            Dayton, OH
Discussant: Brian V. Le, MD
            Madison, WI

Poster #53 POST-FINASTERIDE SYNDROME: REAL OR IMAGINED?
Michael J. Butcher, DO², Wesley Baas, MD¹, Aye Lwin³, Bradley Holland³, Michelle Herberts³, Joseph Clemons³, Kristin Delfino, PhD⁴, Stanley Althof, PhD⁵, Tobias S. Kohler, MD, MPH¹ and Kevin T. McVary, MD¹
¹Southern Illinois University School of Medicine, Division of Urology; ²Male Infertility Department at Park Nicollet; ³Southern Illinois University School of Medicine; ⁴Southern Illinois University School of Medicine, Center for Clinical Research; ⁵Center for Marital and Sexual Health
Presented By: Wesley Baas, MD

Poster #54 OUTCOMES OF TUNICA ALBUGINEA PLICATION FOR PEYRONIE’S DISEASE WITH LIMITED USE OF PERMANENT SUTURE
Dimitri Papagiannopoulos, MD, Jessica Phelps, BS, Emily Yura, MD and Laurence Levine, MD
Rush University Medical Center
Presented By: Dimitri Papagiannopoulos, MD

Poster #55 PREDICTORS OF PENILE IMPLANT SATISFACTION - 1000+ PATIENTS FROM THE PROPPER STUDY
Tobias Kohler, MD, MPH, Will Brant, Anthony Bella, Edward Karpman, Brian Christine, Brian Kansas, Leroy Jones, Nelson Bennett, Mohit Khera and Gerard Henry
SIU SOM
Presented By: Tobias S. Kohler, MD, MPH, FACS

Poster #56 PREDICTORS OF INCREASED INTRACAVERNOSAL INJECTION REQUIREMENTS AT PENILE ULTRASOUND
Ross Avant, MD, Matthew Ziegalmann, MD, Joshua Savage, PA-C and Landon Trost, MD
Mayo Clinic
Presented By: Ross A. Avant, MD
<table>
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<th>Poster #</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
<th>Presenter</th>
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<tr>
<td>#57</td>
<td>LESSONS LEARNED FROM A CONTEMPORARY SERIES ON PENILE IMPLANT COMPLICATIONS</td>
<td>Joshua Ring, MD and Tobias Kohler, MD</td>
<td>Southern Illinois University School of Medicine</td>
<td>Joshua D. Ring, MD, MS</td>
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<td>#58</td>
<td>DESCRIPTION OF A MODIFIED GLANULOPEXY TECHNIQUE FOR MANAGING SST DEFORMITY IN MEN WITH PENILE PROSTHESES</td>
<td>Matthew Ziegelmann, MD and Landon Trost, MD</td>
<td>Mayo Clinic Rochester</td>
<td>Matthew J. Ziegelmann, MD</td>
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<td>#59</td>
<td>CAN RESPONSE TO COLLAGENASE CLOSTRIDIUM HISTOLYTICUM INJECTIONS FOR PEYRONIE'S DISEASE BE PREDICTED?</td>
<td>Brian Montgomery, MD, Matthew Ziegelmann, MD and Landon Trost, MD</td>
<td>Mayo Clinic</td>
<td>Brian Montgomery, MD</td>
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<td>#60</td>
<td>THE EFFECT OF MECHANICAL THERAPY ON PENILE PROSTHESIS PLACEMENT IN MEN WITH SEVERE CORPORAL FIBROSIS</td>
<td>Peter Tsambarlis, Fahad Chaus and Laurence Levine, MD</td>
<td>Rush University Medical Center</td>
<td>Peter Tsambarlis, MD</td>
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<td>#61</td>
<td>CLINICAL CHARACTERISTICS OF YOUNG MEN WITH ERECTILE DYSFUNCTION</td>
<td>Ross Avant, MD, Matthew Ziegelmann, MD, Joshua Savage, PA-C and Landon Trost, MD</td>
<td>Mayo Clinic</td>
<td>Ross A. Avant, MD</td>
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<td>#62</td>
<td>DO THE BENEFITS OF TESTOSTERONE REPLACEMENT IN LATE ONSET HYPOGONADISM OUTWEIGH THE RISKS? A SYSTEMATIC REVIEW</td>
<td>Nikita Abhyankar¹, Martin Kathrins, MD², Craig Niederberger, MD¹ and Alan Seftel, MD³</td>
<td>University of Illinois at Chicago; Brigham and Womens’ Hospital; Cooper University</td>
<td>Nikita Abhyankar, MBChB, BMedSc</td>
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¹University of Illinois at Chicago; ²Brigham and Womens’ Hospital; ³Cooper University
Comparative Evaluation of Physical Characteristics of Different Inflatable Penile Prostheses

Paholo G. Barboglio Romo, MD, MPH, Harshitha P. Chikkatur, Sahana Beldona, Yooni Yi, MD, Tim M. Bruns, PhD and Bahaa S. Malaeb, MD
University of Michigan
Presented By: Paholo G. Barboglio Romo, MD, MPH

Concurrent Sessions End

6:30 p.m. - 11:00 p.m. Annual Banquet
Location: Imperial Ballroom

Saturday, September 10, 2016

Overview

6:30 a.m. - 8:00 a.m. Continental Breakfast
Location: International Foyer

6:30 a.m. - 11:55 a.m. Registration/Information Desk Open
Location: International Foyer

6:30 a.m. - 11:55 a.m. Speaker Ready Room
Location: Royal

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

Concurrent Sessions Begin

Concurrent Session 1 of 3

7:00 a.m. - 7:55 a.m. Male Infertility Podium Session
Location: Rouge
Moderator: Robert E. Brannigan, MD
Chicago, IL
Discussant: Tobias S. Kohler, MD, MPH, FACS
Springfield, IL

7:00 a.m. #126 Assessing the Variability in Insurance Coverage Transparency for Male Sexual Health Conditions in the United States
Brian Le, MD, David Paolone, MD, Sarah McAchran, MD and Wade Bushman, MD
University of Wisconsin-Madison
Presented By: Brian Van Le, MD
7:04 a.m. #127 EARLY OUTCOMES OF CONCURRENT TACHOSIL GRAFTING WITH IPP PLACEMENT
Neil Patel, MD¹, Michael Butcher, DO² and Tobias Kohler, MD, MPH³
¹Southern Illinois School of Medicine; ²Park Nicollet Sexual Health Clinic; ³SIU School of Medicine
Presented By: Neil Patel, MD

7:08 a.m. #128 SELF-REPORTED CLINICAL MEANINGFULNESS PREDICTS OBJECTIVE OUTCOMES IN MEN UNDERGOING COLLAGENASE CLOSTRIDIUM HISTOLYTICUM INJECTIONS FOR PEYRONIE’S DISEASE
Matthew Ziegelmann, MD, Boyd Viers, MD, Brian Montgomery, MD, Mary Westerman, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Rochester
Presented By: Matthew J. Ziegelmann, MD

7:12 a.m. #129 PILOT STUDY: ASSESSMENT OF BULBAR CONJUNCTIVAL HEMODYNAMICS IN SUBJECTS WITH ERECTILE DYSFUNCTION
Harpreet Wadhwa, MD¹, James Hotaling, MD, MPH², Ali Kord Valeshabad, MD³, Nikita Abhyankar, MD⁴, Mahnaz Shahidi, PhD³ and Ervin Kocjancic, MD⁴
¹University of Illinois at Chicago; ²University of Utah Division of Urology; ³University of Illinois at Chicago - Department of Opthalmology; ⁴University of Illinois at Chicago - Department of Urology
Presented By: Harpeet S. Wadhwa, MD

7:16 a.m. #130 TIME FRAME FOR IMPROVEMENT IN SEMEN ANALYSIS PARAMETERS AFTER VARIX LIGATION – A SINGLE INSTITUTION EXPERIENCE
Melissa St. Aubin, MD, Katie Cohen, BA and Jay Sandlow, MD
Medical College of Wisconsin
Presented By: Melissa A. St. Aubin, MD

7:20 a.m. #131 POST-FINASTERIDE SYNDROME: IS DUTASTERIDE UNFAIRLY ACCUSED?
Wesley Baas, MD¹, Michael J. Butcher, DO², Joseph Clemons³, Aye Lwin³, Bradley Holland³, Michelle Herberts³, Kristin Delfino, PhD⁴, Stanley Althof, PhD⁵, Tobias S. Kohler, MD, MPH¹ and Kevin T. McVary, MD¹
¹Southern Illinois University School of Medicine, Division of Urology; ²Male Infertility Department at Park Nicollet; ³Southern Illinois University School of Medicine; ⁴Southern Illinois University School of Medicine, Center for Clinical Research; ⁵Center for Marital and Sexual Health
Presented By: Wesley Baas, MD
7:24 a.m. #132 CHARACTERISTICS AND INFECTION RISK IN PATIENTS UNDERGOING MULTIPLE INFLATABLE PENILE PROSTHESES
Brian Montgomery, MD and Landon Trost, MD
Mayo Clinic
Presented By: Brian Montgomery, MD

7:28 a.m. #133 TESTICULAR SPERM ASPIRATION IN MEN WITH NON-OBSTRUCTIVE AZOOSPERMIA: USING FSH LEVEL AS A PREDICTOR OF SUCCESSFUL SPERM RETRIEVAL
Alexander Chow, MD, S. Larsen, MD and L. Levine, MD
Rush University Medical Center
Presented By: Alexander Chow, MD

7:32 a.m. #134 TESTOSTERONE PRESCRIBING TRENDS OF PHYSICIANS
Daniel Mazur, MD, Jared Moss, MD, Mary Kate Keeter, MPH and Robert Brannigan, MD
Northwestern University Feinberg School of Medicine
Presented By: Daniel J. Mazur, MD

7:36 a.m. - 7:55 a.m. Q&A

Concurrent Session 2 of 3

7:00 a.m. - 7:55 a.m. Urinary Incontinence/Transplant/Trauma Podium Session
Location: Gold
Moderators: Steven W. Siegel, MD
            Woodbury, MN
            Ajay Singla, MD
            Toledo, OH
Discussant: John T. Stoffel, MD
            Ann Arbor, MI

7:00 a.m. #135 LONG-TERM FOLLOW-UP OF THE VIRTUE QUADRATIC® MALE SLING
Andrew McCall, MD, Marcelino Rivera, MD and Daniel Elliot, MD
Mayo Clinic
Presented By: Andrew N. McCall, MD

7:04 a.m. #136 ONABOTULINUMTOXINA DOES NOT IMPROVE RADIATION CYSTITIS SYMPTOMS
Paholo G. Barboglio Romo, MD, MPH and Anne P. Cameron, MD
University of Michigan
Presented By: Paholo G. Barboglio Romo, MD, MPH
LONG-TERM QUALITY OF LIFE AND FUNCTIONAL OUTCOMES AMONG PRIMARY AND SECONDARY ARTIFICIAL URINARY SPHINCTER IMPLANTATIONS IN MEN WITH STRESS URINARY INCONTINENCE
Boyd Viers, MD, Marcelino Rivera, MD, Brian Linder, MD, Laureano Rangel, Matthew Ziegelmann, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd R. Viers, MD

NETWORK META-ANALYSIS TO ASSESS THE TREATMENT EFFECT OF ONABOTULINUMTOXINA, MIRABEGRON AND ANTICHOLINERGICS VERSUS PLACEBO FOR OVERACTIVE BLADDER
David Ginsberg, MD¹, Marcus Drake, MD², Christopher Chapple, MD³, Rachael McCool, BSc⁴, Julie Glanville, MSc⁴, Kelly Fleetwood, MSc⁵, Daniel James, MSc⁵, Zsolt Hepp, PhD⁶ and Victor Nitti, MD⁷
¹Keck School of Medicine of USC; ²Bristol Urological Institute; ³Royal Hallamshire Hospital; ⁴York Health Economics Consortium Ltd; ⁵Quantics Consulting Ltd; ⁶Allergan plc; ⁷New York University Langone Medical Center- School of Medicine
Presented By: David Alan Ginsberg, MD

DOES SEX MATTER? A MATCHED PAIRS ANALYSIS OF NEUROMODULATION OUTCOMES IN WOMEN AND MEN
John Lavin, MD, Priyanka Gupta, MD, Jason Gilleran, MD, Kim Killinger, MD, Jamie Bartley, DO, Natalie Gaines, MD, Cheryl Wolfert, BSN, Judith Boura, MS and Kenneth Peters, MD
Beaumont Health System
Presented By: John Lavin, MD

RADIOGRAPHIC MISDIAGNOSES AFTER PERIURETHRAL BULKING AGENTS
Ayad Khourdaji, MD¹, Natalie Gaines, MD², Priyanka Gupta, MD², Keval Parikh³, Kim Killinger, MSN³, Michael Ehler, MD⁴ and Larry Sirls, MD²
¹Beaumont Health; ²Beaumont Health, Royal Oak, MI; ³Oakland University William Beaumont School of Medicine, Rochester, MI; ⁴Metro Urology, Minneapolis, MN
Presented By: Ayad Khourdaji, MD

WITHDRAWN
CONSISTENT AND DURABLE IMPROVEMENTS IN QUALITY OF LIFE WITH LONG-TERM ONABOTULINUMTOXINA TREATMENT IN PATIENTS WITH OVERACTIVE BLADDER
Christopher Chermansky, MD¹, Victor Nitti, MD², Sidney Radomski, MD³, Angelo Gousse, MD⁴, Marcus Drake, MD⁵, Albert Kaufmann, MD⁶, Andrew Magyar, PhD⁷ and David Ginsberg, MD⁸
¹University of Pittsburgh Medical Center; ²New York University; ³University of Toronto; ⁴Bladder Health and Reconstructive Urology; ⁵Bristol Urological Institute; ⁶Kliniken Maria Hilf GmbH; ⁷Allergan plc; ⁸USC Institute of Urology
Presented By: Christopher J. Chermansky, MD

NATIONAL SURGICAL TRENDS AND PERIOPERATIVE OUTCOMES OF MID URETHRAL SLING PLACEMENT FOR STRESS URINARY INCONTINENCE
Emily Slopnick, MD¹, Adonis Hijaz, MD¹, Carvell Nguyen, MD, PhD², Robert Abouassaly, MD¹, J Welles Henderson, MD¹ and Simon Kim, MD, MPH¹
¹University Hospitals Case Medical Center; ²MetroHealth Medical Center
Presented By: Emily Slopnick, MD

ABDOMINAL PLACEMENT OF THE SACRAL NERVE STIMULATOR IMPULSE GENERATOR: BACK TO WHERE WE STARTED?
Adarsh Manjunath, MD, Richard Matulewicz, MD and Stephanie Kielb, MD
Northwestern
Presented By: Adarsh Manjunath, MD

7:40 a.m. - 7:55 a.m.  Q&A
7:00 a.m. - 7:55 a.m.  Prostate Malignant III Podium Session

Location: International Ballroom

Moderators: Scott E. Eggener, MD
Chicago, IL
Norm D. Smith, MD
Chicago, IL

Discussant: Robert Karnes, MD
Rochester, MN

7:00 a.m.  #145  LOW VOLUME GLEASON 8 ON PROSTATE BIOPSY: TIP OF THE ICEBERG OR WARMER WATERS AHEAD?
Christopher Riedinger, MD, Charles Nottingham, MD and Scott Eggener, MD
University of Chicago
Presented By: Christopher B. Riedinger, BS

7:04 a.m.  #146  PELVIC LYMPH NODE DISSECTION AT TIME OF RADICAL PROSTATECTOMY: ASSESSING UTILIZATION AND YIELD WITHIN A STATEWIDE QUALITY IMPROVEMENT CONSORTIUM
Aram Loeb, MD¹, Michael Levin, MD¹, Alex Borchert, BS², Susan Linsell, MHSA³, Yuqing Gao, MS³, David Miller, MD³ and Michael Cher, MD¹
¹Wayne State University - Department of Urology; ²Wayne State University - School of Medicine; ³University of Michigan - Department of Urology
Presented By: Aram Loeb, MD

7:08 a.m.  #147  IMMUNE CHARACTERIZATION OF THE PROGRAMMED DEATH RECEPTOR PATHWAY IN HIGH RISK PROSTATE CANCER
Wesley Baas, MD¹, Svjetlana Gershburg², Danuta I. Dynda, MD¹, Kristin Delfino, PhD², Kathy Robinson, PhD³, Daotai Nie, PhD⁴, Jennifer Holmes Yearley, DVM, PhD⁵ and Shaheen Alanee, MD, MPH, MBA¹
¹Southern Illinois University School of Medicine, Division of Urology; ²Southern Illinois University School of Medicine, Center for Clinical Research; ³Southern Illinois University School of Medicine, Cancer Center; ⁴Southern Illinois University School of Medicine, Department of Med Micro, Immunology & Cell Biology; ⁵Merck Research Laboratories
Presented By: Wesley Baas, MD
7:12 a.m. #148 MULTIPARAMETRIC MRI BASED PSA DENSITY CALCULATIONS ACCURATELY PREDICT THE PRESENCE OF CLINICALLY SIGNIFICANT PROSTATE CANCER PRIOR TO MRI/ULTRASOUND FUSION BIOPSY
Everardo Arias¹, Bryan Bisanz, BS¹, Michelle Van Kuiken, MD², Khalid Alsabban, MD¹, Steven M. Shea, MD³, Joseph H. Yacoub, MD³, Ari Goldberg, MD³ and Gopal N. Gupta, MD²
¹Loyola Stritch School of Medicine; ²Loyola University Department of Urology; ³Loyola University Department of Radiology
Presented By: Everardo Arias

7:16 a.m. #149 EFFECT OF TIME FROM BIOPSY TO SURGERY ON COMPLICATIONS AFTER RADICAL PROSTATECTOMY
Mary Beth Westerman, Vidit Sharma and R. Jeffrey Karnes
Mayo Clinic Department of Urology
Presented By: Mary Beth Westerman, MD

7:20 a.m. #150 CAN APIFINY, A NOVEL IMMUNE-BASED BLOOD TEST, BETTER DETERMINE HIGH GRADE PROSTATE CANCER RISK IN MEN WITH AN ELEVATED PSA AND A PREVIOUS NEGATIVE BIOPSY? INITIAL CLINICAL RESULTS
Jacob Parke, MD¹, Preston Kerr, MS³, Chirag Dave, MD³, Gregory Oldford, MD², Kenneth Kernen, MD², J. Rene Frontera, MD², Brian Seifman, MD², Richard Sarle, MD² and Jason Hafron, MD²
¹William Beaumont Hospital; ²Michigan Institute of Urology; ³Beaumont Health System
Presented By: Jacob Parke, MD

7:24 a.m. #151 PERIPROSTATIC FAT RATIO: A RISK FACTOR FOR PROSTATE CANCER?
Wei Phin Tan, MD, Meri Chen, MD, Carol Lin, MD and Leslie Deane, MBBS, FRCSC, FACS
Rush University Medical Center
Presented By: Wei Phin Tan, MD

7:28 a.m. #152 CENTRAL ZONE LESION ON MRI, SHOULD WE BE CONCERNED?
Wei Phin Tan, MD, Patrick Whelan, MD, Shahid Ekbal, MD, Narendra Khare, MD, Charles McKiel, MD, Dennis Pessis, MD and Leslie Deane, MBBS, FACS
Rush University Medical Center
Presented By: Wei Phin Tan, MD
A NOVEL α3β1 INTEGRIN – ABL KINASE – HIPPO SUPPRESSOR PATHWAY THAT LIMITS PROSTATE CANCER PROGRESSION AND METASTASIS
Afshin Varzavand, Will Hacker, Deqin Ma, MD, PhD, Katherine Gibson-Corley, DVM, Maria Hawayek, James Brown, MD, Michael Henry, PhD and Christopher Stipp, PhD
University of Iowa
Presented By: James Andrew Brown, MD
9:03 a.m.  #155  SEPTIC RENAL VEIN THROMBOSIS COMPLICATED BY SEPTIC PULMONARY EMBOLI AND RENAL PSEUDOANEURYSMS
Daniel Smith, MD, Robert Goldfarb, MD and Christopher Weight, MD
University of Minnesota
Presented By: Daniel W. Smith, MD

9:06 a.m.  #156  TRANSVESICAL REPAIR OF BLADDER AND RECTAL INJURY AFTER AN UNFORTUNATE DAY OF SLEDDING
Navneet Mander, MD and Theodore Barber, MD
Wayne State University School of Medicine
Presented By: Navneet Mander, MD

9:09 a.m.  #157  TWO CASES OF INTRAVESICAL MAGNETIC BUCKYBALLS IN ADOLESCENT MALES WITHIN THE NCS: COINCIDENCE OR AN ALARMING TREND
Aram Loeb, MD¹, Zachary Liss, MD² and Pramod Reddy, MD³
¹Wayne State University - School of Medicine
Department of Urology; ²Michigan Institute of Urology;
³Cincinnati Children’s Hospital Medical Center
Presented By: Aram Loeb, MD

9:12 a.m.  #158  OF GOATS AND MEN - DELAYED PRESENTATION OF A TRAUMATIC PENILE AMPUTATION REPAIRED WITH SKIN GRAFT
Aron Liaw, MD, Zachary Gordon, MD and Christopher McClung, MD
Ohio State University
Presented By: Aron Liaw, MD

9:15 a.m.  #159  NOT YOUR TYPICAL SP TUBE EROSION, A FIRST FOR SP TUBE COMPLICATIONS
Rohith Arcot, MD, Aram Loeb, MD, Steven Lucas, MD and Michael Cher, MD
Wayne State University
Presented By: Rohith Arcot, MD
9:18 a.m. #160  MALIGNANT RENAL PARAGANGLIOMA WITH ATRIAL TUMOR THROMBUS AND RARE SDHB GENE MUTATIONS
Philip Wanzek, DO¹, Dharam Kaushik, MD², Jennifer M. Boland Froemming, MD³, Florencia G. Que, MD⁴, John M. Stulak, MD⁵, Brian A. Costello, MD⁶ and Bradley C. Leibovich, MD⁷
¹Mayo Clinic; ²Assistant Professor in Urology at the University of Texas Health Science Center, San Antonio; ³Assistant Professor of Laboratory Medicine/Pathology at the Mayo Clinic; ⁴Professor of Surgery, Department of General and GI Surgery at the Mayo Clinic; ⁵Professor of Surgery, Department of Cardiovascular Surgery at the Mayo Clinic; ⁶Associate Professor of Oncology and Urology, Department of Medical Oncology at the Mayo Clinic; ⁷Chair, Department of Urology at the Mayo Clinic
Presented By: Philip M. Wanzek, DO

9:21 a.m. #161  “MY URETER GOT PULLED OUT AND I CANNOT PEE ANYMORE. DID YOU AT LEAST GET MY STONE OUT?”
Nabeel Hamoui, MD, MBA¹ and Stephanie Kield, MD²
¹Northwestern University; ²Northwestern Memorial Hospital
Presented By: Nabeel Hamoui, MD, MBA

9:24 a.m. #162  WITHDRAWN

9:27 a.m. #163  UNIQUE BLADDER EXSTROPHY CLOSURE IN A 71 YEAR OLD PATIENT
Aron Liaw, MD¹, Fara Bellows, MD¹ and Rama Jayanthi, MD²
¹Ohio State University; ²Nationwide Children's Hospital
Presented By: Aron Liaw, MD

9:30 a.m. #164  “MY BLADDER IS HANGING OUT OF MY ANUS”: SUCCESSFUL MANAGEMENT OF FIRST REPORTED CASE OF MALE TRANSANAL BLADDER PROLAPSE
Samer Kirmiz, BS¹, Andrew Livingston, MD², Martin Lutchfeld, MD², Christopher Brede, MD², Sabrina Noyes, BS² and Brian Lane, MD, PhD²
¹Michigan State University; ²Spectrum Health Hospital System
Presented By: Samer William Kirmiz

9:33 a.m. #165  FRACTURED KIDNEY AFTER SKATEBOARDING ACCIDENT
Melody Chen¹ and Jeffrey Donohoe, MD²
¹University Hospitals; ²Cleveland Clinic
Presented By: Melody Chen
9:36 a.m.  #166  STEVENS JOHNSON ON “THE JOHNSON”  
Daniel Murtagh Jr, MD¹, Bradley Buck, MD, Adam Becker, MD², Timothy Rogers, MS4² and Greg Haselhuhn, MD²  
¹University of Toledo Department of Urology;  
²University of Toledo  
Presented By: Daniel S. Murtagh, MD

9:39 a.m.  #167  PENILE CALCIPHYLAXIS: A CASE OF PENILE AUTO-AMPUTATION AND REVIEW OF LITERATURE  
Joseph Zanghi, DO, James Siegert, DO and Anthony Grimaldi, DO  
St. James Hospital and Health Center  
Presented By: Joseph John Zanghi

9:42 a.m.  #168  RECURRENT RETROPERITONEAL DESMOPLASTIC SMALLRound CELL TUMOR IN YOUNG CHILD  
Julia Fiuk, Kimberly Molik, MD and Stephen Beck, MD SIU  
Presented By: Julia Fiuk, MD

9:45 a.m. - 10:00 a.m.  Break  
Location: International Foyer

Concurrent Sessions Begin

Concurrent Session 1 of 2

10:00 a.m. - 10:55 a.m.  Urinary Incontinence/Trauma Podium Session  
Location: International Ballroom  
Moderators:  Courtney M.P. Hollowell, MD  
Chicago, IL  
Discussant:  Elizabeth Broghammer Takacs, MD  
Iowa City, IA

10:00 a.m.  #169  WITHDRAWN
GLOBAL KIDNEY EXCHANGE
Obi Ekwenna, MD¹, Michael A Rees, MD, PhD¹, Ty B. Dunn, MD², Christian Kuhr, MD³, Christopher Marsh, MD⁴, Jeffrey Rogers⁵, Susan E. Rees¹, Alejandra Cicero⁶, Laurie J. Reece⁷, Alvin E. Roth⁸, David E. Fumo¹, Kimberly Krawiec⁹, Jonathan E. Kopke⁷, Samay Jain¹⁰, Miguel Tan¹ and Siegfredo Paloyo¹¹
¹University of Toledo/Alliance for Paired Donation; ²University of Minnesota; ³Virginia Mason Medical Center; ⁴Scripps Green Hospital; ⁵Wake Forest Baptist Medical Center; ⁶ABC Medical Center; ⁷Alliance for Paired Donation; ⁸Stanford University; ⁹Duke University; ¹⁰University of Toledo; ¹¹University of the Philippines – Philippine General Hospital & St. Luke’s Medical Center-Gl. City, Manila, Philippines
Presented By: Obi Ekwenna

MANAGEMENT OPTIONS IN POST-TRANSPLANT URETERAL STRICTURES
Esther Han, DO, Ibraheem Malkawi, MD, Joseph Ford, MD and Richard Santucci, MD
Department of Urology, Detroit Medical Center, Michigan State University
Presented By: Joseph Ford, MD

THE CLINICAL PRESENTATION AND MANAGEMENT OF URETHRAL FOREIGN BODIES
Matthew Houlihan, DO¹, Cristina J. Palmer, DO¹, Alexander P. Glaser, MD², K. Alexandria Ellis¹, Sarah P. Psutka, MD, MS¹, Patricia Vidal, MD¹ and Courtney M.P. Hollowell, MD¹
¹Cook County Health and Hospitals System; ²Northwestern University Department of Urology
Presented By: Matthew Houlihan, DO

ADDITIONAL TREATMENTS, SATISFACTION, AND QUALITY OF LIFE IN WOMEN AFTER TRANSVAGINAL AND ABDOMINAL PELVIC ORGAN PROLAPSE REPAIR
Morgan Gruner, BS¹, Kim Killinger, MSN², Michelle Jankowski, MAS¹ and Kenneth Peters, MD²
¹Oakland University William Beaumont School of Medicine; ²Beaumont Health-Royal Oak, MI
Presented By: Morgan F. Gruner, BS
10:20 a.m. #174  ASSESSMENT OF BATTERY LIFE OF THE 2ND GENERATION IMPLANTABLE PULSE GENERATOR IN A PRACTICE OF HIGH VOLUME IMPLANTERS
Kellen Choi Ng, DO, Christina A. Godwin, MD, Marta Johnson-Mitchell, DO, Daniel Liberman, MD, MSc and Steven W. Siegel, MD
Metro Urology
Presented By: Steven W. Siegel, MD

10:24 a.m. #175  PREDICTORS OF PATIENT SATISFACTION FOLLOWING PRIMARY AUS PLACEMENT AMONG MEN WITH AND WITHOUT A PRIOR HISTORY OF RADIATION
Marcelino Rivera, MD, Boyd Viers, MD, Brian Linder, MD, Matthew Ziegelmann, MD, Laureano Rangel, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Marcelino E. Rivera, MD

10:28 a.m. #176  ONE YEAR OUTCOMES OF AUTOLOGOUS TRANSOBTURATOR URETHRAL SLING PLACEMENT FOR FEMALE STRESS URINARY INCONTINENCE
Brian Linder, MD, Andrew Blackburne, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Andrew T. Blackburne, MD

10:32 a.m. #177  THE RELATIONSHIP BETWEEN ERECTILE DYSFUNCTION AND URINARY INCONTINENCE AFTER ROBOTIC PROSTATECTOMY: ARE THEY MUTUALLY EXCLUSIVE?
Savas Tsikis, Charles Nottingham, MD and Sarah Faris, MD
University of Chicago
Presented By: Savas Tsikis

10:36 a.m. #178  MAXIMAL DIVERSION: OUTCOMES FOR CONCOMITANT UROSTOMY AND ENTEROSTOMY PROCEDURES FOR BENIGN CONDITIONS
Paholo G. Barboglio Romo, MD, MPH, Yahir Santiago-Lastra, MD, Elizabeth Andraska, Bahaa S. Malaeb, MD, Anne P. Cameron, MD, J. Quentin Clemens, MD and John T. Stoffel, MD
University of Michigan
Presented By: Paholo G. Barboglio Romo, MD, MPH

10:40 a.m. - 10:55 a.m. Q&A
10:00 a.m. - 10:55 a.m. Outcomes II Podium Session

Location: Gold

Moderators: Sangtae Park, MD, MPH
Skokie, IL
Ajay Singla, MD
Toledo, OH

Discussant: Philipp Dahm, MD, MHSc, FACS
Minneapolis, MN

10:00 a.m. #179 RESIDENT IMPACT ON SINGLE SURGEON OUTcomes of ROBOTIC ASSISTED LAPAROSCOPIC PROSTATECTOMY
Randy Sulaver, MD, Bradley Holland, BS, Bradford Stevenson, MD, David Lieber, MD, Kevin McVary, MD and Tobias Kohler, MD
Southern Illinois School of Medicine
Presented By: Randy Sulaver, MD

10:04 a.m. #180 FACTORS ASSOCIATED WITH READMISSION FOR UROGYNECOLOGIC SURGERY AT AMBULATORY SURGICAL CENTERS
Emily Slopnick, MD¹, Adonis Hijaz, MD¹, Christopher Gonzalez, MD, MBA¹, Robert Abouassaly, MD¹, Carvell Nguyen, MD, PhD² and Simon Kim, MD, MPH¹
¹University Hospitals Case Medical Center;
²MetroHealth Medical Center
Presented By: Emily Slopnick, MD

10:08 a.m. #181 FUTURE UROLOGISTS: COMPARISON OF A NATIONAL SURVEY OF UROLOGY APPLICANTS WITH THE 2014 AUA CENSUS
Ian McLaren, MD¹, Amir Lebastchi, MD¹, Roger Khouri Jr., BS¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD², Thomas Stringer, MD², Ajay Singla, MD³, Matthew Sorensen, MD⁴, Hunter Wessells, MD⁴ and Sapan Ambani, MD¹
¹University of Michigan Department of Urology;
²University of Florida Department of Urology;
³University of Toledo Department of Urology;
⁴University of Washington Department of Urology
Presented By: Roger Khouri Jr., BS
10:12 a.m.  #182  THE EFFECT OF URINARY DIVERSION TYPE AT THE TIME OF RADICAL CYSTECTOMY ON THE US NEWS PATIENT SAFETY INDEX: RESULTS FROM THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM
Anand Patel, MD¹, Simon Kim, MD², Matthew Maurice, MD³, John Kiechle, MD², Matthew Bream, MD², Emily Stopnick, MD², Rebecca Campbell², Carvell Nguyen, MD, PHD² and Robert Abouassaly, MD²
¹University Hospitals / Case Western Reserve University; ²Case Western Reserve University; ³Cleveland Clinic Foundation
Presented By: Anand Patel, MD

10:16 a.m.  #183  PREVALENCE OF PROTEINURIA IN UROLOGIC PATIENTS
Adam Bezinque, BS¹, Sabrina Noyes, BS², Samer Kirmiz, BS³ and Brian Lane, MD²
¹Michigan State University College of Osteopathic Medicine; ²Spectrum Health; ³Michigan State University College of Human Medicine
Presented By: Adam Bezinque, BS

10:20 a.m.  #184  ASSOCIATION OF RACE AND MARGIN STATUS AMONG PATIENTS UNDERGOING ROBOTIC PARTIAL NEPHRECTOMY FOR T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT
Matthew Bream, MD¹, Robert Abouassaly, MD, MS¹, Jonathan Kiechle, MD¹, Nilay Shah, PhD², Marc Smaldone, MD, MS³, Alex Kutikov, MD³, Christopher Gonzalez, MD, MBA¹, Neal Meropol, MD¹, Karl Coutinho, MD¹, Hui Zhu, MD⁴ and Simon Kim, MD, MPH¹
¹University Hospitals Case Medical Center; ²Mayo Clinic; ³Fox Chase Cancer Center; ⁴Lois Stokes Cleveland VA Medical Center
Presented By: Matthew Bream, MD

10:24 a.m.  #185  UNPLANNED ADMISSIONS AFTER SHOCK WAVE LITHOTRIPSY AT HIGH VOLUME CENTERS
Joel Z. Cornfield, MD², Harrison M. Abrahams, MD³, Patrick N. Ciccone, MD⁴ and Joseph Jenkins, MD, JD¹
¹National Data Collaborative; ²University of Illinois at Chicago; ³USMD Health System, Arlington Texas; ⁴Clara Maass Medical Center, Belleville NJ
Presented By: Joseph Jenkins, MD
WHY CHOOSE UROLOGY? INVESTIGATING THE INTERESTS AND MOTIVES OF TODAY'S UROLOGY APPLICANT
Amir Lebastchi, MD¹, Ian McLaren, MD¹, Roger Khouri Jr., BS¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD¹, Thomas Stringer, MD², Ajay Singla, MD², Matthew Sorensen, MD³, Hunter Wessells, MD⁴ and Sapan Ambani, MD⁴
¹University of Michigan Department of Urology; ²University of Florida Department of Urology; ³University of Toledo Department of Urology; ⁴University of Washington Department of Urology
Presented By: Amir Lebastchi, MD

THE MODERN MEDICAL STUDENT'S PATH TO UROLOGY
Amir Lebastchi, MD¹, Roger Khouri Jr., BS¹, Ian McLaren, MD¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD², Thomas Stringer, MD², Ajay Singla, MD³, Matthew Sorensen, MD⁴, Hunter Wessells, MD⁴ and Sapan Ambani, MD¹
¹University of Michigan Department of Urology; ²University of Florida Department of Urology; ³University of Toledo Department of Urology; ⁴University of Washington Department of Urology
Presented By: Roger Khouri Jr., BS

MINDFULNESS-BASED STRESS REDUCTION IMPROVES INDICATORS OF EMOTION REGULATION, POSITIVE AFFECT, AND SLEEP QUALITY IN A URO-ONCOLOGY PATIENT SAMPLE
David Victorson, PhD¹, Nathanial Sufrin, BA², Carly Maletich, MA¹, Stephanie Schuette, BA¹, Martha McCurdy, RN², Kristian Novakovic, MD², Brian Helfand, MD² and Charles Brendler, MD²
¹Northwestern University; ²NorthShore University Health System
Presented By: David Victorson, PhD

Concurrent Sessions End
10:55 a.m. - 11:40 a.m. **NCS Resident Bowl Finals**
Moderator: Bradley F. Schwartz, DO, FACS  
*Springfield, IL*
Judges: Gary M. Kirsh, MD  
*Cincinnati, OH*
James C. Ulchaker, MD, FACS  
*Cleveland, OH*

11:40 a.m. - 11:45 a.m. **Best Poster, Best Video, and Bizarre & Interesting Case Award Presentations**
Presenter: Bradley F. Schwartz, DO, FACS  
*Springfield, IL*

11:45 a.m. - 11:55 a.m. **Incoming NCS President Remarks**
President-Elect: James C. Ulchaker, MD, FACS  
*Cleveland, OH*
Alphabetical Index of Moderators, Discussants, Panelists, Debaters, and Guest and Invited Speakers

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Time</th>
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<tr>
<td>Abel, E. Jason</td>
<td>9/9/2016</td>
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9/9/2016 4:30 p.m.

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9/9/2016 10:00 a.m.
9/9/2016 10:45 a.m.
9/10/2016 10:55 a.m.
9/10/2016 11:40 a.m.

Shabsigh, Ahmad
9/8/2016 4:30 p.m.

Shalhav, Arieh
9/7/2016 8:00 a.m.

Shore, Neal
9/8/2016 8:05 a.m.
9/8/2016 8:30 a.m.
9/8/2016 9:15 a.m.

Siegel, Steven
9/10/2016 7:00 a.m.

Sindhwani, Puneet
9/7/2016 4:30 p.m.

Singla, Ajay
9/7/2016 1:15 p.m.
9/10/2016 7:00 a.m.
9/10/2016 10:00 a.m.

Skolarus, Ted
9/7/2016 3:40 p.m.
9/8/2016 2:00 p.m.

Smith, Norm
9/7/2016 1:15 p.m.
9/7/2016 2:25 p.m.
9/10/2016 7:00 a.m.

Steinberg, Gary
9/7/2016 8:00 a.m.

Stoffel, John
9/8/2016 11:00 a.m.
9/10/2016 7:00 a.m.

Storm, Douglas
9/9/2016 4:30 p.m.

Stovsky, Mark
9/9/2016 10:45 a.m.

Sundaram, Chandru
9/7/2016 8:00 a.m.

Takacs, Elizabeth
9/7/2016 3:45 p.m.
9/10/2016 7:55 a.m.
9/10/2016 10:00 a.m.

Telang, Dinesh
9/8/2016 1:15 p.m.

Thrasher, J. Brantley
9/9/2016 2:00 p.m.

Tollefson, Matthew
9/8/2016 2:00 p.m.
9/9/2016 10:45 a.m.

Triest, Jeffrey
9/8/2016 4:30 p.m.
9/9/2016 6:30 a.m.
9/9/2016 6:30 a.m.
9/9/2016 10:00 a.m.

Ugarte, Roland
9/8/2016 2:00 p.m.

Ulchaker, James
9/7/2016 1:45 p.m.
9/8/2016 2:00 p.m.
9/9/2016 10:00 a.m.
9/10/2016 7:55 a.m.
9/10/2016 10:55 a.m.
9/10/2016 11:45 a.m.

Warlick, Christopher
9/8/2016 9:15 a.m.
### Alphabetical Index of Abstract Presenters

*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.

<table>
<thead>
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<th>Author/Presenter</th>
<th>Date</th>
<th>Time</th>
<th>Type</th>
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9/8/16 4:34 p.m. AB #44
9/9/16 4:30 p.m. Poster #43

Casey, Jessica T.
9/9/16 10:45 a.m. Poster #36
9/9/16 4:30 p.m. AB #104
9/9/16 5:02 p.m. AB #112

Chen, Melody
9/10/16 9:33 a.m. AB #165

Chen, Wen M.
9/9/16 11:13 a.m. AB #98

Cher, Michael L.
9/9/16 10:53 a.m. AB #80

Chermansky, Christopher J.
9/10/16 7:28 a.m. AB #142

Cho, Jane
9/8/16 4:58 p.m. AB #50

Chow, Alexander
9/10/16 10:48 a.m. AB #118
9/9/16 7:28 a.m. AB #133

Cochrane, John
9/8/16 2:20 p.m. AB #17

Cohen, Andrew
9/8/16 11:36 a.m. AB #10

Dahm, Philipp
9/9/16 4:46 p.m. AB #119

Dalela, Deepansh
9/8/16 4:54 p.m. AB #63

Dauw, Casey A.
9/9/16 11:01 a.m. AB #95

Dave, Chirag N.
9/9/16 11:12 a.m. AB #4
9/9/16 2:00 p.m. Poster #4
9/9/16 2:04 p.m. AB #13

Dobbs, Ryan W.
9/8/16 2:28 p.m. AB #40

Eden, Catherine
9/9/16 11:29 a.m. AB #76

Ekwenna, Obi
9/10/16 10:04 a.m. AB #170

Fiuk, Julia
9/9/16 10:45 a.m. AB #91
9/10/16 9:42 a.m. AB #168

Flack, Chandra K.
9/9/16 11:01 a.m. AB #69

Ford, Joseph
9/10/16 10:08 a.m. AB #171

Ganesan, Vishnuvardhan
9/8/16 4:30 p.m. Poster #16
9/9/16 11:33 a.m. AB #77

Gange, William
9/8/16 2:00 p.m. Poster #3

Gearman, Derek J.
9/9/16 11:33 a.m. AB #90

Ghareeb, George M.
9/8/16 4:30 p.m. Poster #23

Ginsberg, David A.
9/10/16 7:12 a.m. AB #138

Ginsburg, Kevin B.
9/8/16 2:00 p.m. Poster #1

Glaser, Alexander P.
9/8/16 6:30 a.m. Video #5

Gordon, Zachary N.
9/8/16 11:20 a.m. AB #6
9/8/16 11:40 a.m. AB #11

Grimes, Matthew D.
9/8/16 2:08 p.m. AB #14
9/8/16 2:12 p.m. AB #15

Gruner, Morgan F.
9/10/16 10:16 a.m. AB #173

Hall, Mary E.
9/9/16 2:32 p.m. AB #30

Hamoui, Nabeel
9/10/16 9:21 a.m. AB #161

Haxel, Jill
9/9/16 5:06 p.m. AB #113
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9/10/16 7:00 a.m. AB #145

Ring, Joshua D.  
9/9/16 10:45 a.m. Poster #42  
9/9/16 4:30 p.m. Poster #57

Rivera, Marcelino E.  
9/8/16 4:30 p.m. Poster #32  
9/10/16 10:24 a.m. AB #175

Rodriguez, Joseph  
9/9/16 10:45 a.m. Poster #41

Saad, Kahlil N.  
9/8/16 2:16 p.m. AB #26

Sadowski, Daniel J.  
9/8/16 4:30 p.m. AB #57  
9/8/16 11:28 a.m. AB #8

Saluk, Jennifer  
9/9/16 11:13 a.m. AB #72

Schadler, Eric D.  
9/9/16 4:50 p.m. AB #109

Shah, Parth K.  
9/8/16 4:38 p.m. AB #59

Shapiro, Daniel D.  
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9/9/16 4:38 p.m. AB #106  
9/9/16 4:46 p.m. AB #108

Sharma, Vidit  
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9/9/16 11:25 a.m. AB #88

Siegel, Steven W.  
9/10/16 10:20 a.m. AB #174

Singal, Ashima  
9/8/16 4:58 p.m. AB #64

Slopnick, Emily  
9/10/16 7:32 a.m. AB #143  
9/10/16 10:04 a.m. AB #180

Smith, Craig A.  
9/8/16 2:32 p.m. AB #41

Smith, Daniel W.  
9/10/16 9:03 a.m. AB #155

Soubra, Ayman  
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9/9/16 11:25 a.m. AB #75

St. Aubin, Melissa A.  
9/10/16 7:16 a.m. AB #130

Steinberg, Ryan L.  
9/9/16 11:17 a.m. AB #73

Storm, Douglas W.  
9/9/16 10:45 a.m. Poster #34

Strine, Andrew C.  
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9/9/16 10:45 a.m. Poster #38  
9/9/16 10:45 a.m. Poster #39

Sulaver, Randy  
9/10/16 10:00 a.m. AB #179

Tan, Wei P.  
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9/9/16 11:21 a.m. AB #87  
9/10/16 7:24 a.m. AB #151  
9/10/16 7:28 a.m. AB #152

Tieu, Thomas  
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Tobert, Conrad  
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9/9/16 10:57 a.m. AB #68

Todd, Andrew M.  
9/9/16 10:45 a.m. Poster #33

Toussi, Amir  
9/8/16 2:32 p.m. AB #20  
9/9/16 4:30 p.m. Poster #46

Tsambarlis, Peter  
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Tsikis, Savas  
9/10/16 10:32 a.m. AB #177
Van Kuiken, Michelle E.
9/8/16  2:00 p.m.  Poster #9
9/8/16  2:12 p.m.  AB #36

Vedachalam, Srikanth
9/8/16  4:30 p.m.  Poster #26

Victorson, David
9/8/16  2:24 p.m.  AB #39
9/10/16  10:36 a.m.  AB #188

Vij, Sarah C.
9/9/16  4:30 p.m.  Poster #44

Vissing, Andrew
9/8/16  6:30 a.m.  Video #9

Wadhwa, Harpeet S.
9/8/16  2:00 p.m.  Poster #6
9/10/16  7:12 a.m.  AB #129

Wang, Luchen
9/8/16  4:30 p.m.  Poster #18

Wanzek, Philip M.
AB #160  9/10/16  9:18 a.m.

Weintraub, Michael
9/8/16  6:30 a.m.  Video #6

Westerman, Mary E.
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9/9/16  11:33 a.m.  AB #103
9/10/16  7:16 a.m.  AB #149

Wetterlin, Jessica
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Wojno, Kirk J.
9/8/16  4:38 p.m.  AB #45

Wong, Carson
9/8/16  4:30 p.m.  Poster #17

Xu, Weidong
9/8/16  4:42 p.m.  AB #46

Yang, David Y.
9/8/16  6:30 a.m.  Video #7
9/9/16  4:30 p.m.  Poster #45

York, Nadya
9/8/16  6:30 a.m.  Video #3
9/8/16  2:16 p.m.  AB #37
9/9/16  10:49 a.m.  AB #92

Zanghi, Joseph J.
9/10/16  9:39 a.m.  AB #167

Zappala, Stephen M.
9/8/16  4:54 p.m.  AB #49
9/9/16  11:13 a.m.  AB #85

Zhang, Mimi W.
9/8/16  2:36 p.m.  AB #42

Ziegelmann, Matthew J.
9/8/16  2:12 p.m.  AB #25
9/9/16  4:30 p.m.  Poster #58
9/10/16  7:08 a.m.  AB #128
Podium #1
UTILIZATION OF A VALIDATED, LOW-COST SUPRAPUBIC TUBE MODEL IN UROLOGY RESIDENT TRAINING IMPROVES KNOWLEDGE AND PERFORMANCE OF SUPRAPUBIC TUBE PLACEMENT
Stephanie Kielb, MD and Mary Kate Keeter, MPH
Northwestern University Feinberg School of Medicine
Presented By: Stephanie J. Kielb, MD

Introduction: Suprapubic tube (SPT) insertion for the relief of urinary obstruction is encountered in an urgent setting by on-call urology residents, but is relatively uncommon in day-to-day practice. We assessed the utilization of a low-cost, validated SPT simulation model in a urology resident skills-lab curriculum and evaluated knowledge and skills acquisition. Learner feedback on anxiety with the procedure and potential impact on patient outcomes was presented.

Methods: Using our previously validated SPT model, fourteen residents underwent pre-test assessments, didactic teaching sessions, skills-task assessments (graded as poor, satisfactory or excellent by faculty), and post-test evaluations. Learners also completed a post-session global evaluation of educational value, impact on learner comfort, and potential effect on future patient outcomes on a 5-point scale (1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree). Subjective feedback was also solicited.

Results: Percentage correct on knowledge-based testing increased from 67% pre-test assessment to 83% post-test assessment following the session. Surgical task completion was rated as "excellent" for thirteen residents and "satisfactory" for one resident. Learner self-evaluations of the skills sessions were as follows: global rating 4.5, appropriateness of level 4.3, sufficient practice and feedback 4.5, overall quality 4.5, educational value 4.9, and improvement in future patient outcomes 4.7. Subjectively, residents noted that the session improved familiarity with different types of SPTs. They appreciated the hands-on training, reporting improved confidence in performing the procedure.

Conclusion: Utilization of this SPT model for simulation-based training and evaluation resulted in improved knowledge and excellent skills-task accomplishments for the overwhelming majority of resident learners.

Podium #2
RESIDENT AND NURSE COMMUNICATION PRACTICES: RESULTS OF A QUALITY IMPROVEMENT COLLABORATIVE
Duncan Morhardt, MD/PhD¹, Amy Luckenbaugh, MD², Tiffany Hecklinski, MS², Adam Mellem, RN², Christina Reames, MS, RN² and Gary Faerber, MD²
¹University of Michigan; ²University of Michigan Health Systems
Presented By: Duncan R. Morhardt, MD, PhD

Introduction: Urgent pages require immediate attention yet non-urgent pages disrupt resident sleep and interfere with responses to urgent pages. In this context, residents and nurses worked together to improve paging practices overnight, leading to improved patient care, nursing and resident satisfaction.

Methods: Residents, overnight urology nurses and a communication liaison met to develop a mutual understanding about existing paging practices. A 'paging practice” survey was administered. Existing pages were coded by residents and nurses to determine 'paging urgency' agreement using Cohen’s Kappa statistic.
We devised a system where overnight urology nurses (11pm-7am) would page all urgent issues immediately, routine issues paged by the charge nurse at 1am and 5am, and non-urgent pages placed in EMR. Overnight nurses and residents were educated about the new system, which was implanted over three months. Pre- and post-implementation survey results and paging numbers were analyzed. **Results:** Prior to implementation (March 2014) nurses and residents had variable agreement across all coded urgency categories (Cohen’s Kappa=0.25 indicating poor agreement, n=131 pages). Pre-implementation, residents received 90-130 pages per month. Post-implementation, there were 45-60 pages per month. Paging frequency from trained floors was proportionally lower (50% reduction) than untrained floors (29% reduction). The post-implementation survey demonstrated that new paging practices improved overnight communication. **Conclusion:** Collaboration between nurses and residents can improve paging practices, interdisciplinary communication and satisfaction overnight. These practices will continue and be implemented on other units.

**Podium #3**

**MISSING MALNUTRITION: A PROSPECTIVE QUALITY IMPROVEMENT PROJECT FOR MALNUTRITION ASSESSMENT IN HIGH-RISK INPATIENT POPULATION**

Conrad Tobert, MD¹, Lewis Thomas, MD¹, Douglas Robertson², Bridget Drapeaux², Sarah Bell² and Kenneth Nepple, MD¹

¹University of Iowa Hospitals and Clinics, Department of Urology; ²University of Iowa Hospitals and Clinics

Presented By: Conrad Tobert, MD

**Introduction:** Malnutrition is a significant problem in hospitalized patients, with a prevalence of up to 60%. Inadequate assessment and documentation results in infrequent identification of malnutrition. Our institution had an alarming low rate of malnutrition. Thus, we developed a pilot program to assess malnutrition in high-risk inpatients.

**Methods:** Over four months on two inpatient units, patients undergoing dietitian evaluation, also had a malnutrition assessment based on the ASPEN/Academy consensus statement. This included all patients with inpatient chemotherapy, femur fractures, cystectomy, esophagectomy, whipple procedures, and any other evaluations occurring as standard of care.

**Results:** The baseline malnutrition rate at our institution was 4.4%. 345 patients were evaluated over the pilot period. 187 (54.2%) patients were diagnosed with malnutrition, of which 31 (16.6%), 19 (10.1%) and 137 (73.2%) were considered to have mild, moderate and severe malnutrition respectively. 139 (40.3%) patients were diagnosed with nutrition risk but no malnutrition, while 19 (5.5%) had no nutrition risk. Increased age, lower BMI, patients admitted emergently, cancer and non-surgical patients were all significant predictors of malnutrition (p<0.05). Diabetes (p=0.32) and length of stay (p=0.79) were not significant predictors. 44 (12.7%) patients were admitted to the urology service, of which 25 (56.8%) were diagnosed with malnutrition.

**Conclusion:** The prevalence of malnutrition can be more accurately defined with the use of a dedicated workflow. This improved malnutrition workflow has since been adopted hospital-wide. Identification of malnutrition may aid in the treatment of patients; improving patient outcomes, allowing for accurate risk adjustment, and accurately impact hospital reimbursement.
Podium #4
A QUALITY IMPROVEMENT PROJECT TO REDUCE TRAUMA, INFECTION, AND OVERALL USE OF FOLEY CATHETERS IN A LARGE ACADEMIC COMMUNITY HOSPITAL
Chirag Dave, MD¹, Paras Vakharia², David Pridmore, MD¹, Heather Crossley¹ and Jay Hollander, MD¹
¹Beaumont Health System; ²Oakland University William Beaumont College of Medicine
Presented By: Chirag N. Dave, MD

Introduction: Foley catheter use is a modifiable risk factor to reduce iatrogenic urethral trauma and urinary tract infection (UTI). In our 1000+ bed community hospital, we implemented a system-wide catheter education program, difficult urinary catheterization (DUC) algorithm, and skilled catheter nursing (SCN) team to improve overall patient outcomes.

Methods: A retrospective review of DUC consults placed between March 2014 and September 2015 was performed. The pre-intervention group includes consults received by urology residents through May 2015. The post-intervention group includes consults received by the SCN team from June to September 2015. Descriptive statistics were performed.

Results: There were 86 male patients in the pre-intervention group (mean: age 70.7 years, BMI 28) and 21 male patients in the post-intervention group (mean: age 74.4 years; BMI 30). Reason for consultation in the pre-intervention group was: difficult placement (59.3%), gross hematuria (24.4%), abnormal anatomy (10.47%), low urine output (5.81%). Reason for consultation in the post-intervention was difficult placement (81%), abnormal anatomy (19%). In the pre-intervention vs. post-intervention groups, 7% vs. 19% had a history of prior difficult catheterization. Post-intervention, the SCN team successfully placed a catheter 71% of the time. Pre-intervention and post-intervention rates of false passage were 29% and 0% respectively. In the pre-intervention group, 54% of patients required a procedure by a urologist whereas only 20% in the post-intervention group.

Conclusion: System-wide nursing education and implementation of a SCN team reduced the frequency of catheter-associated trauma and subsequent procedures and improved patient outcomes.

Podium #5
EVALUATION OF THE CURRENT PRACTICE HABITS FOR THE INITIAL MANAGEMENT OF URINARY TRACT INFECTIONS IN THE EMERGENCY DEPARTMENT
Neel Parekh, MD¹, Rhys Irvine, MD¹, Scott Poland, MD², Erin Simon, DO¹, Kimberly Sloan Stakleff, PhD¹ and Raymond Bologna, MD¹
¹Akron General Medical Center; ²Northeast Ohio Medical Center
Presented By: Neel Parekh, MD

Introduction: Urinary Tract Infections are considered the most common diagnosed bacterial infectious disease. Guidelines have been established for diagnostic testing of uncomplicated UTIs in the Emergency Department (ED) in efforts of cost-effectiveness and time management. The objective of this study was to review the current practice in the ED of the diagnosis and treatment of UTI.

Methods: A multi-center retrospective chart review was conducted on data
abstracted for patients seen in AGMC and SUMMA Emergency Departments with ICD-9 diagnosis of UTI (599.0). Statistical analyses were performed by Chi-square using SPSS.

**Results:** A total of 850 patients were treated in the ED for UTIs. Antimicrobial therapy was started on 790 (93%) patients and cultures were obtained for 533 (63%). A positive culture (>105 colony forming units) was noted in 60% of specimens. A total of 202 (38%) patients received antibiotics when cultures were negative. Bacterial sensitivities were obtained for only 297 cases (56%) and revealed bacteria were sensitive in 55% and resistant in 15% to the antimicrobial prescribed. Additionally, sensitivities were not tested for the antimicrobial prescribed in 27% of specimens.

**Conclusion:** The issues of over usage of antibiotics and developing antimicrobial-resistant infections are an increasing health care concern. This problem is substantiated by our review of patients that showed negative cultures were found in 40% of patients when a microbiological specimen was obtained, 38% were given antimicrobial treatment when pre-therapeutic urine cultures resulted in no significant growth and 15% of positive cultures were resistant to the prescribed antibiotic.

**Podium #6**

OVERESTIMATING CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTI): THE VALUE OF URINE CULTURE IN EVALUATION OF FEVER

Zachary Gordon, MD, Julie Mangino, MD, Daniel Eiferman, MD, Iahn Gonsenhauser, MD and Susan Moffatt-Bruce, MD, PhD

The Ohio State University Wexner Medical Center

Presented By: Zachary Gordon, MD

**Introduction:** CAUTI is a publicly reported “never event” and quality measure linked to reimbursement. The presence of a urinary catheter, fever, and bacteriuria together satisfy the National Healthcare Safety Network (NHSN) surveillance definition of CAUTI; however, the constellation of these three findings does not necessarily indicate UTI. While clinical guidelines emphasize the importance of ruling out alternative causes of fever before attributing fever to bacteriuria, the NHSN-surveillance definition assigns all fevers to the urinary tract. We sought to investigate this gap between surveillance and clinical definitions of CAUTI and better understand the value of urine cultures in the fever evaluation.

**Methods:** All NHSN-CAUTIs from June-November 2015 were reviewed. Indication for culture, cause of fever, bloodstream infection attributable to CAUTI, and antimicrobial therapy were recorded.

**Results:** Fever was the indication for culture in 74% of patients, 94% of whom had an alternative explanation for fever. Pneumonia (76%), bacteremia (33%), and wound infection (19%) comprised the most common infectious causes. Despite an alternative source, 86% received treatment for UTI. Only 5% of CAUTIs resulted in bacteremia with the same organism.

**Conclusion:** Many NHSN-CAUTIs are identified by urine cultures obtained during fever evaluation; however, most are clinically insignificant and an alternative explanation for fever can usually be found. As many patients likely have asymptomatic bacteriuria rather than true infection, obtaining unnecessary urine cultures when fever is explained by another source may falsely increase CAUTI rates and result in inappropriate antibiotic use. Obtaining “pan-cultures” for fever evaluation should be discouraged to avoid overestimating CAUTIs.
TRANSVERSUS ABDOMINIS PLANE BLOCKADE AS AN INTEGRAL COMPONENT OF A MULTIMODAL POST-OPERATIVE ANALGESIA PLAN IN RADICAL CYSTECTOMY PATIENTS

Richard Matulewicz, MS MD, Jacqueline Morano, MD, Yasin Bhanji, Mehul Patel, MD, Shilajit Kundu, MD, Joshua Meeks, MD PhD and Anton Nader, MD
Northwestern University Feinberg School of Medicine
Presented By: Richard S. Matulewicz, MS MD

Introduction: Opioids are a traditional component of radical cystectomy post-op pain control. Recently, multimodal pain management plans have been implemented to either reduce the use of narcotics or prevent their side effects. We examine the use of transversus abdominis plane (TAP) blockade as part of a post-op pain regiment within an enhanced recovery protocol.

Methods: All 30 consecutive RC patients who had TAP catheters placed were analyzed. Post-op pain metrics including pain score, narcotic use, and use of ketorolac or intravenous acetaminophen were collected. Outcome metrics including time to flatus, bowel movement, general diet, LOS, and postoperative complications were assessed.

Results: 30 patients were included in our cohort. Patient demographics and details regarding RC indications, approach, and diversion type can be found in Table 1. Pain medication details can be found in Table 1. Median time to flatus, BM, and general diet were 3, 4, and 5 days respectively. Seven patients (23.3%) required NGT tube placement. Median LOS was 7 days (4-24 days).

Conclusion: TAP catheter analgesia as part of a multimodal post-op pain plan is a safe and effective means of pain control in RC patients. TAP catheters were associated with excellent GI recovery, low total narcotic usage, and significant improvement in LOS.
Podium #8
30-DAY ALL-CAUSE HOSPITAL READMISSION AFTER CYSTECTOMY NO WORSE FOR RURAL MEDICARE RESIDENTS
Daniel Sadowski, MD, MPhil, Steve Scaife, MS and Shaheen Alanee, MD, MPH, MBA
SIU SOM
Presented By: Daniel Sadowski, MD, MPhil

Introduction: Cystectomy is associated with significant morbidity and a high hospital readmission rate. We aimed to evaluate rural/urban disparities in 30-day all-cause hospital admission after cystectomy.

Methods: We used the SEER-Medicare database to identify all Medicare beneficiaries who underwent radical cystectomy (ICD-9 codes 57.7, 57.71, 57.79, 68.8) between the years 1991-2009, yielding a total sample size of 15,572. Our primary outcome was 30-day hospital readmission rate. Rural Urban Continuum Codes 4-9 were used to designate county-level rural status. A multivariable regression model was constructed with demographic and clinical variables as covariates.

Results: A total of 6,445 rural and 9,127 urban patients (31.1% vs. 31.8%, p=0.33) were readmitted within 30 days of discharge. In the multivariable model, older age, unmarried status, shorter index admission hospital stay, and discharge to a skilled nursing facility were associated with higher odds of readmission. The variables for Charlson comorbidity index, cancer stage, tumor grade, robotic surgery, and type of urinary diversion were not significant. The odds ratio for readmission was 0.90 (0.82-0.99) for patients from rural counties in the final model.

Conclusion: Rural Medicare residents were not at higher risk for 30-day all-cause hospital readmission after cystectomy after accounting for various demographic and clinical variables.

Podium #9 - WITHDRAWN

Podium #10
ONLINE SUPPORT GROUPS FOR BLADDER CANCER: A QUALITATIVE EXPLORATION
Andrew Cohen, MD, Vignesh Packiam, MD, Charles Nottingham, MD, Norm Smith, MD and Gary Steinberg, MD
University of Chicago
Presented By: Andrew Cohen, MD

Introduction: Unique online social networks have emerged for patients with cancer. We sought to characterize the content of online support forums for bladder cancer.

Methods: Four distinct forums were identified through Google search using terms "bladder cancer support online," "bladder cancer forum," "bladder cancer discussion," and "bladder cancer online support group." Online posts with their most recent reply from Jan. 1, 2015 to March 31, 2015 were characterized.

Results: We identified 813 total posts with mean 10 ± 10 responses within three months. Traffic data was available for 17% of posts, which accrued 84,884 views (mean 615 views/post). 42% of posts requested individualized treatment guidance (Figure 1). Secondary topics within treatment discussions included intravesical therapy (26.8%), chemotherapy (14.4%), general supportive dialogue (39.1%), and alternative therapy (3.5%). Community members universally voiced
strong support for second opinions at nationally recognized cancer hospitals. Rarely, specific doctors were directly disparaged (0.6%). 11.7% of posts provided direct links to scientific articles; the community was provided evidence-based guidance on appropriateness of Blue Light Cystoscopy, BCG maintenance schedules, and upcoming trials for immunotherapy. **Conclusion:** Patients with bladder cancer participate in online discussion that is well-informed and detailed. Certainly, bladder cancer online support groups appear popular but further research is needed to determine beneficial effects of participation.

Podium #11

LOWERING ILLUMINATION INTENSITY CAN REDUCE BURN RISK WITH ENDOSCOPI FIBEROPTIC LIGHT CABLES

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The Ohio State University Wexner Medical Center
Presented By: Zachary Gordon, MD

**Introduction:** Several fires and burns involving fiberoptic light cables (FLCs) during endoscopic procedures have been reported. At 100% illumination intensity, FLCs reach >90°C and <1sec of exposure can cause severe burns. However, exposure to temperatures <50°C is safe for minutes to hours. Temperatures of FLCs were systematically evaluated to determine if burn risk can be reduced by lowering illumination intensity.

**Methods:** At illumination intensities of 100%, 60%, 50%, and 40% on Xenon300 (Karl Storz, Germany) and LED9000 (Stryker, USA) light sources, temperatures at the distal end of FLCs were measured using a digital thermometer with thermocouple probe (Fluke Corporation, USA). Temperatures were recorded every 5 seconds until peak temperature was reached.

**Results:** Peak temperature was directly related to illumination intensity (Figure). Regardless of light source used, 40% intensity resulted in peak temperatures <50°C. At 100% intensity, peak temperatures were >90°C.

**Conclusion:** This is the first study to demonstrate an illumination intensity of 40% results in peak temperatures <50°C. As skin exposure to temperatures in this range is safe for minutes to hours, reducing light source intensity to 40% would reduce burn risk should a FLC inadvertently contact a patient or surgical drape. Despite these findings, good technique should always be practiced, and patient exposure to FLC should always be avoided.
Introduction: Approximately 15-20% of incidental renal masses are small renal masses (SRMs) (less than or equal to 4cm) and are benign. Small renal mass biopsy (SRMB) may reduce treatment of benign tumors, decreasing total cost and preserving renal function.

Methods: Clinical and pathologic data were reviewed from patients with incidental SRMs who were treated surgically and/or received SRMB from 2003-2015. Patients were divided into two cohorts (2003-2009 and 2010-2015) to reflect increased SRMB utilization since 2010.

Results: Of 437 patients with SRMs, SRMB was performed in 6% of 199 patients treated from 2003-2009 and 53.8% of 238 patients from 2010-2015. The rate of surgery for benign tumors from 2003-2009 was significantly higher than 2010-2015, 19.7% compared to 12.3%, p=0.04. From 2010-2015, 128 patients received SRMB including 42 patients with benign tumors who avoided surgery (10 AML, 32 oncocytoma) and 86 patients with renal cell cancer (RCC). In 195 patients treated surgically from 2010-2015, 86 had diagnosis with SRMB prior to surgery and 109 patients had surgery without SRMB. In patients treated without biopsy, the rate of surgery for benign tumors was 24/109 (22.0%), similar to the rate of surgery for benign tumors from 2003-2009, 39/198 (19.7%), p=0.63. Ultrasound guided biopsy costs 1,000 USD and robotic partial nephrectomy costs 10,000-20,000 USD. The savings by avoiding surgery in 42 patients with benign tumors is estimated between 292,000-712,000 USD.

Conclusion: SRMB reduces surgery for benign tumors, would likely decreases overall treatment cost and preserves renal function in patients with benign tumors.
Office Based Ultrasound Guided Renal Core Biopsy is Safe and Efficacious in the Management of Small Renal Masses

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Presented By: Chirag N. Dave, MD

Introduction: Biopsy is recommended for the evaluation of small renal masses (SRM) in patients where the biopsy result will impact management. Contemporary biopsies are performed in a hospital setting followed by observation for post-procedural complications. Here, we present the first study to evaluate office-based ultrasound guided percutaneous renal core biopsy.

Methods: A retrospective study involving 108 patients who underwent office-based ultrasound guided percutaneous renal biopsy for the evaluation of a solid renal mass between April 2010 and October 2015. Baseline vital signs and ultrasound were performed prior to core biopsy. If the mass was deemed amenable to biopsy, patients underwent biopsy by one of three urologists. Patients were observed for 1 hour after the procedure and repeat vital signs and ultrasound were performed. Hemodynamically stable patients without developing hematoma were discharged home with appropriate follow-up.

Results: In the 108 patients (70% male, mean age 68 years), average mass size was 3.95 cm. Biopsy yield was as follows: 72/108 (66.7%) Renal Cell Carcinoma (RCC), 11/108 (10.19%) Oncocytoma, 6/108 (5.56%) Angiomyolipoma, 2/108 (1.85%) Lymphoma, and 17/108 (15.74%) benign histology. The non-diagnostic rate leading to re-biopsy was 5.56% (25.93% observed, 73.15% surgery/ablative therapy). Final pathology was concordant with biopsy results in 64/65 (98.4%) of cases. One patient experienced a grade one Clavien-Dindo surgical complication.

Conclusion: Office based ultrasound guided renal biopsy is safe and efficacious in the evaluation of SRM. Additionally, it offers improved dynamic characterization of SRM, greater convenience and availability to patients as well as tremendous overall cost savings.

Metastatic Tumor Burden Does Not Predict Poor Outcomes; A Three Dimensional Volumetric Analysis

Matthew D. Grimes, MD, Michael A. Mann, BS, Michael L. Blute, MD, Timothy J. Ziemlewicz, MD, Josh M. Lang, MD, Christos Kryiakopoulos, MD, David F. Jarrard, MD, Tracy M. Downs, MD, Kyle A. Richards, MD, Fangfang Shi, MS and E. Jason Abel, MD
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Presented By: Matthew D. Grimes, MD

Introduction: High primary tumor (PT) burden has been cited as a contraindication for cytoreductive nephrectomy (CN) for metastatic renal cell carcinoma (mRCC). This study compares direct measurement of 3-dimensional tumor volume (3Dvolume) with volume calculated from 1-dimensional measurements (1Dvolume) and investigates whether PT burden is predictive of overall survival (OS) following CN for mRCC.

Methods: Records and imaging studies of mRCC patients treated with CN from
2006-2015 were included with tumor volumes measured independently by a faculty radiologist. Fractional percentage of tumor volume was defined as FPTV = PT volume/(PT + metastatic volume).

**Results:** Sixty-seven patients were included and were no different with respect to baseline characteristics, including MSKCC and IMDC risk groupings (p=0.32, 0.15). For 40 (59.7%) patients 1D volume overestimated measured 3D volume of primary tumors by >10%. In 12 (18.1%) patients 1D volume overestimated 3D volume by >100%. Neither 3D nor 1D volume of the PT or metastatic sites were associated with OS (p= 0.17 or 0.08, 0.99 or 0.06). Measured primary tumor volume, diameter, and FPTV were not associated with OS (p=0.17, 0.77, 0.77). There was no difference in OS comparing 18 patients with FPTV <90% with 49 patients with FPTV (≥ 90%), p=0.38.

**Conclusion:** 1D measurements of PT diameter frequently overestimate actual primary tumor volume in mRCC. 3D volumetric measurements of PT burden were not associated with OS, and bulky metastatic disease should not be an absolute contraindication for cytoreductive nephrectomy.

**Podium #15**

**A CRITICAL ANALYSIS OF PERIOPERATIVE OUTCOMES IN MORBIDLY OBESE PATIENTS FOLLOWING RENAL MASS SURGERY**

Matthew D. Grimes, MD, Michael L. Blute, MD, Michael A. Mann, BS, Tracy M. Downs, MD, Fangfang Shi, MS, David F. Jarrard, MD, Sara L. Best, MD, Kyle A. Richards, MD, Stephen Y. Nakada, MD and E. Jason Abel, MD

University of Wisconsin

Presented By: Matthew D. Grimes, MD

**Introduction:** Perioperative outcomes among the morbidly obese (BMI≥40), are poorly studied despite heightened technical difficulty and higher prevalence of comorbidities which may increase their risk of complications. We aimed to determine if extreme obesity is associated with increased risk of perioperative morbidity following renal cancer surgery.

**Methods:** Records from patients who underwent renal surgery from 2000-2015 were reviewed and complications within 90 days classified according to the Clavien-Dindo system. Uni/multivariable analysis was used to evaluate association of BMI≥40 with perioperative outcomes.

**Results:** Of 1138 patients 118 (10.4%) had BMI≥40 and 274 (24.1%) experienced complications within 90 days of surgery. Morbidly obese patients were more likely to be younger (p=0.005), diabetic (p<0.001), use metformin (p=0.005), have a flank incision (p=0.03), and less likely to have metastatic disease (p=0.02); but were otherwise no different with respect to baseline characteristics including Charlson Comorbidity Indices. Patients with BMI≥40 were more likely to develop surgical site infections (OR 2.51, 95% CI 1.28 – 4.9, p=0.007), but were at no higher risk of complications within 90 days, major complications (Clavien≥3), blood transfusion, longer length of stay, or hospital readmission. Post-operative wound infections were not associated with diabetes diagnosis (p=0.371), insulin use (p=0.955), or metformin use (p=0.331).

**Conclusion:** BMI≥40 is associated with increased risk of surgical site infection but not with major complications, blood transfusion, LOS, readmission, or 90 day mortality following extirpative renal surgery. We conclude that renal surgery should remain a standard treatment for well-selected patients regardless of BMI.
OUTCOMES FOR COMPLICATED RENAL TUMORS TREATED WITH IRREVERSIBLE ELECTROCORPORATION

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Presented By: Robert Anthony Medairos

Introduction: Irreversible Electrocorporation (IRE) is an emerging ablative modality that can potentially overcome challenges of conventional thermal ablation or surgery. This study aims to evaluate success and outcomes for IRE treated renal tumors.

Methods: A single institution retrospective review of all renal tumors treated with CT guided IRE between March 2013 and December 2015 was performed. Technical success was defined as delivery of all planned pulses and verifying complete ablation by immediate post–procedure CT. Local recurrence was defined as new/residual enhancement or increased tumor size. Follow–up imaging was scheduled at 1, 3, 6 and 12 months. Complications were categorized using Clavien–Dindo classification.

Results: IRE was attempted on 17 renal tumors with average RENAL scores and size of 6.9 ± 1.7 and 2.4 ± 0.8 cm, respectively. Most were RCC (n=13) or oncocytomas (n=3). Technical success was achieved in 16 tumor treatments (94.1%). One (5.9%) grade three complication, bleeding necessitating embolization, occurred a case aborted secondarily to arrhythmia causing significantly prolonged treatment time. Grade one or two complications were present in five cases (29.3%), including post–procedural urinary retention, hypoglycemia, hematuria, and back pain. Mean follow–up was 294 ± 274 days. Two local recurrences (14.3%) occurred on day 320 and 230 post–procedure with RENAL Scores of 9 and 8, respectively. Both cases were successfully treated with cryoablation.

Conclusion: IRE of select renal tumors appears to be an efficacious and safe option where conventional thermal ablation or surgery is anatomically less desirable, but further research is warranted.

LIFE-TIME RISK OF END STAGE RENAL DISEASE AFTER NEPHRECTOMY: PROGNOSTIC FACTORS AFFECTING RISK OF ESRD

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Presented By: John Cochrane, BS

Introduction: Evaluating clinicopathological factors affecting development of end stage renal disease (ESRD) after nephrectomy using a statewide database.

Methods: After IRB approval, we retrospectively analyzed a total of 3,136 patients who underwent nephrectomy in the Indiana Network for Patient Care, which provides access to data from over 100 hospitals. Of these, 59 patients fit our inclusion criteria of undergoing unilateral nephrectomy before 1991. Patients with a prior history of ESRD or PKD were excluded. Kaplan–Meier method was used to determine ESRD–free survival, while Cox proportional hazards was used to identify predictive inputs.

Results: Mean patient age was 50.1 (2–76) years old with 58.2% males. The
mean (range) followup duration was 13.5 years (0-44 years) with 18 having over 20 years of follow-up. Twenty-one (32.3%) patients were treated secondary to RCC, while 5 (7.5%) patients had UTC, 5 (7.5%) had stones, and 33 (53.7%) had other indications including pyelonephritis and trauma. Ten (16.9%) patients developed ESRD while one (1.5%) patient developed stage IV chronic kidney disease after nephrectomy. ESRD-free survival was 96.0% (95% CI [90.4, 1.0]) at 3.2 years, 90.2% [81.0, 99.0] at 13.3 years, and 75.0% [63.6, 95.0] at 20 years. Cox proportional hazards model showed glomerulonephritis (n=3) after nephrectomy was a significant predictor of ESRD (HR=8.3, p=0.006), diagnosis of diabetes (type I or II) before nephrectomy had an HR of 1.4 (p=0.76), and the HR for tobacco use before nephrectomy was 2.8 (p=0.349).

**Conclusion:** In this modest cohort, 25% of nephrectomy patients had progressed to ESRD by 20 years.

**Podium #18**

**INTRAVESICAL OXYCHLOROSENE (CLORPACTIN WCS-90) SIGNIFICANTLY REDUCES THE INCIDENCE OF INFECTION AND ANTIBIOTIC RESISTANCE IN PATIENTS WITH RECURRENT URINARY TRACT INFECTIONS**

Nathan Brooks, MD, Joseph Kowalski, MD, Brad Erickson, MD, Elizabeth Takacs, MD and Karl Kreder, MD
The University of Iowa Hospital and Clinic
Presented By: Nathan A. Brooks

**Introduction:** The treatment of recurrent cystitis is challenging and associated with significant health care expenditure. We report the results of a retrospective study of our experience using intravesical oxychlorosene (OXY) to treat recurrent cystitis in 30 patients.

**Methods:** Thirty patients underwent OXY bladder installation for recurrent cystitis from 2013-2015. Instillation of 0.1% OXY was performed using a standardized schedule. The primary outcome was a reduction in urinary tract infections per person per year. Urine cultures were reviewed for the year prior to therapy, during therapy, and 30 days after therapy. Infection was defined by >10,000 colony forming units of bacteria or yeast and documentation of symptoms. The secondary outcome was reduction in resistance to ciprofloxacin (CP), nitrofurantoin (NF), trimethoprim sulfamethoxazole (TS), and cephalexin (CX) for infections occurring during or 30 days after treatment.

**Results:** Mean age was 65 (range 25-94). Mean OXY instillations per patient were 16 ± 9.5. Mean number of infections per person per year was reduced from 3.47 ±2.65 to 1.61 ±2.58 while on treatment (p=0.0043). Of the 11 patients that had post-treatment infections, resistance to oral medications changed as follows: TS (46 to 26%; p = 0.01); CP (32 to 20%; p = 0.1); NF (35 to 30; p = 0.65); CX (39 to 35%; p =0.66). There were no Clavian Grade >2 complications and no patients discontinued therapy owing to intolerance.

**Conclusion:** Intravesical OXY safely and significantly decreased the incidence of symptomatic cystitis in patients with recurrent. Infections were less resistant to commonly used oral medications.
ROLE OF BIOPSY IN MANAGEMENT OF LARGE, LOCALLY ADVANCED, AND METASTATIC RENAL MASSES

Amy Lim, Jennifer Heckman, MD, Timothy Ziemlewicz, MD, Sara Best, MD, Shane Wells, MD, Meghan Lubner, MD, J. Louis Hinshaw, MD, Fred Lee, MD, Stephen Nakada, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Amy H. Lim, MD

Introduction: Few studies have evaluated the role of biopsy for large or high stage kidney tumors. The purpose of this study was to determine if biopsy changed management in patients with cT2 renal masses.

Methods: Clinical and pathologic data were reviewed from patients with cT2 renal masses at our institution from 2010-2015. We then analyzed how biopsy pathology findings influenced the management of patients with advanced renal masses. Kaplan Meier analysis was used to evaluate survival.

Results: From 2010-2015, 224 patients with cT2 renal masses were identified; median tumor size was 8.6 cm (IQR 7.3-11.2 cm). Biopsy was utilized prior to treatment in 126 patients including 19 patients (15.1%) with non-RCC tumors. For non-RCC patients, 12 (63.2%) deferred upfront nephrectomy including those treated with neoadjuvant chemotherapy or radiation. Ten patients with metastatic RCC had sarcomatoid features identified on biopsy. Eight patients deferred cytoreductive nephrectomy for systemic therapy or clinical trial. Six patients without metastatic disease had sarcomatoid features identified on biopsy. In 5/6 patients bilateral RPLND was performed. Median OS for these patients was 32.5 (IQR 10.5-34.2) months. In 106 surgical candidates, biopsy diagnosis changed management in 25 (24%) patients including 12 patients with non-RCC tumors and 13 RCC patients with sarcomatoid features (eight deferred cytoreductive nephrectomy, five non-metastatic received more aggressive surgery).

Conclusion: Percutaneous biopsy cT2 renal masses may identify patients with aggressive or non-RCC tumors. Pathologic diagnosis from biopsy may alter therapeutic approach in 24% of patients and improve pre-treatment counseling.

ONCOLOGICAL OUTCOMES COMPARING INTRAVESICAL AND EXTRAVESICAL BLADDER CUFF EXCISION FOLLOWING RADICAL NEPHROURETERECTOMY FOR UPPER TRACT UROTHELIAL CARCINOMA

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Mayo Clinic
Presented By: Amir Toussi, MD

Introduction: Radical nephroureterectomy (RNU) with excision of a bladder cuff remains the standard treatment for upper tract urothelial carcinoma (UTUC). However, the approach to surgical excision of the distal ureter remains understudied with studies reporting conflicting results.

Methods: We reviewed 372 patients treated with RNU for UTUC who underwent intra- or extravesical bladder cuff excision from 1995 to 2009. Patients with metastatic disease at RNU, neoadjuvant chemotherapy, and non-urothelial primary were excluded. Multivariable Cox regression and Kaplan-Meier analyses were performed to evaluate cancer-specific mortality (CSM) and recurrence free
survival (RFS), respectively.

**Results:** Median patient age at RNU was 73.7 years (IQR 65.4, 79.5); 67% (n=249) were male and 64% (n=238) underwent extravesical excision. Median follow-up was 47 months (IQR 16.4, 101.4), during which time 52.4% (n=195) experienced a bladder or systemic recurrence and 17.5% (n=65) died due to metastatic urothelial carcinoma. There was no statistically significant difference for 5-year RFS between the two groups (p=0.29). On multivariable analysis shows features independently associated with increased risk of CSM (Table 1).

**Conclusion:** Intra- or extravesical approach to the distal ureter, does not affect RFS or CSM. Therefore, our data validates the oncologic safety of both approaches to the bladder cuff for patients undergoing RNU for UTUC.

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**Podium #21**

**CHARACTERIZING PERI-RENAL NON-ONCOLOGIC RADIOGRAPHIC CHANGES AFTER ROBOT-ASSISTED PARTIAL NEPHRECTOMY**

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¹Indiana University School of Medicine; ²Indiana University Department of Urology; ³Indiana University Department of Radiology

Presented By: Adam C. Calaway, MD

**Introduction:** Post-operative fluid collections at the resection site following partial nephrectomy (PN) are frequently reported in cross sectional imaging, however, their clinical significance is unknown. We sought to characterize the presence and behavior of post PN hematomas.

**Methods:** A retrospective review was performed in patients undergoing robotic-assisted PN at a single institution between 2010-14. Patients included in the study cohort required >1 year of clinical follow-up and ≥3 post-op cross-sectional CT scans. A single uroradiologist reviewed all images.

**Results:** A total of 100 patients who underwent 105 PNs were included. Hematomas were defined as the presence of dense fluid at or near the resection site that extended beyond the normal kidney contour. Hematomas were identified in 54 (51.4%) cases with 28 (51.8%) completely resolved at last follow-up. Mean size at the time of diagnosis was 5.13 cm. Mean HU was 29.2. Air, calcification, and enhancement were seen in 9 (16.6%), 0, and 2 (3.7%) cases, respectively. Amongst patients with hematomas, 3 (5.5%) had a urine leaks and 3 (5.5%) required embolization of a pseudoaneurysm. Local recurrence was found in one patient. There were no post-operative surgical site infections or reported symptoms from these findings. The rate of resolution was roughly 8.9% per month, or 2.27 cm per year.

**Conclusion:** Post-operative hematomas after robotic-assisted partial nephrectomies are common, and their resolution rate can be prolonged. As they
Podium #22
HYPOGONADISM IS A RISK FACTOR FOR ARTIFICIAL URINARY SPHINCTER CUFF EROSION
Matthias Hofer, MD, Kunj Sheth, MD, Timothy Tausch, MD, Jordan Siegel, MD, Billy Cordon, MD, Nicholas Kavoussi, MD, Alexandra Klein, BS, Claus Roehrborn, MD and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD

Introduction: To determine the association between hypogonadism and AUS cuff erosion, we evaluated the serum testosterone levels among men having artificial urinary sphincter (AUS) cuff erosions and compared these results to a cohort of uncomplicated AUS patients.

Methods: We reviewed 46 patients in whom serum testosterone levels were available and who received an AUS between 2007 and 2014. We defined hypogonadism as testosterone serum level <280 ng/dl. Mean follow-up was 2.96 years (range 1.01-7.67 years). Demographics of 18 patients with cuff erosion (39.1%) and 28 patients without erosion (60.9%) were similar with respect to cuff size, prior surgeries, radiation therapy, diabetes, or hypertension. Statistical analysis was performed with chi-square test, t-test, Kaplan-Meier analysis, and Cox regression analysis.

Results: Of 18 AUS cuff erosions, 16 patients (88.9%) were hypogonadal compared to only 10 of 28 patients without cuff erosions (35%, p<0.001). Mean time to AUS erosion was 1.92 years (0.08-6.86 years). Cox regression analysis revealed that hypogonadism had a hazard ratio of 5.1 for AUS erosion compared to patients with normal testosterone levels (95% CI 1.1-22.6, p=0.003). Kaplan-Meier analysis demonstrated a significant decrease of erosion-free follow-up time in hypogonadal men compared to normogonadal men (log-rank 0.018). There was no difference between hypogonadal and normogonadal men in respect to cuff size used, prior surgery, radiation therapy or comorbidities.

Conclusion: Hypopgonadism in patients undergoing AUS implantation is a significant risk factor for subsequent cuff erosion. It is unknown whether testosterone supplementation prior to surgery would mitigate this almost unacceptable risk.

Podium #23
INCIDENCE OF URETHRAL STRicture AND LICHEN SCLEROSUS IN PATIENTS WITH CONCEALED PENIS
Aron Liaw, MD, Lanette Rickborn, BSc and Christopher McClung, MD
Ohio State University
Presented By: Aron Liaw, MD

Introduction: Concealed-buried penis is an acquired condition associated with obesity, challenging both to manage and repair. Urethral stricture is a more common disorder, with iatrogenic and idiopathic causes being the most common etiologies. Lichen sclerosus is also a significant known cause of urethral stricture, implicated in up to 30%. We hypothesise that patients with buried penis have a higher rate of urethral stricture and lichen sclerosus than the general population.

Methods: We retrospectively reviewed a single surgeon’s (CM) case logs for
patients presenting with a buried penis. All patients were evaluated for urethral stricture with cystoscopy or retrograde urethrogram either prior to or at the time of repair for buried penis. Patient charts were reviewed to determine presence and location of urethral stricture. Those that had surgical repair or biopsy were reviewed for presence of lichen sclerosus.

**Results:** Thirty-nine patients met inclusion criteria. Of these, 13 (33%) had associated stricture disease. The location of the strictures were bulbar (46%), penile urethra (8%) and meatus or fossa navicularis (77%). Seven patients (54%) had lichen sclerosus and urethral stricture disease, while nine (23%) had lichen sclerosus without stricture. 11/13 stricture patients were treated. Four of these were dilated, five underwent meatotomy, and two underwent urethroplasty. Three patients overall (27%) had recurrence at a median of 5 months followup.

**Conclusion:** Patients with a concealed penis are more likely than the general population to have a urethral stricture and/or LS. Patients presenting with concealed penis should also be evaluated for a urethral stricture.

**Podium #24**

**PROFOUND INFLUENCE OF ANDROGENS ON HISTOLOGIC ARCHITECTURE OF THE RAT URETHRA**

Matthias Hofer, MD¹, Billy Cordon, MD¹, Matthew Bury, BS², Earl Cheng, MD², Arun Sharma, MD², Chris Gonzalez, MD² and Allen Morey, MD¹

¹UT Southwestern; ²Northwestern University

Presented By: Matthias D. Hofer, MD, PhD

**Introduction:** To analyze the influence of varying levels of androgens on urethral and peri-urethral architecture we compared urethral sections of castrated rats with and without hormone resupplementation.

**Methods:** Six Sprague-Daley rats were castrated and divided into two groups. Group one received testosterone supplementation at physiologic levels (T+ rats) for 6 weeks before sacrifice, the remaining three served as controls (T- rats). Testosterone levels were evaluated with ELISA assays before and after supplementation. Urethral sections were stained with hematoxylin-eosin and immunohistochemically with antibodies directed against androgen receptor and CD34. Image analysis was performed with Image J image processing software (NIH, Bethesda, MD). T-tests were used for statistical analysis.

**Results:** Testosterone supplementation reestablished physiologic serum testosterone levels in T+ rats. Testosterone deprivation by castration without resupplementation was associated with a dramatic downregulation of the androgen receptor in urothelial cells and peri-urethral myofibroblasts of T+ rats compared to T+ rats in whom testosterone supplementation restored AR expression (mean 0.8 AR+ cells/hpf vs. 2275.7 AR+ cells/hpf, p<0.001). Histologic evaluation revealed a significantly increased thickness of the corpus spongiosum in T+ rats (54.4 um) compared to T- rats (30.6 um, p=0.049). The corpus spongiosum of T+ rats was further associated with an increase of vascular spaces with T+ rats showing a significantly higher fraction of endothelial cells in the corpus spongiosum tissue (14.1%) compared to T- rats (5.1%, p=0.006).

**Conclusion:** Testosterone appears to be necessary for maintenance of a physiologic urethral and peri-urethral caliber and architecture whereas testosterone deprivation may contribute to urethral atrophy.
PODUIUM #25
OUTCOMES OF MEN UNDERGOING IN-OFFICE HYDROCELECTOMY UNDER LOCAL ANESTHESIA
Matthew Ziegelmann, MD and Landon Trost, MD
Mayo Clinic Rochester
Presented By: Matthew J. Ziegelmann, MD

Introduction: The literature regarding office-based hydrocele management under local anesthesia is sparse. Here we present our short term results for a cohort of patients undergoing office-based hydrocelectomy under local anesthesia.

Methods: A prospective database was maintained for all men undergoing office-based hydrocelectomy at our institution in 2015 for symptomatic hydroceles. All patients underwent incisional and cord blocks, after which the hydrocele sac was brought through a small incision, excised, and oversewn without delivering the testicle through the wound. A Penrose drain was placed from the cephalad to caudal-most extent of the original hydrocele, and patients were maintained on antibiotics for four weeks.

Results: Thirteen patients underwent in-office hydrocelectomy under local anesthesia. Mean age was 70 years (SD 14.1). Four patients (31%) patients were deemed very high risk for anesthetic complications based on significant medical comorbidities, and eight patients (62%) remained on antiplatelet or anticoagulation at the time of the procedure. Two patients (15%) experienced scrotal hematoma and two patients (15%) experienced prolonged scrotal pain >3 weeks.

Conclusion: Short-term results of men undergoing a minimally-invasive, office-based hydrocelectomy demonstrate excellent outcomes and viability, even in a high-risk population. Longer-term follow-up and external validation are required to further validate the technique.

PODUIUM #26
PATHOGENIC MECHANISMS OF EPIDIDYMAL CYSTS AND SPERMATOCELE FORMATION
Kathryn LaRusso, MD², Aram Loeb, MD¹, Kahlil Saad, MD¹ and George Steinhardt, MD³
¹Wayne State University; ²Michigan State University; ³Helen DeVos Children’s Hospital
Presented By: Kahlil N. Saad, MD

Introduction: Epididymal Cysts (EC) and Spermatoceles (SC) are commonly diagnosed with the onset of symptoms or more often as incidental sonographic findings. In experimental animals, fetal tissues exposed to estrogen mimetic compounds can induce the development of cystic structures from the epididymis. Previous studies have also shown that knockout of the estrogen receptor in efferent ducts and initial segment disrupts luminal fluid resorption. This study further investigated the possible association of undue estrogen stimulation and the occurrence of spermatoceles and epididymal cysts in humans.

Methods: An IRB approved study identified 10 patients with well-documented SC and seven patients with EC between the years 2007-2012. Formalin fixed paraffin embedded blocks of human epididymal tissue were stained using immunohistochemistry (IHC) for lactoferrin (LF), estrogen receptor-α (ER1) and estrogen receptor-β (ER2)
Results: Both ECs and SCs stained positive for LF, ER1 and ER2. Results are summarized in figure 1.
Conclusion: IHC staining for LR, ER1, and ER2 suggests estrogen stimulation and disruption as a possible pathogenesis of both EC and SC.

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Podium #27
MANAGEMENT OF CLINICAL STAGE I SEMINOMA: HEADED IN THE RIGHT DIRECTION, BUT FAST ENOUGH?
Richard Matulewicz, MS, MD¹, Daniel Oberlin, MD¹, Joel Sheinfeld, MD² and Joshua Meeks, MD, PhD¹
¹Northwestern University Feinberg School of Medicine; ²Memorial Sloan Kettering Cancer Center
Presented By: Richard S. Matulewicz, MS, MD

Introduction: Patients with clinical stage I (CSI) seminoma have a 99% long-term survival. Thus, the burden of treatment must be weighed against potential side-effects that occur decades later. In recent years, the long-term morbidity of chemotherapy and radiotherapy for testicular cancer has changed the treatment paradigm. However, many CSI seminoma patients still receive adjuvant therapy.

Methods: Using the National Cancer Database for the years 1998-2012, all patients with CSI seminoma were identified. Adjuvant treatment after orchiectomy was classified into three groups: surveillance, radiotherapy (XRT), and chemotherapy (ACT). Treatment trends over time were assessed. Isolating years 2010-2012, we determined predictors of patients who received treatment instead of surveillance using binomial logistic regression analysis.

Results: A total of 30,072 patients were included in our cohort. During 1998-2000, only 24.75% of patients chose surveillance compared to 61.2% during the years 2010-2012. For the contemporary years, 5815 patients were included. Unadjusted rates of treatment over surveillance were higher for increasing age, community hospitals, and advanced pT-stage. Regression modeling (Figure 1) demonstrated odds ratios for each covariate.

Conclusion: Despite a trend towards increased use of post-orchiectomy surveillance for CSI seminoma patients, during 2010 to 2012 almost 40% of patients still received adjuvant treatment. Pathologic T-stage and hospital setting are the largest predictors of receiving treatment.
THE UTILIZATION OF PARTIAL ORCHIECTOMY IN TREATING SMALL TESTICULAR TUMORS IN THE UNITED STATES

Joseph Clemons, BS, Bradley Holland, BS, Max Nutt, BS, Danuta Dynda, MD and Shaheen Alanee, MD, MPH, MBA
Southern Illinois University School of Medicine
Presented By: Bradley Holland, BS

Introduction: Increasing evidence supports the feasibility of partial orchiectomy (PO) as a treatment for small testicular tumors (STT). The prevalence of this practice is still unknown.

Methods: 32,211 patients with testicular tumors diagnosed between 1995-2011 were extracted from the Surveillance, Epidemiology, and End results (SEER) registry for this analysis. The proportions of patients diagnosed with STT (≤ 2 cm) and patients treated with PO were determined. Trends were examined using joinpoint analysis and quantified using the annual percentage change (APC). Multivariate survival models were developed to identify independent determinants of PO. Kaplan Meier analysis was used to examine the effect of PO on cancer specific survival (CSS).

Results: Of the 5,365 patients with STT and identifiable surgical treatment, only 114 patients (2.21%) were treated with PO. The percentage of patients diagnosed with STT (average 18.5% of all testis tumors) was stable over the study period (APC -0.47%, 95% CI: -0.3-1.3%, P=0.2). The utilization of PO for these tumors remained low and did not increase with time (APC -11.9%, 95% CI: -16.6-(-6.9)%, P <0.001). Older age, black race, and areas with lower educational level were independent determinants of lower likelihood of receiving PO (all p values < 0.05). CSS was not worse for patients treated with PO vs. radical orchiectomy (P=0.8605).

Conclusion: The utilization of PO remains very low. Patient characteristics influenced the chance of treatment with PO.
Podium #29  
PENILE CARCINOMA IN THE UNDERINSURED INNER CITY MEN  
Edward Park, DO¹, Matthew Houlihan, DO², Sarah Psutka, MD², Patricia Vidal, MD² and Courtney Hollowell, MD²  
¹Cook County Health and Hospitals Services; ²Cook County Health and Hospitals Service  
Presented By: Edward J. Park, DO  

Introduction: Penile cancer is a rare malignancy that is poorly characterized in the underinsured population. Our objective was to improve understanding of penile carcinoma in this underinsured and underrepresented cohort.  

Methods: We conducted a retrospective, single center review of 34 consecutive partial and complete penectomies between 2004-2014, excluding nononcologic diagnoses. We used Fisher's exact test to compare our cohort to the SEER database for penile carcinoma with regard to oncologic staging and treatment methodology.  

Results: Thirty-four patients from our institution comprised of 37% Black, 37% Hispanic, 22% White, and 2% Asian, which differs significantly from the SEER database in which minorities are underrepresented (88% White). Median age at diagnosis was 52.5 vs. 68 in SEER. In total, 11(32%) were diagnosed at age <50 vs. 683(14%) in SEER (p=0.004); 11(32%) diagnosed at age 50-59 vs. 841(17%) in SEER database. 24(71%) patients Presented with pT2 or greater (SEER=28%; p=<0.001). 27(79%) patients underwent inguinal and/or pelvic lymph node dissection vs. (SEER=16%; p=<0.001). Postoperative radiation therapy was utilized in 11(32%) (vs. 7%, p<0.001). Finally, neoadjuvant chemotherapy was utilized in 1(0.03%) and 13(38%) received postoperative chemotherapy.  

Conclusion: In our patient population of largely underinsured, minority patients, we found a younger age at diagnosis, a higher incidence of advanced tumor stage, and higher proportion undergoing lymphadenectomy and postoperative radiation when compared to studies using the SEER database for penile cancer. These data highlight potential disparities in diagnosis and treatment and underscore the importance of education regarding penile carcinoma and improving access to care.  

Podium #30  
OUTCOMES FOLLOWING SURGICAL EXCISION OF URETHRAL PROLAPSE: EXPERIENCE AT THE UNIVERSITY OF MICHIGAN  
Mary Hall, BA¹, Tola Oyesanya, MD¹ and Anne Pelletier-Cameron, MD²  
¹University of Michigan Medical School; ²University of Michigan Department of Urology  
Presented By: Mary Elizabeth Hall  

Introduction: Urethral prolapse is a mucosal protrusion typically occurring in premenarchal girls and postmenopausal women, and urethral caruncles are small mucosal prolapses occurring mainly in postmenopausal women. Patients often remain asymptomatic, but may present with clinical symptoms. Currently, treatment options include conservative management, simple reduction, and surgical excision. The optimal management remains uncertain, and few studies have explored clinical outcomes following surgery. Here, we aim to characterize the clinical presentation and surgical outcomes of women with symptomatic urethral prolapse at a tertiary care center.  

Methods: Retrospective review of medical records from female patients who
underwent surgery for symptomatic urethral prolapse from June 1995 to August 2015.

**Results:** Twenty-six patients who underwent surgical excision of urethral prolapse were identified, with an average age of 38.8 years (range 3-81). The most common presentations were vaginal bleeding, hematuria, pain, and dysuria. All patients underwent surgical excision of urethral prolapse via a standard approach. Pathology reports were available for 18 patients and all revealed benign tissue. Within 10 weeks post-operatively, 19 patients had improvement of symptoms. Seven patients experienced persistent bleeding within one month, with one patient requiring an emergency department visit. One patient experienced temporary postoperative urinary retention, and another developed new voiding dysfunction. Two patients continued to have prominent areas of urethral mucosa, and three had recurrence of prolapse.

**Conclusion:** Surgical excision of urethral prolapse in symptomatic patients is a safe and effective procedure. Patients generally do well post-operatively, but must be counseled regarding possible complications and the risk of recurrence.

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**Podium #31\n**

**ARTIFICIAL URINARY SPHINCTER PLACEMENT AFTER URETHROPLASTY**

Matthias Hofer, MD, Billy Cordon, MD, Jeremy Scott, BS and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD

**Introduction:** Treatment of prostate cancer occasionally yields patients with both outlet obstruction and stress urinary incontinence. We evaluated the outcomes of artificial urinary sphincter placement following urethral reconstruction.

**Methods:** We reviewed all men that underwent AUS placement and a urethroplasty between 2007-2014. Cuff erosion rate was compared to the remaining patients in this AUS cohort.

**Results:** Of 293 patients that received an AUS, 17 patients underwent a prior urethroplasty (5.8%). Etiology of SUI and urethral stricture was radical prostatectomy in 11/17 patients (64.7%), radiation therapy in 5/17 patients (29.4%), and trauma in 1/17 (5.9). Excision and primary anastomosis was used in 12/17 pts (70.6%), 3/17 patients (17.6%) were treated with a substitution urethroplasty while 2/17 patients (11.8%) underwent an urethroplasty during rectourethral fistula repair. Mean duration from urethroplasty to AUS placement was 7.8 months (range 3-22). Mean cuff size was 4.1cm (range 4-6cm) and the cuff was placed transcorporally in 10/17 patients (58.8%). Mean follow-up after AUS surgery was 30.5 months (range 11-72). AUS erosion was observed in 5/17 pts (29.4%) overall. In detail, erosion occurred in 3/10 (33.3%) transcorporally and 2/7 (28.6%) conventionally placed cuffs. Erosion was noted predominantly in patients with history of radiation therapy (4/5, 80%) although this was not significant (p=0.252).

**Conclusion:** Metachronous AUS placement after urethroplasty is successful in the majority of patients, yet with a high cuff erosion rate. Although no specific risk factors for erosion were identified, patients with prior radiation therapy should be counseled on a potentially increased risk of cuff erosion.
Podium #32
ANALYSIS OF CLINICAL AND MORPHOMETRIC RISK FACTORS ASSOCIATED WITH URETHRAL ATROPHY
Matthias Hofer, MD, Nirmish Singl, MD, Billy Cordon, MD, Jeremy Scott, BS and Allen Morey, MD
UT Southwestern
Presented By: Matthias D. Hofer, MD, PhD

Introduction: Urethral atrophy, manifested by decreased circumference of the corpus spongiosum, is a leading cause of AUS revisions. Using urethral circumference during AUS placement we identified risk factors of urethral atrophy.

Methods: We reviewed 292 patients that underwent AUS placement between 2007-2014 excluding 55 cases (18.8%) that underwent transcorporal cuff placement. We stratified patients by presence (3.5cm cuff size, n=118) or absence (>4cm cuff size, n=119) of urethral atrophy.

Results: Among 237 patients undergoing AUS placement, urethral atrophy was present in 118 patients (49.8%) compared to 119 patients (50.2%) that received larger cuffs (range 4-5.5cm). Patients with urethral atrophy were significantly older (p<0.001), more likely to having been irradiated (p<0.001), be diabetic (p=0.032), or having had a prior AUS procedure (p=0.032). There were no differences in BMI, hypertension, or coronary artery disease between the two groups. Likewise there were no differences in prior prostatectomy rates, erectile dysfunction, BPH, cryotherapy, or previous sling procedures. On logistic regression, urethral atrophy was significantly predicted by prior radiation therapy (odds ratio 2.85 (1.1-3.2), p<0.001), a history of diabetes (OR 2.23 (1.1-4.7), p=0.035), prior AUS (OR 1.83 (1.1-3.2), p=0.033), and age >70 (OR 1.78 (1.1-2.9), p=0.032). In a multivariate model controlling for these variables, prior radiation (OR 3.43 (1.9-6.1), p<0.001), a history of diabetes (OR 2.51 (1.1-5.7), p=0.026), prior AUS (OR 2.66 (1.4-4.9), p=0.002) and age >70 (OR 2.04 (1.2-3.6), p=0.013) all remained significant independent risk factors for urethral atrophy.

Conclusion: Radiation, diabetes, age and prior AUS placement are all independently associated with urethral atrophy.

Podium #33
CONVECTIVE WATER VAPOR ENERGY THERMAL ABLATION OF THE PROSTATE (REZUM SYSTEM): A MULTICENTER, RANDOMIZED, CONTROLLED TRIAL FOR TREATMENT OF LUTS SECONDARY TO BPH – 1 YEAR RESULTS FROM PIVOTAL TRIAL
Lance Mynderse, MD¹, J. Randolf Behrns, MD², Michael Rousseau, MD³, James Ulchaker, MD⁴ and Kevin McVary, MD⁵
¹Mayo Clinic; ²Metro Urology; ³The Urology Group; ⁴Cleveland Clinic; ⁵Southern Illinois University School of Medicine
Presented By: Lance A. Mynderse, MD

Introduction: This abstract summarizes the one year results of a multicenter randomized, controlled study utilizing minimally invasive transurethral prostate convective water vapor thermal energy to treat lower urinary tract symptoms associated with benign prostatic hyperplasia (BPH).

Methods: Men ≥50 years of age with International Prostate Symptom Scores (IPSS) ≥13, maximum flow rate of ≤15 ml per second and prostate size 30 to 80
cc were randomized 2:1 between thermal ablation with the Rezūm System and control. Thermal water vapor was injected into the transition zone and median lobe as needed. The control procedure was rigid cystoscopy with simulated active treatment sounds. The primary endpoint compared IPSS reduction at three months. Treatment subjects were followed for 12 months.

Results: There were 197 men randomized (active 136, control 61). Thermal ablation and control IPSS was reduced by 11.2 ± 7.6 and 4.3 ± 6.9 respectively (p<0.0001). Treatment subject baseline IPSS of 22 decreased at 2 weeks (18.6, p=0.0006) and by 50% or greater at 3, 6 and 12 months, p<0.0001. Peak flow rate increased by 6.2 ml per second at three months and was sustained throughout 12 months (p<0.0001). No de novo erectile dysfunction was reported. Adverse events were mild to moderate and resolved quickly.

Conclusion: Convective water vapor thermal therapy treatment (Rezūm System): provides rapid and durable improvements in LUTS due to BPH at one year and preserves sexual function. This minimally invasive treatment can be delivered to lateral and median lobes in an office setting.
Podium #36
MRI IMPROVES VOLUME ESTIMATION COMPARED TO TRANSRECTAL ULTRASOUND IN LARGE PROSTATE GLANDS
Robert Blackwell, MD, Michelle Van Kuiken, MD, Bryan Bisanz, Everardo Arias and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken

Introduction: Magnetic resonance imaging (MRI) of the prostate uses image segmentation to calculate prostate volume, which has the potential to yield more accurate volume estimation compared to traditional volume estimation by transrectal ultrasonography (TRUS).

Methods: We retrospectively identified 198 patients who had an MRI of the prostate followed by a MR-fused TRUS prostate biopsy. Paired t-tests were used to compare volume estimation techniques. Patients were then grouped by prostate volume on MRI (group 1 <=40cc, group 2 >40cc). The difference in volume calculation techniques was compared between the two groups using Student’s t-test.

Results: For the 198 patients, the mean MR-estimated prostate volume was 58.6cc (SD: 33.5) was significantly higher than the TRUS-estimated prostate volume of 50.4cc (SD: 29.2) (p<0.001). When MR-estimated prostate volumes were stratified at a gland size of 40cc, a difference was seen. Patients in the smaller prostate cohort had little difference in estimated size between techniques (n=64, mean difference 2.1cc (SD: 10.1)), compared to patients in the larger gland size cohort (n=134, mean difference 11.4cc (SD: 14.3), p<0.001.

Conclusion: TRUS underestimates prostate volume compared to MRI, particularly in patient with gland sizes >40cc.

Podium #37
INCIDENTAL PROSTATE CANCER DIAGNOSED AT HOLMIUM LASER ENUCLEATION OF PROSTATE - REVIEW OF PATIENT OUTCOMES
Nadya York, MD, Tim Large, MD, Michael S Borofsky, MD, Casey A Dauw, MD, James E Lingeman, MD and Ronald S Boris, MD
Indiana University School of Medicine
Presented By: Nadya York, MbChB

Introduction: We reviewed the initial oncologic outcomes of prostate cancer incidentally diagnosed at the time of holmium laser enucleation of prostate (HoLEP).

Methods: Our prospectively maintained HoLEP database was reviewed. Demographic, peri-operative, and early oncologic data was collected.

Results: A total of 136 of 1876 HoLEP patients were diagnosed with incidental prostate cancer (7.2%) between 1999-2015. Median preoperative PSA of prostate cancer patients was 4.5 ng/ml. 107 patients had low grade cancer (79%), 17 intermediate Gleason 7 (12%), and 12 high grade Gleason 8-10 (9%). Management data was available for 49 (36%) patients. Treatment included surveillance in 31 patients (63%), radical prostatectomy in eight (16%), radiation therapy in eight (16%), and immediate androgen deprivation (ADT) in two patients (4%). Median follow-up was 39 months. Biochemical recurrence free rate in the radical
prostatectomy group was 88% at last follow-up. For the radiotherapy group, 25% failed treatment per Phoenix criteria although none have progressed clinically. Overall prostate cancer specific mortality for the entire cohort was 1.5% (two patients).

**Conclusion:** Prostate cancer is infrequently detected at HoLEP with predominantly low grade disease. Observation appears to be an acceptable management option at least initially. Radical prostatectomy and radiotherapy for selected patients demonstrate encouraging early oncological outcomes with limited follow up.

**Podium #38**

**HOLEP IS AN EFFECTIVE TREATMENT IN PATIENTS WITH CONCOMITANT BLADDER DIVERTICULA AND OUTLET OBSTRUCTION**

Deepak Agarwal, MD and Amy Krambeck, MD
Mayo Clinic
Presented By: Deepak K. Agarwal, MD

**Introduction:** We evaluate the outcomes of patients with bladder diverticula undergoing Holmium laser enucleation of the prostate (HoLEP) for bladder outlet obstruction.

**Methods:** We retrospectively reviewed HoLEP patients with a concomitant diagnosis of bladder diverticula, confirmed by cystoscopy and/or imaging.

**Results:** Of 671 HoLEPs, 35 patients were diagnosed with bladder diverticula before surgery. Average age at HoLEP was 71.3 y (IQR 64.0-74.3y), mean prostate size was 71.1 cm3 (IQR 44-82.1 cm3) on preoperative imaging and mean diverticulum size was 6.7 cm (IQR 6-8 cm). Preoperatively, urinary retention requiring intermittent or indwelling catheterization was present in 20 (57%) of patients. In the remainder of patients, mean AUA-SS was 18.3, peak flow 7.6 ml/s, and post-void residual (PVR) 402.5 ml. At most recent follow up (mean 37 months) mean AUA-SS was 6.2, peak flow 26 ml/s, and PVR 115 ml with 66%, 242%, and 250% improvement respectively. All patients were voiding and none required catheterization at last follow-up. Only three (8.6%) patients required diverticulectomy at a mean of 15.2 months after HoLEP for the following indications: 1 hematuria and 2 retention.
Podium #39
DESCRIPTION OF A NEW NATIONAL CANCER INSTITUTE FUNDED RANDOMIZED CONTROLLED TRIAL "REASSURE ME" TO SUPPORT EMOTION REGULATION, POSITIVE HEALTH BEHAVIORS, AND ADHERENCE IN A SAMPLE OF MEN WITH PROSTATE CANCER ON ACTIVE SURVEILLANCE AND THEIR SPOUSES

David Victorson, PhD¹, Carly Maletich, MA¹, Bruriah Gutierrez, MA¹, Stephanie Schuette, BA¹, Todd Morgan, MD², Alexander Kutikov, MD³, Shilajit Kundu, MD¹, Scott Eggener, MD⁴ and Charles Brendler, MD⁵
¹Northwestern University; ²University of Michigan; ³Fox Chase Cancer Center; ⁴University of Chicago; ⁵NorthShore University Health System
Presented By: David Victorson, PhD

Introduction: While active surveillance (AS) for the management of very low-risk prostate cancer is becoming an increasingly adopted treatment paradigm, many men and their partners can face a host of psychosocial stressors related to this approach. This can negatively affect short and long term psychosocial adjustment and quality of life and contribute to withdrawal from AS prematurely to seek definitive therapies such as surgery. The purpose of this presentation is to present information on a new NCI-funded RCT, which seeks to examine the efficacy of mindfulness training compared with a time/attention-matched health promotion control condition with a large, culturally diverse, and geographically generalizable sample of men on AS and their spouses.

Methods: We will use a randomized, placebo-controlled, partially double-blinded study design to examine mindfulness training (mindfulness-based stress reduction) over 12 months (n=120 men on AS & 120 spouses), compared with a time matched health promotion control (n=120 men on AS & 120 spouses). Baseline measures (e.g., anxiety, fear of progression, quality of life) will be obtained just prior to randomization to the two study arms (T1), followed by repeated assessments at two months (T2), six months (T3) and 12 months (T4).

Results: This presentation will provide a detailed overview of this new research protocol, including hypotheses, study design, interventions, and outcomes.

Conclusion: This work has the potential to offer men and their partners facing the stressors of AS with specialized emotional, cognitive, and physiological self-regulatory skills to cope more effectively and possibly prolong adherence to medically-warranted AS protocols.

Podium #40
UNDETECTABLE PSA AFTER KTP LASER ENucleATION OF THE PROSTATE

Ryan Dobbs, MD¹, Neha Malhotra, MD¹, David Greenwald, MD¹, Ettore Dalmasso, MD² and Simone Crivellaro, MD¹
¹University of Illinois; ²University of Turin
Presented By: Ryan W. Dobbs, MD

Introduction: The potassium-titanyl-phosphate (KTP) laser is a minimally invasive treatment for benign prostate hyperplasia via photoselective vaporization of tissue. The objective of our study is to evaluate the decline in PSA following KTP laser enucleation of the prostate.

Methods: All adult male patients who underwent treatment for BPH utilizing KTP laser enucleation between 2014 and 2015 were retrospectively reviewed and collecting into an IRB approved database. Pre and post-operative PSA values
were recorded along with clinical and demographic variables. Statistics were performed utilizing a two tailed t-test.

**Results:** Thirteen men met the inclusion criteria. The mean patient age was 63 years (range 57-80) with a mean preoperative PSA of 9.6 (range 0.1 – 57). Mean operative time was 100.8 minutes (range 48-180 minutes). All men were noted to have PSA decreases of greater than 50% following KTP enucleation and mean postoperative PSA values were significantly lower as compared to baseline values (mean pre and postoperative PSA values were 9.6 and 0.4 respectively, p=0.04) over a mean follow up of six months. Three out 13 (23%) patients had an undetectable PSA post-op.

**Conclusion:** PSA values consistently and significantly decline following intervention with a KTP laser enucleation technique leading to undetectable PSA in 23% of patients. Clinicians should be aware to adjust PSA values for men who are screened for prostate cancer following KTP enucleation. Further follow-up is required to help clarify which PSA changes should trigger a recommendation for prostate biopsy following enucleation.

**Podium #41**

**SUCCESSFUL SUSTAINED OUTCOMES WITH A NON-MEDICAL NON-SURGICAL PAINLESS IN OFFICE THERAPY FOR BPH**

Craig Smith, MD
Dupage Medical Group
Presented By: Craig A. Smith, MD

**Introduction:** Urologists have a preferred armamentarium to offer patients with symptomatic benign prostatic hyperplasia (BPH). Patient preference for treatment includes a painless procedure, no general anesthetic, no resection of tissue, and cessation of BPH pharmacotherapy. Based on our experience we encourage patients to consider an in-office thermo-therapy procedure to meet expectations.

**Methods:** Over five years, 172 sequential patients underwent either transurethral radio-frequency ablation or high-energy microwave therapy using a complete prostatic block, including the bladder neck. Outcome measures collected included the International Prostatic Symptom score (IPSS), Quality of life (QoL), and Q-max. Intra-procedure comfort was measured using the 10-point Visual Analog Scale (VAS).

**Results:** Mean baseline IPSS was 18.6. Mean IPSS scores improvement at one, three and five years was 85%, 83% and 77%, respectively. Mean baseline QoL was 4.17 with improvement to 0.39, 0.36, and 0.42. Mean Q-max was 5.4 ml/sec at baseline and increased to 12.8, 12.5, and 11.5, respectively. Mean procedure VAS score was 0.6.

**Conclusion:** Complete prostatic block led to 89% of patients reporting no pain. Patients improved voiding symptoms were sustained throughout their duration of follow-up. Less discomfort during the procedure allowed more energy to be delivered. Patients returning to BPH medications were <5% while three patients went on to a surgical procedure. Patients’ desire for a successful in-office based BPH therapy can be met with thermo-therapies.
Introduction: Simple prostatectomy is the standard treatment for large gland benign prostatic hypertrophy (BPH). There are increasing efforts to treat BPH with minimally invasive techniques including holmium laser enucleation of prostate (HoLEP) and robotic assisted simple prostatectomy (RSP). Herein we compare perioperative outcomes for patients undergoing one of these two procedures.

Methods: Patient demographics and perioperative outcomes were compared between 600 patients undergoing HoLEP and 32 patients undergoing RSP at separate academic institutions between 2008 and 2015.

Results: Patients undergoing HoLEP and RSP had comparable ages (71 vs. 71, p=0.96) and baseline AUA symptom scores (20 vs. 20, p=0.76). There was no difference in mean specimen weight (96 vs. 110 g, p=0.15). Mean operative time was lower for HoLEP (103 vs. 274 minutes, p<0.001). Patients undergoing HoLEP had lesser decreases in hemoglobin, decreased transfusions rates, shorter hospital stays, and decreased mean duration of catheterization (Table). There was no difference in the rate of complications Clavien grade 3 or greater (p=0.33).

Conclusion: HoLEP and RSP are both efficacious treatments for large gland BPH. In expert hands HoLEP appears to have a favorable perioperative profile.
Podium #43
PROGNOSTIC SIGNIFICANCE OF PERINEURAL INVASION IN ACTIVE SURVEILLANCE OF PROSTATE CANCER
Charles Dai, BS, Vishnu Ganesan, BS, Yaw Nyame, MD, Daniel Hettel, BS, Nima Almassi, MD, Daniel Greene, MD, Joseph Zabell, MD, Anna Zampini, MD, Samuel Haywood, MD, Chad Reichard, MD, Alice Crane, MD, PhD, Hans Arora, MD, PhD, Ahmed El-Shafei, MD, Robert Stein, MD, Khaled Fareed, MD, Michael Gong, MD, PhD, J. Stephen Jones, MD, Cristina Magi-Galluzzi, MD, PhD, Andrew Stephenson, MD and Eric Klein, MD
Cleveland Clinic Foundation
Presented By: Daniel Hettel, BS

Introduction: The significance of PNI in men who select AS is unclear. We investigated the predictive value of PNI for disease progression and adverse findings on surgical pathology.

Methods: A retrospective review of 639 patients on active surveillance at our institution from 2002-2015 was performed. The primary outcome was type 1 (any change in Gleason score) or type 2 progression (finding predominant Gleason pattern 4 or 5 or >50% of sampled cores involved with cancer). Kaplan-Meier survival curves and Cox proportional hazards regression modeling were used for statistical analysis.

Results: Sixty-three patients (10%) had detectable PNI on biopsy. Seven patients (11%) with PNI and 171 (27%) patients without PNI experienced type 1 progression. Seven patients (11%) with PNI vs. 54 patients (8.5%) without PNI experienced type 2 progression. There was no significant difference in time to type 1 or type 2 progression for patients with PNI compared to those without (p = 0.15; p = 0.33). On multivariable analysis, adjusting for age of diagnosis, initial Gleason score, and initial number of positive cores, presence of PNI was not associated with type 1 (HR = 0.5, p=0.1) or type 2 progression (HR 1.3, p=0.6). While PNI was associated with detection of ECE after prostatectomy (p=0.0051), it was not statistically associated with other adverse features.

Conclusion: The finding of PNI on biopsy specimens of patients on AS is low and is not associated with increased risk of progression. As such, it should not influence the decision to place patients on AS.

Podium #44
SHOULD MAGNETIC RESONANCE IMAGING BE USED IN THE PREOPERATIVE STAGING OF PROSTATE CANCER TO GUIDE NERVE-SPARING APPROACHES?
Adam Calaway, Clint Cary, MD, Trevor Crafts, MS3, Timothy Masterson, MD, Ronald Boris, MD, Thomas Gardner, MD, Chandru Sundaram, MD and Michael Koch, MD
Indiana University School of Medicine
Presented By: Adam C. Calaway, MD

Introduction: Prostate MRI allows for a more targeted biopsy and may help plan operative approach (wide local excision vs. nerve sparing). We sought to assess the diagnostic accuracy of prostate MRI for local staging at our single tertiary care institution with radical prostatectomy specimens used as the reference standard.

Methods: A retrospective review of all patients undergoing radical prostatectomy with a preoperative MRI at Indiana University between January 2010 and July
2015 were analyzed. MRI findings and pathological specimens were then compared to assess the accuracy of MRI in predicting extracapsular extension (ECE), seminal vesicle invasion (SVI) and lymph node positivity (LN).

**Results:** 138 patients were identified who met inclusion criteria. The median age was 61.5 (IQR: 56-67) with a preoperative PSA of 7.6 (IQR: 4.9-14). 58 (42%) patients had pT3 disease. Sensitivity, specificity, positive predictive value and negative predictive values of MRI in predicting pT3a disease (ECE), pT3b (SVI) and nodal positive (LN) are shown in Table 1. When compared to preoperative PSA, prostate MRI was no better than PSA at predicting ECE (p=0.47).

**Conclusion:** Prostate MRI performance is modest for detecting advanced disease in the seminal vesicle and/or lymph nodes, it performs poorly in determining ECE. MRI should not be used to guide preoperative nerve-sparing decisions.

**Table 1**

<table>
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<tr>
<th>Variable</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
<th>Accuracy</th>
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<td>ECE</td>
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<td>0.76</td>
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<td>0.91</td>
<td>0.91</td>
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<td>0.92</td>
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<td>0.92</td>
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</table>

**Podium #45**

**APPLICATION OF ACTIVE SURVEILLANCE (AS) THRESHOLD TO SERIES OF SAMPLES SUBMITTED FOR COMMERCIAL TESTING**

Kirk Wojno, MD¹, Peter Scardino, MD, FACS², Jack Cuzick, PhD³, Steve Stone, PhD⁴, Brent Evans, MS⁵, James Eastham, MD², Tom Keane, MD⁶, John Davis, MD, FACS⁵, Daniel Lin, MD⁷, Michael Brawer, MD⁴ and E. David Crawford, MD⁸

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**Presented By:** Kirk J. Wojno, MD

**Introduction:** Recently, we developed a method to select men for AS based on a score that combines cell cycle progression (CCP) with CAPRA (combined clinical CCP risk (CCR) score). We have applied our validated AS threshold to a series of samples submitted for commercial testing. Here we compare these overall findings to those of a single institution.

**Methods:** Formalin-fixed prostate biopsy samples (n=7881) were submitted for CCP analysis. Clinicopathological data was obtained from the test request form. The CCP score was calculated based on RNA expression of 46 genes, and combined with CAPRA to generate the CCR score. The clinicopathological data of patients with a CCR score meeting the AS threshold were analyzed focusing on their PSA, % positive cores, Gleason, stage, AUA risk classification, and CAPRA score. The subset of patients submitted for testing from Comprehensive Urology (n=189) will be assessed separately.

**Results:** Of the 7881 patients included in the analysis, 4758 (60.4%) qualified for AS based on their CCR score. A substantial number of these patients, 2213 (46.5%), would not have qualified for AS based on their clinical characteristics alone (see table).

**Conclusion:** This analysis showed that 60.4% of commercially tested patients
qualified for AS, nearly half of which would not have qualified based on their clinicopathological characteristics.

**Podium #46**

**ONCOLYTIC ADENOVIRUS EXPRESSING DECORIN: CO-TARGETING THE TUMOR CELLS AND THE MICROENVIRONMENT FOR THE TREATMENT OF PROSTATE CANCER METASTASIS**

Weidong Xu¹, Thomas Neill, PhD², Yuefeng Yang, PhD³, Daniel Shevrin, MD³, Karen Kaul, MD PhD³, Charles Brendler, MD³, Renato V. Iozzo, PhD² and Prem Seth, PhD³

¹Research Institute, NorthShore University HealthSystem; ²Thomas Jefferson University; ³NorthShore University HealthSystem

Presented By: Weidong Xu, PhD, MD

**Introduction:** To develop new treatment for prostate cancer (PCa) metastases, we have created Ad.dcn, a recombinant oncolytic adenovirus carrying the human decorin gene. As a small leucine-rich proteoglycan, decorin levels in the tumor stroma are significantly reduced in most cancers and low levels of decorin are a poor prognostic marker. Here, we describe the effect of systemic administration of Ad.dcn to inhibit PCa metastases and tumor-induced bone destructions in a mouse model.

**Methods:** The replication potential and the viral induced cytotoxicity of the Ad.dcn were determined in vitro. In vivo, human PCa cells, PC-3-luc were inoculated in the heart of nude mice to establish the metastases model. Ad.dcn or control viruses were injected via tail vein. The real-time monitoring by bioluminescence imaging and bone X-ray was used to measure tumor metastases. At the terminal time point, tumor burden, skeletal metastases biomarkers, cancer cachexia, and animal survival were determined.

**Results:** Ad.dcn produced high viral titers and cytotoxicity. Adenoviral-expressed decorin also inhibited the expression of Met, the Wnt/β-catenin signaling axis, vascular endothelial growth factor A, and cell migration. Moreover, Ad.dcn produced significant inhibition of metastases and reduction osteoclast cells at the tumor-bone interface and the tumor induced bone destruction.

**Conclusion:** Ad.dcn can be developed as a potential new therapy for PCa metastasis.
Podium #47
OUTCOMES OF ACTIVE SURVEILLANCE IN A PROSPECTIVELY ENROLLED PROSTATE CANCER COHORT
Alessandro Morlacco, MD, Vidit Sharma, MD and R. Jeffrey Karnes, MD
Mayo Clinic
Presented By: Alessandro Morlacco, MD

Introduction: active surveillance (AS) is a viable option for men with low-risk prostate cancer (PCa) to avoid over-treatment. However, much of the literature is based on retrospective studies. Here we present the outcomes of AS in a prospective cohort of patients from a high-volume center.

Methods: From 2009 to 2012, men diagnosed with PCa who met NCCN AS criteria and chose this option or who elected AS despite being higher risk were prospectively enrolled into an AS cohort. Predictors of cancer progression and treatment were explored with descriptive statistics, Kaplan-Meier curves, and multivariate cox regression.

Results: A total of 107 men (mean follow up 4.2 years) were enrolled. Mean age was 68.7 years and mean age-adjusted Charlson-Comorbidity Index of 2.8. 96 (89.7%) patients strictly met the NCCN AS criteria. On average, patients underwent 7.0 repeat PSA and 1.1 repeat biopsies. Five year rates of clinical T-upstaging, Gleason upgrading, and definitive PCa treatment were 3.4% (95%CI: 0%-7.1%); 34.9% (95%CI: 15.3%-54.5%); and 27.6% (95%CI: 18.6%-36.6%). 45% of patients undergoing definitive treatment chose radical prostatectomy. Excluding upgrading, the only significant predictor of treatment on multivariate Cox regression was % of tumor in maximally involved core (HR 1.053 p=0.006). Age and comorbidities did not influence the rate of treatment. No prostate cancer mortality was observed during the study.

Conclusion: The five-year rates of upgrading in our cohort are around 35% and upgrading is the most common reason for treatment. The percent of maximum core involvement on initial biopsy is another factor predicting definitive treatment.

Podium #48
COMBINED SEXTANT AND MRI/US FUSION BIOPSY INCREASES CANCER DETECTION AND IMPROVE THE NEGATIVE PREDICTIVE VALUE OF MRI FOR DETECTION OF CLINICALLY SIGNIFICANT PROSTATE CANCER
Bryan Bisanz, BS Biochemistry¹, Everardo Arias, BS¹, Khalid Alsabban, MBBS², Michelle Van Kuiken, MD², Steven Shea, PhD², Joseph Yacoub, MD², Ari Goldberg, MD², Marcus Quek, MD², Robert Flanigan, MD² and Gopal Gupta, MD²
¹Stritch School of Medicine at Loyola University Chicago; ²Loyola University Medical Center
Presented By: Bryan Bisanz, BS Biochemistry

Introduction: Standard screening tests like Prostate Specific Antigen (PSA) and random 12-core biopsy have been criticized for over-diagnosis of clinically irrelevant cancers. Systemic reviews of magnetic resonance-targeted biopsy suggest this method may be able to detect higher Gleason score prostate cancer (CaP) with fewer cores; all while improving negative predictive value.

Methods: A retrospective database was established of 228 biopsied patients. 128 of these previously CaP negative men had undergone both standard 12-core and MR-targeted biopsy simultaneously or within one year. PIRADv2 scores of 1-5 were given to suspected MRI lesions to stratify suspicion based on American College of Radiology guidelines. All biopsy cores were assigned a Gleason score
of 6-10 by pathologists if found to be CaP positive.

**Results:** Combined biopsy found 55% more clinically relevant (Gleason 7+) CaP than 12-core biopsy alone (31 for combined and 20 for 12-core) with only 29% more cores. Furthermore, MRI targeted biopsies required 4.8 times fewer cores (15.9 for target vs. 76.8 for 12-core) per diagnosis of Gleason 7 or higher cancer. Patients with lesions stratified with PIRAD scores of 3 or less on MRI were significantly less likely to have a clinically relevant CaP on combined biopsy than patients with lesions assigned a high PIRAD score of 4 or 5 (6.8% vs 37.7%).

**Conclusion:** Combined biopsies showed greater clinically significant prostate cancer detection than 12-core random biopsy. Additionally, MRI showed excellent negative predictive value for low risk CaP and increased Gleason 7+ cancer detection with few additional cores.

Podium #49

**PROPERTIES OF THE FOUR KALLIKREIN PANEL FOR PREDICTION OF PROSTATE BIOPSY OUTCOME IN MEN WITH HIGH PSA (10-25 Ng / ML)**

Stephen Zappala, MD, FACS¹, Badrinath Konety, MD², Andrew Vickers³, Daniel Sjoberg³, Emily Vertosick³, Monique Roobol⁴, Freddie Hamdy⁵, Anders Bjartell⁶, David Neal⁵, Jenny Donovan⁷ and Hans Lilja³

¹Andover Urology; ²Univ Minn; ³New York, NY; ⁴Rotterdam, Netherlands; ⁵Oxford, United Kingdom; ⁶Lund, Sweden; ⁷Bristol, United Kingdom

Presented By: Stephen M. Zappala, MD, FACS

**Introduction:** A statistical model based on a panel of four kallikrein markers has been shown to predict high-grade (Gleason ≥7) cancer on prostate biopsy in close to 15,000 patients in 11 different European cohorts. The panel was recently validated in a prospective US trial, and is available clinically as the 4Kscore® Test. Properties of the panel for men with higher PSA are reported.

**Methods:** We reanalyzed data from the ProtecT, Rotterdam ERSPC, UPCA, and US validation studies, focusing on men with a PSA between 10 ng/mL and 25 ng/mL. We calculated the area-under-the-curve (AUC) for the panel and base models used as comparators in each study.

**Results:** The meta-analysis included data from 1271 men with PSA 10-25ng/ml of whom 316 were diagnosed with high-grade cancer. Base model AUCs ranged from 0.61 to 0.74, with an overall meta-analytic estimate of 0.68 (95% CI 0.65, 0.72). In contrast, AUCs from the kallikrein panel ranged between 0.78 to 0.89, with a meta-analytic estimate of 0.84 (95% CI 0.81, 0.86). Focusing on the cohorts with contemporary biopsy and grading approaches, use of the panel at a typical cut-point of 7.5% would reduce the number of biopsies by 173 per 1000 men and delay the diagnosis of 6.5 high grade cancers.

**Conclusion:** The kallikrein panel retains its excellent discrimination for high grade prostate cancer in men with high PSA. Use of the panel in this population reduces biopsy rates while delaying diagnosis of few high-grade tumors.
Introduction: As MRI-US fusion technology continues to improve, its accuracy as a cancer detection tool must continue to be evaluated. Herein, we present the cancer detection rates of a single institution.

Methods: Using the UroNav system, 193 patients underwent MRI-US fusion biopsy of targets identified on MRI as well as standard systematic 12-core biopsy. Findings were prospectively recorded in an IRB-approved institutional database.

Results: Nine patients with prior radiation therapy were excluded. Of the 184 patients, biopsy indications was active surveillance in 44 patients (23.9%), prior negative biopsy in 122 patients (66.3%) and first time biopsy in 18 patients (9.8%). Median PSA was 8.7ng/ml and median prostate volume was 57 mg. Cancer was detected in 90 patients (48.9%). We found no significant difference in Gleason 7-10 detection rates (p=0.86). However, MRI-US fusion biopsies detected less Gleason 6 disease (p=0.004). A total of 431 targets were identified of which 78 (18.1%) were found to have cancer. Target location and target size had significantly different cancer detection rates (p=0.025 and p<0.001 respectively). As suspicion score of the target increased, the probability of cancer diagnosis increased (p=0.005).

Conclusion: Target location and size were significant factors in cancer detection rates. Overall, MRI fusion biopsies detected less Gleason 6 disease compared to standard biopsies.
Podium #51

BONE DENSITY EVALUATION IS ASSOCIATED WITH INCREASED OSTEOPOROSIS TREATMENT AMONG PROSTATE CANCER SURVIVORS ON ANDROGEN DEPRIVATION THERAPY

Tudor Borza, MD¹, Vahakn B Shahinian, MD², Samantha L Solimeo, MD³, Megan Caram, MD⁴, Danil V Makarov, MD⁵, Jeremy B Shelton, MD⁶, John T Leppert, MD⁷, Ryan M Blake, BS⁸, Jennifer A Davis, MS⁴, Brent K Hollenbeck, MD⁹ and Ted A Skolarus, MD¹⁰

¹University of Michigan, Department of Urology, Division of Health Services Research; ²Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan; ³Center for Comprehensive Access & Delivery Research and Evaluation, Iowa City VA Health Care System, Iowa City, IA; ⁴VA Ann Arbor Healthcare System, Center for Clinical Management and Research; ⁵NYU Langone Medical Center, Departments of Urology & Population Health, VA New York Harbor Healthcare System, NY, USA; ⁶Veterans Administration Greater Los Angeles Healthcare System, Los Angeles, CA; ⁷Department of Urology, Stanford University School of Medicine, Stanford, California, Veterans Affairs Palo Alto Health Care System, Palo Alto, California; ⁸University of Michigan, Department of Urology, Division of Health Services Research; ⁹University of Michigan, Department of Urology, Division of Oncology, Division of Health Services Research; ¹⁰VA Ann Arbor Healthcare System, Center for Clinical Management and Research, University of Michigan, Department of Urology, Division of Oncology, Division of Health Services Research

Presented By: Tudor Borza, MD

Introduction: Androgen deprivation therapy (ADT) for prostate cancer significantly increases the risk of osteoporosis and fracture. Baseline BMD testing and preventive therapy should coincide with the onset of ADT. We examined the extent to which BMD testing was associated with osteoporosis, fracture, and use of pharmacologic osteoporosis treatment.

Methods: We identified 18,760 prostate cancer patients diagnosed between 2005 and 2008 who received any ADT using the VA Central Cancer Registry. We identified claims for BMD testing and examined its use and association with osteoporosis, fracture, and use of pharmacologic osteoporosis treatment.

Results: A minority of patients received BMD testing (n=2539, 16%). Men receiving BMD testing were older and had higher risk disease (both p<0.001). Osteoporosis diagnosis and use of pharmacologic treatment were much more common after BMD testing compared with before, or those without testing (Table 1). Fracture diagnoses were more common among men with BMD testing (11.0% vs. 7.8%, p<0.001). BMD testing was associated with osteoporosis (OR 6.48, 95% CI [5.78-7.27]), fracture (OR 1.43, 95% CI [1.25-1.65]), and osteoporosis treatment (OR 6.57, 95% CI [5.91-7.30]).

Conclusion: BMD testing is rare among prostate cancer patients treated with ADT. Use of BMD testing is associated with substantially increased diagnosis and pharmacologic treatment of osteoporosis, and modestly increased fracture diagnosis.
Podium #52
VARIATION IN ACTIVE SURVEILLANCE UTILIZATION ACROSS AND WITHIN PRACTICES IN MICHIGAN
Gregory Auffenberg, MD¹, Apoorv Dhir, BBA¹, Brian Lane, MD, PhD², David Miller, MD, MPH¹ and Michael Cher, MD³
¹University of Michigan; ²Spectrum Health; ³Wayne State University
Presented By: Gregory B. Auffenberg, MD

Introduction: In previous work, we demonstrated significant variation in the utilization of Active Surveillance (AS) across different practice settings. Little is known about cross-provider variation within practices. In this context, we compared rates of AS utilization for men with low-risk prostate cancer (CaP) both within and across practices in the state of Michigan.

Methods: We identified every practice within the Michigan Urological Surgery Improvement Collaborative where at least five urologists managed ≥5 men with low-risk CaP (defined as clinical stage ≤ T2a, PSA <10 ng/mL, and biopsy Gleason score ≤6) from 1/2012 through 9/2015. We examined the rate of AS utilization across practices and for each provider within a given practice.

Results: During the study, 82 urologists across 10 practices managed 1,500 men with low-risk CaP. Each practice and provider managed a median of 136.5 (range 64-335) and 15 (range 5-99) patients, respectively. The rate of AS utilization varied significantly across practices (mean 54.3%; range 30.7-69.7%; X² <0.001) (Figure). Provider-specific AS utilization differed widely within practices (widest range: 94.1%, narrowest range: 33.1%) and provider volume did not appear to explain adoption likelihood(Figure).

Conclusion: Provider level variation in AS utilization is wide even within practices. Although some variation is likely appropriate, practice-level initiatives to diminish unnecessary variation are warranted.
Podium #53
ACTIVE SURVEILLANCE IS SAFE FOR SELECTED GLEASON =7 MEN
Samuel Haywood, MD, Yaw Nyame, MD, MBA, Nima Almassi, MD, Daniel Greene, MD, Vishnu Ganesan, BA, Charles Dai, BA, Joseph Zabell, MD, Chad Reichard, MD, Hans Arora, MD, Daniel Hettel, BA, Anna Zampini, MD, Alice Crane, MD, PhD, Ahmed El-Shafei, MD, Robert Stein, MD, Khaled Fareed, MD, Michael Gong, MD, PhD, J. Stephen Jones, MD, Andrew Stephenson, MD and Eric Klein, MD
Cleveland Clinic Foundation
Presented By: Samuel C. Haywood, MD

Introduction: Outcomes with Gleason ≥7 disease managed with active surveillance (AS) are not well defined, and we desired to analyze our center’s experience in patients with Gleason ≥7 disease.

Methods: A retrospective database of 639 prostate cancer patients (CaP) managed with AS from 2002-2015 was constructed. Eligibility for AS was determined by treating physician. This cohort was compared to the entire AS database as well as a historical database of Gleason 3+4 patients managed initially with prostatectomy. Unfavorable pathology was defined as Gleason sum 8-10, extracapsular extension, seminal vesicle, or lymph node invasion.

Results: Overall, 160 patients with Gleason ≥7 disease elected for AS. These patients underwent treatment at a higher proportion (p<0.0001). Of the 104 total AS patients undergoing delayed prostatectomy, there was no increased risk of adverse pathology in patients with Gleason ≥7 disease, as shown below. Further, there was no increased risk of biochemical recurrence, metastasis, or death (all p>0.05). When compared to the cohort of Gleason 7 patients treated at diagnosis, there was no increased rate of any unfavorable pathology, Gleason 8-10 disease, or biochemical recurrence (all p values >0.05).

Conclusion: In selected men with Gleason ≥7 prostate cancer, AS was not associated with adverse outcomes. Gleason ≥7 disease should not be a contraindication to AS.

Podium #54
IsoPSA: INITIAL CLINICAL PERFORMANCE EVALUATION OF A NOVEL STRUCTURE-BASED BIOMARKER FOR PROSTATE CANCER IN A MULTICENTER PROSPECTIVE TRIAL FOR GLEASON = 7
Eric Klein, MD¹, Mark Stovsky, MD², Robert Di Loreto, MD³, Jason Hafron, MD³, Kenneth Kernen, MD³, Kannan Manickam, MD⁴ and Victor Kipnis, PhD⁵
¹Cleveland Clinic; ²Cleveland Clinic, Cleveland Diagnostics, Inc.; ³Michigan Institute of Urology; ⁴Chesapeake Urology Research Associates; ⁵National Cancer Institute Biometry Research Group
Presented By: Eric A. Klein, MD

Introduction: We conducted preliminary evaluation of IsoPSA™, a novel structure-focused protein biomarker to assess the potential to discriminate high-grade (Gleason≥7) from benign or low-grade (Gleason=6) pathology. The assay involves a single quantitative parameter evaluation regarding the composition of
complex PSA (cPSA) isoforms using simple step partitioning of proteins into two aqueous phases. The ratio of the overall complex PSA concentrations in the two phases differentiates the patient cohorts. In this multicenter prospective trial we provide performance data compared with biopsy reports.

**Methods:** There were 109 plasma samples obtained from multiple clinical sites, collected within 30 days prior to prostate biopsy from patients with blood PSA between 2 and 26 ng/ml. IsoPSA was evaluated against 12 core TRUS biopsy results as gold standard. The prevalence of high-grade patients in the sample cohort was 33%.

**Results:** IsoPSA results are reported using a simple single parameter, a structural coefficient, K. IsoPSA ROC analysis showed AUC=0.81, SN=94%, and SP=42%, at K cut-off value of 8.5. In comparison, serum PSA ROC analysis showed AUC=0.61, SN=89%, SP=12%, at PSA cut-off value of 4.0. Current standard practice selection of patients for biopsy resulted in 73 benign and low-grade biopsies and 36 high-grade biopsies. Using IsoPSA for patient selection would have resulted in 31 avoided biopsies, 42 benign or low-grade biopsies, 34 high-grade biopsies and two delayed biopsies.

**Conclusion:** This study provides encouraging clinical performance data for identification of clinically relevant cancer using a single simple parameter that is in par with the best published multivariate statistical models.

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**Podium #55**

**EVALUATING THE USE OF A PSA SCREENING DECISION AID IN THE URBAN PRIMARY CARE SETTING**

Christopher Warlick, MD, PhD¹, Vikram Narayan, MD¹, Jerica Berge, PhD, MPH², Yen-Yi Ho, PhD³ and Mark Yeazel, MD, MPH²

¹Department of Urology, University of Minnesota; ²Department of Family Medicine and Community Health, University of Minnesota; ³Division of Biostatistics, University of Minnesota

Presented By: Vikram M. Narayan, MD

**Introduction:** The use of decision aids (DA) to facilitate shared decision making (SDM) for prostate cancer screening has been shown to be effective in increasing subject knowledge, although many remain labor and time-intensive to implement. We sought to assess the feasibility of implementing a simple DA in a diverse, urban primary care clinic.

**Methods:** Consenting participants were presented the PROCASE DA to view while waiting to see a physician. Patients completed questionnaires evaluating their opinions on the DA as well as of the SDM process. Physicians also completed a questionnaire. Summary descriptive statistics and multiple regression analyses for covariates were performed. Focus groups with clinic staff and physicians were conducted to evaluate impact of the DA.

**Results:** There were 68 men who participated; 64% self-identifying as African-American (AA). 31% attended some college. Average time spent viewing the DA was 13 minutes. 34 reported having a discussion about PSA screening with their doctor, with 27/33 (82%) initiating the discussion. 85% of patients and nearly 60% of physicians reported the DA made decision making and PSA discussion, respectively, easier. Men who spent more time viewing the DA were more likely to have a discussion about PSA screening (p=.04). Implementation barriers reported included time constraints and lack of knowledge about the DA subject matter.

**Conclusion:** A PSA DA can be implemented at the point-of-care in a busy,
primary care setting with minimal resource allocation, and doing so appears to facilitate SDM. Optimization of this strategy includes empowerment of clinic staff and physicians in conveying the information.

Podium #56
PHASE IIA, RANDOMIZED PLACEBO-CONTROLLED TRIAL OF SINGLE HIGH DOSE CHOLECALCIFEROL(VITAMIN D3) AND DAILY GENISTEIN(G-2535) VERSUS PLACEBO IN MEN WITH EARLY STAGE PROSTATE CANCER UNDERGOING PROSTATECTOMY

David Jarrard, MD¹, Joel Slaton, MD², Wei Huang, MD³, Tracy Downs, MD⁴, Jill Kolesar, MD⁵, KyungMann Kim, PhD⁶, Tom Havighurst, MS6, Badrinath R. Konety, MD², Margaret House⁷, Howard Parnes⁷ and Howard H. Bailey, MD⁸
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Presented By: David F. Jarrard, MD

Introduction: Prostate cancer represents an important target for chemoprevention given its prolonged natural history and high prevalence. The objective of this prospective, multicenter trial was to assess calcitriol levels and downstream biomarkers in men undergoing radical prostatectomy for localized prostate cancer randomized to receive cholecalciferol and genistein versus placebo.

Methods: Men undergoing radical prostatectomy were randomly assigned to one of two treatment groups: (1) cholecalciferol(vitamin D3): 200,000 IU as one dose at study entry plus genistein(G-2535): 600 mg daily or (2) placebo daily for 21-28 days prior to radical prostatectomy.

Results: A total of 15 patients were enrolled, eight in the placebo arm and seven in the vitamin D+genistein (VD+G) arm. No significant differences in side effect profiles were noted. Utilization of the VD+G trended toward increased calcitriol serum concentrations when compared to placebo (0.104 +/- 0.149 vs. 0.0013 +/- 0.076; p=0.08); however, prostate tissue levels did not increase. Immunohistochemistry for marker analyses using VECTRA automated quantitation revealed a significant increase in AR expression (p=0.04) and a trend toward increased TUNEL staining (p=0.1) in prostate cancer tissues in men randomized to receive VD+G compared to placebo.

Conclusion: In this first study testing the combination of a single, large dose of cholecalciferol and daily genistein the agents were well tolerated. While serum levels of calcitriol were increased on the intervention arm, prostate tissue levels were not. Increased prostatic AR expression (suggesting increased differentiation) and a trend toward amplified TUNEL staining (increased
apoptosis) were observed among men randomized to the combination.

Podium #57
EVALUATING POPULATION-BASED RISK OF PROXIMITY TO COAL MINING FOR KIDNEY AND BLADDER CANCER USING GEOSPATIAL ANALYSIS IN ILLINOIS
Daniel Sadowski, MD, MPhil, Georgia Mueller-Luckey, MS, Whitney Zahnd, MS, Hayden Warner, MS3, Shaheen Alanee, MD, MPH, MBA and Kevin McVary, MD
SIU SOM
Presented By: Daniel Sadowski, MD, MPhil

Introduction: Prior work has found rural residence and a low county urologist density were associated with increased kidney cancer (KCa) and bladder cancer (BCa) mortality rates. We evaluated coal mining as a possible environmental exposure to explain these disparities. Illinois is the fourth largest coal producer in the US.

Methods: The study sample was Illinois’ 102 counties. Each county was placed into an ordinal coal production group: recently mined (production between 1983-2000), previously mined (production before 1983) and never mined. A distance-weighted exposure was created as an estimate of proximity to a coalmine using the geospatial processing program ArcGIS, integrating the distance from each census tract to the nearest mine, weighted with the tract population. Age-adjusted incidence (1993-2012) and mortality rates (1990-2012) for KCa and BCa were the dependent variables. Population demographics, physician density, rural/urban status, prevalence estimates for smoking, obesity and hypertension, and cancer stage were included as covariates in the analyses.

Results: Higher KCa incidence and mortality were seen in the more recently mined coal production groups in univariate analyses (p<0.05). No association was found with the coal mining variables for BCa. Neither the distance weighted exposure nor the coal production variables were significantly associated with KCa incidence, KCa mortality, or BCa mortality rates in the multivariable regression model. Only the distance-weighted exposure was significant for BCa incidence after adjusting for covariates.

Conclusion: Residence near coal mining does not have a significant relationship with increased risk of KCa or BCa in this population-based analysis.

Podium #58
COST ANALYSIS OF MRI-ULTRASOUND FUSION BIOPSY PLATFORM: IS IT FEASIBLE IN COMMUNITY PRACTICE?
Mikhail Regelman¹, Junqi Qian, MD², Aaron Milbank, MD² and Basir Tareen, MD²
¹Metro Urology; ²Metropolitan Urologic Associates
Presented By: Mikhail Regelman

Introduction: Magnetic Resonance Imaging (MRI)/Ultrasound (US) fusion prostate biopsies have been shown to identify more clinically significant prostate cancer (PCA) compared to transrectal ultrasound (TRUS) biopsies. The high cost is a barrier in adopting this technology. We performed a cost analysis and determined the number of biopsies needed to recoup the initial investment.

Methods: We reviewed our database of 350 men undergoing MRI/US fusion prostate biopsies with UroNav (Phillips. FL, USA). We identified men whose PCA was diagnosed by MRI/US fusion biopsies and missed by standard biopsies and men with higher Gleason scores on fusion biopsy. We calculated the collections
from their treatment and the number of fusion biopsies needed to offset the investment.

**Results:** 14% had cancer diagnosed by fusion biopsies that were missed by TRUS and 8.8% underwent surgical treatment. Using CPT code 55866(prostatectomy) and 76377(fusion biopsy) we calculated that the number of biopsies need to equal the cost of the unit is 464.

**Conclusion:** MRI/US fusion is becoming the standard of care. To recoup initial cost a group would need to perform almost 500 prostate biopsies or less if the group maintains a pathology lab/owns an MRI/ partners with a radiation facility. Our study suggests that it is financially viable depending on number of biopsies performed.

**Podium #59**

**EMERGENCY DEPARTMENT SWITCHING AND DUPLICATE CT SCANS IN PATIENTS WITH KIDNEY STONES**

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University of Michigan

Presented By: Parth K. Shah, MD

**Introduction:** Lack of information sharing between providers contributes to waste in health care spending; one example is repeat imaging. In this context, medical claims data were analyzed to determine whether emergency department (ED) switching during a kidney stone episode was associated with receiving duplicate computed tomography (CT).

**Methods:** Using MarketScan’s Commercial Claims and Encounters Database (2003-2006) we identified adults (ages 18- 64) with ED visits for kidney stones. We assessed whether imaging was obtained and what type. Among those with a CT, we determined if they had an ED revisit, same or different, within 30-days of initial evaluation. Using a multivariable logistic model we estimated the odds of receiving a duplicate CT based on revisit type.

**Results:** 166,639 patients presented to ED for kidney stones. Imaging was obtained in 68% of patients, CT being most common (78%). 12% of patients with CT had a revisit; 33% Presented to different ED. Duplicate CT were obtained at 40% of revisits. The odds of receiving a duplicate CT were 20% higher (OR, 1.20; 95% CI 1.05-1.38) if presenting to different ED.

**Conclusion:** ED switching during kidney stone episodes leads to increased duplicate imaging, contributing to waste in healthcare spending. This supports the role of information exchanges as a way to decrease healthcare cost.
INTRODUCTION: To investigate the impact of rural status and urologist density on the practice of retroperitoneal lymph node dissection (RPLND) and cancer specific death (CSD) in patients with non seminomatous germ cell tumor (NSGCT).

METHODS: Urologist density was determined from the 2014-2015 Area Health Resource File data, and rural residence was determined using the 2003 Rural Urban Continuum Codes. All cases of NSGCT within SEER 18 with known county code was used for analysis (n=9,473). Fisher's exact test, t-tests, and Cox proportional hazard analysis was used to examine the association between variables of interest and study end points.

RESULTS: Overall, 26.7% of cases lived in a county with less than the mean urologist density, 6.23% lived in counties with no urologists, 9.0% lived in a rural county, and 23.1% (n=2,208) had RPLND performed. RPLND was performed more in cases who lived in a county with a urologist, and more in cases with urban residence (p<0.05). The mean number of lymph nodes examined was lower in patients who lived in rural counties and counties with fewer urologists (p<0.05). There was no difference in the number of positive nodes dependent upon either urologist density categorization or rurality (p>0.05). Rurality and low urologist density were not associated with a higher risk of CSD related to NSGCT.

CONCLUSION: Patient's residence and access to urologists affects their surgical NSGCT treatment, and efforts aimed at improving access to high quality RPLND may be indicated.
Podium #61
INITIAL EXPERIENCE WITH ACCREDITATION COUNCIL OF GRADUATE MEDICAL EDUCATION (ACGME) RESIDENCY PROGRAM SELF-STUDY: ASSESSMENT DESIGN AND TIME REQUIREMENTS IN THE FIRST SIX MONTHS
Stephanie Kielb, MD, Kelly Ross and Mary Kate Keeter, MPH
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Presented By: Stephanie J. Kielb, MD

Introduction: Under the Next Accreditation System, residency programs must complete a self-study every ten years. A report is due after six months, culminating with a site visit after two years. We report our process for formulating the initial report and the time requirements of the program director (PD) and coordinator (PC).

Methods: Time spent by PD and PC in self-study activities were prospectively recorded. The assembly of committees, survey design/review, focus group conduction, presentations of findings, and action plan results were rendered.

Results: In the first six months, PD and PC time totaled 56 hours and 40 hours, respectively. PD’s time included six hours of background instruction, 20 hours meeting with the PC (survey development and analysis, focus group planning and interpretation), six hours of literature review, eight hours in committee meetings, four hours preparing focus group leaders, and 12 hours presenting to stakeholders and drafting the initial report.

An anonymous survey was administered to department faculty and residents to examine attitudes and perceptions about the program. Focus groups were led by outside PDs to minimize bias. Discussion topics were identified from survey results and were recorded and transcribed. Results were condensed into themes for the initial report, which described program aims and environmental context, self-study methodology, and how this process will facilitate program improvement.

Conclusion: Completion of residency program self-study substantially exceeds the typical operations of program administration. Consequently, protected and regularly scheduled time is needed. Surveys and focus groups provide framework and context for initial data reporting.

Podium #62
DOES MULTIDISCIPLINARY CARE AFFECT THE QUALITY OF CARE PATIENTS RECEIVE FOR PROSTATE CANCER?
Naveen Kachroo, MD, PhD¹, Jesse Sammon, DO¹, Deepansh Dalela, MD¹, Firas Abdollah, MD¹, Akshay Sood, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Quoc-Dien Trinh, MD²
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Brigham and Women’s Hospital, Boston, MA
Presented By: Naveen Kachroo, MD

Introduction: Multidisciplinary care (MDC) holds the promise of facilitating optimal patient cancer (PCa) management. This study assessed whether MDC resulted in an improved quality of care (QOC) for those men treated for PCa.

Methods: Men treated for localized PCa between 1992 and 2009 were identified from the latest SEER-Medicare database. Patients were stratified according to those who saw both a urologist and radiation oncologist between diagnosis and definitive treatment within the first year of diagnosis (receipt of MDC) and those
that did not. Logistic regression analysis measured the impact of MDC on multiple QOC metrics.

**Results:** The final study cohort included 151,488 men of whom 84,965 (56%) received MDC. MDC men were younger, married, white, had higher educational attainment and incomes, and treated by high volume clinicians. MDC patients chose radiation therapy (RT) primarily (89%). They were nearly twice as likely to receive follow up with their treating physician. MDC patients receiving radical prostatectomy (RP) were more likely to receive adjuvant androgen deprivation therapy (ADT) (OR 2.4, p<0.0001) and adjuvant RT (OR 7.8, p<0.0001). MDC patients ≥75 with low risk disease and life expectancy<10 years were more likely to receive definitive treatment (OR 16.1, p<0.0001).

**Conclusion:** Patients receiving MDC for their localized PCa are more likely to receive definitive treatment and receive adjuvant therapy. They are more likely to be treated by high volume physicians and receive appropriate follow up with them. MDC however, results in an increased risk of potentially inappropriate over-treatment in a select cohort of patients.

**Podium #63**  
**STATE-BY-STATE RACIAL VARIATIONS IN PROSTATE SPECIFIC ANTIGEN (PSA) SCREENING PATTERNS: A NATIONWIDE ANALYSIS**

Deepansh Dalela, MD¹, Naveen Kachroo, MD PhD², Bjorn Loppenberg, MD¹, Akshay Sood, MD¹, Jesse Sammon, DO¹, Maxine Sun, PhD², Quoc-Dien Trinh, MD², Wooju Jeong, MD¹, Craig Rogers, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Firas Abdollah, MD¹  
¹Vattikuti Urology Institute, Henry Ford Hospital; ²Center for Surgery and Public Health, Brigham and Women's Hospital, Boston, MA

**Presented By:** Deepansh Dalela

**Introduction:** PSA screening practices vary across the US, however it is unknown if some states have a differential PSA screening pattern for non-Hispanic Black (NHB) vs. non-Hispanic Whites (NHWs).

**Methods:** The Behavioral Risk Factor Surveillance System (BRFSS) 2012 and 2014 surveys, which are weighted to represent the entire US population, were utilized to identify 259,505 male respondents aged ≥40 (representing 50.03 million NHW and 7.5 million NHB). Those having routine PSA testing within the last 12 months (i.e. no personal/family history of prostate cancer and/or ‘prostate problem’) were considered to have undergone screening. Differences in screening prevalence were assessed, and complex sample logistic regression analyses used to test the relationship between race and receipt of PSA screening, stratified by individual states.

**Results:** NHW were screened more often than NHB (32.7% vs. 30.1%, p<0.01). Wide screening variations exist across states for NHW vs. NHB, ranging from 22.5% higher NHW screening in South Dakota to 13.8% higher NHB screening in Utah (median difference between NHW vs. NHB 5.8%). On multivariable analysis, NHB overall had higher odds of PSA screening (OR 1.18, p<0.01) with specifically higher odds than NHW in Florida, Missouri, Maryland and Michigan (OR 2.12, 1.77, 1.63 and 1.42 respectively, all p<0.05). No state had higher odds of screening NHW when compared to NHB.

**Conclusion:** Despite being perceived as a high-risk group for PCa, PSA screening practices for NHB men varies widely across states, with only some states more likely to screen NHB men compared to their NHW counterparts.
Podium #64
GENDER-BASED DIFFERENCES ASKED OF UROLOGY APPLICANTS DURING RESIDENCY INTERVIEWS
Ashima Singal, MD, Mary Kate Fitzgerald Keeter, MPH, Nirali Shah, BS and Stephanie Kielb, MD
Northwestern University
Presented By: Ashima Singal, MD

Introduction: Residency interviews are an essential component of the application process. Topics surrounding relationships, children, ethnicity, and religion violate employment law if asked by the interviewer. The purpose of this study was to determine the rates of such discriminatory questions asked during urology residency interviews and to assess for differences by applicant gender.

Methods: A 22 question online anonymous survey was distributed following the Urology Match to every individual who submitted a PGY1 urology application to Northwestern University. Questions were asked in a two-part, stepwise fashion. If a candidate replied “no” to whether they introduced a restricted topic in an interview, they were subsequently asked if their interviewers never, rarely, sometimes, often or most of the time introduced that topic.

Results: Response rate was 50% (Total=170; females=41, males=129). A statistically significant difference existed between whether females vs. males were asked about current parental status 59% vs. 5% (p=0.030), and intent for future children 42% vs. 13% (p=0.001). Female applicants were also more often asked about marital status, female=67% vs. male=42%, but this did not reach statistical significance (p=0.300). Regarding other restricted topics, 17% of candidates were asked about age, 4% religion and 13% national origin with females questioned more often about age and national origin.

Conclusion: An alarming percentage of urology applicants are asked interview questions that violate employment law. Female applicants are disproportionately questioned about relationships, parental status and plans for future children. Education of applicant interviewers regarding legally restricted questions seems warranted.

Podium #65
INTERLEUKIN-17 (IL-17) IS ELEVATED IN MUSCLE-INVASIVE BLADDER CANCER (MIBC) PATIENTS WHO FAILED TO RESPOND TO NEOADJUVANT CHEMOTHERAPY (NC)
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Presented By: Nathan A. Brooks

Introduction: IL-17 is a cytokine produced in response to systemic inflammation associated with neutrophil recruitment and subsequent suppression of cytotoxic T cells. IL-17 expression is associated with tumor cell proliferation in mouse models of lung, breast, and colon cancer. Little is known regarding systemic IL-17 production in patients with MIBC.

Methods: We analyzed the serum collected immediately prior to cystectomy in 31 patients who received prior NC. Cytokine 17 plex assay were analyzed. Concentrations of each cytokine analyzed was compared based on response to NC, which was defined as downstaging to non-muscle invasive disease on cystectomy pathology.
**Results:** The mean (±standard deviation) IL-17 concentration (pg/ml) was higher for patients who failed to respond to NC (n=14) compared to responders (n=17) (14.5 ± 3.6 vs. 6.5 ± 1.8, p=0.046). There was no significant difference for any of the other tested cytokines.

**Conclusion:** Serum IL-17 was significantly elevated in patients who failed to respond to NC for MIBC, which is consistent with the proposed role of IL-17 expression in acquiring the ability to suppress cytotoxic T-lymphocytes. Further investigation is warranted to elucidate the role of IL-17 producing lymphocytes in MIBC.

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**Podium #66**

**CARCINOMA IN SITU INCREASES THE RISK OF URETERAL AND URETHRAL POSITIVE MARGINS AT THE TIME OF CYSTECTOMY**

Joseph M. Jacob, MD, Jennifur Yu, BS, Heather L. Hopf, BS, Jane S. Cho, MD, Liang Cheng, MD, Richard Bihrlle, MD, Hristos Z. Kaimakliotis, MD and Michael O. Koch, MD

Indiana University Medical Center

**Presented By:** Joseph Jacob, MD

**Introduction:** To evaluate the association between carcinoma in situ (CIS) in the bladder and urethral and ureteral positive margins at the time of cystectomy.

**Methods:** Our institutional bladder cancer database was queried to identify patients that underwent radical cystectomy for bladder cancer between 2003 and 2013. A total of 1,032 patients were identified. Patients with urethral or ureteral positive margins were identified based on the final pathology report. Proportion statistics were used for categorical variables and a two sample T-test was used to compare age means. A multivariable logistic regression was performed to adjust for group differences.

**Results:** A total of 552 patients with CIS of the bladder and 480 patients without CIS were identified. 8.3% of patients with bladder CIS were found to have a positive urethral margin compared to 4.3% of patients without bladder CIS (OR 2.0, p=0.0110). 10.7% of patients with bladder CIS were found to have a positive ureteral margin compared to 3.3% of patients without bladder CIS (OR 3.5, p <0.001). After adjusting for stage and race, the presence of CIS in the bladder and stage remained associated with a positive urethral and ureteral margin.

**Conclusion:** The presence of CIS in the bladder, independent of stage, is associated with urethral and ureteral positive margins.
Podium #67
THE IMPACT OF MESENTERIC WINDOW CLOSURE AFTER HARVESTING ILEUM FOR GENITOURINARY RECONSTRUCTIVE SURGERY
Michael Avallone, MD, Peter Dietrich, BS, Shanta Shepherd, BS, Mona Lalehzari, BS, R. Corey O’Connor, MD, FACS and Michael Guralnick, MD, FRCSC
Medical College of Wisconsin
Presented By: Michael Avallone, MD

Introduction: We assessed the importance of mesenteric window (MW) closure at the time of ileal harvest for genitourinary reconstructive surgery (GURS) by comparing the incidence of gastrointestinal adverse events (GIAE) in patients with and without MW closure.

Methods: Retrospective review was conducted on patients >16 years of age undergoing GURS with ileum to identify incidence of ileus, small bowel obstruction (SBO), fistula and stoma complications.

Results: 288 patients met inclusion criteria and 93% of GURS was for urinary diversion following cystectomy. MW was closed in 194 cases (67%) and median follow up was 19 months. Early (<30 day) GIAE rates were 25.4% (n = 49) and 33.7% (n = 32) in the closure and non-closure groups (p =0.14). Increasing Body Mass Index (BMI), Charlson Co-morbidity Index (CCI), history of prior intraperitoneal surgery and prior pelvic radiotherapy were not associated with early GIAE.

The late GIAE rates were 5.7% and 6.3% in the closure and non-closure cohorts (p= 0.83). There were no cases of SBO due to internal herniation in either cohort. Following multivariate analysis, late GIAE were associated with history of pelvic radiotherapy [RR 2.9, CI 1.4-6.0] and increasing BMI [RR 1.1, CI 1.1-1.2]. There was no association between late GIAE and closure of MW, CCI, prior intraperitoneal surgery or indication for surgery.

Conclusion: After harvesting ileum for GURS, the mesenteric window can safely be left open as we found no association between non-closure and early or late GIAE.
Podium #68
COMPLIANCE WITH NONMUSCLE INVASIVE BLADDER CANCER (NMIBC) GUIDELINES: AN UPDATED POPULATION-BASED ASSESSMENT OF CARE DELIVERY WITH A FOCUS ON ACCESS TO UROLOGIC CARE
Bradley Erickson, MD¹, Conrad Tobert, MD¹, Kyla Velaer, MD¹, Bradley McDowell, PhD², Thomas Gruca, PhD³, Mary Charlton, PhD² and Kenneth Nepple, MD¹
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Presented By: Conrad Tobert, MD

Introduction: American Urological Association (AUA) guidelines for NMIBC management were released in 1999 and updated in 2007. Chamie et al identified suboptimal compliance with guidelines from 1992-2002. We updated this analysis and evaluated the impact of access to urologic care within a rural state.

Methods: We identified Iowans in Surveillance, Epidemiology, and End Results (SEER)-Medicare (1992-2009) with a diagnosis of high-grade NMIBC who survived two years. Patients were assessed for cystoscopy and bacillus Calmette-Guerin (BCG) during two years of follow-up. Using data from the Iowa Physician Information System, we evaluated the distance to urologic specialty service based on patient zip code and closest urologist home office or outreach location.

Results: 865 patients met inclusion criteria. Mean number of cystoscopy performed over two years of follow-up did not change over time, but there was an increase in mean number of BCG treatments. There was an association of more frequent cystoscopy with shorter distance to urologic care (Figure).

Conclusion: Despite efforts at educational guidelines, the delivery of guideline-compliant NMIBC care over time did not markedly increase. The association of improved cystoscopic surveillance with improved access to urologic care suggests that outreach activities (bringing the urologist to the patient) may be one element of quality improvement in bladder cancer care.

Podium #69
BARRIERS TO NEOADJUVANT CHEMOTHERAPY AMONG ELIGIBLE PATIENTS WITH MUSCLE INVASIVE BLADDER CANCER
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Presented By: Chandra K. Flack, MD

Introduction: We previously examined NACT utilization trends at a high volume
institution. Findings revealed an increase in utilization over a five-year time span, representing an active effort among surgeons to incorporate Level 1 evidence into practice. To promote consistent use of this therapy, we explored reasons for not utilizing NACT in eligible patients.

**Methods:** Records of all patients undergoing cystectomy for muscle invasive bladder cancer (MIBC) between 2010-2014 were reviewed. Eligibility for NACT was determined: normal renal function (CrCl ≥60), ECOG ≤2, absence of aggressive variant histology (micropapillary, plasmacytoid, sarcomatoid), and no prior chemoradiation. For those patients who were “eligible” but did not receive NACT, themes were identified from clinic evaluations performed at the time of MIBC diagnosis.

**Results:** Of the 338 patients with MIBC, 185 patients were eligible for NACT, and 55 patients ultimately received NACT. Common themes for not pursuing NACT included the desire to expedite surgery to relieve disabling symptoms (8%), the desire of either the patient or physician to forego neoadjuvant in favor of adjuvant chemotherapy (10%), and the belief that the patient would not tolerate chemotherapy despite otherwise meeting objective criteria (10%). Patient preference was often cited as a reason for not utilizing NACT (16%), and frequently no reference to NACT was made when documenting preoperative counseling (34%).

**Conclusion:** Patient preference continues to weigh heavily on the decision to pursue NACT and there remain a number of barriers to its consistent administration. Standardization of patient selection may improve utilization in those who might benefit.

**Podium #70**

**REDEFINING THE IMPLICATIONS OF NASOGASTRIC TUBE PLACEMENT FOLLOWING RADICAL CYSTECTOMY IN THE ALVIMOPAN ERA**

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University of Chicago Medical Center
Presented By: Vignesh Packiam, MD

**Introduction:** Alvimopan has recently been shown to decrease ileus and nasogastric tube (NGT) placement after radical cystectomy (RC). Thus, the current implications of NGT placement are unclear.

**Methods:** We reviewed data from our institution for consecutive patients who underwent RC from June 2009 to May 2014. All patients received alvimopan after April 2012. Comparisons were made by receipt of alvimopan. Multivariate logistic regression assessed the independent association between alvimopan and NGT placement.

**Results:** Over five years, 293 (51%) received alvimopan and 278 (49%) patients did not receive alvimopan. The cohorts were similar in terms of age, stage, open versus robotic approach, and BMI (all p>0.3). Patients with alvimopan had decreased ileus (16% vs. 32%) and shorter length of stay (median eight vs. nine days, both p<0.01). On multivariate analysis, alvimopan was protective for NGT placement (OR 0.30; 95% CI 0.17-0.53, p<0.001). There was a similar rate of reoperation for bowel complications (2.8% vs. 2.7%, p>0.8) over time, but a significantly increased rate of reoperation (27% vs. 10%, p=0.04) following NGT placement for patients who received alvimopan compared to those who did not.

**Conclusion:** Alvimopan has reduced the incidence of ileus and NGT placement
following RC. In the current alvimopan era, NGT placement was significantly associated with reoperation for bowel complications.

Podium #71
THE EFFECTS OF SORAFENIB IN ADDITION TO BCG ON UROTHELIAL CANCER CELL DEATH
Melissa St. Aubin, MD¹, Meghan Brown, MD¹, Gopit Kumar Shah, PhD¹, Gaung Jian Zhang, MS², Fanghong Chen, PhD² and William See, MD¹
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Presented By: Meghan Brown, MD

Introduction: Bacille Calmette-Guerin (BCG) is the standard of care for treatment of high grade (HG) non-muscle invasive (NMI) urothelial cancer (UC). BCG generates an increase in cellular oxidative stress (COS) and ultimately UC cell cycle arrest or death. Sorafenib, a multi-tyrosine kinase receptor inhibitor, generates free radicals. We sought to evaluate the effects of Sorafenib on BCG sensitive and resistance UC cell lines and characterize its mechanism of action.

Methods: Human BCG sensitive UC cell lines 253J and T24, BCG resistant cell lines 253J (R253J) and T24 (RT24), and RT4 were exposed to BCG, heat-kill BCG, Sorafenib, or a combination. Viability was measured using Calcein-AM dye at 24 and 48 hours. LDH levels were measured. Activation of signaling pathways was measured using transfection of reported plasmid.

Results: Sorafenib shows significant cytotoxicity against BCG sensitive and BCG resistant cell lines at 10uM concentration. The combination of BCG and sorafenib showed significantly greater cytotoxicity in T24 cell lines. In BCG resistant cell lines, the addition of BCG with Sorafenib decreased the viability further albeit at non-significant levels. LDH levels did not significantly increase upon sorafenib treatment indicating absence of necrosis. Sorafenib treatment did not show NF-kB, ARE or CEBP signaling pathway activation.

Conclusion: Sorafenib is potent against BCG sensitive and BCG resistant cell lines. It acts via a pathway different from BCG, as it does not induce necrosis or activate NF-kB pathway. Sorafenib has demonstrated its potential as an agent that may be used in the future to treat BCG resistant tumors.
Podium #72
THE LACE SCORE PREDICTS INCREASED RISK OF 90-DAY MORTALITY FOLLOWING RADICAL CYSTECTOMY
Robert Blackwell, MD, Jennifer Saluk, William Gange, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD, MBA, Gopal Gupta, MD, Marcus Quek, MD and Robert Flanigan, MD
Loyola University Medical Center
Presented By: Jennifer Saluk

Introduction: Radical cystectomy for bladder cancer is performed in an aged, comorbid population, and associated with high rates of readmission. We investigate the LACE score, a validated prediction tool for readmission and mortality, in the radical cystectomy population.

Methods: Patients who underwent radical cystectomy for bladder cancer were identified by ICD-9 codes from the Healthcare Cost and Utilization Project State Inpatient Database for California between years 2007-2010. The LACE score was calculated as previously described, with components of L: length of stay, A: acuity of admission, C: comorbidity, and E: number of emergency department visits within the preceding 6 months.

Results: Of 3,470 radical cystectomy patients, 638 (18.4%) experienced 90-day readmission, and 160 (4.6%) 90 day mortality. Patients had a median age of 70 years (IQR 62-77) and the median overall LACE score was 8 (IQR 7-9).

A one point increase in LACE score had a 13% increased adjusted odds of readmission, and a 42% increased odds of mortality. At a previously established ‘high risk’ LACE score ≥ 10, patients had an increased risk of readmission (23.7% vs. 17.9%, p<0.001) and mortality (9.1% vs 3.4%, p<0.001).

Conclusion: The LACE score identifies patients at increased risk for mortality and readmission within 90 days of radical cystectomy.

Podium #73
BACILLUS CALMETTE-GUERIN (BCG) STRAIN HAS NO SIGNIFICANT EFFECT ON RECURRENCE-FREE SURVIVAL WHEN USED INTRAVESICALLY WITH INTERFERON-ALPHA2B FOR NON-MUSCLE INVASIVE BLADDER CANCER.
Ryan L. Steinberg, MD¹, Nathan Brooks, MD¹, Lewis J. Thomas, MD¹, Sarah L. Mott, MS² and Michael A. O'Donnell, MD¹
¹University of Iowa Department of Urology; ²University of Iowa Holden Comprehensive Cancer Center
Presented By: Ryan L. Steinberg, MD

Introduction: Conflicting reports exist regarding disparate outcomes between Bacillus Calmette-Guerin (BCG) strains used as adjuvant treatment for non-muscle invasive bladder cancer (NMIBC). We aimed to assess if a difference in treatment failure exists between BCG strains when used with interferon (IFN).

Methods: A post hoc analysis of the Phase 2 BCG/IFN study was performed. There were 901 patients with sufficient records for analysis. Enrollment criteria for the study was liberal. Patients received induction with six weekly intravesical treatments of BCG (TICE or Connaught) with 50 million units of IFN. Surveillance began 4-6 weeks after transurethral resection and continued quarterly for two years. Separate models were created for BCG naïve and failure patients. Multivariable analysis was performed using Cox proportional hazards regression.

Results: Overall, 609 patients received TICE BCG and 292 received Connaught
BCG with similar baseline characteristics. Recurrence-free survival was similar between strains in BCG failure patients but improved in BCG naïve patients treated with BCG Connaught (Figure 1). Though, multivariable analysis demonstrated that BCG strain was not associated with treatment failure in both the BCG naïve model (p=0.28) and BCG failure model (p=0.53).

Conclusion: No significant difference in recurrence-free survival was evidenced between patients treated with TICE or Connaught BCG in combination with IFN.

Podium #74
A PHASE I/II TRIAL OF PREHABILITATION IN PATIENTS UNDERGOING CYSTECTOMY FOR BLADDER CANCER
Jeffrey Montgomery, MD, Steven Thelen-Perry, Coby Cunningham, Chang He, MS, Christine Schafer, Khaled Hafez, MD, Heidi Iglay-Reger, Christine Parker, Alon Weizer, MD, Brent Hollenbeck, MD and Cheryl Lee, MD
University of Michigan
Presented By: Jeffrey S. Montgomery, MD, MHSA

Introduction: Prehabilitation is fitness training prior to surgery to improve patient outcomes. We prospectively studied the impact prehabilitation had on postoperative readmission after cystectomy.

Methods: After IRB approval, cystectomy patients >60 years old were recruited. Planned enrollment is 50 patients; this represents an interim analysis. Patients exercised supervised 1:1 three days a week for four weeks. Fitness and QOL measures were obtained at baseline and at the intervention conclusion; additionally, QOL was reevaluated at days 30 and 90. Differences were compared using the Wilcoxon signed-rank test.

Results: 22 patients with mean age 71.8 (±6.5) were included. 41% underwent neoadjuvant chemotherapy, 55% were ≥pT2, and 27% were pN+. Patients attended 77% of the exercise sessions without adverse events. Mean LOS was 7.1 days (±2.6); within 90 days, 36% required hospital readmission and 73% had at least 1 complication (94% ≤Clavien III). Patients improved their 15 feet walk test by 6.5%, 6 minute walk distance by +4.7% and submaximal exercise test VO2 by 12%. SF-36 scores improved for the physical, general health, vitality, mental health and physical composite score domains (Figure). (All above p<0.05)

Conclusion: We report the first trial of prehabilitation in cystectomy patients, demonstrating that it is feasible, safe, and results in improvements in fitness, endurance and QOL parameters.
Introduction: Neo-adjuvant (NAC) chemotherapy is recommended for patients with muscle invasive bladder cancer (MIBC) in an effort to improve survival after radical cystectomy (RC), with pathologic complete response (pT0) being an intermediate surrogate. In the current study, we evaluated the accuracy of 18F-fluorodeoxyglucose with positron emission tomography and computed tomography (FDG-PET-CT) in assessing the response to NAC.

Methods: Patients who underwent RC at our institution were offered NAC. FDG-PET-CT was obtained after diagnosis for staging purposes, and a restaging scan was obtained prior to surgery in those who underwent NAC. Scans were performed using a forced diuresis technique in order to allow better visualization of the primary bladder tumor. In this study, complete responders were defined as those who had pT0 and pTis on pathology from RC, and patients with chemo-sensitive tumors as those who were downstaged from MIBC to pT0, pTis, pTa and pT1. The change (or percent reduction) in maximum standardized uptake value (SUVmax) of the primary tumor in the bladder was our numerical measurement of the response.

Results: A total of 29/51 patients with MIBC underwent NAC and had both pre- and post-chemotherapy scans performed. FDG-PET-CT had 100% sensitivity (95% CI,39.76-100) in identifying complete responders with a -100% change in SUVmax. FDG-PET-CT had sensitivity of 83.3% (95% CI,36.1-97.24), specificity (82.35% CI,56.55-95.99), positive LR 4.72 (95% CI,1.59-14.01), and negative LR 0.2 (95% CI,0.03-1.23) for the detection of chemo-sensitive tumors, with least 75% reduction in SUVmax.

Conclusion: FDG-PET-CT appears to be an accurate means of measuring response of primary tumor to NAC.
Podium #76
INHIBITION OF HISTONE DEACETYLASES (HDACs) IN BLADDER CANCER RESULTS IN RECOGNITION AND DESTRUCTION BY IMMUNE CELLS
Catherine Eden, MD¹, Gopal Gupta, MD² and Jose Guevara-Patino, MD, PhD²
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Presented By: Catherine Eden, MD

Introduction: Unnoticed, tumor cells live among healthy cells, we hypothesize that unmasking cancer cells to the immune system will result in their recognition and destruction. One opportunity involves modulation of histone deacetylases (HDACs) which constitute a family of enzymes that act as major regulators of protein transcription and potentially of immune escape. HDACs are of significance since high-grade bladder tumors display increased expression of HDACs and have a worse prognosis than their low-grade counterparts.

Methods: Human bladder cancer cell lines were exposed to non-cytotoxic doses of HDAC inhibitors (HDACi). After washing, treated cells were cultured with activated T cells. The remaining tumor cells were quantified by MTT assay. Expression of cell stress ligands was assessed by flow-cytometry.

Results: We found that untreated bladder cancer cells were completely ignored by T cells. In contrast, a significant T cell-mediated destruction of cancer cells was observed only when tumor cells were pre-treated with HDACi. Additionally, the HDACi, Panobinostat, caused the expression of ligands for the activating receptor NKG2D. This is significant, as studies have shown that NKG2D ligands tag cells for killing by CD8+ T and NK cells.

Conclusion: These data indicate that immune destruction of bladder cancer cells can be achieved if they are rendered visible to the immune system.

Podium #77
PREDICTORS OF POSTOPERATIVE ILEUS IN PATIENTS UNDERGOING RADICAL CYSTECTOMY
Vishnu Ganesan¹, Daniel Ramirez, MD², Nima Almassi, MD², Robert Stein, MD², Jihad Kaouk, MD², Andrew Stephenson, MD², Steven Campbell, MD, PhD², Amr Fergany, MD² and Georges-Pascal Haber, MD, PhD²
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Presented By: Vishnuedharhan Ganesan

Introduction: Post-operative ileus is a common morbidity following radical cystectomy (RC) with urinary diversion (UD) leading to extended hospitalization. Our objective was to identify risk factors of ileus following RC and UD.

Methods: We identified patients who underwent RC with UD at our institution from 2012 to 2015. Patient demographics and perioperative data were collected. Postoperative ileus was defined as delayed return to bowel function requiring nasogastric (NG) tube or parenteral nutrition. Univariable analysis and multivariable logistic regression modeling were used to identify risk factors.

Results: There were 428 patients who met inclusion criteria. Of these, 59 patients (14%) experienced postoperative ileus. On univariable analysis, patients experiencing postoperative ileus were older (70 vs. 67 years, p = 0.04). No association was found between postoperative ileus and prior abdominal surgery, Charlson comorbidity score, type of cystectomy (open, robotic assisted with extracorporeal or intracorporeal diversion), urinary diversion type, EBL, and operative time. Patients with post-operative ileus had an average seven-day
longer hospitalization than those who did not (p < 0.001). On multivariable analysis we found that age (per year, OR 1.05, p = 0.004) and operative time (per extra 60-min, OR 1.2, p = 0.04) were significantly associated with developing postoperative ileus.

**Conclusion:** Surgical approach, urinary diversion type, or method of UD was not associated with increased risk of post-operative ileus. Elderly patients and those who have prolonged operative times are at increased risk of post-operative ileus and should be targeted for additional preventative interventions such as mu-opioid receptor antagonist administration.

**Podium #78**

**ABSORBABLE PERIRECTAL HYDROGEL SPACER INJECTION TO REDUCE RECTAL DOSE IN LOW DOSE RATE PROSTATE BRACHYTHERAPY**

Jason Huang, BA¹, Paul LeVan, JD, PhD², William Andre, MS², Harpreet Wadhwa, MD¹, Peter Tsimbarlis, MD³, Daniel Tauber, BS³, Kalyan Latchamsetty, MD²,³, Parthiv Mehta, MD² and Paul Yonover, MD, FACS¹,²

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Presented By: Jason Huang

**Introduction:** Rectal toxicity in prostate brachytherapy is a dreaded complication and is related to irradiation of the rectal wall. Absorbable perirectal hydrogel spacers have been shown to reduce rectal dose in IMRT patients, but experience with brachytherapy is quite limited. We report our single institution experience with the “SpaceOAR” hydrogel system (Augmenix) in low dose rate transrectal ultrasound-guided permanent prostate brachytherapy.

**Methods:** Eleven men with Stage T1c-T2c prostate cancer scheduled to undergo I-125 brachytherapy received "SpaceOAR" transperineal absorbable hydrogel spacer injection concomitant to seed implantation. CT-based dosimetry was performed at 30 days. Five patients received 110Gy from brachytherapy as part of combination therapy and six patients received 145Gy as monotherapy. Dosimetry data for brachytherapy were analyzed for the prostate and organs at risk for each patient.

**Results:** The average prostate volume = 37.3 cc. The average prostate V100 (%volume that received 100% of the prescription dose) = 86.3% (71.6-95.7). The mean prostate D90= 95.23% (77.54-112.96). The RV100 (volume of rectum which received >100% of the prescription dose) was undetectable in 10/11 patients. Only one patient had a measurable RV100 = 0.33cc.

**Discussion:** The American Brachytherapy Society consensus guidelines for brachytherapy recommends the RV100 should be < 1.33cc by Day 30 on dosimetry. In all but one of our patients (10 of 11) who received hydrogel spacer, we were able to achieve an RV100 = 0cc.

**Conclusion:** Our results confirm that injection of absorbable perirectal hydrogel spacers can significantly reduce rectal dose during brachytherapy, often to undetectable levels.
ROLE OF MRI TARGETED FUSION BIOPSIES IN MEN WITH PREVIOUS NEGATIVE BIOPSIES AND A RISING PSA

Daniel Box, James Jarvis, BS, Farrah Dadabhoy, BS, Krishnanath Gaitonde, MD, Sadhna Verma, MD, James Donovan, MD and Nilesh Patil, MD
University of Cincinnati Medical Center
Presented By: Daniel Box, MD

Introduction: To determine if MRI targeted fusion biopsies detects more significant cancer in men with previous negative biopsies and rising PSA, we evaluated prostate cancer detection rates in the first 200 consecutive men using the MRI fusion prostate biopsy technique.

Methods: Two hundred consecutive subjects with previous negative biopsy and rising PSA underwent multi-parametric MRI and subsequent office based targeted fusion biopsies. Lesions on the MRI were outlined based on level of suspicion (three grades - low, medium and high) by a single uroradiologist. Using a biopsy tracking system (Artemis™) the stored MRI images were fused with real time ultrasound and a model was generated. The biopsy technique included performing the biopsies of the MRI target initially and, after deleting MRI targets, subsequently performing 12 systematic sextant biopsies.

Results: A total of 200 patients underwent MRI guided fusion biopsies. Mean age of subjects was 64 years. At biopsy, median prostate specific antigen was 9.16 ng/ml and prostate volume was 60 cc. Prostate cancer was found in 53% of targeted biopsies. Targeted biopsies correlated well with the degree of suspicion. 51%, 28% and 14% of high, medium and low grade lesions were found to have prostate cancer. Targeted biopsies detected more significant cancer (Gleason 7 and above) (70%) as compared to sextant blind biopsies (47%).

Conclusion: MRI guided targeted biopsies detects more significant cancer (Gleason 7 and above) in men with previous negative biopsies. There is good correlation between level of suspicion on MRI and likelihood of detecting prostate cancer.

PROPRIETENESS CRITERIA FOR ACTIVE SURVEILLANCE OF PROSTATE CANCER

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Presented By: Michael Louis Cher, MD

Introduction: Published guidelines regarding active surveillance (AS) are not particularly helpful for counseling of individual patients. Rates of AS are generally low, and variation among physicians is high. We aimed to develop appropriateness criteria and counseling statements for AS using the RAND/UCLA method.

Methods: Panelists were recruited from Michigan Urological Surgery Improvement Collaborative (MUSIC) practices. Combinations of parameters thought to influence decision-making were used to create and score 160 clinical scenarios for appropriateness of AS. The MUSIC registry was assessed for
recent practice patterns in real patients.

**Results:** Low volume Gleason 6 was deemed “highly appropriate” for AS, whereas high volume Gleason 6 and low volume Gleason 3+4 were deemed “appropriate” to “uncertain.” No scenario was deemed “inappropriate.” Prostate specific antigen density (PSAD), race, and life expectancy (LE) had a statistically significant impact on scores for intermediate and high volume Gleason 6 and low volume Gleason 3+4. The greatest degree of score dispersion (disagreement) occurred in scenarios with long LE and high volume Gleason 6 and low volume Gleason 3+4. Recent rates of AS in real patients ranged from 10% in high volume 6/low volume Gleason 3+4 to 62% in low volume Gleason 6. Rates were highly variable across practices and individual urologists.

**Conclusion:** By virtue of this work, urologists have the opportunity to present specific recommendations from the panel to their individual patients. Population-level efforts aimed at raising rates of AS and reducing practice- and physician-level variation in the choice of AS versus treatment are warranted.

**Podium #81**

**IMPACT OF PROSTATE SIZE ON OUTCOMES OF RADICAL PROSTATECTOMY: A COMPREHENSIVE ANALYSIS FROM A LARGE INSTITUTIONAL SERIES**

Vidit Sharma, MD, Boyd R. Viers, MD, Stephen A. Boorjian, MD, Matthew K. Tollefson, MD, R. Houston Thompson, MD, Igor Frank, MD, Matthew T. Gettman, MD and R. Jeffrey Karnes, MD

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Presented By: Vidit Sharma, MD

**Introduction:** The impact of prostate size on radical prostatectomy (RP) outcomes is incompletely understood.

**Methods:** Years 1987-2012 of a prospectively maintained institutional RP registry were queried for patients with available ultrasound prostate volumes without prior radiotherapy or TURP. Prostate volume was then analyzed using univariate analysis and multivariate regressions in relation to clinicopathologic, functional, and long-term oncologic outcomes.

**Results:** Of 16,796 patients (mean prostate volume 38.1cc), 3.4% (N=568) had prostate volumes of 75-100cc’s and 1.9% (N=314) had prostate volumes greater than 100cc’s. Patients in with >100cc prostates were older (67.0 vs. 60.2, p<0.001), had greater BMIs (29.2 vs. 28.0, p<0.001), higher PSAs (11.8 vs. 6.2, p<0.001), and were more likely to have a pathologic Gleason Score of 6 or less (67.0% vs. 55.1%, p<0.001). On multivariate analysis prostates >100cc were associated with lower odds of positive margins (OR 0.441, p<0.001) and increased odds of intra-operative (OR 3.092, p=0.028) and overall complications (OR 1.521, p=0.003) compared to prostate volumes <25cc. Similar findings were observed for every 25cc incremental increase in prostate volume. On multivariate analysis, patients with > 100cc prostates had lower odds of nerve sparing (OR 0.387, p<0.001) and higher odds of incontinence at one year (OR 1.568, p<0.001). With a mean follow up of 10.0 years, increased prostate size was not associated with worse oncologic control.

**Conclusion:** Increased prostate size is associated with increased complications, lower rates of nerve sparing, and higher rates of incontinence. This may be useful in counseling patients particularly with prostates larger than 100cc’s.
Podium #82
IsoPSA: INITIAL CLINICAL PERFORMANCE EVALUATION OF A NOVEL STRUCTURE-BASED BIOMARKER FOR PROSTATE CANCER IN A MULTICENTER PROSPECTIVE TRIAL
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Presented By: Eric A. Klein, MD

Introduction: We conducted preliminary evaluation of IsoPSA™, a novel structure-focused protein biomarker for CaP diagnosis. The assay involves a single quantitative parameter evaluation regarding the composition of complex PSA (cPSA) isoforms, using simple step partitioning of proteins into two aqueous phases. The ratio of the overall complex PSA concentrations in the two phases differentiates benign and malignant disease. In this multicenter prospective trial we provide initial performance data compared with biopsy clinical pathology reports.

Methods: There were 109 plasma samples obtained from multiple clinical sites, collected within 30 days prior to prostate biopsy from patients with blood PSA between two and 26 ng/ml. These samples were evaluated using IsoPSA against 12 core TRUS biopsy results as gold standard. The fraction of cancer in the sample cohort was 50%.

Results: IsoPSA results are reported using a ratiometric coefficient, K. For IsoPSA, ROC analysis showed AUC=0.81, SN=96%, and SP=46%, at K cut-off value of 8.0. In comparison, serum PSA ROC analysis showed AUC=0.60, SN=91% SP=15%, PSA cut-off value of 4.0 ng/ml. Current standard practice selection of patients for biopsy resulted in 45 negative biopsies and 46 cancers. Using IsoPSA for patient selection would have resulted in 21 avoided biopsies, 24 negative biopsies, 44 cancers detected, and two delayed biopsies.

Conclusion: This study provides initial clinical performance metrics for a novel assay, which, using a robust single reportable parameter independent of PSA blood concentration, is in par with the best current tests that rely on multivariate statistical models.

Podium #83
COMPARING THE ACCURACY OF PI-RADS v2 TO THE ACCURACY OF PI-RADS v1 IN DETECTING PROSTATE CANCER USING TARGETED BIOPSIES
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University of Minnesota
Presented By: Ayman Soubra, MD

Introduction: Multiparametric MRI (mp-MRI) use in prostate cancer has become more popular in the past few years with the introduction of targeted biopsies. The Prostate Imaging Reporting and Data System (PI-RADS) set technical and reporting standards for consistent interpretation and communication of mpMRI results. In this study we compare the accuracy of PI-RADS v2 to that of v1.

Methods: We retrospectively reviewed records of patients who underwent MRI-TRUS fusion biopsy and MR-GB at our institution. The mp-MRI images were
read by a single fellowship trained radiologist. Scoring of suspicious lesions was done following PI-RADS criteria v1 for lesions biopsied using MR-GB, and by v2 criteria for lesions biopsied by MRI-TRUS fusion when we made switch in technologies. Results from the pathology report acted as standard of reference. Results: A total of 99 suspicious lesions biopsied by MRI-TRUS Fusion and 84 by MR-GB were included in the study. Positive biopsy rate was similar in both cohorts (25%). Patients in the MRI-TRUS fusion had a median PSA of 8.76 ng/mL and those with MR-GB had median PSA of 5.4 ng/ml. The accuracy measures for each score are displayed in the table below. Conclusion: PI-RADS v2 offers some improvement for characterization of suspicious lesions more pronounced for those who have a score of 4 and 5.
biopsy, even when controlling for well-established risk factors for aggressive PCa.

Podium #85
THE 4KSCORE® TEST PREDICTS HIGH GRADE PROSTATE CANCER ON BIOPSY AT PSA LEVELS < 4NG/ML
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Presented By: Stephen Michael Zappala, MD FACS

Introduction: The clinical value of PSA to detect prostate cancer has been questioned due to its poor specificity. The 4Kscore Test has been validated to predict an individual man’s risk of high grade cancer (Gleason≥7) on biopsy, with an area-under-the-curve (AUC) of 0.83. The objective of this study was to see if the 4Kscore Test could predict high grade prostate cancer in men with a tPSA <4ng/mL.

Methods: In a large prospective study that enrolled 1312 men previously scheduled for prostate biopsy, 440 men presented with PSA < 4ng/mL. The 4Kscore was calculated and compared to biopsy results. We evaluated the accuracy of the 4Kscore as a predictive model for patients with low tPSA by fitting a logistic regression model with high grade prostate cancer as the outcome. We examined the mean values of the components of the 4Kscore in cases with low tPSA and high tPSA. We then examined the ability of the 4Kscore Test to detect high grade cancer at different cutoff values.

Results: Of the 440 men with tPSA<4ng/mL, 44 (10%) were diagnosed with high grade prostate cancer on biopsy. The associated 4Kscore result was ≥7.5% in 39/44 patients (89%). The 4Kscore AUC for all cases, tPSA <4ng/mL and tPSA ≥4ng/mL was 0.83, 0.85 and 0.81 respectively.

Conclusion: The 4Kscore Test maintains good discrimination for risk of high grade prostate cancer in men with tPSA <4ng/mL. A 4Kscore cutoff of 7.5% is effective as a predictive instrument in this lower PSA subpopulation.

Podium #86
HYDROGEL SPACER ("SPACEOAR") IN IMAGE GUIDED INTENSITY MODULATED RADIATION THERAPY (IMRT) FOR PROSTATE CANCER: A SINGLE INSTITUTION COMMUNITY-BASED EXPERIENCE
Jason Huang, BA¹, Paul LeVan, JD, PhD², William Andre, MS², Harpreet Wadhwa, MD¹, Peter Tsamarlis, MD³, Daniel Tauber, BS³, Kalyan Latchamsetty, MD²,³, Parthiv Mehta, MD² and Paul Yonover, MD, FACS¹,²
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Presented By: Jason Huang

Introduction: Rectal irradiation during radiotherapy for prostate cancer is a source of significant toxicity. Absorbable perirectal hydrogel spacers have been shown to reduce incidental rectal dose. We report a single institution community-based experience with transperineal perirectal hydrogel spacer injection ("SpaceOAR" System, Augmenix) prior to prostate cancer intensity modulated radiation therapy (IMRT).

Methods: Sixty-five men with stage T1c-T2c prostate cancer scheduled to
undergo IMRT monotherapy (81 Gy, 45 fractions) received transperineal hydrogel spacer injection. Dose volume histograms (DVHs) were calculated and analyzed. We compared our results to a large multicenter published trial of hydrogel spacer (Mariados et al IJROBP, 92(5), 971-77:2015) and to established Quantitative Analyses of Normal Tissue Effects in the Clinic (QUANTEC) guidelines.

**Results:** In our series, 100% of treatment plans met rectal dose constraints. The mean rectal V70 (rV70) = 1.55% ± 1.94 (0-8.30); the average mean penile bulb dose = 8.79 Gy (3.08–25.84). These compared quite favorably to both the rV70 of the published control arm (12.4% vs. 1.55%) and the hydrogel spacer arm (3.3% vs 1.55%) of the hydrogel published trial. Our mean penile bulb dose was also considerably lower (22.8 Gy vs 8.79 Gy). Our reported rV70 represents an 87.5% reduction in rectal dose compared to the published control arm and a 92.25% reduction in rectal dose compared to QUANTEC rV70 guidelines (20% vs. 1.55%).

**Conclusion:** Transperineal perirectal hydrogel spacer injection is a safe, reproducible, and effective procedure performable in a community setting and considerably reduces rectal irradiation during prostate cancer radiotherapy.

**Podium #87**

**MAGNETIC RESONANCE IMAGING/ULTRASOUND FUSION GUIDED PROSTATE BIOPSY IS SUPERIOR TO STANDARD 12-CORE TRANSRECTAL ULTRASOUND BIOPSY TO UPSTAGE PATIENTS ON ACTIVE SURVEILLANCE**

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Presented By: Wei Phin Tan, MD

**Introduction:** Multi-parametric Magnetic Resonance Imaging/Ultrasound fusion biopsy (MRIFB) has been proven to enhance the detection of clinically significant (CS) prostate cancer (CaP). We aim to compare the ability of MRIFB with systematic 12-core biopsy (TRUSBX) in detecting CS prostate cancer defined by GS ≥7 in patients being followed with active surveillance (AS).

**Methods:** A retrospective study of 52 patients with Gleason 3+3 disease based off previous TRUSBX on AS for CaP underwent a simultaneous MRIFB and TRUSBX at a single center between September 2014 and September 2015. MRI was obtained using a 3-Tesla machine and fusion software used was InVivo (Phillips), Gainesville.

**Results:** Median age was 65 years (range 52-76). Median BMI was 28.14 kg/m2(range 20.45-48.08). Median PSA was 5.56ng/dL (range 0.82-25.51). Nineteen patients had CS cancer, nine identified with MRIFB alone, five by TRUSBX alone, and five by both. MRIFB resulted in nine (47% of 19 cases) additional cases of CS cancer compared to five cases (26% of 19 cases) in the TRUSBX group. MRIFB was 3.6 times more likely to yield a core positive for GS ≥7 compared to TRUSBX (11% of 45/413 targeted cores versus 3% of 20/658 systematic cores, p<0.001)

**Conclusion:** MRIFB detected CS cancer with far fewer cores compared with TRUSBX in patients being followed for active surveillance.
A COMPARISON OF NODAL STAGING, MORBIDITY, AND ONCOLOGIC OUTCOMES BETWEEN LIMITED, EXTENDED, AND SUPER EXTENDED LYMPHADENECTOMY TEMPLATES DURING RADICAL PROSTATECTOMY FOR INTERMEDIATE AND HIGH RISK PROSTATE CANCER

Vidit Sharma, MD, Alessandro Morlacco, MD, Joseph Jason, MD, Avinash Nehra, MD, Stephen A. Boorjian, MD, Igor Frank, MD, Matthew T. Gettman, MD, R. Houston Thompson, MD, Matthew K. Tollefson, MD and R. Jeffrey Karnes, MD

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Presented By: Vidit Sharma, MD

Introduction: We compare limited, extended, and super-extended pelvic lymph node dissections (PLND) during radical prostatectomy for intermediate and high-risk prostate cancer (PCa).

Methods: Years 2001 – 2013 of a prospectively maintained institutional RP registry were queried for NCCN intermediate and high risk PCa. PLND templates were divided into 1) limited PLND (external and/or obturator nodes), 2) extended PLND (obturator + external iliac + hypogastric nodes) and 3) super-extended PLND (extended PLND + common iliac nodes). Descriptive statistics and multivariate regression modeling were employed to compare node positivity rates, complications as well as eight-year oncologic outcomes.

Results: Among 2,963 RPs (mean follow up 5.4 years), 1,310 (44.2%), 1501 (50.7%), and 152 (5.1%) had limited, extended, and super-extended PLNDs with mean lymph node counts of 7.7 vs. 10.5 vs. 22.5, respectively (p<0.001). On multivariate regression, extended (OR=1.625, p=0.016) and super-extended (OR=4.050, p<0.001) PLND had increased odds of positive nodes. More extensive PLND was associated with increased lymphocele formation (3.2% vs. 4.5% vs. 9.8%, p=0.001) but not venous thromboembolism (2.4% vs. 2.2% vs. 3.5%, p=0.602). On multivariate logistic regression, super-extended PLND increased the odds of lymphocele formation (OR=2.249, p=0.028). On multivariate cox regression, more extensive PLND templates did not reduce biochemical recurrence, local recurrence, metastasis, salvage hormonal or radiation therapy, or prostate cancer mortality (all p>0.05) at eight years.

Conclusion: Extended and super-extended PLND improve nodal staging for intermediate and high risk PCAs at the expense of increased lymphocele rates. No significant differences in oncologic outcomes or lymphocele rates were observed.
Podium #89
A SINGLE-CENTER EXPERIENCE WITH MRI TARGETED FUSION BIOPSY OF THE PROSTATE
Eamonn Bahnson, MD¹, Amanda Harrell, BS², Sadhna Verma, MD³, Krishnanath Gaitonde, MD¹, James Donovan, MD¹ and Nilesh Patil, MD¹
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Presented By: Eamonn E. Bahnson, MD

Introduction: We reviewed our experience of magnetic resonance imaging (MRI) targeted biopsy of the prostate.

Methods: A total of 183 patients having undergone 192 biopsies were identified. All patients underwent multiparametric MRI utilizing endorectal coil, with lesions outlined based on the grade of suspicion (low, medium, and high) by a single uroradiologist. Using the Artemis tracking system, stored MRI images were fused with real-time ultrasound of the prostate. Biopsy technique included targeted biopsies and random template biopsy for all patients.

Results: Mean patient age and pre-biopsy PSA were 62 years and 9.1 ng/mL, respectively. Prostate cancer was detected in 54.2 and 51.6 percent of targeted and template biopsies, respectively. There was a trend towards increased detection of clinically significant prostate cancer among patients with high suspicion lesions on MRI (see Figure). There was no evidence of a learning-curve effect with increased cancer detection over time, and there were no significant differences in cancer detection rates obtained by individual urologists.

Conclusion: MRI targeted biopsy of the prostate may lead to increased detection of clinically significant prostate cancers among patients with highly suspicious lesions on MRI undergoing initial biopsy or with a prior negative biopsy.

Podium #90
PATHOLOGICAL AND ONCOLOGIC OUTCOMES OF “FAVORABLE RISK” GS 3+4 PROSTATE CANCER
Alessandro Morlacco, MD, Derek Gearman, MD, Laureano J. Rangel, MS, John C. Cheville, MD and R. Jeffrey Karnes, MD
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Presented By: Derek J. Gearman, MD

Introduction: Recent NCCN guidelines updates suggest that patients with bioptic GS 3+4 and favorable features might be candidates to active surveillance (AS). Very little, anyhow, is known about the long-term outcomes in this subset compared to low-risk group. This study aims to clarify the risk of adverse features and oncologic progression for surgically-treated favorable risk GS 3+4 patients.

Methods: Our single institution prospectively maintained RP database was queried for all patients with bioptic GS 3+3 or 3+4 and otherwise fulfilling the
NCCN low risk definition (PSA < 10 ng/ml, cT≤2a) who underwent radical prostatectomy (RP) at our institution from 1987 to 2014. All GS were assigned at our institution. Chi-square test and Kaplan-Meier method with log-rank test were used to compare surgical and oncologic outcomes for the GS 3+3 and 3+4 groups.

**Results:** 6360 patients were included in GS 3+3 group and 1735 in GS 3+4. Organ-confined disease was present in 93.9% and 82.6% of GS 3+3 and 3+4, seminal vesicle invasion 1.7% vs 4.7%, nodal disease 0.3% vs 1.8%, respectively (all p<0.0001). The use of late treatments for GS 3+3 vs 3+4 (>90d from surgery) was 3.1% vs 8.5% (hormonal) and 6.0% vs 12.2% (radiation); 10y BCR free survival was 88.9% vs 81.2% and 10y systemic progression free survival 99% vs 96.5% (all p<0.001).

**Conclusion:** Favorable-risk GS 3+4 men considering AS should be informed of the risk of harboring pathological adverse features. After RP, this subset has a slightly increased risk of adjunctive therapies and cancer progression.

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**Podium #91**

**CHRONIC URETERAL STENTING: A CONTEMPORARY ANALYSIS**

Julia Fiuk and Brad Schwartz, MD
SIU

**Presented By:** Julia Fiuk, MD

**Introduction:** Chronic ureteral obstruction, whether benign or malignant, can present a therapeutic challenge. Many of these patients are too ill to undergo definitive reconstructive or curative surgery and are thus managed with chronic stents. The advent of long lasting and metal stents can potentially decrease the morbidity and cost of this condition. We review our own cohort of chronically stented patients.

**Methods:** Retrospective chart review was performed on all patients undergoing chronic stent changes. Patient demographics, stent type and size as well as postoperative complications and patient symptoms were extricated from the electronic health record.

**Results:** 34 patients were identified who underwent chronic stent changes from 2008-2016, by a single surgeon. Twenty-two patients were treated with metal stents, while 12 underwent polymer stent changes. All metal stent patients had benign ureteral obstruction. Four of the polymer stent patients had malignant obstruction. Metal stents were changed annually while polymer stents were changed every 3-8 months, depending on duration until failure. Complications included fever, hematuria, stent migration, and stent failure. Stent failure occured only in the polymer stent patients - no metal stents required early exchange due to stent failure (0%). No metal stents were removed due to patient symptoms. One metal stent migrated proximally requiring combined percutaneous and ureteroscopic approach for extraction.

**Conclusion:** Chronic stent changes are a safe therapeutic modality for chronic ureteral obstruction. Metal stents are well tolerated and showed no signs of stent failure in our series.
Podium #92
PROSPECTIVE, RANDOMIZED CONTROLLED TRIAL COMPARING THREE DIFFERENT MODALITIES OF LITHOTRITES FOR INTRACORPOREAL LITHOTRIPSY IN PCNL
Nadya York, MD, Michael S. Borofsky, MD, Casey A. Dauw, MD and James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Nadya York, MbChB

Introduction: We compared the efficiency and complications of three models of lithotrites in treating stones >2cm during percutaneous nephrolithotomy (PCNL).

Methods: There were 241 patients enrolled at 10 centers in North America from 2009-2015. Patients were randomized to one of three lithotriptor devices: the Cyberwand, the Lithoclast Select, and the StoneBreakerTM. We present study results for the 241 patients who have completed the study so far.

Results: Of the total of 241 patients, 190 were treated with one of the three lithotriptor models. Nine patients were excluded before randomization, another 42 patients did not proceed once randomized due to device failure, poor visibility, consent issues, etc. A total of 81 patients were randomized to Cyberwand device, 73 to Lithoclast Select, and 78 to Stonebreaker. The results are presented in Table 1. The stone clearance rate (mm2/min) varied from 23.0 for StoneBreaker to 29.1 for Lithoclast Select to 31.4 for Cyberwand. The stone-free rate at the completion of the primary procedure ranged from 51.7% for StoneBreaker to 66.7% for Lithoclast Select. Post-operative complication rates were similar at 14.1-15.9%.

Conclusion: The interim results of this prospective randomised multicentre study reveal stone clearance rates from 23.0 mm2/min to 31.4 mm2/min between the three brands of lithotripter devices tested. Complications and stone clearance rates were comparable.

Podium #93
MINI VERSUS STANDARD PCNL: THE IMPACT OF SHEATH SIZE ON INTRA-RENAL PRESSURE AND INFECTIOUS COMPLICATIONS IN A PORCINE MODEL
Bryan Hinck, MD, Christopher Loftus, MD, Iryna Makovey, MD, Sriharan Sivalingam, MD and Manoj Monga, MD
Cleveland Clinic
Presented By: Bryan D. Hinck, MD

Introduction: To determine how the sheath and scope size affects intra-renal pelvic pressures and post-operative infectious complications in mini (14/16 Fr)
vs. standard (30 Fr) PCNL.

**Methods:** Using a porcine model, uropathogenic 10^9 E. coli were instilled retrograde into the renal pelvis and the ureter was obstructed for one hour to establish an infected urinary system. Percutaneous access was then obtained under direct vision with subsequent placement of either a 14/16Fr 20cm ureteral access sheath for “mini” a 30Fr access sheath for “standard.” Simulated PCNL with scope manipulation using either an 8/9.8Fr semi-rigid scope or 26Fr nephroscope was conducted for 1 hour with NaCl irrigation set to 145 mmHg. Intra-renal pelvic pressure and vital signs were continuously monitored. Blood samples were obtained at standardized time points. Tissue cultures were obtained from open biopsies of the kidney, spleen and liver.

**Results:** Twenty pigs underwent PCNL; 10 each in the “mini” and “standard” arm. “Mini” PCNL was associated with higher mean intra-pelvic pressure (p<0.0001), greater time spent above 30mmHg (p=0.0452), and higher rates of positive spleen (p=0.0253) and liver (p=0.0062) tissue cultures (Table 1). No pig experienced hemodynamic instability.

**Conclusion:** Mini-PCNL resulted in higher average intra-pelvic pressures during surgery and had increased rates of positive spleen and liver tissue cultures.

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**Podium #94**

**FLEXIBLE URETEROSCOPY AND LASER LITHOTRIPSY FOR RENAL STONES USING ‘POP-DUSTING’: COMPARISON OF OUTCOMES BETWEEN TRADITIONAL DUSTING VERSUS ULTRA-HIGH FREQUENCY SETTINGS**

Duncan Morhardt, MD, PhD¹, James Tracey, MD², Galina Gagin, BA², John Hollingsworth, MD² and Khurshid Ghani, MBBS²

¹University of Michigan; ²University of Michigan Health Systems

Presented By: Duncan R. Morhardt, MD, PhD

**Introduction:** The 'dusting' technique for laser lithotripsy during flexible ureteroscopy (fURS) has become popular using multi-cavity high power holmium lasers, yet outcome data is limited. We analyzed outcomes of dusting for renal stones, before and after acquisition of a 120-watt holmium laser.

**Methods:** We performed a retrospective review of fURS for renal stones by a single surgeon using dusting technique. Dusting was used in two groups: Group 1 using 60-100-watt Holmium:YAG systems with settings of 0.2-0.5 Joules (J) x 30-50Hz; Group 2 using a 120-watt system with settings of 0.2-0.5J x 30-80Hz, including the technique of 'Pop-dusting'(i.e. 0.5J x 80Hz). All cases were assessed for stone size, Hounsfield unit (HU), and use of staged procedures. Stone clearance was determined on post-operative ultrasound or computed tomography.

**Results:** Dusting was performed in 28 patients in Group 1 and 35 patients in Group 2. Mean stone sizes were 11.1 (Group 1) and 12.2 mm (Group 2) (p=0.41). There were no differences in HUs, percentage of solitary, or lower pole
stones between groups. There was no difference in mean laser energy used (7.2kJ vs. 6.6kJ, p=0.85, Groups 1 and 2). The zero-fragment and ≤2 mm-fragment rates were 39% vs. 66% (p<0.05), and 57% vs. 77% (p=0.11) for Groups 1 and 2, respectively. There were no differences in complications. Staged procedures were performed less frequently in Group 2 (11% vs. 32%, p=0.06).

**Conclusion:** We demonstrated an improvement in complete stone-free rates when using a dusting technique for renal stones with ultra-high frequencies.

**Podium #95**

**PERCUTANEOUS NEPHROLITHOTOMY IN THE SUPER-OBSESE: A COMPARISON OF OUTCOMES BASED ON BODY MASS INDEX**

Casey A. Dauw, MD, Michael S. Borofsky, MD, Nadya York, MD and James E. Lingeman, MD
Indiana University School of Medicine
Presented By: Casey A. Dauw, MD

**Introduction:** Percutaneous nephrolithotomy (PCNL) is considered the gold standard for treatment of large renal calculi. Although PCNL has been studied in obese patients, these studies have been limited by several factors. We thus sought to compare outcomes of super-obese (BMI>50) patients undergoing PCNL.

**Methods:** We used a prospectively maintained database to identify ideal (BMI 18.5-25), overweight (BMI 25.1-49.9), and super-obese (BMI>50) patients who underwent PCNL. Our primary objective was to compare surgical outcomes between groups as measured by the percent of patients who required secondary PCNL. We then compared complication rates, need for transfusion, and length of stay (LOS). Comparisons were made using chi-square testing and ANOVA where appropriate.

**Results:** There were 1,152 patients identified (254 ideal, 840 obese, 58 super-obese). Groups differed as indicated in the Table. Surgical outcomes were comparable with 47.2%, 42.0%, and 38.0% of ideal, typical, and super-obese patients requiring secondary PCNL (p=0.25) with no difference in complication rate (12.6% vs. 11.7% vs. 15.5%; p=0.66), need for transfusion (4.3% vs. 3.1% vs. 3.45%; p=0.63), or LOS (2.5 days vs. 2.4 days vs. 3.0 days; p=0.12).

**Conclusion:** PCNL can be effectively and safely performed in super-obese patients.

<table>
<thead>
<tr>
<th>Table</th>
<th>Patient Characteristics (all values reported as means)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>Ideal</td>
</tr>
<tr>
<td>Male (%)</td>
<td>42.1</td>
</tr>
<tr>
<td>Stone size (cm)</td>
<td>2.6</td>
</tr>
<tr>
<td>Staghorn (%)</td>
<td>35.5</td>
</tr>
<tr>
<td>&gt;1 access (%)</td>
<td>50.3</td>
</tr>
<tr>
<td>Case duration [minutes]</td>
<td>125.3</td>
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</table>
Introduction: While minimally-invasive (MI) surgery has become more prevalent for many urologic procedures, it is unknown how commonly this technique has been applied to pyelolithotomy.

Methods: We used the National Inpatient Sample to identify patients with a diagnosis of nephrolithiasis undergoing pyelolithotomy from 2000-2011. Total charges were inflation-adjusted to U.S. dollars in 2011. Demographics, hospital characteristics and outcomes were reported for all patients, and compared between open and MIS groups after survey weighting.

Results: We included a survey-weighted population of 10,690 patients, of whom 514 (5%) had MI pyelolithotomy. Simultaneous pyeloplasty occurred in 17% of all patients. Patients receiving open surgery experienced longer length of stay (4.9 ± 0.1 days vs. 2.9 ± 0.2; p<0.01), but accrued fewer charges ($39,939 ± 1,407 vs. $52,391 ± 5,979; p=0.04). Fifteen percent of all patients had any complication, with a lower frequency in the MI population (7% vs. 16%; p=0.02). On multivariate analysis, higher Elixhauser Comorbidity Index predicted for any complication (OR 1.22 per unit, 95% CI 1.09 -1.36, p<0.01). Conversely, urban non-teaching (OR 0.58, 95% CI 0.36-0.94) and teaching (OR 0.58, 95% CI 0.36-0.91) hospitals, as well as MI technique (OR 0.41, 95% CI 0.18-0.92) were protective against complications (all p<0.05). While the total number of pyelolithotomies remained stable, annual MI cases increased by 14.2 per year (R2=0.59, p<0.01).

Conclusion: While the annual number of pyelolithotomy cases was stable, there was a recent trend towards MI. This technique allowed a shorter length of stay and reduced complications, but did incur higher charges.
and anesthesia team were blinded. The primary endpoint was visual analog scale (VAS) pain scores and secondary endpoints were intraoperative and post-operative opioid use.

**Results:** An interim analysis was performed after 41 patients had been enrolled. There was a trend towards significant reduction in pain scores at all time points following surgery in the PVB group. Intra-operative and post-operative opioid use was significantly less in the PVB group. Females had significantly higher pain scores than men (mean 4.9 vs. 2.5, p = 0.004). In subgroup analysis, females in the PVB group had lower pain scores at all times points and lower intraoperative opioid use (p = 0.028).

**Conclusion:** PVB improves pain scores and reduces opioid use in this interim analysis. Women have higher pain scores than men in this study population which may be reflective of the differences in perception of pain between genders. Women may derive more benefit more from PVB than men.

## Podium #98
**A SINGLE INSTITUTION SURVEY OF POINT-OF-CARE RENAL ULTRASONOGRAPHY FOR RENAL COLIC**

Nathan Chertack, BS¹, Wen Min Chen¹, Hemant Chaparala, BS¹, Michael Byrne, MD², Michael Phelan, MD³, Sri Sivalingam, MD³ and Manoj Monga, MD³

¹Case Western Reserve University School of Medicine; ²Virginia Urology; ³Cleveland Clinic

**Presented By:** Nathan Chertack, BS

**Introduction:** To evaluate the utility of point-of-care renal ultrasonography (POC-US) for the emergency department (ED) management of renal colic.

**Methods:** Patients undergoing POC-US from January 2013 to February 2015. Pertinent demographics documented at time of ED visit were recorded for each patient. The positive and negative predictive values (PPV and NPV) of POC-US were determined for those patients undergoing abdominal CT scan at the initial ED visit. The need for subsequent imaging or further ED, hospital, or office visits in the 90 days following the initial ED visit were noted.

**Results:** A total of 182 patients underwent ED POC-US. The median age was 41 (31-58). 26% of patients underwent a CT scan during their visit. There was no significant difference in gender, age, history of kidney stones, hypertension, diabetes, or gout in those undergoing CT in addition to POC-US, however patients undergoing CT had a lower body-mass index (26.91 vs. 29.82, p=0.02). Patients undergoing CT scan were less likely to have received a CT in the preceding 90 days (7% vs. 25%, p=0.006). There was no difference in pain score between groups (p=0.45). PPV was 62% and NPV was 92% for detection of hydronephrosis when compared to detection of ureteral stones on CT. There was no difference in subsequent imaging (23% vs. 24%, p=0.91) or ED, hospital, or outpatient visits in the following 90-day period.

**Conclusion:** Usage of POC-US demonstrated a high screening efficacy. The selective addition of CT imaging in 26% of patients shows no difference in measurable outcomes at 90-days.
Podium #99
ACCURACY OF ENDOSCOPY, FLUOROSCOPY, AND CYTOLOGY TO DETECT UPPER TRACT UROTHELIAL CARCINOMA
Adarsh Manjunath, MD, Aziz Khambati, MD, Matthias Hofer, MD, Elodi Dielubanza, MD, Kent Perry, MD and Robert Nadler, MD
Northwestern
Presented By: Adarsh Manjunath, MD

Introduction: We compared the accuracy of endoscopy, fluoroscopy, and cytology for detection of upper tract urothelial carcinoma (UTUC).

Methods: Records of 38 patients from 2001 to 2013 with UTUC managed endoscopically by a single surgeon were reviewed. In total, 116 ureteroscopic procedures including retrograde pyelograms and cytology for UTUC were performed.

Results: Mean age at presentation was 71.9 years. 12.8% presented with positive urine cytology, 49.7% with gross hematuria, 25.6% with abnormal imaging, and 21.1% with symptomatic hydronephrosis. UTUC was present 73% of the time (28/38) in the pelvis, 5% (2/38) in the upper/mid ureter, and 21% (8/38) in the distal ureter. Ureteroscopy was suspicious in 65.5% (76/116) of cases, of which 72.4% had UTUC on biopsy. Of 40 visually normal cases that were biopsied, 22.5% had UTUC (p<0.001). Ureteroscopy had a sensitivity and specificity of 88.7% and 61.5% respectively to detect UTUC. Abnormal features on ureteropyelogram, such as filling defects, architectural distortion, or ureteral stenosis were present in 54% (62/116) of cases. Overall, sensitivity and specificity of UPG to detect UTUC was 65.5% and 62.5% respectively. Positive cytology was significantly associated with presence of UTUC (p=0.006), resulting in a sensitivity of 36.4% and specificity 89.36%.

Conclusion: Ureteroscopy was the most sensitive modality to detect presence of UTUC and had the highest positive predictive value. Random biopsies resulted in a high rate of positivity even when visualization was normal. Fluoroscopic imaging may be useful as an adjunct but may miss UTUC. Although cytology is specific, its sensitivity is poor.

Podium #100
HYBRID GUIDEWIRES: ANALYSIS AND COMPARISON OF THE MECHANICAL PROPERTIES AND SAFETY PROFILES
Bryan Hinck, MD¹, Mohamed Omar, MD¹, Sarah Tarplin, MD², Sriharan Sivalingam, MD¹ and Manoj Monga, MD¹
¹Cleveland Clinic; ²University of Chicago
Presented By: Bryan D. Hinck, MD

Introduction: We compared the physical and mechanical properties of four commercially available hybrid guidewires.

Methods: In vitro testing was performed on the straight 0.035 inch: Sensor (Boston Scientific), Solo Plus (Bard), UltraTrack (Olympus), and Rio Tracer (Rocamed). We evaluated characteristics impacting function (tip flexibility, shaft stiffness, lubricity) and safety (perforation force). A load cell (Series MR03-2, Mark-10, Copiague, NY) attached to a linear motion stage with a stepper motor was used to measure forces.

Results: The UltraTrack wire had the highest tip bending force (Table 1, p=0.001). The Rio Tracer wire had the stiffest shaft (p<0.001), followed by the Solo Plus which was significantly stiffer than the Sensor and UltraTrack.
The Solo Plus and UltraTrack wires had the greatest perforation force (p=0.004) with no significant difference between the two (p=0.785), and the Rio Tracer wire had the lowest perforation force (p=0.016) when compared to the Sensor. There was no significant difference between the 4 wires in regards to frictional force.

**Conclusion:** The Bard Solo Plus and Olympus UltraTrack wires require the greatest force to perforate which conveys a protective effect while the Rocamed RioTracer is an outlier and caution should be exerted in considering utilization of this wire.

**Table 1.**

<table>
<thead>
<tr>
<th></th>
<th>Perforation Force (N)</th>
<th>Tip Bending Force (N)</th>
<th>Shaft Bending Force (N)</th>
<th>Frictional Force (N)</th>
</tr>
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<tbody>
<tr>
<td>Sensor</td>
<td>0.633±0.196</td>
<td>0.017±0.002</td>
<td>0.128±0.009</td>
<td>0.05±0.026</td>
</tr>
<tr>
<td>Solo Plus</td>
<td>0.923±0.378</td>
<td>0.019±0.001</td>
<td>0.183±0.008</td>
<td>0.056±0.008</td>
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<tr>
<td>UltraTrack</td>
<td>0.881±0.286</td>
<td>0.022±0.002</td>
<td>0.133±0.017</td>
<td>0.046±0.019</td>
</tr>
<tr>
<td>Rio Tracer</td>
<td>0.416±0.167</td>
<td>0.017±0.003</td>
<td>0.451±0.105</td>
<td>0.060±0.014</td>
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</tbody>
</table>

**Podium #101**

**USE OF MICRO-CT IN THE CHARACTERIZATION OF STONES GROWING ON RANDALL’S PLAQUE**

Michael S. Borofsky, MD, James C. Williams Jr., PhD, Casey A. Dauw, MD, Andrew P. Evan, PhD and James E. Lingeman, MD

Indiana University School of Medicine

Presented By: Michael S. Borofsky, MD

**Introduction:** Standard techniques to classify stone formers including chemical stone analysis and 24-hour urines are widely variable and prone to inaccuracies. Novel methods such as stone micro-CT have potential to allow for more detailed characterizations. For example, anecdotal reports suggest that stones forming on Randall’s plaque (RP) can be identified on micro-CT. However, this remains unproven in a large case series.

**Methods:** Renal stones were removed from thirty-four patients undergoing endoscopic procedures. All removed stones were subjected to micro-CT imaging (Skyscan 1172, Kontich, Belgium). Stones exhibiting features of RP were identified in a manner blinded to patient data.

**Results:** 198 stones exhibited reproducible features consistent with RP. RP regions on stones were all composed of apatite, were on average 355±235 µm wide and 306±177 µm long (i.e., depth of interstitium pulled out with the stone) and showed luminal spaces (from tubules or capillaries trapped in the plaque) in 87% of the cases. 95% of the RP stones had calyceal mineral growing on the RP, and this was composed of calcium oxalate (CaOx, 61%) or CaOx mixed with apatite (39%). Overall size of RP stones was 2.1±1.2 mm.

**Conclusion:** Stones growing on RP can be easily distinguished using micro-CT, highlighting the unique potential of this tool in improving stone classification.
Podium #102
PLASMAKINETIC BIPOLAR VERSUS MONOPOLAR TRANSURETHRAL RESECTION OF BLADDER TUMOR: ANALYSIS OF PERIOPERATIVE COMPLICATIONS
Michael Avallone, MD, Bryan Sack, MD, Ahmad El-Arabi, BS and William See, MD
Medical College of Wisconsin
Presented By: Michael Avallone, MD

Introduction: We assessed the rate of intra-operative and post-operative complications within thirty days following plasmakinetic bipolar (BTURB) and monopolar (MTURB) transurethral resection of bladder tumor.

Methods: Retrospective review was conducted on all patients undergoing transurethral resection of bladder tumor procedures at a single institution from 2003 to 2013 to assess the complication rates associated with BTURB and MTURB. All BTURB procedures were performed with the ACMI Gyrus system (Olympus, Southborough, MA).

Results: A total of 427 patients met inclusion criteria (female n=138, 32%) and underwent 586 procedures (379 BTURB, 207 MTURB). Baseline patient demographics, tumor stage, and tumor grade were similar in BTURB and MTURB cohorts. The overall complication rate was 29% and the most frequent complications were acute urinary retention (AUR) 11%, hematuria related event (HRE) 8% and urinary tract infection (UTI) 7%. There was no statistical difference in rates of AUR, HRE, UTI or readmission for continuous bladder irrigation or hemostasis procedures between BTURB and MTURB cohorts. There was a trend towards lower perforation rate during BTURB (2.6% vs. 5.8%, p=.07). One patient developed hyponatremia after MTURB, the overall transfusion rate was 0.3%, and there was one mortality. After logistic regression analysis, MTURB, male gender and large resections were associated with overall complications. Male gender was associated with HRE and AUR. Large resections were associated with AUR.

Conclusion: There was no difference in the rate of hematuria related events between BTURB and MTURB. When overall complications were analyzed collectively, BTURB demonstrated a favorable complication profile.
Introduction: The ICUD/AUA guidelines state that anticoagulation in routine ureteroscopy is safe and without increased risk of complications. However, these recommendations are based on three small case series. Herein, we report complications of ureteroscopy on novel anticoagulants.

Methods: Patients undergoing ureteroscopy were identified via a CPT code search. Medication lists at the time of procedure were queried for novel anticoagulants (apixaban, dabigatran, dalteparin, fondaparinux, rivaroxaban). Records were then retrospectively reviewed to confirm anticoagulation use and identify peri-procedural complications. Patients were excluded if additional non-ureteroscopic procedures were performed.

Results: A total of 4,784 ureteroscopies were performed at our institution between December 2009 and January 2016. Twenty-four (0.05%) patients were on peri-procedural novel anticoagulants. Of these, the most common indication was urolithiasis (75%). Four (17%) patients were pre-stented. 14 patients held their anticoagulants a median of 3 days pre-procedure (IQR: 0.5 days). Ten patients (42%) continued anticoagulation without interruption. Eight complications (33.3%) occurred in six patients (25%), six unplanned admissions (five for hematuria and one for stroke), and two secondary procedures (one cystoscopic clot evacuation and one staged stone removal due to bleeding). Seven of eight events (87.5%) occurred in patients who were not pre-stented. Furthermore, seven of eight (87.5%) events occurred in patients who had not stopped their anticoagulation.

Conclusion: A quarter of patients undergoing ureteroscopy on novel anticoagulants experience bleeding related complications. Risk may be mitigated by pre-stenting or discontinuing anticoagulation peri-procedurally. The ICUD/AUA guidelines on anticoagulation thus cannot be extrapolated to these agents.

Introduction: Women with neuropathic bladder (NB) and lower urinary tract reconstruction (LUTR) in childhood often have normal fertility and may become pregnant. We assessed the urologist’s role in their perinatal care.

Methods: We reviewed consecutive patients from July 1987 to August 2015 with NB due to spinal dysraphism or spinal cord injury who underwent LUTR in childhood, became pregnant, and delivered via C-section. We collected data on demographics, pregnancy, and C-section statistics.

Results: Ten women had 16 pregnancies over 28 years. Fourteen children were delivered via C-section: 1 very preterm, 1 moderately preterm, 4 late preterm, 8...
term births. There were 2 miscarriages (12.5%). Complete data was available for 13/14 deliveries. Eleven developed new or worsening hydronephrosis. Six were asymptomatic and five required nephrostomy tubes. Seven had difficulty catheterizing (four urethral and three Monti). Six developed urinary incontinence. Eight had symptomatic UTIs (2/8 febrile).

A staff urologist was present at each C-section. Six occurred as scheduled at >37 weeks; eight occurred emergently. The uterus was incised in classical fashion in nine and via low transverse incision in five. Intraoperative complications were identified in 6/14 (43%). These included cystotomy (five), bowel deserosalization (one), and vaginal extension (one). Uterine rupture was identified in one patient during her second C-section, which occurred emergently. Two developed urinary fistulae following surgery.

Conclusion: Despite routine urology involvement, females with NB and LUTR have high rates of complications during pregnancy and delivery. When possible, preconception counseling should highlight the increased risks of pregnancy in this group.

Podium #105
MURINE RESPONSE TO SUBTOTAL CYSTECTOMY REVEALS FEATURES OF SCARRING, INFLAMMATION AND REGENERATION
Jessica Wetterlin, MD¹, Paula Firmiss, BS², Grace Delos Santos, MD¹, Robert Dettman, PhD² and Edward Gong, MD²
¹Loyola University Medical Center; ²Ann & Robert H. Lurie Children's Hospital of Chicago
Presented By: Jessica Wetterlin, MD

Introduction: Mammals respond to tissue injury by replacing damaged tissue with acellular scar. Regeneration-competent species can restore normal tissue architecture without scar formation after injury. The extracellular matrix (ECM) is involved in tissue response to injury, and different components of the ECM can promote tissue regeneration rather than scar formation. Rodent models of bladder injury have shown that the bladder undergoes significant regeneration. We sought to determine if bladder regrowth represents non-scarring regeneration or scarring compensatory growth.

Methods: Subtotal cystectomy (STC) with excision of 50 percent of the bladder was performed on adult female CD1 mice. Mice that underwent low-midline laparotomy served as controls. Bladders were harvested at 1, 2, and 4 weeks. RNA was isolated and quantitative PCR was performed to assay for genes associated with regeneration, scarring and inflammation.

Results: Messenger-RNAs (mRNA) for genes associated with scarring increased after STC including pro-inflammatory cytokines (tumor necrosis factor-alpha, interleukin-1 beta, interleukin-6), collagens, fibroblast-specific protein 1, and vimentin. mRNA for anti-inflammatory cytokines interleukin-4 and interleukin-10 was not detectable. mRNA for mesenchymal stem cells (CD-34, SCA-1) increased after STC. mRNAs for regenerative genes including fibronectin, laminin, and tenascin C increased. Smooth muscle mRNAs increased two weeks post-SC, but decreased after one and four weeks.

Conclusion: Bladder regrowth after STC involves increased expression of both pro-scarring and pro-regenerative genes. In regeneration-competitive species, expression of pro-scarring genes is suppressed. Precise manipulation of ECM and cytokines may facilitate tissue regeneration in the mammalian bladder after
ABDOMINAL AND PELVIC ELECTROMYOGRAPHY PATTERNS IN PATIENTS WITH POSTERIOR URETHRAL VALVES

David D. Shapiro, MD, S. Farshid Moussavi-Harami, PhD, Christina J. Sauder, MS and Patrick H. McKenna, MD, FACS, FAAP
UW Madison School of Medicine and Public Health
Presented By: David D. Shapiro, MD

Introduction: Early workup of nonneurogenic lower urinary tract dysfunction (LUTD) includes physical exam and questionnaire, with the initial treatment emphasizing extensive voiding education. Patients unresponsive to conservative treatment are further assessed with uroflowmetry and electromyography (EMG) to identify individuals who would benefit from biofeedback therapy. A subset of male patients with flat voiding flow pattern fail to respond to biofeedback and medical therapy. A small subset of these patients undergo cystoscopy to rule out anatomical abnormalities. To better identify patients that need cystoscopy, we retrospectively assessed abdominal and perineal EMG in patients with posterior urethral valves (PUV) to assess the utility of EMG as an indicator of PUV.

Methods: A retrospective chart review was performed on 4-18 year old male patients with nonneurogenic LUTD with cystoscopy confirmed PUVs (n=36). As part of the patient workup, uroflowmetry with EMG of abdominal and perineal muscle was performed prior to cystoscopy and approximately nine weeks after cystoscopy and valve excision.

Results: EMG readings prior to cystoscopy indicated persistent abdominal muscle activation in 90% of subjects versus perineal muscle activation in 31% of patients with PUV. Patients continued to have persistent abdominal muscle activation (90%) nine weeks post cystoscopy and PUV resection.

Conclusion: This study suggests in male patients with a flat voiding flow pattern, persistent abdominal muscle activity without perineal muscle activity can be used to identify patients with LUTD that have a high likelihood of an anatomic abnormality.

URINARY TRACT INFECTIONS IN CHILDREN WITH PRENATAL HYDRONEPHROSIS: A RISK ASSESSMENT FROM THE SOCIETY FOR FETAL UROLOGY HYDRONEPHROSIS REGISTRY

Rebecca S. Zee, MD, PhD², Anthony Herndon, MD³, Christina Kim, MD, FAAP⁴, Patrick H. McKenna, MD, FACS, FAAP¹, Christina J. Sauder, MS¹ and Katherine W. Herbst, MS⁴
¹UW Madison School of Medicine and Public Health; ²University of Virginia School of Medicine; ³University of Virginia School of Medicine; ⁴Connecticut Children's Medical Center
Presented By: Patrick H. McKenna, MD, FAAP, FACS

Introduction: Risk factors for urinary tract infections (UTI) in children with prenatal hydronephrosis (PNH) are not well defined. The aim of this study was to describe the incidence of and identify factors associated with UTI among a cohort of children diagnosed with PNH.

Methods: Patients with confirmed PNH were identified from a longitudinal, multi-center hydronephrosis registry maintained by the Society for Fetal Urology (SFU)
since 10/2008. Exclusion criteria included enrollment due to UTI and <1 month of follow-up. Univariate analysis was performed using Fisher’s Exact Test or Mann-Whitney U. Probability for UTI in the first year of life was determined by Kaplan-Meier curve.

**Results:** Median follow-up was 10 months (range: 1-60) in 168 patients (120 male). UTI developed in 9.5% (16/168) of patients. Of these, 46% were febrile and 46% were breakthrough. Probability of having UTI in the first year of life was 11.5%. UTI occurred more frequently in females (p<.001), uncircumcised males (p=0.054), and subjects with high grade (3-4) hydronephrosis (HGH) vs low grade hydronephrosis (LGH) (p<0.05). Renal cysts were also associated with UTI (p<0.05). Use of prophylactic antibiotics (PA), presence of vesicoureteral reflux (VUR), dilated ureter, and renal duplication were not significantly associated with UTI.

**Conclusion:** In this study population, female patients and those with HGH and renal cysts had increased risk of UTI. Uncircumcised status approached significance. Use of PA, VUR status, presence of dilated ureter, and duplication status did not impact UTI. A larger scale study is needed to confirm findings.

**Podium #108**

**EFFECTIVENESS OF A PEDIATRIC-SPECIFIC CATHETER-ASSOCIATED URINARY TRACT INFECTION REDUCTION PROGRAM**

David D. Shapiro, MD, Patrick H. McKenna, MD, FACS, FAAP and Christina J. Sauder, MS

UW Madison School of Medicine and Public Health

Presented By: David D. Shapiro, MD

**Introduction:** Catheter-associated urinary tract infections (CAUTIs) can increase morbidity, mortality, healthcare costs and hospital length of stay. While there are many adult-based CAUTI reduction programs, few are adapted specifically to the unique needs of the pediatric population. We aimed to assess the efficacy of a pediatric-specific CAUTI program.

**Methods:** Pediatric-specific, evidence-based interventions were implemented over a seven month period. Interventions included education overhaul, product and policy improvement, implementation of a pediatric bladder management protocol and electronic alerts for removal of placed catheters among other preventative measures. The overall goal of the interventions was to better assess need for catheter placement and ensure timely catheter removal. A pre-post surveillance was performed to test the impact of the interventions on reduction of CAUTI and Foley rates in hospitalized patients on the medical/surgical and pediatric intensive care units. Rates of CAUTI and Foley use were collected for 12 months pre (1/13-3/14) and post (5/14-4/15) implementation of all interventions. Pre and post rates were then compared.

**Results:** There was a 78% reduction in total CAUTI and 16% reduction in Foley days after implementation of the interventions.

**Conclusion:** This unique approach has been successful in decreasing pediatric CAUTI and Foley use at our institution. Hospitals may benefit with implementation of this evidence-based CAUTI program that focuses on the distinct needs of pediatric patients.
**Podium #109**

**CAN WE PREDICT COMPLICATIONS IN PEDIATRIC ROBOTIC-ASSISTED UROLOGIC SURGERY? ANALYSIS OF 250 INITIAL CASES FROM A SINGLE SURGEON**

Eric D. Schadler¹, Vignesh T. Packiam² and Mohan S. Gundeti²

¹Pritzker School of Medicine, The University of Chicago Medical Center, Chicago, IL; ²Section of Urology, Department of Surgery, The University of Chicago Medicine, Comer Children’s Hospital, Chicago, IL

Presented By: Eric D. Schadler, BS

**Introduction:** The utilization of robotic-assisted approaches for pediatric urologic surgery has increased greatly, but factors predictive of complications are incompletely characterized. We aim to critically assess complications and identify their risk factors using a large robotic-assisted pediatric urologic series.

**Methods:** We performed a retrospective, single surgeon analysis of all pediatric patients who underwent robotic-assisted urologic surgery (n=250) at our institution between 2007 and 2015. Demographic information, peri-operative variables, complications, and re-admissions were assessed for a 90-day period. Statistical testing included two-sample t-test, Chi-squared analysis, and univariate logistic regression.

**Results:** We identified 15 (6.2%) Clavien grade III/IV complications. No complications were access related or due to robotic malfunction. Only one intraoperative complication occurred; the remainder were peri-operative. Of the 15 complications, the most frequent involved urine leak (27%), hernia (20%), and renal stones (13%). Complications were less likely high-grade during the first 30 days following surgery compared to 30-90 days (22% vs 54%; p=0.035). Factors such as age, gender, BMI, surgical complexity, and surgeon experience did not predict complications. Twenty-one (8.6%) patients were readmitted; 8 (38%) of these re-admissions were patients experiencing a major complication. Patients experiencing high-grade complications were 18.9 times more likely to require re-admission (p<0.001).

**Conclusion:** Our series shows a low complication rate of 6.2%, signifying that robotic-assisted surgery is safe for pediatric patients. We were unable to identify risk factors related to patient demographics, surgical complexity, or surgeon experience. Additional research to characterize these factors is important to ultimately develop measures to minimize adverse outcomes.

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**Podium #110**

**PREVALENCE OF RE-AUGMENTATION ENTEROCYSTOPLASTY**

Zaheer Alam, MD, William DeFoor, MD, Pramod Reddy, MD, Brian Vanderbrink, MD, Curtis Sheldon, MD and Eugene Minevich, MD

Cincinnati Children’s Hospital Medical Center

Presented By: Zaheer Alam, MD

**Introduction:** Re-augmentation cystoplasty rates vary in the literature but have been reported as high as 15%. The purpose of this study is to assess the prevalence of re-augmentation in a high volume reconstruction center.

**Methods:** A retrospective cohort study was performed of all pediatric patients with neurogenic bladder undergoing Augmentation cystoplasty (AC) in a single institution over the past 12 years. Patient demographics, etiology for bladder dysfunction, urodynamic findings, surgical details, concomitant procedures, and complications were abstracted from the medical record.
Results: A total of 130 patients (44% male) were identified from 2002 to 2014. Median age at time of AC was nine years. The median follow-up after surgery was five years. Diagnoses included anorectal malformation (N=48), myelomeningocele (N=39), bladder exstrophy (N=18), urogenital sinus (N=7), posterior urethral valve (N=5), and others (N=13). Bowel segments included ileum (N=67), colon (N=36), composite ileum/colon (N=17), and stomach (N=10). Concomitant procedures included Mitrofanoff (N=78), Malone (N=72), and bladder neck reconstruction (N=67). Late complications included bowel obstruction (N=5) and bladder stones (N=19). Urinary incontinence despite adequate bladder capacity and compliance occurred in 14 patients. All patients had stable upper urinary tracts with no new vesicoureteral reflux or worsening hydronephrosis. No patients had a bladder perforation. No patients underwent re-operative augmentation during the study period.

Conclusion: Low rates of surgical complications including the need for re-operation were seen in this contemporary series of pediatric neurogenic bladder patients undergoing AC. Further long-term study is needed to confirm the durability and efficacy of this procedure.

Podium #111
SURGICAL OUTCOMES AND LONG-TERM FOLLOW-UP OF PERCUTANEOUS NEPHROLITHOTOMY IN PEDIATRIC PATIENTS
Derek Lomas, MD, Amy Krambeck, MD, David Patterson, MD, Matthew Gettman, MD and Candace Granberg, MD
Mayo Clinic
Presented By: Derek J. Lomas, MD, PharmD

Introduction: Percutaneous nephrolithotomy (PCNL) is routinely used for the treatment of pediatric nephrolithiasis; however, concerns exist regarding the use of adult-sized instruments in children. We reviewed our experience with pediatric patients who underwent PCNL using adult-sized nephrosopes.

Methods: We retrospectively reviewed 41 pediatric patients who underwent PCNL with adult-sized instruments from 1988-2016.

Results: A total of 53 primary PCNL procedures were performed (22M:19F) at median age 14 years (range:1-17). Median stone burden was 1.6cm (0.4-3.5). A 27-French nephroscope was used in all but two patients. Median operative time excluding access was 31 minutes (14-127). There were no intraoperative complications and one patient required a blood transfusion postoperatively. Early post-operative complications included pain (9.4%), fever (5.7%), and obstructing ureteral stone (1.9%). Post-procedure imaging at 24 hours was obtained after 50 PCNLs; 32 (64%) were stone-free, 11 (22%) had fragments <3mm, and 7 (14%) had fragments >3mm. Second-look PCNL was required in four patients (7.5%). Follow-up data was available for 27 patients with median follow-up of 85 months (1-333). No patients had new-onset hypertension, one developed renal insufficiency, and one developed diabetes mellitus. Recurrent stones occurred in 14 (51.9%). Ureteropelvic junction obstruction developed in three (11.1%), infundibular stenosis in one (3.7%), and no patients developed calyceal obstruction.

Conclusion: PCNL in pediatric patients utilizing adult-sized instruments is safe with a low complication rate. PCNL does not appear to cause an increased risk of adverse systemic or renal effects at long-term follow-up. The majority of these patients developed recurrent stones, and thus should have long-term
**Podium #112**

**UPJO IN A PATIENT WITH MEGACALYCOSIS? DON’T TRUST A MAG3!**

Jessica Casey, MS, MD¹, Boaz Karmazyn, MD², Joshua Roth, MD¹, Benjamin Whittam, MS, MD¹, Rosalia Misseri, MD¹, Richard Rink, MD¹, Mark Cain, MD¹ and Martin Kaefer, MD¹

¹Division of Pediatric Urology, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, Indiana; ²Division of Pediatric Radiology, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, Indiana

Presented By: Jessica Casey, MS, MD

**Introduction:** MAG3 lasix renal scan (MAG3) is the study of choice in evaluation of ureteropelvic junction obstruction (UPJO). However, in the face of megacalycosis it may prove incapable of properly evaluating for obstruction. Our aim was to determine the outcome of megacalycosis patients with presumed UPJO.

**Methods:** From the radiology information system (2003-2015) we retrieved patients with a diagnosis of megacalycosis (>20 dilated major calyces). Retrospective chart review was performed to identify imaging characteristics, surgical interventions, and outcomes.

**Results:** Six patients (mean age 8.8 years, range 2-16; 2 male & 4 female) were identified with megacalycosis that had evaluation with MAG3. Initial imaging (US or CT) revealed a relative kidney length (affected:contralateral) of 1.6-2.5 and pelvis:largest calyx ratio of 0.5-1.9. All initial MAG3s demonstrated delayed drainage (T1/2 range: 86 minutes to infinity). Initial relative function on MAG3 was preserved in 5/6 patients (41-48%). One patient with 18% relative function underwent nephrectomy, and the other 5 underwent pyeloplasty (of which 4 had adequate follow-up). On these patients' postoperative imaging, 3 of 4 (75%) ultrasounds and 3 of 3 (100%) of MAG3s demonstrated no improvement. Of these, one patient with abnormal MAG3s postoperatively had Whitaker studies demonstrating normal pressures.

**Conclusion:** MAG3 in patients with megacalycosis can be misleading and falsely suggest severe obstruction. In children with megacalycosis and concern for UPJO, we recommend initial evaluation with Whitaker pressure studies to accurately determine drainage characteristics and prevent unnecessary surgery.

**Podium #113**

**CHARACTERIZATION OF URINARY TRACT INFECTIONS IN CHILDREN WITH VESICOURETERAL REFLUX: THE IMPACT OF THE AMERICAN ACADEMY OF PEDIATRICS (AAP) GUIDELINES ON PRACTICE**

Jill Haxel, BS, Xin Yu, MD, Aaron Moore, BS, Kristin Delfino, PhD, Danuta Dynda, MD and Ranjiv Mathews, MD

Southern Illinois University School of Medicine

Presented By: Jill Haxel

**Introduction:** Urinary tract infections (UTI) are frequently identified in children. Infants may have marked variability in presentation and evaluation. The AAP has published guidelines for the evaluation of infants (2–24 months) to limit invasive testing following infection.

**Methods:** After IRB approval, a retrospective review was performed of children...
(2–24 months) with presumed UTI to characterize symptoms and extent of evaluation and management. Impact of the AAP guidelines was evaluated. Comparisons between variables were conducted with chi-square, Fisher’s exact test, or student t-tests. Correlations were identified with Pearson’s correlation. Statistical significance was determined at the p<0.05 level.

**Results:** A total of 164 children (140 girls) presenting with presumed UTI were identified. Urinalysis with culture confirmed UTI in 109/164 children (25 positive cultures without urinalysis were excluded from analysis). The most common presenting symptom was fever (84 children). Although the majority had urine cultures obtained via catheters or clean catch techniques, bagged specimens were still used in 8%. Of those with confirmed infection, ultrasound was obtained in 98 patients (90%), of which 45 were abnormal (53 normal). VCU was noted to be positive in 34% of children with a normal ultrasound.

**Conclusion:** The results show that the AAP recommendations are not consistently followed by many practitioners, and when followed, would have led to a significant number of children with VUR not being identified. Attention should be focused on increasing knowledge of the guidelines, so that VUR can be identified in vulnerable children.

**Podium #114**

**AMBULATORY PATIENTS WITH SPINA BIFIDA ARE 50% MORE LIKELY TO BE CONTINENT OF STOOL AFTER A MACE PROCEDURE**

Tim Large, MD, MS¹, Konrad Szymanski, MD, MPH², Rosalia Misseri, MD², Benjamin Whittam, MD, MS², Hubert Katherine, MD, MPH², Martin Kaefer, MD², Rink Richard, MD² and Cain Mark, MD²

¹Indiana University-Purdue University Indianapolis; ²IU Riley Faculty

**Presented By:** Tim Large, MD, MA

**Introduction:** While fecal soiling affects most patients with Spina Bifida (SB), it is unclear if it varies with ambulatory status. We aimed to determine if ambulatory status was associated with fecal continence in patients with and without a Malone antegrade continence enema (MACE).

**Methods:** We retrospectively reviewed records of patients with SB presenting for routine outpatient visits (January 2013 to September 2015). During the visit, self-reported fecal continence over the last 4 weeks was assessed. Those ambulating outdoors with/without braces/crutches were considered community ambulators. Non-parametric tests and logistic regression were used for analysis.

**Results:** Fifty-seven patients without a MACE and 115 with a MACE were similar in gender (p=0.99), ventriculoperitoneal status (p=0.15) and age (15.4 vs. 16.0 years old, p=0.11). Median age at MACE procedure and follow-up were 7.0 and 8.2 years, respectively. Patients without a MACE were more likely to be community ambulators (71.9% vs. 54.8%, p=0.03). After those with a MACE procedure, ambulatory patients were more likely to be continent compared to non-ambulatory ones (65.1% vs. 44.2%, p=0.04). Though not statistically significant, a similar difference was observed among those without a MACE (56.1% vs. 37.5%, p=0.25). Among those with a MACE, continent and incontinent patients, regardless of ambulatory status, had similar rates of MACE use, additive use and time for MACE completion (p≥0.43). Community ambulators with a MACE were more likely to be continent on multivariate analysis (OR 3.26, p=0.01).

**Conclusion:** Ambulatory patients with SB are 50% more likely to be continent of stool on long-term follow-up, especially after a MACE procedure.
**Podium #115**

**IMPACT OF VARIATION IN DISPOSABLE SUPPLY UTILIZATION ON COST FOR HIGH VOLUME PROCEDURES**

Lauren Hemsley, MPH, Badrinath Konety, MD, MBA and James K. Anderson, MD

University of Minnesota

Presented By: Lauren Hemsley

**Introduction:** High-volume surgical procedures can be profitable for hospitals if costs are minimized. One potential way to reduce costs is to standardize or limit the range of disposable supplies utilized by providers. The number and types of items listed on preference cards often significantly differ from actual utilization, driving unnecessary waste and costs.

**Methods:** Using monthly reports of surgical procedures performed at our medical center, high-volume procedures were identified. Preference cards were obtained by surgeon for 15 of the most commonly performed procedures by 10 surgeons. Cost tables for disposable items were created using cost data from Epic OpTime/Anes Operations. Utilization and costs were calculated for each procedure by surgeon to determine cost differentials. Median, Mean (±SD) and 95% confidence intervals were calculated and compared.

**Results:** Cost differentials on disposable supplies for a procedure (highest vs. lowest cost associated with a surgeon) ranged from $400.00 (SD $180.19) to nearly $2000.00 (SD $744.60) depending on the surgery. Procedures were grouped into two categories: endourologic and oncologic. The median variable supply costs for endourologic procedures ranged from $286.87 to $2,757.15. The median costs for oncologic procedures ranged from $327.81 to $15,737.00. Eliminating items listed on the preference card by only a single surgeon for each procedure could yield variable supply cost savings of $200.00/procedure to over $10,000.00/procedure across all surgeons.

**Conclusion:** Reducing variation between surgeons could lead to reduction in range of disposables to be used for each procedure. Standardize preference cards with predefined limited variations can yield considerable cost savings for most commonly performed urological procedures.

**Podium #116**

**CHALLENGING THE MICROHEMATURIA GUIDELINES: BACK TO THE FUTURE?**

Richard Matulewicz, MS, MD, Oana Popescu, Donald Lloyd-Jones, MS, MD and Joshua Meeks, MD, PhD

Northwestern University Feinberg School of Medicine

Presented By: Richard S. Matulewicz, MS, MD

**Introduction:** Several important clinical details about microhematuria (MH) are still not well known. Of greatest significance is the influence of the degree of MH (RBC/hpf) and number of positive samples on rates of diagnoses.

**Methods:** Patients with a new diagnosis of MH were abstracted from an institutional database from 2008-2011. Initial and subsequent UAs were collected and patients were followed indefinitely for diagnosis of five urologic disease processes. The influence of index RBC/hpf and follow up UA data were related to outcomes.

**Results:** There were 29,107 patients included. Median follow up was 5.8 years. 10,254 (35.2%) had at least 1 UA collected in the six months after initial
diagnosis. Rate of diagnosis were 0.49%, 0.54%, and 0.64% for bladder, kidney, and prostate cancer respectively. Urolithiasis and BPH were diagnosed at rates of 3.72% and 2.98%. Increasing RBC/hpf was associated with higher rates of all diagnoses (Table 1). A single positive subsequent UA was associated with a 37% increase in the odds of malignant diagnosis (p=0.006) and 22% increase in the odds of benign diagnosis (p=0.001).

**Conclusion:** This is the largest known exploratory study of MH patients and the first to assess degree of index UAs and follow up UAs as they relate to the development of both malignant and benign diagnoses.

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**Podium #117**  
**DO PERIOPERATIVE TROPONIN CONCENTRATIONS PREDICT MORTALITY IN PATIENTS HAVING MAJOR UROLOGIC SURGERY?**

Yaw Nyame, MD, MBA, Benjamin Abelson, MD, Venu Menon, MD, Daniel Sessler, MD, Eric Klein, MD and Howard Goldman, MD  
Cleveland Clinic  
Presented By: Yaw A. Nyame, MD, MBA

**Introduction:** Strong prospective evidence exists demonstrating a ten-percent 30-day mortality rate among patients over 45 years of age with abnormal postoperative troponins. This study aimed to assess the effect of troponins ordered for-cause on intermediate-term mortality in patients undergoing major urologic surgeries at our institution.

**Methods:** This is an analysis of patients who had major urologic surgeries at the Cleveland Clinic from 2010 to 2015. Patients were stratified by maximum troponin concentration within 30 days of surgery. Survival analysis was performed.

**Results:** A total of 1306/8404 (15.5%) patients had one or more troponin determinations within 30 days of surgery, and 304/8404 (3.6%) of these patients had an abnormal troponin level (>0.01 ng/mL). Patients with troponins drawn within 30-days of surgery had a significantly increased risk of mortality at 5 years (Figure 1, p<0.0001). Multivariate Cox regression analysis demonstrated that patients with troponin concentrations >0.01 ng/mL (HR 2.01, 95% CI: 1.60, 2.52), 0.01-0.03 ng/mL (HR 2.61, 95% CI: 1.55, 4.40), and >0.03 ng/mL (HR 4.48, 95% CI: 3.26, 6.16) had increased risk of mortality compared to patients who did not
have troponins measured.

**Conclusion:** Perioperative troponins represent a significant, independent predictor of intermediate-term mortality in this select group of patients screened for cause, and warrants further investigation in a broader group of urologic patients.

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**Podium #118**

**UROLOGIC SIMULATION: 3-YEAR EXPERIENCE WITH A MULTI-INSTITUTIONAL, MULTI MODALITY MODEL**

Alexander Chow, MD¹, E Yura, MD², B Sherer, MD³, K Latchamsetty, MD¹, M. Abern, MD³, E. Kocjancic, MD³, S. Eggener, MD⁴, T. Turk, MD⁵, S. Park, MD⁶, S. Psutka, MD⁷ and C. Coogan, MD¹

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Presented By: Alexander Chow, MD

**Introduction:** Surgical simulation with authentic and high fidelity simulators has been used to improve surgical technical skills, decrease learning curve and to improve surgical outcomes and patient safety. This study presents our three-year experience with a multi-modality, multi-institutional workshop model of urologic simulation for resident education.

**Methods:** Residents from six area urology training programs rotated through simulation stations in three consecutive sessions from 2014 to 2016. Workshops include PVP, ureteroscopic stone extraction, laparoscopic peg transfer, 3-dimensional laparoscopy rope pass, transobturator sling placement, intravesical injection, 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:** A total of 51 of 68 (75%) participants (PGY 1-6) completed the exit questionnaire. Previous simulation experiences include: laparoscopy (71%), PVP (51%), ureteroscopy (47%), 3D lap (27%), robotic (21%), vasectomy (14%), pelvic floor (12%), intravesical instillation (11.7%) and Urolift (11.7%). Mean rating of each exercise usefulness on a scale of 1-10 ranged from 6.8 to 8.9. Participant ratings improved over time: overall course 8.9 to 9.08, faculty instruction 8.9 to 9.3, station time limit 8 to 8.6. The most common suggestion for
course improvement was inclusion of a robotic simulator. All residents viewed the lab as beneficial to their education.

**Conclusion:** This workshop model is a valuable training experience for residents. High ratings of usefulness for each exercise demonstrated excellent content validity provided by the course. Participant feedback was instrumental in improving the usefulness of simulation training for residents.

**Podium #119**


Julia Han, MD, Pharm D², Shreyas Gandhi³, Crystal Bockoven⁴ and Philipp Dahm, MD, MHS²

¹Minneapolis VAMC and University of Minnesota; ²University of Florida; ³McMaster University; ⁴University of Minnesota

Presented By: Philipp Dahm, MD, MHS², FACS

**Introduction:** We assessed the quality of published systematic reviews (SRs) in the urological literature as an extension of a prior study (MacDonald SL et al, JU 2010).

**Methods:** We systematically searched PubMed® and hand-searched the table of contents of four major urological journals from 1/2013 to 12/2015 to identify SRs related to questions of prevention and therapy. Two independent reviewers assessed the methodological quality using the 11-point Assessment of Multiple Systematic Reviews (AMSTAR) instrument.

**Results:** The literature search identified 490 studies of which 130 ultimately met inclusion criteria. The mean AMSTAR scores ± SD for 2013-15 (n=130), 2009-2012 (n=113) and 1998-2008 (n=57) were 4.9 ± 2.4, 5.4 ± 2.3 and 4.8 ± 2.5, respectively (p=0.160). In 2013-15, AMSTAR scores for BJU International (n=29), The Journal of Urology (n=19), European Urology (n=62) and Urology (n=20) were 5.6 ± 3.1, 5.1 ± 2.6, 4.6 ± 2.3 and 4.3 ± 2.3, respectively (p=0.205). SR’s scored highest for the description of studies’ baseline characteristics (118; 90.8%) and comprehensive literature search of 2 or more databases (105; 80.8%). They scored lowest on conflict of interest reporting (6; 4.6%), and the inclusion of unpublished studies to avoid publication bias (10; 7.7%).

**Conclusion:** There has been an exponential increase in the number of systematic reviews published in the urological literature year by year, but a stagnation of methodological quality. Systematic review authors and editors should apply established methodological standards to enhance the validity and impact of systematic reviews.
Podium #120
COMPARATIVE COMPETITIVE ANALYSIS OF THE BEST COMORBIDITY INDEX FOR THE PREDICTION OF OUTCOMES AFTER RADICAL CYSTECTOMY FOR BLADDER CANCER
Nathan Brooks, MD¹, Joshua Bleicher, BS², Sarah Bell, MS³, Lewis Thomas, MD⁴, Paul Morrison, MD¹, Brad Erickson, MD¹, Yu Han, BS⁴ and Kenneth Nepple, MD¹
¹The University of Iowa Hospital and Clinic; ²The University of Iowa Carver College of Medicine; ³The University of Iowa Holden Comprehensive Cancer Center; ⁴The University of Iowa
Presented By: Nathan A. Brooks

Introduction: A recent report identified comorbidity status as a predictor of perioperative death and five-year all-cause mortality after radical cystectomy. We sought to validate the impact of comorbidity and further assess which comorbidity index performs best in the radical cystectomy (RC) population.

Methods: A total of 334 (283 men, 51 women) patients underwent RC from 2000-2010 at our institution. We collected clinical and pathologic variables, evaluated medical comorbidity assessed by the Charlson comorbidity index (CCI) and Adult Comorbidity Evaluation-27 (ACE) and recorded the total number of preoperative medications excluding supplements (TM). Outcomes assessed included length of stay (LOS), 30-day Clavien 2-5 complications (CC), and 4-year overall survival (OS). A stepwise multi-variate model was created.

Results: Median age at surgery was 70.4 years. With respect to comorbidity score, median (range) was 1(0-7) for CCI, 2(0-13) for ACE, and 4(0-23) for total medications. Clavien 2-5 complications occurred in 49.4% of patients, median LOS was 9 days, and 4-year OS was 49.6%. Only one comorbidity measure was ultimately included in the multivariate model for LOS, complications, and OS. The multivariate model for LOS included ACE overall score (+ marital status and gender), for 30-day complications included TM (+ body mass index), and for OS included total medications (+ age, marital status, pathologic T stage and N stage).

Conclusion: Increased ACE score was associated with increased LOS. However, TM, a potential surrogate marker for comorbidity, outperformed both the comorbidity indices in predication of CC and OS. Further validation of the prognostic value of TM is warranted.

Podium #121
THE FRAGILITY OF STATISTICALLY SIGNIFICANT RESULTS FROM RANDOMIZED TRIALS IN UROLOGY
Vikram Narayan, MD¹, Shreyas Gandhi, BHSc², Kristin Chrouser, MD, MPH³, Nathan Evaniew, MD⁴, Yen-Yi Ho, PhD⁵ and Philipp Dahm, MD, MHSc³
¹Department of Urology, University of Minnesota; ²McMaster University; ³Minneapolis Veterans Affairs Health Care System and Department of Urology, University of Minnesota; ⁴Division of Orthopedics, McMaster University; ⁵Division of Biostatistics, University of Minnesota
Presented By: Vikram M. Narayan, MD

Introduction: Randomized controlled trials (RCTs) have the potential of providing high quality evidence to inform clinical practice. This quality relies not only on safeguards against bias, but also on statistical power. In this study, we determined the Fragility Index of urological RCTs as a novel metric (Walsh M et
al, JCE 2014) to assess the robustness of statistically significant results.

**Methods:** The fragility index is defined as the minimum number of patients in an arm of a trial whose status would have to change from “non-event” to “event” in order to turn a statistically significant result into a non-significant one. All RCTs published in the 4 major urology journals between 2013-2015 were identified. We excluded studies not reporting dichotomous outcomes, as well as those with non-significant results and non-parallel designs. We applied the Fisher exact test to determine fragility index values.

**Results:** A total of 207 RCTs were identified, and 31 studies met inclusion criteria. Median sample size (IQR) was 115 (63, 200), while median event rate per study outcome was 42 (28, 74). The median fragility index was three (3, 6), indicating that an addition of only three alternate events to an arm of the average trial would have eliminated its statistical significance.

**Conclusion:** Statistically significant results in urology RCTs are often fragile, with significance hinging on few events. Urologists should interpret RCTs cautiously. There may be a role for reporting fragility index values routinely to provide guidance as to the statistical robustness of findings.

**Podium #122**

**FOLLOW-UP CARE AFTER ED VISITS FOR KIDNEY STONES—A MISSED OPPORTUNITY**

Amy Luckenbaugh, MD¹, Phyllis Yan, MA², J. Stuart Wolf Jr., MD¹, Khurshid Ghani, MBChB, MS², Brent Hollenbeck, MD, MS² and John Hollingsworth, MD, MS²

¹University of Michigan Department of Urology; ²Dow Division of Health Services Research, Department of Urology, University of Michigan

Presented By: Amy Luckenbaugh, MD

**Introduction:** Following an ED visit patients with acute renal colic are typically instructed to follow-up with urology or primary care. Patients who do not may miss an opportunity for secondary stone prevention. In this context, we examined patterns of post-ED follow-up care among adults with kidney stones.

**Methods:** We used MarketScan’s Commercial Claims and Encounters Database (2003-2006) to identify adults (18-64 years) with an ED visit for kidney stones. We determined which patients received post-ED follow-up care, defined as a physician office visit or surgery for kidney stones within 90 days of the ED claim. Controlling for sociodemographic characteristics, we fit multivariable logistic regression models to evaluate the association between receipt of post-ED follow-up care and secondary stone prevention (i.e., 24-hour urine testing, prescription of a preventive pharmacological therapy).

**Results:** We identified 70,294 patients with an ED visit for kidney stones, 53% had follow-up care within 90 days. Among those with post-ED follow-up care, 66% were seen by a urologist. Post-ED follow-up care was associated with 36% higher odds of receiving secondary prevention (Figure, OR, 1.36; 95% CI, 1.30 to 1.43).

**Conclusion:** Post-ED follow-up is associated with greater use of secondary prevention; therefore, efforts to enhance linkages across settings are needed to provide patients with kidney stones more comprehensive care.
Podium #123
WHAT DO UROLOGY RESIDENCY APPLICANTS LOOK FOR IN A TRAINING PROGRAM?
Amir Lebastchi, MD¹, Ian McLaren, MD¹, Roger Khouri Jr., BS¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD², Thomas Stringer, MD², Ajay Singla, MD³, Matthew Sorensen, MD⁴, Hunter Wessells, MD⁴ and Sapan Ambani, MD¹
¹University of Michigan Department of Urology; ²University of Florida Department of Urology; ³University of Toledo Department of Urology; ⁴University of Washington Department of Urology
Presented By: Amir Lebastchi, MD

Introduction: It is unclear whether urology residency applicants understand how they are ranked. Furthermore, we do not know how applicants evaluate training programs. We conducted a national survey to better understand how future urology residents evaluate residency programs, and how they perceive they are evaluated.

Methods: We emailed an electronic survey to all 2016 Urology Match applicants to one of four participating institutions. Participants were asked to rank criteria they used to evaluate training programs, as well as rank what they felt programs used in the selection of potential trainees. Analysis of variance with post-hoc testing was used to compare and evaluate differences in mean ranks.

Results: A total of 322 applicants responded. Applicants ranked operative experience as most important when evaluating potential training programs (Table 1). 46% of respondents felt geography played at least a strong role in determining their future training program. Applicants felt that training programs considered United States Medical Licensing Examination scores, followed by urology references, as most important when selecting future residents.

Conclusion: Urology applicants have significant insight into what factors influence their ranking by training programs. Additionally, the results of our survey provide data on what today’s applicants value in a training program, which programs may find useful when marketing their program to future applicants.
THE EFFECT OF PRE-TREATMENT MULTIDISCIPLINARY CARE ON CANCER-SPECIFIC AND ALL-CAUSE MORTALITY IN MEN WITH LOCALIZED PROSTATE CANCER

Naveen Kachroo, MD PhD¹, Jesse Sammon, DO¹, Deepansh Dalela, MD¹, Firas Abdollah, MD¹, Akshay Sood, MD¹, James Peabody, MD¹, Mani Menon, MD¹ and Quoc-Dien Trinh, MD²

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Presented By: Naveen Kachroo, MD

Introduction: Multidisciplinary care (MDC) has the ability to optimize prostate cancer (PCa) management by providing patients with a more objective view of the treatment decision process. However, there is limited data on the oncologic outcomes associated with MDC for men with PCa.

Methods: We examined men residing in SEER registry areas, diagnosed with localized PCa between 1992-2009. MDC was defined as visits with multiple specialists (urologist, radiation oncologist) during the period beginning 1 month before diagnosis, ending 1 year after diagnosis and/or prior to definitive management. Cox proportional hazards models were used to estimate the effect of MDC on all-cause and PCa-specific mortality.

Results: Following exclusions, the final study cohort included 151,488 men of whom 84,965 (56%) were in receipt of MDC. The proportion of men receiving MDC increased over time. Eight-nine percent of MDC patients chose radiation therapy (RT) as their primary treatment. For all men, receipt of MDC was associated with decreased all-cause mortality (HR 0.84, 95% CI 0.81-0.88, p<0.0001) and specifically for those treated by Observation (HR 0.75, 95% CI 0.70-0.82, p<0.0001). However, MDC was associated with increased PCa-specific mortality (HR 1.37, 95% CI 1.23-1.53, p<0.0001), especially amongst those receiving androgen deprivation therapy (HR 1.74 [95% CI 1.48-2.06], p<0.0001).

Conclusion: The incorporation of pre-treatment MDC has become more common over the past 15 years. Surprisingly, while receipt of MDC increases the probability of undergoing RT, it has mixed effects on important oncological outcomes. Overall, MDC was associated with decreased all-cause mortality but an increased PCa-specific mortality.
Podium #125 - WITHDRAWN

Podium #126
ASSESSING THE VARIABILITY IN INSURANCE COVERAGE
TRANSPARENCY FOR MALE SEXUAL HEALTH CONDITIONS IN THE
UNITED STATES
Brian Le, MD, David Paolone, MD, Sarah McAchran, MD and Wade Bushman, MD
University of Wisconsin-Madison
Presented By: Brian Van Le, MD

Introduction: Treatment of male sexual health disorders contributes significantly
to an improved quality of life. However, patients often mistakenly assume their
health plans consider the treatment of male sexual health disorders as medically
necessary. We examined publicly available policy coverage documents of the
largest US medical insurance plans to determine the degree of transparency with
regards to male sexual health conditions.

Methods: We selected two index patients across the male sexual health
spectrum: (1) a PDE5 refractory erectile dysfunction patient requiring
intracavernosal injection therapy or penile prosthesis, (2) a 50 yo male patient
with laboratory-confirmed, symptomatic hypogonadism requiring testosterone
replacement therapy as defined by endocrine society criteria. We researched the
policy documents regarding coverage for standard therapies. We used breast
reconstruction after mastectomy as a control.

Results: We queried the publicly available policy statements for 84 of the largest
health care plans in the United States. While breast reconstruction policies are
publicly available for 94% of plans examined, policies of only 39% of plans for
advanced ED treatment options and 62% for hypogonadism are publicly
available. 34% of plans viewed penile prosthesis and intracavernosal injection as
medically necessary when due to an organic cause. 5% of plans explicitly stated
that these therapies would not be covered regardless of etiology. 55% of plans
viewed androgen replacement as medically necessary for our index patient.

Conclusion: There is a lack of transparency among medical insurers regarding
coverage of ED and hypogonadism in stark contrast to reconstructive breast
surgery.

Podium #127
EARLY OUTCOMES OF CONCURRENT TACHOSIL GRAFTING WITH IPP
PLACEMENT
Neil Patel, MD¹, Michael Butcher, DO² and Tobias Kohler, MD, MPH³
¹Southern Illinois School of Medicine; ²Park Nicollet Sexual Health Clinic; ³SIU
School of Medicine
Presented By: Neil Patel, MD

Introduction: Severe peyronie’s often requires grafting +/- simultaneous
inflatable penile prosthesis (IPP). We review our series of patients who received
a Tachosil graft concurrently with IPP. This novel technique does not require
graft suturing which prevents device puncture and reduces operative time.

Methods: A circumcision incision is made +/- peno-scrotal incision. The IPP is
placed first and corpora closed. The device is maximally inflated revealing point of
max curve. The neurovascular bundle is elevated if necessary. Plaque
incision(s)/excision is performed creating a large defect which is covered with a
tachosil graft adhering to normal corpora surrounding the defect without suture.
The tachosil is then covered with a previously preserved dartos layer. The device is left inflated for four weeks postoperatively allowing new corporal ingrowth over the tachosil matrix.

**Results:** Six patients (average age 56) underwent IPP with tachosil graft. Pre-procedure Doppler showed curvature of 70 degrees (45-120). 4/6 patients had multiplanar dorsolateral curvature (left). All patients are using their prostheses without complication. Curvature correction resulted in <30 degrees in 5/6 patients with one patient having residual 40 degree leftward curvature with max inflation. 4/6 patients have leftward deflection with the device uninflated.

**Conclusion:** Our preliminary results reveal Tachosil to offer a feasible, fast and safe alternative to grafting with IPP that does not require the graft to be sewn in place.

**Podium #128**

SELF-REPORTED CLINICAL MEANINGFULNESS PREDICTS OBJECTIVE OUTCOMES IN MEN UNDERGOING COLLAGENASE CLOSTRIDIUM HISTOLYTICUM INJECTIONS FOR PEYRONIE’S DISEASE

Matthew Ziegelmann, MD, Boyd Viers, MD, Brian Montgomery, MD, Mary Westerman, MD, Ross Avant, MD and Landon Trost, MD
Mayo Clinic Rochester

**Presented By:** Matthew J. Ziegelmann, MD

**Introduction:** Collagenase clostridium histolyticum (CCH) is approved for the treatment of Peyronie’s disease. Here, we sought to correlate perceived meaningfulness with objective changes in penile curvature among men receiving CCH injections.

**Methods:** From March 2014 to January 2016, 86 patients underwent one to four CCH series. After each cycle, patients completed a questionnaire that included the question, “If you stopped injections at this point, would you consider this to have resulted in a meaningful improvement for you? (yes/no).” Curvature assessments were performed initially and with subsequent injection series. Statistical analysis was used to compare curvature changes and reported clinical meaningfulness.

**Results:** Complete information was available on 61 patients. 23 (37%) and 38 (63%) patients completed trials two and four prior to interval assessment, respectively. Overall, 48 patients (78%) reported meaningful results, with 37 (61%) experiencing > 15 degree curvature improvement. Mean improvement (%) was 20 degrees (38%) in patients who found CCH meaningful at the time of repeat assessment and five degrees (8%) in those who did not (p<0.01). Patients who found the first series meaningful had significantly greater curvature improvements (21 degrees versus 13 degrees, p<0.01). However, 15 of 24 patients (63%) who did not find the first series meaningful found subsequent series meaningful. No clinical variables were predictive of curvature improvement or meaningfulness.

**Conclusion:** Patient perceived meaningfulness of CCH therapy predicts subsequent curvature improvement outcomes beginning with the first series. As such, this may be considered as a surrogate and early indicator for expected outcomes with CCH.
Introduction: Cardiovascular disease is an established risk factor for erectile dysfunction (ED). As shown by prior studies, abnormalities in conjunctival microvascular hemodynamics can signify systemic vascular pathology. We hypothesized that conjunctival blood velocity is altered in subjects with advanced stages of ED and may potentially serve as a surrogate biomarker in identifying severe ED.

Methods: Adult men diagnosed with ED and healthy controls were studied. Subjects with ocular/neurologic pathologies or history of pelvic surgery were excluded. Subjects with ED completed the International Index of Erectile Function (IIEF) questionnaire. All subjects underwent conjunctival microcirculation imaging with the use of the EyeFlow device. Mean arteriole and venule diameter, velocity, and blood flow was calculated in each subject.

Results: A total of seven healthy control and 10 ED subjects participated in this study. Four subjects had ED severe that required penile prosthesis placement. Results are summarized in Table 1. Mean arteriole diameter, venule velocity and blood flow were higher in ED subjects as compared to controls.

Conclusion: In this pilot study, we found alterations in microvascular caliber and blood flow due to ED. Thus, EyeFlow can identify patients with ED of vascular origin. Our group will study the possibility of stratifying ED by severity and correlate with microvascular alteration in patients.
underwent varicocelectomy for palpable varicoceles, had at least 1 abnormal parameter on pre-operative semen analysis, and had 3 and 6 month SA data available were included. Improvement was classified as >50% increase in total progressively motile sperm per ejaculate.

**Results:** A total of 330 patients underwent varicocelectomy. Overall, 155 patients had improvement in semen parameters. Only 126 patients met inclusion criteria and of these patients, 51% had improvement in semen parameters. Of the patients that improved, 65.6% did so by three months and 34.4% did so by six months. Of the men that had improved semen parameters at three months, 28.6% had a natural pregnancy. However, 41% of the patients that did not improve at three months, but did so at six months, had natural pregnancies.

**Conclusion:** Varicocelectomy resulted in improvement in semen parameters in half of our patients; the majority improved by three months. However, ~30% of patients without improvement at three months subsequently improved at six months. Pregnancy was more likely to occur in those who improved. This data may be useful in counseling post varicocelectomy as to the time course for improvement and ultimately pregnancy.

**Podium #131**

**POST-FINASTERIDE SYNDROME: IS DUTASTERIDE UNFAIRLY ACCUSED?**

Wesley Baas, MD¹, Michael J. Butcher, DO², Joseph Clemons³, Aye Lwin², Bradley Holland³, Michelle Herberts³, Kristin Delfino, PhD⁴, Stanley Althof, PhD⁵, Tobias S. Kohler, MD, MPH¹ and Kevin T. McVary, MD¹

¹Southern Illinois University School of Medicine, Division of Urology; ²Male Infertility Department at Park Nicollet; ³Southern Illinois University School of Medicine; ⁴Southern Illinois University School of Medicine, Center for Clinical Research; ⁵Center for Marital and Sexual Health

Presented By: Wesley Baas, MD

**Introduction:** Finasteride, a5α-reductase inhibitor (5-ARI's), is used to treat benign prostatic hyperplasia and alopecia. Emerging research has suggested that finasteride can result in persistent sexual and nonsexual side effects known as post-finasteride syndrome (PFS). Because of a shared mechanism of action, the makers of dutasteride voluntarily underwent an FDA label change. A FAERS database was used to study claims of adverse events associated with 5-ARI's.

**Methods:** A FAERS database between 4/1/2011 and 10/29/2014 pertaining to all 5-ARI's received was analyzed. Every reported case was coded according to date received, case type, whether it was reported by a health professional, outcomes, manufacturer, age of patient, country, product used, adverse events, and the suspected role of the reported drug. We used the FAERS database to see if dutasteride had reported adverse events that would fall in the spectrum of Post Finasteride Syndrome, and if so, which symptoms were predominate and at what frequency.

**Results:** The FAERS database consisted of 3,295 cases (2,989 male with 306 either female or gender unreported). Of the 2,989 male cases, 31 were with the concomitant use of finasteride and dutasteride. There was only one reported case of dutasteride alone. Because dutasteride and finasteride have a shared mechanism and should have similar adverse event profiles, this may call into question PFS as a whole.

**Conclusion:** Use of a FAERS database demonstrated that there was only one adverse effect reported over a 3.5 year period associated with the use of dutasteride alone. Because dutasteride and finasteride have a shared mechanism and should have similar adverse event profiles, this may call into question PFS as a whole.
Podium #132
CHARACTERISTICS AND INFECTION RISK IN PATIENTS UNDERGOING MULTIPLE INFLATABLE PENILE PROSTHESES
Brian Montgomery, MD and Landon Trost, MD
Mayo Clinic
Presented By: Brian Montgomery, MD

Introduction: Inflatable penile prosthesis (IPP) is the gold standard for medically refractory erectile dysfunction. Despite ongoing improvements, infectious complications remain a significant concern in IPP revision surgery. We sought to evaluate the impact of number of IPPs and IPP surgeries on subsequent infection rates.

Methods: A retrospective analysis was performed of all men presenting to a referral center for consideration of IPP revision or salvage surgery between 2013 and 2015. Demographic and clinical features were reviewed, including number of prior IPPs, reason for evaluation, and rate, number, and timing of IPP infections. Statistical analyses were performed to evaluate associations.

Results: A total of 44 men (median age 69) were identified with at least one prior IPP. The most common reason for presentation was malfunction (52%, 23/44). Overall, the risk of subsequent device infection at revision surgery was strongly correlated and increased linearly based on the number of prior IPPs: 1 prior IPP (6.8%; 3/44), 2 prior (18.2%; 4/22), 3 prior (33.3%; 4/12), 4 prior (50%; 4/8), and 5 prior (100%; 2/2) (R²=0.90, p=0.01). Similarly, rates of infection positively correlated with number of prior IPP-related surgeries performed (R²=0.97, p<0.01). The median time to development of infection after most recent IPP surgery was two months (IQR 1-3.3 months).

Conclusion: Infection rates of revision/salvage IPP surgery increase with each subsequent IPP placement or following IPP-related surgeries. The majority of patients can expect to experience at least one infection by their 4th device. These data represent a change in paradigm on revision prosthetic surgery.

Podium #133
TESTICULAR SPERM ASPIRATION IN MEN WITH NON-OBSTRUCTIVE AZOOSPERMIA: USING FSH LEVEL AS A PREDICTOR OF SUCCESSFUL SPERM RETRIEVAL
Alexander Chow, MD, S. Larsen, MD and L. Levine, MD
Rush University Medical Center
Presented By: Alexander Chow, MD

Introduction: Testicular sperm aspiration (TESA) has been offered as an alternative procedure to testicular sperm extraction for the retrieval of spermatozoa in patients with obstructive azoospermia (OA) and non-obstructive azoospermia (NOA). This study focus on our experience with TESA for men with NOA and examined FSH as a predictor of successful sperm retrieval (SRR).

Methods: We reviewed the records of azoospermic men without obstructive etiologies who underwent TESA from 1999 – 2015. Men with presumed NOA were defined as no evidence of obstruction by history or physical exam. Two subgroups of NOA were evaluated, Group 1 included those with FSH > 8 IU/L and Group 2 included those with FSH ≤ 8. Preoperative FSH and testosterone for all patients were obtained.

Results: Of our 136 patients, we identified 57 (42%) individuals in Group 1 and 79 (58%) in Group 2. SRR was 17/57 (29%) for Group 1 and 52/79 (65%) for
Group 2. Group 1 had an average FSH of 20.8 (9.3–66) whereas Group 2 had an average FSH of 4.47 IU/L (1–8). There were no postoperative adverse events including no prolonged pain, infection, hematoma, hydrocele or testicular atrophy.

**Conclusion:** TESA appears to offer a reasonably high likelihood of viable sperm retrieval in men with NOA, which compares well with micro-TESE. Given the much higher level of sperm retrieval rate for men with presumed NOA with more normal levels of FSH (≤ 8 IU/L), TESA should be considered the initial approach to retrieve sperm in this population.

**Podium #134**

**TESTOSTERONE PRESCRIBING TRENDS OF PHYSICIANS**

Daniel Mazur, MD, Jared Moss, MD, Mary Kate Keeter, MPH and Robert Brannigan, MD
Northwestern University Feinberg School of Medicine
Presented By: Daniel J. Mazur, MD

**Introduction:** In this study, we explore testosterone prescribing patterns of physicians at our institution. We hypothesize that the number of prescriptions written will increase until the FDA drug safety communications on testosterone in 2014 and 2015, with a subsequent decline after that.

**Methods:** We conducted an IRB approved retrospective review of testosterone prescriptions written at our institution from January 2002–September 2015. For each prescription, we assessed the specialty of the prescriber and the type of testosterone prescribed.

**Results:** The number of testosterone prescriptions have increased each year from an average of 4.3 prescriptions/month in 2002 to 312 prescriptions/month in 2015. After the FDA communications, the number of prescriptions continued to rise (p = 0.03, Figure 1).

Non-Endocrinologists, non-Urologists represent the largest group of prescribers, writing 49.1% of all testosterone prescriptions in 2015 (Endocrinologists = 25.8%, Urologists = 25.1%). The number of prescriptions written by Endocrinologists significantly increased after the FDA communications (p<0.001), but not for other providers.

The most common type of testosterone prescribed in 2015 was a topical formulation (66.6%).

**Conclusion:** The overall number of testosterone prescriptions has increased from 2002-2015 even with the FDA drug safety communications. Non-Endocrinologists, non-Urologists prescribe the most testosterone overall, with topical formulations being the most common prescriptions.
Podium #135
LONG-TERM FOLLOW-UP OF THE VIRTUE QUADRATIC® MALE SLING
Andrew McCall, MD, Marcelino Rivera, MD and Daniel Elliot, MD
Mayo Clinic
Presented By: Andrew N. McCall, MD

Introduction: Recent male sling literature has been introduced as a potential alternative treatment option to the artificial urinary sphincter (AUS). There is a paucity of evidence discussing outcomes of the Virtue Quadratic® (VQ) Sling (Coloplast). Herein we report our outcomes of male sling patients using the VQ Sling.

Methods: A retrospective review was performed on all Virtue slings performed at our institution by a single surgeon over a two-year period. Patient reported outcomes regarding procedure success, complications as well as subsequent procedures were identified. Procedure failure was defined as the inability to reduce patient’s pre-operative pad use, sling explant, need for AUS due to continued incontinence.

Results: We identified 32 patients who were implanted with the VQ sling over the study period. One patient was excluded due to no follow-up. Median followup was 55 months. Mean preoperative PPD was three (1-8). Mean postoperative PPD was two (range 1-8). There were 21 (68%) of patients who were considered procedure failures. Of these, Two (7%) patient endorsed chronic pain following placement and seven (22%) underwent subsequent sling removal due to pain or explant for failure (one vs. six). Six (20%) patients underwent subsequent AUS placement. Procedure failure was more likely in patient with XRT 6 (19%) (p=.02). There was no association between procedure failure with age (p=0.65) or severity of incontinence (p=0.17).

Conclusion: Our data demonstrated a significant procedure failure and complication rate with the Virtue Sling. As a result, we cannot recommend the use of the Virtue Sling and have abandoned any further implantation of the device.
ONABOTULINUMTOXINA DOES NOT IMPROVE RADIATION CYSTITIS SYMPTOMS

Paholo G. Barboglio Romo, MD, MPH and Anne P. Cameron, MD
University of Michigan
Presented By: Paholo G. Barboglio Romo, MD, MPH

Introduction: There is sparse data on the effectiveness of onabotulinumtoxinA (BTXA) bladder injections in the treatment of refractory urgency incontinence in patients with radiation cystitis, with only one published cases series of six patients showing favorable outcomes in six patients. The aim of our study was to review our outcomes of BTXA for refractory radiation cystitis.

Methods: A retrospective IRB approved review at our institution included post pelvic radiation who received BTXA between Jan-2008 to Dec 2014. All patients had refractory urgency incontinence to oral therapy. BTXA doses ranged from 100 to 300 units based on voiding ability.

Results: There were 17 patients with a mean age of 74 years with refractory radiation cystitis-related urgency incontinence who underwent BTXA. Relevant patient demographics, urodynamics and outcomes are in Table 1. Only 35% (6/17) patients had improvements in incontinence after mean follow up of 19 months. There were no differences between subgroups when assessing all other pre-op variables. Three patients ultimately underwent urinary diversion and only three patients elected to have repeat injections.

Conclusion: In this series complex radiation-related urgency incontinence did not respond favorably to intradetrusor BTXA injections. Further prospective studies are necessary to elucidate the role of BTXA on radiation cystitis and if less severely affected patients respond better.
Podium #137
LONG-TERM QUALITY OF LIFE AND FUNCTIONAL OUTCOMES AMONG PRIMARY AND SECONDARY ARTIFICIAL URINARY SPHINCTER IMPLANTATIONS IN MEN WITH STRESS URINARY INCONTINENCE
Boyd Viers, MD, Marcelino Rivera, MD, Brian Linder, MD, Laureano Rangel, Matthew Ziegelmann, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Boyd R. Viers, MD

Introduction: There remains a paucity of data regarding subjective and functional outcomes following artificial urinary sphincter (AUS) implantation. Therefore, we evaluated long-term differences in quality of life (QOL) following primary and secondary AUS surgery.

Methods: Men were invited to participate in a mail-in survey assessing AUS status, patient satisfaction, and urinary control. Primary (N=467) and secondary (N=122) AUS devices without an event were included. Differences between cohorts including QOL (10-point scale, maximum 100) and functional outcomes were evaluated.

Results: A total of 229 (49%) primary and 49 (40%) secondary AUS patients completed the survey at a median 8.3 years. Primary and secondary AUS devices reported similar AUS QOL (74 vs 74). There were no significant differences in urinary continence outcomes including ≤1 PPD (56% vs 55%), frequency of leakage ≥1/day (81% vs 71%), or degree of minimal leakage related bother (64% vs 55%). At <5 vs ≥10 years there was a significant reduction in AUS QOL (86 vs 73; p=0.007). Urinary continence also declined with time including perceived urinary control (85% vs 53%; p=0.004), minimal leakage related bother (76% vs 59%; p=0.05); and ≤1 ppd usage (67% vs 55%; p=0.07). On univariate analysis no clinical variables, including secondary revision, were associated with satisfaction or continence outcomes.

Conclusion: We noted a high-level of AUS QOL, acceptable urinary control, and no difference in functional outcomes between men undergoing primary or secondary AUS surgery. However, the time related decline in satisfaction and continence highlights the need for patient counseling regarding long-term AUS functional outcomes.

Podium #138
NETWORK META-ANALYSIS TO ASSESS THE TREATMENT EFFECT OF ONABOTULINUMTOXINA, MIRABEGRON AND ANTICHOLINERGICS VERSUS PLACEBO FOR OVERACTIVE BLADDER
David Ginsberg, MD¹, Marcus Drake, MD², Christopher Chapple, MD³, Rachael McCoil, BSc⁴, Julie Glanville, MSc⁴, Kelly Fleetwood, MSc⁵, Daniel James, MSc⁵, Zsolt Hepp, PhD⁶ and Victor Nitti, MD⁷
¹Keck School of Medicine of USC; ²Bristol Urological Institute; ³Royal Hallamshire Hospital; ⁴York Health Economics Consortium Ltd; ⁵Quantics Consulting Ltd; ⁶Allergan plc; ⁷New York University Langone Medical Center- School of Medicine
Presented By: David Alan Ginsberg, MD

Introduction: This is the first comparison of the efficacy of all licensed doses of anticholinergics, mirabegron, and onabotulinumtoxinA versus placebo in adults with idiopathic overactive bladder using network meta-analysis (NMA) and meta-regression (NMR).

Methods: Electronic databases, review documents, guidelines, and websites
were searched for randomized blinded trials of ≥2-weeks duration comparing any
dose of onabotulinumtoxinA, mirabegron, or oral/transdermal anticholinergics
with each other or placebo. Networks were developed for outcomes of interest
based on studies of similar quality of study methods, confounding factors,
common treatment arms, and outcomes measured. Bayesian random effects
NMA (for the outcome of 100% reduction in urinary incontinence episodes [UIE])
and NMR (for outcomes on changes from baseline in UIE, urgency episodes, and
micturition frequency) models were used to synthesize results at week 12.
Results: A total of 102 trials were assessed. NMRs indicated that, after adjusting
for differences in baseline severity between trials, all treatments were more
efficacious than placebo. Patients who received onabotulinumtoxinA (100U) had
the greatest mean reductions in UIE (1.55 episodes/day more than placebo [95%
credible interval (CrI): 1.10, 2.01]), urgency (2.01 episodes/day more than
placebo [CrI: 1.48, 2.54]) and micturition frequency (1.37 episodes/day more than
placebo [CrI: 1.03, 1.70]). OnabotulinumtoxinA patients also had the highest
likelihood of achieving 100% UIE reduction (OR 4.30 versus placebo [CrI: 3.03,
6.23]).
Conclusion: This analysis suggests that onabotulinumtoxinA 100U provides the
greatest reduction in OAB symptoms and higher likelihood of being dry than all
licensed doses of anticholinergics and mirabegron in the network.

Podium #139
DOES SEX MATTER? A MATCHED PAIRS ANALYSIS OF
NEUROMODULATION OUTCOMES IN WOMEN AND MEN
John Lavin, MD, Priyanka Gupta, MD, Jason Gilleran, MD, Kim Killinger, MD,
Jamie Bartley, DO, Natalie Gaines, MD, Cheryl Wolfert, BSN, Judith Boura, MS
and Kenneth Peters, MD
Beaumont Health System
Presented By: John Lavin, MD

Introduction: There is a lack of understanding regarding differences in response
to neuromodulation between women and men. We aim to evaluate whether
baseline symptoms and outcomes are influenced by sex in a matched cohort.
Methods: Patients in our prospective database that had a tined lead placed were
reviewed. Those with initial success and subsequent implantable pulse generator
(IPG) were matched on age and urologic diagnosis. History, voiding diaries, and
validated questionnaires at baseline, three and six months, and one, two, and
three years were evaluated using descriptive statistics, repeated measures, and
matched pair GEE or Mixed analyses.
Results: Of 590 patients in the database, more women than men received an
IPG (452/488; 92.6% vs. 84/102 men; 82.4%; p=0.0011). 80 matched pairs
(n=160; 81% age ≥50 years; 56.25% had urgency/frequency with urge
incontinence−UI) were identified and evaluated. 19/79 (24.1%) of women had
prior bladder suspension and 6/23 men (26%) had prior prostate surgery. In
women vs. men, follow up (median 30.0 vs. 27.3 months; p=0.040), history of
Parkinson’s (2.6% vs. 14.5%; p=0.012), and heart disease (36.3% vs. 55.7%;
p=0.016) differed significantly. Incontinence severity improved only in women
(p<0.0001); only men had significant decreases in incontinence episodes/day
(p=0.017).
Conclusion: More women undergo neuromodulation, have initial success, and
subsequent IPG implantation. Equal numbers in each cohort had UI at baseline,
but UI episodes improved only in men and UI severity improved only in women.
Both women and men experienced similar levels of symptom improvement on other measures and treatment satisfaction.

Podium #140
RADIOGRAPHIC MISDIAGNOSES AFTER PERIURETHRAL BULKING AGENTS
Ayad Khourdaji, MD¹, Natalie Gaines, MD², Priyanka Gupta, MD², Keval Parikh³, Kim Killinger, MSN², Michael Ehlert, MD⁴ and Larry Sirls, MD²
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Presented By: Ayad Khourdaji, MD

Introduction: Injectable urethral bulking agents are utilized in managing stress urinary incontinence (SUI). Ambiguous symptoms may prompt subsequent pelvic imaging. Radiographic findings pertaining to injectables may be incorrectly interpreted leading to unnecessary diagnostic imaging, urologic consultation or procedures.

Methods: Patients undergoing periurethral injection for SUI between the years 2005 to 2015 were identified. Radiologic reports were reviewed for pelvic imaging with plain X-ray (XR), computed tomography (CT), magnetic resonance imaging (MRI) or ultrasound (US) performed after injection therapy.

Results: A total of 541 patients were identified; undergoing a total of 766 injection sessions. Injections were performed with calcium hydroxyapatite (Coaptite) or pyrolytic carbon-coated beads (Durasphere). Twenty-eight patients were excluded due to incorrect coding or incomplete information. 223/513 (43%) patients had no additional imaging after injections. 214/513 (42%) patients had additional imaging but injectables were not mentioned in the reports. 76/513 (15%) patients had 109 abdominal or pelvic imaging studies, which commented on findings associated with injection therapy. In 43/109 (39%) images, radiology correctly interpreted findings associated with periurethral injectables. 66/109 (61%) incorrect diagnoses were observed including: bladder calculus (18), calcifications near urethra (23), urethral diverticulum (8), hypodense areas suspicious for abscess (7), unknown pelvic nodular densities (3), possible neoplasm near bladder (3), possible for dilated periurethral gland (1), urethral calcification indicative of chronic inflammation (1), hypodense cystic area (1), bladder diverticulum (1).

Conclusion: Periurethral bulking agent injections are misdiagnosed by radiologists as bladder calculi, urethral diverticula with/without stones, or other pelvic pathology reflecting lack of familiarization with radiologic characteristics of periurethral bulking agents.

Podium #141 - WITHDRAWN

Podium #142
CONSISTENT AND DURABLE IMPROVEMENTS IN QUALITY OF LIFE WITH LONG-TERM ONABOTULINUMTOXINA TREATMENT IN PATIENTS WITH OVERACTIVE BLADDER
Christopher Chermansky, MD¹, Victor Nitti, MD², Sidney Radomski, MD³, Angelo Gousse, MD⁴, Marcus Drake, MD⁵, Albert Kaufmann, MD⁶, Andrew Magyar, PhD⁷ and David Ginsberg, MD⁸
¹University of Pittsburgh Medical Center; ²New York University; ³University of
**Introduction:** We evaluated the long-term effects of onabotulinumtoxinA 100U on quality of life (QOL) of overactive bladder (OAB) patients who were inadequately managed by an anticholinergic.

**Methods:** Eligible patients who completed either of two phase 3 trials could enter a 3-year extension study to receive onabotulinumtoxinA treatment ‘as needed’ for control of symptoms. Results are reported for up to 6 treatments. Assessments included change from baseline in Incontinence-QOL (I-QOL) total score and proportions of patients who achieved/exceeded the minimally important difference (MID) in I-QOL score (+10 points) after each treatment. Consistency of response over repeat treatments was evaluated by determining whether patients achieved ≥MID after the first treatment, and then analyzing the proportion who achieved ≥MID for all subsequent treatments.

**Results:** Of the 829 patients enrolled, discontinuations due to lack of efficacy/AEs were 5.7%/5.1%. After onabotulinumtoxinA treatments 1-6, QOL improvements were consistently 2-3X MID, with most patients achieving ≥MID (range: 65.2% to 76.1%). 72.9% of patients who achieved ≥MID after treatment 1 maintained I-QOL improvements ≥MID in all subsequent treatments. Over one-third (38.3%) of patients who did not achieve the ≥MID after treatment 1 achieved improvements ≥MID in all subsequent treatments. No new safety signals were observed.

**Conclusion:** The consistent improvements in OAB symptoms after long-term treatment with onabotulinumtoxinA corresponded with durable QOL improvements, with no new safety signals. Patients with clinically meaningful QOL improvements after treatment 1 had similar improvements in subsequent treatments, while lack of response to treatment 1 did not preclude positive response(s) in subsequent treatments.

**Podium #143**

**NATIONAL SURGICAL TRENDS AND PERIOPERATIVE OUTCOMES OF MID URETHRAL SLING PLACEMENT FOR STRESS URINARY INCONTINENCE**

Emily Slopnick, MD¹, Adonis Hijaz, MD¹, Carvell Nguyen, MD, PhD², Robert Abouassaly, MD¹, J Welles Henderson, MD¹ and Simon Kim, MD, MPH¹

¹University Hospitals Case Medical Center; ²MetroHealth Medical Center

**Introduction:** Ambulatory surgical centers (ASC’s) are increasingly used for low-risk surgeries, including mid-urethral sling placement (MUS). It is largely unknown whether patient characteristics and perioperative outcomes differ for patients undergoing MUS at ASC’s compared with inpatient hospitalization. We sought to determine trends and outcomes for MUS at ASC’s and hospitals from a national database.

**Methods:** Using the National Surgical Quality Improvement Program (NSQIP) database, we identified 10,210 women who underwent MUS 2006-2012. We stratified patients by inpatient versus ASC’s. Primary outcomes were 30-day complications, readmissions, and reoperations. Multivariable logistic regression was used to determine patient and surgery factors associated with adverse perioperative outcomes.

**Results:** 80% of patients underwent MUS at ASC’s (n=8,151). Over time, the
proportion of MUS performed at ASC’s increased from 63% in 2006 to 84% in 2012 (p<0.001). Inpatients were older with higher ASA classification (p<0.001). On multivariable analysis, patients treated at ASC’s were less likely to be readmitted (1.1% vs. 2.6%; adjusted OR 0.47; p=0.004) and less likely to undergo unplanned reoperation (0.7% vs. 2.1%; adjusted OR 0.36; p=0.008). 4.5% (n=455) of patients experienced at least one complication within 30 days. Complications were more likely among patients treated by gynecologists as compared to urologists (5.1% vs. 3.4%; adjusted OR 0.64; p<0.001).

Conclusion: Use of ASC’s for MUS is increasing across all demographics, with lower rates of readmission and reoperation than with inpatient hospitalization. Inpatients tend to be older with more significant comorbidities. Overall incidence of complications is low, though we identified a difference by surgical specialty.

Podium #144
ABDOMINAL PLACEMENT OF THE SACRAL NERVE STIMULATOR IMPULSE GENERATOR: BACK TO WHERE WE STARTED?
Adarsh Manjunath, MD, Richard Matulewicz, MD and Stephanie Kielb, MD
Northwestern
Presented By: Adarsh Manjunath, MD

Introduction: Sacral nerve stimulation (SNS) is effective for refractory voiding dysfunction. Primary abdominal placement or revision to the abdomen may avoid the high associated revision rates. We determine the factors prompting abdominal placement at our institution and describe this technique.

Methods: We retrospectively identified and reviewed 13 patients with abdominal placement of the SNS impulse generator by a single surgeon (SJK).

Results: Of the 13 patients, voiding dysfunction was secondary to multiple sclerosis in five, cerebral palsy in two, idiopathic in two, and other neurologic conditions in four. All had previously failed more conservative measures. 10 patients were wheelchair bound. Eleven patients had the impulse generator placed in the abdomen on initial implantation while two were revisions from buttock placement. Reasons for the 11 initial abdominal placements included wheelchair status in 10 and lack of gluteal fat in one. Of the revision patients, one was due to refractory pain at the impulse generator site and one had significant weight loss causing discomfort after buttock placement. Twelve impulse generators implanted abdominally were Interstim I, all done with the 25 cm extender. One impulse generator was the Interstim II, for which the 10 cm extender was utilized. No complications were incurred as a result of abdominal placement itself. There was one removal due to infection.

Conclusion: Abdominal placement of the SNS impulse generator should be considered as a primary or revision option in wheelchair bound patients. Extended length lead and longer pulse generator extenders with the Interstim devices facilitate abdominal placement.

Podium #145
LOW VOLUME GLEASON 8 ON PROSTATE BIOPSY: TIP OF THE ICEBERG OR WARMER WATERS AHEAD?
Christopher Riedinger, MD, Charles Nottingham, MD and Scott Eggener, MD
University of Chicago
Presented By: Christopher B. Riedinger, BS

Introduction: In men with a small volume of Gleason 4+4=8 prostate cancer
(PC) at the time of biopsy with otherwise low-risk features, it is unclear if this pathology accurately represents high-risk disease or an incomplete selection of more favorable pathology.

**Methods:** We queried our prospectively-collected institutional database of all men who underwent radical prostatectomy as primary treatment for clinically-localized PC from 2004 to 2015 who had a total linear volume of ≤ 1 mm of Gleason 4+4=8 and PSA less than 10 ng/mL. We then evaluated clinical and pathology outcomes from this group.

**Results:** Thirty-one men of over 4,200 in the database (0.7%) were identified who met inclusion criteria, of whom 74.2% had additional Gleason 7 or 6 at the time of biopsy. At radical prostatectomy, only four (12.9%) patients had Gleason sum 8 or 9, while the majority of patients were downgraded to either Gleason sum 6 (6.5%) or 7 (80.7%). However, seven patients (22.6%) with Gleason 7 had tertiary Gleason 5. Eighteen patients (50.1%) had tumor confined to the prostate, eleven (35.5%) had extracapsular extension, two (6.5%) had seminal vesicle invasion, and no patients had pathology stage T4 disease. Three patients (9.7%) had metastatic disease to one lymph node. Two patients (6.5%) had detectable PSA postoperatively, while another two later experienced biochemical recurrence.

**Conclusion:** Low volume Gleason 4+4=8 PC on biopsy most commonly resulted in downgrading of the final Gleason score, and only a small percentage patients experienced disease recurrence after radical prostatectomy.

**Podium #146**

**PELVIC LYMPH NODE DISSECTION AT TIME OF RADICAL PROSTATECTOMY: ASSESSING UTILIZATION AND YIELD WITHIN A STATEWIDE QUALITY IMPROVEMENT CONSORTIUM**

Aram Loeb, MD¹, Michael Levin, MD¹, Alex Borchert, BS², Susan Linsell, MHSA³, Yuqing Gao, MS³, David Miller, MD³ and Michael Cher, MD¹

¹Wayne State University - Department of Urology; ²Wayne State University - School of Medicine; ³University of Michigan - Department of Urology

Presented By: Aram Loeb, MD

**Introduction:** Pelvic lymph node dissection (PLND) at time of radical prostatectomy (RP) has known diagnostic implications and potential therapeutic benefits. It is recommended based upon the patient's preoperative risk of lymphatic metastasis. Our goal was to evaluate adherence to current guidelines and investigate overall yield of lymph node dissection within the Michigan Methods: Urologic Surgery Improvement Collaborative (MUSIC).

MUSIC practices submitted standardized data on all patients undergoing RP to a web-based registry, and the data was analyzed at a central location.

**Results:** Use of PLND and histopathology results are summarized in table 1. Using multivariate analysis, academic, high volume surgeons and practices, clinical T stage, preoperative PSA, Gleason score, and number and percent of positive cores on biopsy were all significantly associated with use of PLND. Academic and high volume practices, clinical T stage, PSA, Gleason, and number and percent of positive cores on biopsy were associated with lymph node metastasis (pN1). Further analysis was done within the intermediate risk group to attempt to identify predictors of lymph nodes metastasis.

**Conclusion:** Use of PLND is appropriately high for high-risk patients in Michigan. PLND could safely be eliminated for patients with low risk disease. Use of PLND could be increased in patients with intermediate risk disease, especially
for those with multiple positive risk factors.

Podium #147

IMMUNE CHARACTERIZATION OF THE PROGRAMMED DEATH RECEPTOR PATHWAY IN HIGH RISK PROSTATE CANCER

Wesley Baas, MD¹, Svetlana Gershburg², Danuta I. Dynda, MD¹, Kristin Delfino, PhD², Kathy Robinson, PhD³, Daotai Nie, PhD⁴, Jennifer Holmes Yearley, DVM, PhD⁵ and Shaheen Alanee, MD, MPH, MBA¹

¹Southern Illinois University School of Medicine, Division of Urology; ²Southern Illinois University School of Medicine, Center for Clinical Research; ³Southern Illinois University School of Medicine, Cancer Center; ⁴Southern Illinois University School of Medicine, Department of Med Micro, Immunology & Cell Biology; ⁵Merck Research Laboratories

Presented By: Wesley Baas, MD

Introduction: PD-1, a T-cell inhibitory receptor, and its ligand PD-L1 have been found to be expressed in many tumor types, and this expression has led to the development of many drugs targeting the PD-1 pathway. The objective of this study was to determine the expression of PD-1 and PD-L1 in high grade prostate cancer tissues, and correlate the expression with disease and patients characteristics.

Methods: Immunohistochemistry for PD-1 (CD279), PD-L1 (B7-H1), and CD3 was performed and scored from 0-5 on prostatectomy/biopsy tissue samples taken from 25 men with high grade prostate cancer. Charts were then retrospectively reviewed for numerous patient and disease characteristics. Statistical analyses were done to investigate the association of these patient and disease characteristics with PD-1, PD-L1, and CD3 expression.

Results: A score of 3-5 on the semiquantitative 0-5 score was deemed "high" expression whereas a score of 0-2 was deemed "low" expression. Of the 25 samples, two (8%) scored high for PD-1 expression, two (8%) scored high for PD-L1 expression, and 18 (72%) scored high for CD3 expression. There was found to be no statistically significant difference between high and low expression groups of PD-1, PD-L1, or CD3 for any of the variables we collected.

Conclusion: An overall low expression of PD-1 and PD-L1, and a concurrent high expression of CD3+ T cells was found in high risk prostate cancer tissue. No significant association was found between expression of PD-1, PD-L1 or CD3, and patient or disease characteristics.

Podium #148

MULTIPARAMETRIC MRI BASED PSA DENSITY CALCULATIONS ACCURATELY PREDICT THE PRESENCE OF CLINICALLY SIGNIFICANT PROSTATE CANCER PRIOR TO MRI/ULTRASOUND FUSION BIOPSY

Everardo Arias¹, Bryan Bisanz, BS¹, Michelle Van Kuiken, MD², Khalid Alsabban, MD¹, Steven M. Shea, MD³, Joseph H. Yacoub, MD³, Ari Goldberg, MD³ and Gopal N. Gupta, MD²
Introduction: In the era of MRI guided prostate biopsy, new predictors are needed to determine who harbors clinically significant prostate cancer prior to biopsy. In this study, we correlate MRI based PSAd, in order to determine if the added volume accuracy could improve PSAd accuracy and specificity in detecting clinically significant prostate cancer prior to MRI/TRUS fusion biopsy.

Methods: Using our prospectively maintained IRB approved MRI fusion biopsy database we analyzed 220 patients with clinical suspicion of prostate cancer based on prostate-specific antigen (PSA) and digital rectal exam (DRE). All patients underwent MP-MRI, and PSAd calculations were performed based on image segmented MRI prostate volumes. MRI PSAd were correlated to MRI/TRUS fusion biopsy results and predictive statistics performed.

Results: The analysis found a significant difference in PSAd between the Gleason groups for biopsy naive patients (p=0.001) as well as for prior biopsy patients (p=0.002). In our biopsy naive and prior negative biopsy cohort, patients with a Gleason score of 0-6 had a lower PSAd (Mdn (IQR) =0.10 and 0.11) than patients with a Gleason score of 7+ (Mdn (IQR) = 0.17 and 0.21), respectively.

Conclusion: The MRI PSAd has shown strong specificity for prostate cancer detection in both biopsy naive and prior negative patient cohorts.

Podium #149
EFFECT OF TIME FROM BIOPSY TO SURGERY ON COMPLICATIONS AFTER RADICAL PROSTATECTOMY
Mary Beth Westerman, Vidit Sharma and R. Jeffrey Karnes
Mayo Clinic Department of Urology
Presented By: Mary Beth Westerman, MD

Introduction: Urologists often recommend waiting 4-6 weeks after prostate biopsy before radical prostatectomy (RP). Herein, we assess the impact of time from biopsy to surgery on complications following radical prostatectomy.

Methods: A total of 12,761 patients who underwent RP at our institution between 2001 and 2012 had a prostate biopsy documented within one year of surgery. We grouped men into four groups based on the interval between biopsy and surgery: 1) within 3 weeks, 2) 4-6 weeks, 3) 7-12 weeks, 4) 13 or more weeks. Logistic regression analysis was performed to assess the impact of time on
postoperative complications.

**Results:** Mean time from biopsy to surgery was 64 days (range: 1-364 days). Adjusting for pre-operative variables, men waiting more than 7 weeks from biopsy to RP were less likely to experience any complication (OR: 0.82; 95% CI: 0.72-0.94, p = 0.005) or have a positive margin (OR: 0.86; 95% CI: 0.76-0.97, p = 0.02) (Table 1). Men undergoing early RP were less likely to receive a blood transfusion (OR: 1.2; 95% CI: 1.0-1.5, p = 0.05). No significant differences in bladder neck contracture rates, rectal injury, early sepsis, UTI, or abscess formation were identified.

**Conclusion:** Waiting at least seven weeks from biopsy to RP is associated with a lower overall complication rate.

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**Podium #150**

**CAN APIFINY, A NOVEL IMMUNE-BASED BLOOD TEST, BETTER DETERMINE HIGH GRADE PROSTATE CANCER RISK IN MEN WITH AN ELEVATED PSA AND A PREVIOUS NEGATIVE BIOPSY? INITIAL CLINICAL RESULTS**

Jacob Parke, MD¹, Preston Kerr, MS³, Chirag Dave, MD³, Gregory Oldford, MD², Kenneth Kernen, MD², J. Rene Frontera, MD², Brian Seifman, MD², Richard Sarle, MD² and Jason Hafron, MD²

¹William Beaumont Hospital; ²Michigan Institute of Urology; ³Beaumont Health System

Presented By: Jacob Parke, MD

**Introduction:** Men with suspicion of prostate cancer following a previous negative biopsy pose a difficult diagnostic dilemma. We report on a novel immune-based blood test for detecting prostate cancer measuring autoantibodies specific to the presence of prostate cancer. We report our experience with an eight autoantibody signature to detect high grade prostate cancer in patients with a previous negative biopsy.

**Methods:** Serum specimens from 243 patients with at least one negative biopsy and clinical suspicion of prostate cancer were tested. The eight autoantibody signature against tumor specific antigens were quantified using a Luminex® 100/200® System. A specific algorithm using the eight autoantibodies produced an Apifiny® score for each of the specimens. Clinical and pathological outcomes were then recorded. Assay precision and specimen stability were evaluated.

**Results:** 172 patients received an Apifiny score of less than 59 (low risk) and 7 had a positive prostate biopsy (negative predictive value 95.9%). Seventy-eight patients received an Apifiny score ≥59 (high risk), and 8 patients had a positive biopsy. Mean ages of men were 65.1. Mean total PSA values measured 5.55ng/dL. Average prostate volume measured 55.7cc. A total of 37 patients were biopsied after clinicians received the Apifiny score. A trend toward detection
of high-grade cancer (Gleason 4+3 or greater) was observed.

**Conclusion:** This novel eight-autoantibody assay performed well in patients with previous negative prostate biopsy. Using simple serum specimen processing, this technique is promising. Further studies are warranted to validate the performance of this assay.

**Podium #151**
**PERIPROSTATIC FAT RATIO: A RISK FACTOR FOR PROSTATE CANCER?**
Wei Phin Tan, MD, Meri Chen, MD, Carol Lin, MD and Leslie Deane, MBBS, FRCSC, FACS
Rush University Medical Center
Presented By: Wei Phin Tan, MD

**Introduction:** Obesity has been correlated with higher grades of prostate cancer. The objective of this study was to evaluate whether the periprostatic fat ratio as determined by multi-parametric magnetic resonance imaging (mpMRI) correlates with the presence of high-grade prostate cancer.

**Methods:** 295 consecutive patients (Median age 64, range 38-84) underwent mpMRI of the prostate gland between August 2013 and February 2015. Using DynaCAD (Invivo, Gainesville-Florida), we calculated the volume of the periprostatic fat seen on mpMRI. The peri-prostatic fat ratio was calculated using the formula peri-prostatic fat volume / prostate volume.

**Results:** There was no significant difference between ethnicity and periprostatic fat ratio, p=0.997. There was no correlation observed between periprostatic fat ratio and PSA (Median 7.34, range 0.36-59.7, p=0.274), age (Median 64, range 38-84, p=0.665) or BMI (Median 28.33, range 17.99-45.44, p=0.310). A higher periprostatic fat volume (p<0.001) and a higher periprostatic fat ratio (p<0.001) is significantly associated with a higher Gleason Score. Patients with a higher periprostatic fat ratio are also more likely to undergo intervention for prostate cancer.

**Conclusion:** A higher periprostatic fat ratio is significantly associated with a higher Gleason Score and a higher likelihood of undergoing an intervention for prostate cancer. Periprostatic fat ratio may be an important risk factor in diagnosing patients higher grade prostate cancer.
Podium #152
CENTRAL ZONE LESION ON MRI, SHOULD WE BE CONCERNED?
Wei Phin Tan, MD, Patrick Whelan, MD, Shahid Ekbal, MD, Narendra Khare, MD, Charles McKiel, MD, Dennis Pessis, MD and Leslie Deane, MBBS, FACS
Rush University Medical Center
Presented By: Wei Phin Tan, MD

Introduction: The Prostate Imaging-Reporting and Data System (PIRADS) score was developed for lesions in the peripheral zone and transition zone on multi-parametric MRI of the prostate. We aim to determine if this same scoring system can be used to evaluate central zone lesions on MRI.

Methods: A retrospective review was performed of 73 patients who underwent MR/US fusion-guided biopsy of 139 suspicious lesions between February 2014 and October 2015. At least 3 MR/US fusion-guided biopsies were performed on each prostate lesion seen on MRI regardless of PIRADS score under local anesthesia in the outpatient clinic.

Results: There were 80 peripheral zone lesions, 32 peripheral zone lesions and 27 central zone lesions that were biopsied. Median PIRADS score for central zone lesions was three (range 1-5). Only two (7%) of central zone lesions (both PIRADS 3) were positive for clinically significant prostate cancer (Gleason >3+3). Both lesions involved the transition zone as well and encompassed at least 50% of the central zone. Both patients previously had transrectal ultrasound guided biopsy of the prostates which were negative for cancer. Both patients underwent a robotic assisted laparoscopic prostatectomy which yielded a Gleason score that were similar to MRI fusion biopsy.

Conclusion: Lesions involving the central zone seen on MRI are less concerning for malignancy. In our series, no lesions involving solely the central zone, regardless of PIRADS score was positive for malignancy on MR/US fusion-guided biopsy. A better PIRADS scoring system should be developed to help identify central zone lesions with malignant potential.

Podium #153
A NOVEL a3ß1 INTEGRIN – ABL KINASE – HIPPO SUPPRESSOR PATHWAY THAT LIMITS PROSTATE CANCER PROGRESSION AND METASTASIS
Afshin Varzavand, Will Hacker, Deqin Ma, MD, PhD, Katherine Gibson-Corley, DVM, Maria Hawayek, James Brown, MD, Michael Henry, PhD and Christopher Stipp, PhD
University of Iowa
Presented By: James Andrew Brown, MD

Introduction: Integrin α3β1, a major receptor for laminin isoforms in the prostate epithelial basal lamina, is frequently downregulated in prostate cancer. However, whether the loss of α3β1 actually contributes to disease progression was unknown.

Methods: We investigated the impact of RNAi depletion of α3 integrin on orthotopic prostate cancer progression and metastasis, anchorage independent growth, invasion, migration, and α3-dependent signaling.

Results: Loss of α3 integrin promoted prostate cancer progression and metastasis in vivo and anchorage independent growth, migration and invasion in vitro. These phenotypes were linked to disruptions in a signaling pathway leading from α3 integrin through Abl kinases to limit the activity of YAP and
WWTR1/TAZ, proto-oncogenic transcriptional coactivators that are the targets of the Hippo suppressor pathway. Abl kinase inhibitor, imatinib, phenocopied the loss of α3 integrin, while an Abl kinase activator, DPH, strongly suppressed anchorage independent growth and tumor cell motility. Analysis of human prostate cancer specimens provided evidence for loss of α3 integrin and increased nuclear expression of YAP and TAZ.

**Conclusion:** The presence of a novel α3β1 – Abl kinase – Hippo suppressor pathway in prostate cancer suggests new potential strategies for targeting integrin signaling pathways in prostate cancer and may help to explain the failure of imatinib in prostate cancer clinical trials.

**Podium #154**
**TRIPLE ECTOPIC URETER: A CASE OF MISTAKEN IDENTITY**
Griffin Morrisson, MD and Candace Granberg, MD
Mayo Clinic
Presented By: Griffin T. Morrisson, MD

**Introduction:** Ectopic ureters are commonly associated with collecting system duplication in children and can be associated with incontinence in females. Ureteral triplication associated with ectopic insertion into the vagina is a rare phenomenon.

**Case Report:** We present a six year old female who was evaluated for primary urinary incontinence. The patient was never continent despite conservative measures (e.g. bowel regimen and timed voiding). On evaluation, she is noted to have filling of the vaginal vault with urine. VCUG was normal. Renal ultrasound revealed mild left hydronephrosis, and IV pyelogram (IVP) showed duplication of the left collecting system. With concern for ectopic ureter causing her incontinence, a CT urogram was obtained for surgical planning, which revealed ureteral triplication, not seen on the IVP. The patient was then taken for repair, at which time a distal uretero-uretero-ureterostomy was performed through a 3-cm. Pfannenstiel incision. External stent and Foley were removed three days after surgery. At three-month follow-up, the patient is continent and repeat ultrasound showed no hydronephrosis.

**Conclusion:** This case combines the rarity of ureteral triplication with ectopic insertion into the vagina as an interesting cause of primary incontinence in a child.
Podium #155
SEPTIC RENAL VEIN THROMBOSIS COMPlicated BY SEPTIC PULMONARY EMBOLI AND RENAL PSEUDOANEURYSMS
Daniel Smith, MD, Robert Goldfarb, MD and Christopher Weight, MD
University of Minnesota
Presented By: Daniel W. Smith, MD

Introduction: Septic renal vein thrombosis is a rare entity since the advent of antibiotic therapy in the treatment of acute pyelonephritis. Further, renal pseudoaneurysms are unto themselves an uncommon finding and management is not straightforward.

Methods: We present a case and literature review of septic renal vein thrombosis due to acute pyelonephritis complicated by septic pulmonary emboli and renal pseudoaneurysms.

Results: A 68 year-old gentleman presented to the emergency department with nonspecific abdominal discomfort, increasing shortness of breath, and new onset urinary incontinence. Work-up included CT imaging which revealed a left renal vein thrombus and acute pyelonephritis. Despite appropriate antibiotic therapy, the patient deteriorated and required intubation due to necrotizing Methicillin-resistant Staphylococcus aureus (MRSA) pneumonia. He underwent embolization of his kidney following rupture of a pseudoaneurysm and was subsequently taken to the OR for an open nephrectomy and renal vein thrombectomy. The patient was discharged to home on postoperative day (POD) #23.

Conclusion: Renal vein thrombosis is most commonly associated with renal malignancy and occasionally nephrotic syndromes; septic renal vein thrombosis is a rare pathology and a review of the literature yields no prior cases complicated by both renal pseudoaneurysms and septic pulmonary emboli.

Podium #156
TRANSVESICAL REPAIR OF BLADDER AND RECTAL INJURY AFTER AN UNFORTUNATE DAY OF SLEDDING
Navneet Mander, MD and Theodore Barber, MD
Wayne State University School of Medicine
Presented By: Navneet Mander, MD

Introduction: We present the case of a child with low-velocity anorectal penetration injury with concomitant bladder injury.

Methods: An 11-year-old male presented with rectal bleeding and gross hematuria after landing on a branch while sledding. Branch was removed prior to arrival. On examination, he was noted to have perianal bruising but no overt bleeding or signs of anorectal tearing. Patient was initially stable, however, soon developed severe suprapubic pain and distension. Computed tomography showed moderate ascites with air in bladder and outside of rectum.

Results: Patient was taken for exploratory laparotomy and noted to have fluid in the abdominal cavity. Anterior cystotomy was performed and 1.5 centimeter laceration was identified in the bladder trigone. Feeding tubes were easily passed into the bilateral ureteral orifices and up to renal pelves. Posterior laceration was lengthened and rectal injury was identified and repaired through transvesical approach. A sigmoid colostomy was created. Posterior bladder laceration and anterior cystotomy were repaired in two layers and no extravasation was noted on bladder filling. In the post-operative period, the
patient required a return to OR for placement of suprapubic catheter (SPT) for malfunctioning urethral foley catheter. A repeat CT abdominal/pelvis showed no urinoma. SPT and pelvic drain were removed and colostomy reversed.

**Conclusion:** Penetrating anorectal trauma with concomitant genitourinary injury is a rare phenomenon. A high index of suspicion is important in diagnosing these genitourinary injuries. Fecal diversion with primary repair is considered standard of care.

**Podium #157**

**TWO CASES OF INTRAVESICAL MAGNETIC BUCKYBALLS IN ADOLESCENT MALES WITHIN THE NCS: COINCIDENCE OR AN ALARMING TREND**

Aram Loeb, MD¹, Zachary Liss, MD² and Pramod Reddy, MD³

¹Wayne State University - School of Medicine Department of Urology; ²Michigan Institute of Urology; ³Cincinnati Children’s Hospital Medical Center

Presented By: Aram Loeb, MD

**Introduction:** Neodynium spheres, commonly known as Buckyballs, are rare earth metallic spheres with extreme magnetic attraction for each other. We report two cases of urethral placement into the bladder within the NCS.

**Methods:** Patient 1 is a 12-year-old male who presented in Detroit with recurrent UTIs for three months. Office ultrasound demonstrated multiple hyperechoic masses within the bladder. Upon further questioning, the patient admitted to inserting magnets into his urethra for self-satisfaction several months previously. Patient 2 is a 12-year-old male who presented in Cincinnati after inserting magnets into his urethra and being unable to remove them.

**Results:** Both patients were taken to the operating room where cystoscopic removal was attempted, but was unsuccessful due to the intense magnetic force between the spheres. Both cases required cystotomy with open removal of the magnets. 114 magnetics were removed from patient 1, the largest amount recorded in any case report. 45 magnets were removed from patient 2. Both patients did well post-operatively and recovered without complication.

**Conclusion:** There may be a disturbing trend amongst adolescent boys using magnetic spheres for self-satisfaction. Given their highly magnetic nature, cystoscopic removal is extremely difficult and open cystotomy is usually required. Adolescent boys should be educated on the harms and potential negative outcomes associated with this risky behavior.
OF GOATS AND MEN - DELAYED PRESENTATION OF A TRAUMATIC PENILE AMPUTATION REPAIRED WITH SKIN GRAFT
Aron Liaw, MD, Zachary Gordon, MD and Christopher McClung, MD
Ohio State University
Presented By: Aron Liaw, MD

Introduction: After traumatic amputation of the penis, perineal urethrostomy is frequently used. Replantation of the penis has been successfully reported, but in the case of delayed presentation this is frequently impossible. Reconstructive techniques have been reported after planned oncologic amputation, but there are very few reports of such techniques after traumatic amputation. We report a case of a 57 year old goat farmer who amputated his penis. This was complicated not only by him losing the penis, but also placing a metal drinking spout as a catheter through his stump, and ligating the stump with a goat castration ring, causing necrosis of the stump. He then delayed his presentation by taking a nap.

Method: He was successfully reconstructed after delayed presentation with mons resection, suspensory ligament release, and split-thickness skin graft to penile shaft remnants.

Results: STSG was successful and voiding position was preserved. The patient retained baseline body image.

Conclusion: To our knowledge, reconstruction of the penis after traumatic amputation is very rarely reported, especially in adults. This case demonstrates its technical feasibility.

NOT YOUR TYPICAL SP TUBE EROSION, A FIRST FOR SP TUBE COMPLICATIONS
Rohith Arcot, MD, Aram Loeb, MD, Steven Lucas, MD and Michael Cher, MD
Wayne State University
Presented By: Rohith Arcot, MD

Introduction: Suprapubic catheters provide long-term, durable urinary drainage for neurogenic bladder and inoperable bladder outlet obstruction, though they are not without complication. We report a case of bladder herniation through current suprapubic catheter tract, the first to be reported.

Methods: Our patient is a 65-year-old male with history of chronic outlet obstruction requiring suprapubic tube (SPT). Other significant past medical history include Churgg-Strauss vasculitis requiring daily steroids. The patient had
been managed with monthly SPT changes but prior to this presentation had been having difficulty with tract dilation requiring larger tubes and more water in the balloon. He then presented on transfer from outside hospital for midline hernia. Physical exam and CT scan confirmed the diagnosis of bladder herniation (figure 1). He was then taken to the OR for cystoscopy, exam under anesthesia and attempted simple manual reduction of bladder but was unsuccessful. He was later taken back to the operating room for formal hernia repair with the assistance of general surgery.

**Conclusion:** Bladder herniations were reported in inguinal-scrotal, femoral, incisional and pediatric umbilical hernias. Our report highlights a potential but real complication of herniation of bladder through the suprapubic catheter tract from long-term suprapubic tube.

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**Podium #160**

**MALIGNANT RENAL PARAGANGLIOMA WITH ATRIAL TUMOR THROMBUS AND RARE SDHB GENE MUTATIONS**

Philip Wanzek, DO¹, Dharam Kaushik, MD², Jennifer M. Boland Froemming, MD³, Florencia G. Que, MD⁴, John M. Stulak, MD⁵, Brian A. Costello, MD⁶ and Bradley C. Leibovich, MD⁷

¹Mayo Clinic; ²Assistant Professor in Urology at the University of Texas Health Science Center, San Antonio; ³Assistant Professor of Laboratory Medicine/Pathology at the Mayo Clinic; ⁴Professor of Surgery, Department of General and GI Surgery at the Mayo Clinic; ⁵Professor of Surgery, Department of Cardiovascular Surgery at the Mayo Clinic; ⁶Associate Professor of Oncology and Urology, Department of Medical Oncology at the Mayo Clinic; ⁷Chair, Department of Urology at the Mayo Clinic

Presented By: Philip M. Wanzek, DO

**Introduction:** We present, to our knowledge, the first case of primary renal malignant paraganglioma with atrial tumor thrombus. A thirty-eight year old white, otherwise healthy male Presented initially with resistant left groin and leg pain. Cross sectional imaging demonstrated a lytic lesion within the left pubic ramus, and a large mass in the left kidney with right atrial tumor thrombus, dynamically crossing tricuspid valve.

**Methods:** Plasma fractionated metanephrines and normetanephrines were drawn and normal. He underwent left radical nephrectomy with IVC tumor thrombectomy (Level IV) with deep hypothermic circulatory arrest and recovered
well. Due to pain, he had stereotactic radiotherapy to ischial lesion. **Results:** The patient had sporadic malignant paraganglioma and subsequently was found to have rare mutation at two loci of the succinate dehydrogenase B gene (SDHB). He developed progression of lung masses, a retroperitoneal mass, and also liver mass of biopsy-proven metastatic paraganglioma. He continued to progress despite a course of Octreotide therapy. Excellent response was seen with cyclophosphamide, vincristine, and dacarbazine. There was shrinkage of pulmonary metastases and stability of abdominal and osseous lesions. At last follow-up the patient is alive twenty-seven months after diagnosis, and minimally symptomatic. **Conclusion:** This is a rare and extensive presentation of paraganglioma. Paraganglioma, when malignant, portends a relatively poor prognosis due to insensitivity to chemo- and radiotherapy. We advocate tumor thrombus being treated with aggressive surgery to avoid immediate complications secondary to venous thrombo-occlusion.

**Podium #161**

“MY URETER GOT PULLED OUT AND I CANNOT PEE ANYMORE. DID YOU AT LEAST GET MY STONE OUT?”

Nabeel Hamoui, MD, MBA¹ and Stephanie Kield, MD²

¹Northwestern University; ²Northwestern Memorial Hospital

Presented By: Nabeel Hamoui, MD, MBA

**Introduction:** An otherwise healthy 32-year-old male presented to his urologist for left sided ureteroscopy and laser lithotripsy for stone disease. In the post-operative period the patient urinated a tubular strand of soft tissue via his penis, which was upon further examination, was found to be the patient’s avulsed ureter.

**Methods:** The patient subsequently underwent reconstruction and had a left ileal ureter.

**Results:** He presented several months post-op with complete urinary retention and left flank pain. He had no neurological disease and no prior voiding problems. Sacral nerve stimulator was recommended. Referral for video urodynamics revealed a normal capacity bladder and normal detrusor contraction. Despite this, the patient was unable to void. Fluoroscopy revealed massive reflux into the left ileal ureter and kidney.

**Conclusion:** The patient is currently deciding between take-down of his ileal ureter with nephrectomy or continued intermittent catheterization.

**Podium #162 – WITHDRAWN**

**Podium #163**

**UNIQUE BLADDER EXSTROPHY CLOSURE IN A 71 YEAR OLD PATIENT**

Aron Liaw, MD¹, Fara Bellows, MD¹ and Rama Jayanthi, MD²

¹Ohio State University; ²Nationwide Children's Hospital

Presented By: Aron Liaw, MD

**Introduction:** Surgical management of bladder exstrophy dates from the mid-nineteenth century, with the first successful continent closure performed in 1942 with Dr Young. Prior to 1950 almost all successful closures were in female patients, and almost all surgical management was done by ureterosigmoidostomy. We present a unique case of bladder exstrophy closure in
a male patient from the early 1940s using a surgical technique from the late nineteenth century.

**Methods:** The patient in question, a 71-year-old male, had not been seen for urologic management in over thirty years. Through several discussions, a detailed history of his bladder extrophy was taken. This included discussion with his wife and friends.

**Results:** This patient had a very unusual closure, first described by Mickulicz in 1897, where an ileal segment was grafted onto the exstrophic bladder plate followed by multiple skin grafts around the stoma. Despite prolapse, he had managed it with a trimmed Malecot catheter for most of his life.

**Conclusion:** To our knowledge, this is the oldest surviving bladder extrophy patient reported in the literature. His surgical closure is also unusual, with no reports of a similar closure found in a modern patient. Interviews provided a unique insight into this condition, including social integration, sexual activity and urinary management.

Podium #164

“MY BLADDER IS HANGING OUT OF MY ANUS”: SUCCESSFUL MANAGEMENT OF FIRST REPORTED CASE OF MALE TRANSANAL BLADDER PROLAPSE

Samer Kirmiz, BS¹, Andrew Livingston, MD², Martin Lutchfeld, MD², Christopher Brede, MD², Sabrina Noyes, BS² and Brian Lane, MD, PhD²

¹Michigan State University; ²Spectrum Health Hospital System

Presented By: Samer William Kirmiz

We present a case of an 81-year-old man who presented with a large rectourethral fistula resulting in prolapsing bladder through the anus. A multidisciplinary approach with urology, colorectal surgery and plastic surgery was utilized for management of the prolapse with excellent postoperative result. This unique scenario enabled a transanal cystoprostatectomy; the procedure was completed using a natural orifice without transabdominal surgery.
Introduction: Sport related injuries are the most common cause of emergency department visits in the United States. Most common injuries related to skateboarding typically include injury to the extremities; however, traumatic brain injury and other intra-abdominal injuries are also possible.

Case Description: A 17-year-old male was found to have a grade IV left renal laceration after fall. Patient was skateboarding and ran into a corner wall, with the patient’s left flank absorbing the impact. Patient was hemodynamically stable and found to have gross hematuria. Imaging demonstrated a fractured left kidney with the major fragments separated by urinoma and hematoma. Patient underwent angiogram demonstrating laceration of the kidney into two separate pieces. Patient remained afebrile with stable hematocrit throughout his hospital stay. Follow up imaging demonstrated the fractured upper and lower poles in closer approximation.

Discussion: The patient remained clinically stable, prompting no surgical intervention. AUA Guidelines suggest non-operative management in the hemodynamically stable patient, as majority of renal injuries will spontaneously improve. Studies estimate a complication rate of 9.3-12.6% with grades III-V blunt renal injuries that are managed conservatively. The majority of sports related renal injuries are AAST grades I-II, however blunt trauma to the flank can result in isolated high grade renal injuries.

Introduction: Stevens-Johnson syndrome is rare and life-threatening condition characterized by epidermal necrosis with extensive epidermal detachment occurring in the oral, ocular, and genital regions and severe constitutional symptoms. Carbamazepine is the most common cause of Stevens-Johnson syndrome. We present the first reported case of carbamazepine-induced Stevens-Johnson syndrome with isolated penile involvement.
Method: This is a single case report.

Results: A 27-year-old inmate noted his penis began to swell, and he developed a vesicular rash with pustule formation, eruption, and seeping of clear fluid 12 hours after taking carbamazepine. The patient was admitted and an infectious disease consultation was obtained. He was successfully treated with diphenhydramine, oral prednisone, and wet-to-dry dressing changes with complete resolution.

Conclusion: This appears to be the first reported case of Stevens-Johnson syndrome with isolated penile involvement. Carbamazepine is the most common cause of Stevens-Johnson syndrome. The clinical features of this condition and the multidisciplinary management of the patient are described in brief.

Podium #167
PENILE CALCIPHYLAXIS: A CASE OF PENILE AUTO-AMPUTATION AND REVIEW OF LITERATURE
Joseph Zanghi, DO, James Siegert, DO and Anthony Grimaldi, DO
St. James Hospital and Health Center
Presented By: Joseph John Zanghi

Introduction: Calcific uremic arteriolopathy is a condition with high morbidity and mortality seen in end stage renal disease patients. A rare manifestation is penile calciphylaxis, with less than 60 reported cases in the English literature. To date, a case of penile calciphylaxis resulting in auto-amputation of the penis has not been documented.

Methods: We present a case herein, which an anuric, polymorbid 52-year-old male with hemodialysis-dependent, diabetic end-stage renal disease presented with painful, dry, cool necrotic lesions on the glans penis and toes.Computed tomography revealed extensive calcification of the penile vessels and corpora cavernosum. In light of the absence of signs of infection or impairment in voiding, local debridement of necrotic tissue was avoided. Aggressive wound care was implemented and patient was observed.

Results: Patient was readmitted three months later with the complaint of the “cap has fallen off” despite compliance with silvadene topical cream as directed. Examination demonstrated the patient’s now auto-amputated glans freely resting within his diaper. The remaining penile shaft and urethral stump were without significant necrosis or erythema. Conservative local wound care was continued. The patient is still alive and has thus avoided complications related to penile loss or disease progression.

Conclusion: Upon literature review, this represents the first case of penile auto-amputation due to calciphylaxis, thus documenting the natural history of non-
operative management. While pathogenesis is unclear, calciphylaxis is a devastating phenomenon and high clinical suspicion should exist for patients in the late stages of chronic kidney disease.

Podium #168
RECURRENT RETROPERITONEAL DESMOPLASTIC SMALL ROUND CELL TUMOR IN YOUNG CHILD
Julia Fiuk, Kimberly Molik, MD and Stephen Beck, MD SIU
Presented By: Julia Fiuk, MD

Introduction: Desmoplastic small round cell tumor (DSRCT) is an aggressive malignant neoplasm that occurs in adolescents and young adults. We present our experience with one such patient.

Methods: The male patient initially present at age five with abdominal pain. Computed tomography revealed large volume tumor in liver, between rectum and bladder, and in left flank. Operative open biopsy revealed DSRCT. Due to his grossly metastatic status, he was treated with VAC.

Results: After completing chemotherapy, residual tumor was resected from bladder, left flank and liver with negative margins. Three years later, patient recurred in left flank and underwent repeat resection, again with negative margins. He recurred a year later with pneumonic metastases and a recurrent left flank mass, this time undergoing radiation. Patient was then tumor free for two years until recurring with hydronephrosis on left side. Imaging was unclear whether this represented recurrent tumor or post radiation stricture. Patient did not tolerate stent and opted for surgical management. Patient underwent resection of 6 cm of left ureter, which on frozen pathology revealed DSRCT with negative margins. Ureteral reconstruction was performed using mobilization of kidney, psoas hitch and Boari flap. The patient is currently under a surveillance protocol with CT scanning every three months to monitor for recurrence.

Conclusion: This case highlights a relatively rare pediatric tumor that often carries urologic implications.

Podium #169 - WITHDRAWN

Podium #170
GLOBAL KIDNEY EXCHANGE
Obi Ekwenna, MD¹, Michael A Rees, MD, PhD¹, Ty B. Dunn, MD², Christian Kuhr, MD³, Christopher Marsh, MD³, Jeffrey Rogers⁵, Susan E. Rees¹, Alejandra Cicero⁶, Laurie J. Reece⁷, Alvin E. Roth⁸, David E. Fumo¹, Kimberly Krawiec⁹, Jonathan E. Kopke⁷, Samay Jain¹⁰, Miguel Tan¹ and Siegfredo Paloyo¹¹
¹University of Toledo/Alliance for Paired Donation; ²University of Minnesota; ³Virginia Mason Medical Center; ⁴Scripps Green Hospital; ⁵Wake Forest Baptist Medical Center; ⁶ABC Medical Center; ⁷Alliance for Paired Donation; ⁸Stanford University; ⁹Duke University; ¹⁰University of Toledo; ¹¹University of the Philippines – Philippine General Hospital & St. Luke’s Medical Center-Global City, Manila, Philippines
Presented By: Obi Ekwenna

While organ shortage is the major limitation to kidney transplantation in the developed world, in the developing-world financial barriers prevent kidney transplantation much more often—even when willing living kidney donors are
available. Instead of thinking of the developing world as a place where desperate people will sell their kidneys for money, we propose a new approach: the developing world contains desperate patients with kidney failure who need kidney transplants and who have eager living donors, but insufficient financial resources to pay for their transplant and subsequent immunosuppression. We propose that the cost difference between dialysis and transplantation in some countries would allow the exchange of kidneys between developed-world patient/donor pairs with immunological barriers and developing-world patient/donor pairs with financial barriers to transplantation. By exporting developed-world-quality healthcare to impoverished patients in the developing world, we reverse the practice of transplant tourism and expand kidney exchange to allow mutual benefit between patients-donor pairs in rich and poor nations who face barriers to transplantation. We report the one year experience of an initial Philippine pair incorporated into an American kidney exchange chain, to show that the considerable logistical obstacles are surmountable.

Podium #171
MANAGEMENT OPTIONS IN POST-TRANSPLANT URETERAL STRICTURES
Esther Han, DO, Ibraheem Malkawi, MD, Joseph Ford, MD and Richard Santucci, MD
Department of Urology, Detroit Medical Center, Michigan State University
Presented By: Joseph Ford, MD

Introduction: Ureteral stricture after renal transplant has an incidence of 3-12%. We describe a series of transplant ureteral strictures, some with intravesical obstruction that can be treated cystoscopically with good success.

Methods: Retrospective chart review of transplant ureteral stricture patients undergoing cystoscopic incision, laparotomy/reimplantation, or chronic stent exchanges.

Results: A total of 14 patients were reviewed: average age 44 years (range 21-66), 100% African American, 50% female. Strictures averaged 2 cm (range 1-8 cm). 3 had balloon dilation before referral with 0% success. Six had intravesical obstruction, four had anastomotic obstruction, and four had proximal or panuretal obstruction. Six of six with intravesical obstruction had endoscopic incision, all of whom were cured, after the first attempt (n=2), third attempt (n=3), fourth attempt (n=1). Four patients underwent laparotomy, three with simple reimplant, one requiring vesico-renal pelvis anastomosis. One reimplant failed from subsequent new proximal obstruction after successful repair of the distal obstruction. Four patients needing open surgery elected stent changes for life, two because of graft loss due to rejection and two because of comorbidities making them poor surgical candidates.

Conclusion: We saw a high incidence of transplant ureter stenosis that is prolapsed into the bladder, which is treatable cystoscopically. This is not well-described in the literature, but may result after the Taguchi ("one stitch", aka Minnesota) technique creates a too-long intravesical portion of ureter, which subsequently stenoses. More proximal strictures are treated with standard open techniques, with good success rates. Some patients with ureteral stricture are not salvageable because of poor graft or poor patient health.
THE CLINICAL PRESENTATION AND MANAGEMENT OF URETHRAL FOREIGN BODIES
Matthew Houlihan, DO¹, Cristina J. Palmer, DO¹, Alexander P. Glaser, MD², K. Alexandria Ellis¹, Sarah P. Psutka, MD, MS¹, Patricia Vidal, MD¹ and Courtney M.P. Hollowell, MD¹
¹Cook County Health and Hospitals System; ²Northwestern University Department of Urology
Presented By: Matthew Houlihan, DO

Introduction: The objective of this study was to review our 15-year experience with urethral foreign bodies and to make recommendations regarding the optimal approach to this rare clinical entity.

Methods: Between 2000 and 2015, 27 consecutive patients presented with 35 episodes of urethral foreign body insertion. Herein, we describe the clinical presentation, patient-reported rationale for insertion, evaluation, management, recidivism, and sequelae of urethral foreign body insertion.

Results: Median age was 26 years (range 12-60). 34 patients (97%) were male, and 86% carried a psychiatric diagnosis. Reported rationale for insertion included self-stimulation, erectile enhancement, and attention-seeking. Presenting complaints included dysuria, hematuria, urinary retention, urinary tract infection (UTI), and urethral discharge. Treatment included manual extraction (n=19, 54%), endoscopic retrieval (n=8, 23%), open cystotomy (n=1, 3%), and expulsion during voiding (n=7, 20%). Post-removal complications included UTI (n=7), sepsis (n=4), urethral false passage (n=5), laceration (n=5), and stricture (n=4). 86% presented subsequently with repeat urethral foreign body insertion. Our proposed algorithm for evaluation and management is presented in Figure 1.

Conclusion: Urethral foreign body insertion is a rare occurrence and commonly, is a recurrent behavior. We detail our approach to the evaluation and management of urethral foreign bodies based on the largest single-institutional series of urethral foreign-bodies to-date.
Podium #173
ADDITIONAL TREATMENTS, SATISFACTION, AND QUALITY OF LIFE IN WOMEN AFTER TRANSVAGINAL AND ABDOMINAL PELVIC ORGAN PROLAPSE REPAIR
Morgan Gruner, BS¹, Kim Killinger, MSN², Michelle Jankowski, MAS¹ and Kenneth Peters, MD²
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Presented By: Morgan F. Gruner, BS

Introduction: We evaluated satisfaction, quality of life, and additional treatments after transvaginal (TV) and abdominal (ABD) pelvic organ prolapse (POP) repair.

Methods: Adult women enrolled in a prospective POP database were reviewed. Baseline and outcomes data one year after surgery were collected from medical records, validated Pelvic Floor Distress Inventory (PFDI), and mailed surveys, and analyzed with descriptive statistics, Fishers Exact, and two sample t tests.

Results: Of 222 women, 147 (66%) had TV and 75 (34%) had ABD repair. TV patients were older (mean 64.1 vs. 59.7 years; p=0.003) but other characteristics did not differ. In the TV vs. ABD groups respectively, preoperative mean anterior (2.7 vs. 3.1; p=0.003) and apical (2.1 vs. 3.1; p<0.001) POP grades differed but baseline PFDI scores, and improvements in scores at 1 year, were similar. One year PFDI scores were significantly higher in the TV group (45.6 vs. 32.6; p=0.032). At one year, most in the TV and ABD groups (79/101; 78% and 51/59; 86% p=.199) reported moderately/markedly improvement in overall symptoms and quality of life (80/101; 79% and 51/59; 87% p=.252) and similar proportions (52/109; 48% vs. 21/62; 34%p=0.108) had additional POP treatments (pelvic floor physical therapy, medications, coping strategies, procedures). Most TV and ABD patients were satisfied (68/101; 68% and 48/59; 81% p=.055) and would recommend to a friend (85/99; 86% and 55/57; 96%).

Conclusion: This study suggests that although symptoms, satisfaction and quality of life improve, women seek additional treatments as early as the first year after POP repair.

Podium #174
ASSESSMENT OF BATTERY LIFE OF THE 2ND GENERATION IMPLANTABLE PULSE GENERATOR IN A PRACTICE OF HIGH VOLUME IMPLANTERS
Kellen Choi Ng, DO, Christina A. Godwin, MD, Marta Johnson-Mitchell, DO, Daniel Liberman, MD, MSc and Steven W. Siegel, MD
Metro Urology
Presented By: Steven W. Siegel, MD

Introduction: The manufacturer lists the battery life of the second generation Implantable Pulse Generator (IPG) at 4.4 years (2.5-5.4). Our objective was to assess the IPG battery life in a practice of high volume SNM implanters.

Methods: We reviewed 969 patients from July 2006 to September 2015 who had the second generation IPG implanted by five high-volume implanters from Metro Urology. In general as a practice pattern, providers try to achieve motor and sensory responses below 1 volt for all electrodes during lead placement. Demographic information including age, gender, indication for SNM, date of IPG placement as well as date and reason for IPG revision were included in this analysis. Chi squared analysis and Spearman’s rank correlation was used to
determine differences in Battery life to the above-mentioned demographic information.

**Results:** A total of 216 revisions were performed for patient with second generation IPGs whereby 28 patients were identified who had revision of their IPG because of end of service. Median age at revision was 53 years old. The median battery life for this entire cohort was 56 months. There were no statistically significant differences in battery life when compared to all available variables.

**Conclusion:** The median battery life estimate in a busy private practice of high volume SNM implanters was found to be consistent with the manufacturer’s estimates (4.7 years). In our cohort, 28 out of 216 revisions were for end of life of the battery. We would expect battery life to increase as our cohort matures over time.

**Podium #175**

PREICTORS OF PATIENT SATISFACTION FOLLOWING PRIMARY AUS PLACEMENT AMONG MEN WITH AND WITHOUT A PRIOR HISTORY OF RADIATION

Marcelino Rivera, MD, Boyd Viers, MD, Brian Linder, MD, Matthew Ziegelmann, MD, Laureano Rangel, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Marcelino E. Rivera, MD

**Introduction:** Men with radiation therapy prior to AUS placement represent a group of patients with conflicting data regarding device outcomes which may influence patient satisfaction. We aim to evaluate predictors of patient satisfaction among men undergoing primary AUS with and without a history of prior radiation.

**Methods:** From 1983-2011, 1802 AUS surgeries were performed at our institution. All men were invited to participate in a mail-in survey assessing AUS status, patient satisfaction, and urinary control. Men with and without radiation exposure prior to primary AUS placement (N=742) were included for analysis.

**Results:** Of 228 (31%) patients with an intact primary AUS completed the survey with a median follow-up of 8.4 years (IQR 5.8-11.4). Of these, 64 men had a prior history of radiation therapy. Both groups reported a high likelihood of electing to have AUS surgery again 88% vs. 91.4% (p=0.87) and recommending AUS surgery to a family member 86% vs. 93% (p=0.18). There was no significant difference in outcomes regarding urinary continence with men noting substantial improvement in urinary control following surgery 72% vs. 78% (p=0.30), minimal bothersome leakage 57.1% vs. 66% (p=0.31), and 49% vs. 59% wearing ≤1 pad/day (p=0.06).

**Conclusion:** In a large cohort of primary AUS implants with and without prior radiation therapy we noted a high-level of satisfaction and modest urinary control at a median follow-up of over eight years. Importantly, we found no differences in quality of life outcomes or predictors of poor satisfaction among patients with prior radiation therapy including those with prior sling.
Podium #176
ONE YEAR OUTCOMES OF AUTOLOGOUS TRANSOBTURATOR URETHRAL SLING PLACEMENT FOR FEMALE STRESS URINARY INCONTINENCE
Brian Linder, MD, Andrew Blackburne, MD and Daniel Elliott, MD
Mayo Clinic
Presented By: Andrew T. Blackburne, MD

Introduction: To evaluate one year outcomes of the outpatient transobturator approach to autologous urethral sling placement using rectus fascia for the management of female stress urinary incontinence.

Methods: We evaluated the outcomes of 33 consecutive females that underwent transobturator urethral sling placement with autologous rectus fascia for stress urinary incontinence from 2013-2014. Patients were followed at three months with office evaluation and then annually via mailed questionnaire. Subjective patient outcomes were measured by ICIQ-FLUTS scores and compared between pre and postoperative responses using a paired t-test. Retreatment-free survival rates were evaluated via Kaplan-Meier method.

Results: Median patient age was 62-years-old (IQR 47.5; 70.5) with a median body mass index of 28.6 kg/m² (IQR 24.7 kg/m²; 32.4 kg/m²). Isolated sling placement was performed on an outpatient basis in 88% of cases (15/17). Median follow-up was 14.9 months (IQR 3.6, 18.7), during which time five patients underwent repeat anti-incontinence surgery. For those without retreatment, 25/28 (89%) completed ICIQ-FLUTS at their last follow-up visit. Compared to their preoperative score, patients showed significant improvement in the frequency (p=0.009), voiding (p=0.01) and incontinence (p=0.005) subscores, with significant improvements in quality of life related to frequency (p=0.009), voiding (p=0.002) and incontinence (p=0.01). Among those who completed both a three-month and one year questionnaire (N=17), there was no significant deterioration in any ICIQ-FLUTS subscore. The overall retreatment-free survival rate was 97% at 6 months and 92% at one year.

Conclusion: Autologous transobturator urethral sling placement (ATO) appears safe and feasible, with promising 1-year outcomes.

Podium #177
THE RELATIONSHIP BETWEEN ERECTILE DYSFUNCTION AND URINARY INCONTINENCE AFTER ROBOTIC PROSTATECTOMY: ARE THEY MUTUALLY EXCLUSIVE?
Savas Tsikis, Charles Nottingham, MD and Sarah Faris, MD
University of Chicago
Presented By: Savas Tsikis

Introduction: Robotic assisted laparoscopic prostatectomy (RALP) has improved perioperative outcomes. Unfortunately, post-RALP erectile dysfunction (ED) and urinary incontinence (UI) still have a significant impact on quality of life. While damage to the neurovascular bundle (NVB) is a known cause of ED, the etiology of UI has not been well established.

Methods: Patients in our institutional database who underwent RALP for prostate cancer (2006-2013) and who completed both the UCLA Prostate Cancer Index and Sexual Health Inventory for Men (SHIM) surveys at 12 months following prostatectomy were eligible for inclusion. Men with moderate to severe ED based on a SHIM score ≤ 11 were considered to have ED. From the UCLA
PCI, men who reported use of no urinary pads per day (PPD) were considered continent, whereas men who used ≥ 1 PPD were considered incontinent.

**Results:** We analyzed a total of 542 patients who met the inclusion criteria. Post-RALP, 51% of patients had ED and 36% of patients had UI. Out of all patients who had UI, 62% (122/196) of them also had ED while only 45% (155/346) of patients without incontinence had ED (p<0.001). When asked if urine leakage interfered with sexual activity, 22% (61/277) of men with ED reported that it was a moderate or big problem compared to 9% (24/265) of men without ED (p<0.001).

**Conclusion:** Our results show that patients with post-RALP UI are more likely to experience ED than those without UI suggesting a possible common pathway. Further studies to investigate the anatomical basis of urinary incontinence are warranted.

**Podium #178**

**MAXIMAL DIVERSION: OUTCOMES FOR CONCOMITANT UROSTOMY AND ENTEROSTOMY PROCEDURES FOR BENIGN CONDITIONS**

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University of Michigan

Presented By: Paholo G. Barboglio Romo, MD, MPH

**Introduction:** Define outcomes and morbidity for patients undergoing concomitant genitourinary (GU) and a gastrointestinal (GI) urinary diversion (UD) for benign conditions.

**Methods:** IRB review from 2007-2014. Patients with cancer diagnosis were excluded. Complications were classified by Clavien-Dindo (CD) and tracked for 90 days post-op. Follow-up was determined by last visit and survival through query from Federal Social Security Death Master File.

**Results:** UD was performed in 141 subjects and 16 were identified with dual urostomy/enterostomy. There were 63% with refractory neurologic condition and 25% had pelvic radiation therapy. Urostomy was created utilizing sigmoid colon (11/16), transverse colon (2/16) and ileum (3/16). Return of bowel function was less than 7 days in 69%, median length of stay was 9 days. High grade complications (CD >III) occurred in 6/16 (Table). Univariate analysis suggested an association trend (p=0.074) when assessing high grade complications and surgeries performed <2010, RT, and BMI <18.5 or >30. There were three deaths reported up to December 2014 (mean follow up 364 SD+/-232 days).

**Conclusion:** Dual diversion can be a morbid procedure and our limited series suggests that quick return of bowel function, lack of bowel complications, and one year survival of 94% (overall 81%), in addition to resolution of GU/GI symptoms are advantages form this combined procedure.
RESIDENT IMPACT ON SINGLE SURGEON OUTCOMES OF ROBOTIC ASSISTED LAPAROSCOPIC PROSTATECTOMY

Randy Sulaver, MD, Bradley Holland, BS, Bradford Stevenson, MD, David Lieber, MD, Kevin McVary, MD and Tobias Kohler, MD
Southern Illinois School of Medicine
Presented By: Randy Sulaver, MD

Introduction: Involvement in patient care and surgical procedures is an integral part of resident training. We sought to assess the impact of residents on surgical times and outcomes for a single robotic procedure, robotic assisted laparoscopic radical prostatectomy by single surgeon (DL).

Methods: Robotic assisted laparoscopic radical prostatectomy completed in our institution by a single attending surgeon (DL) working without residents from January 2010 to December 2011 was compared to the same surgeon working with the assistance of SIU Urology residents for a two-year period. The average time per surgical case, post-operative complications, and readmission rate were compared between the two periods.

Results: Overall 73 radical robotic prostatectomies were performed in the Jan 2010 – Dec 2011 period without residents and 49 were performed in the period with resident coverage. Mean surgical time without residents and with residents was 148.9 min (SD 25.8) and 221.2 min (SD= 42.9) respectively. This time difference did reach statistical significance, p=0.0001.

There was no statistical difference observed in the 30-day readmission rates between the time periods with and without residents. Readmission rate without residents and with residents were 8.7% vs. 7.69% respectively. Mortality rate was also unchanged from 1.16% to 1.10% without and with residents respectively.

Conclusion: There was increased OR time with resident involvement but no increase in readmission, complication and mortality rates with resident involvement.
Introduction: Low-risk surgery for pelvic organ prolapse (POP) and stress urinary incontinence (SUI) is increasingly performed at ambulatory surgical centers (ASC’s). Risk factors associated with readmission after urogynecologic surgery at ASC’s are poorly defined. We aimed to determine predictors of negative perioperative outcomes after mid urethral sling (MUS) and ambulatory POP repair from a national database.

Methods: Using the National Surgical Quality Improvement Program (NSQIP) database, we identified females who underwent outpatient MUS or vaginal POP repair 2006 to 2012. Primary outcomes were 30-day unplanned readmissions, reoperations, and complications. Multivariable logistic regressions were used to identify patient and surgical factors associated with each outcome.

Results: We identified 8,151 patients who underwent outpatient MUS (76%) and 2,550 women who had vaginal POP repair (24%). Overall, 0.7% of patients (n=74) were re admitted, 0.3% (n=31) underwent reoperation, and 3.5% (n=370) experienced any complication within 30 days. On multivariable logistic regression analysis, factors significantly associated with readmission were current smoker (OR 2.24; p=0.026) and bleeding disorder (OR 20.0; p<0.001). If gynecology performed the initial surgery (67.4%) compared with urology (32.6%), complications (3.75% vs. 2.86%; OR 0.72; p=0.006) and reoperations (1.04% vs. 0.4%; p=0.052) were more likely.

Conclusion: Surgical repair of SUI and POP in an ambulatory setting is safe with infrequent readmissions and reoperations for low risk patients. We identified a differential incidence of complications by surgical subspecialty, though the overall incidence of complications was very low. Smoking cessation counseling may be helpful to reduce likelihood of readmission after low risk ambulatory urogynecologic surgery.
Results: A total of 322 applicants responded to our survey and were compared to 294 respondents to the AUA census who finished residency in 2008-2012. The majority of survey applicants planned to pursue a fellowship (70%) with an eventual career in academic surgery (83%), both of which are higher than recently graduated practicing urologists (Table 1). Less than half of applicants (46%) envisioned a potential career in private practice, while a majority of recent graduates (70%) report working in non-academic settings. Urologic oncology was the most common area of desired specialization of respondents, in line with the AUA census. Applicants most commonly believed the average starting salary for an academic urologist to be $150,000-300,000 and $300,000-450,000 for a private practice urologist.

Conclusion: Current urology residency applicants are interested in fellowship specialization and academic practice; however, there is a migration towards private practice by the end of residency. Further investigation is needed to determine whether this trend best serves current national urologic needs.

Podium #182
THE EFFECT OF URINARY DIVERSION TYPE AT THE TIME OF RADICAL CYSTECTOMY ON THE US NEWS PATIENT SAFETY INDEX: RESULTS FROM THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM
Anand Patel, MD¹, Simon Kim, MD², Matthew Maurice, MD³, John Kiechle, MD², Matthew Bream, MD², Emily Slopnick, MD², Rebecca Campbell², Carvell Nguyen, MD, PHD² and Robert Abouassaly, MD²
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Presented By: Anand Patel, MD

Introduction: The aim of our study is to evaluate two predominant types of urinary diversion and their association with the U.S. News Patient Safety Index as well as other safety indicators.

Methods: We performed univariate and multivariable logistic regression on data from the National Surgical Quality Improvement Program to compare differences in operative complications between patients who received continent and incontinent urinary diversions.

Results: A total of 2,141 radical cystectomy patients were identified. Overall, 79.8% of the patient’s had incontinent and 20.22% had continent urinary diversions. The rates of incontinent diversions increased with age (Odds Ratio [OR] = 14.87 (age >80 vs <60), p <0.0001). Patient’s with incontinent diversions were associated with Charlson Morbidity Index scores of >2 (OR = 2.60 (CMI ≥2 vs CMI = 0), p 0.0003). Among Patient Safety indicators incontinent diversions were associated with higher rates of post-operative hemorrhage requiring transfusions (OR = 1.64 (hemorrhage present vs. absent), p 0.0026) while continent diversions were associated with higher rates of urinary tract infections (OR = 1.66 (UTI present vs absent), p 0.0237). Other safety indicators evaluated
were rates of reintubation, prolonged extubation, wound dehiscence, rates of sepsis, deep venous thrombosis, pulmonary embolism, and pneumonia but these were not statistically different among the groups.

**Conclusion:** Our data suggest that the choice of urinary diversion type does not appear to significantly influence commonly measured patient safety indicators. Therefore, choice of urinary diversion type should be based solely on appropriate clinical factors, rather than its influence of quality measures.

**Podium #183**

**PREVALENCE OF PROTEINURIA IN UROLOGIC PATIENTS**

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Presented By: Adam Bezinque, BS

**Introduction:** Chronic kidney disease (CKD) is classified according to cause, GFR, and proteinuria. In the urology clinic, patients might be expected to more commonly present with proteinuria, particularly if they have known CKD, have kidney disease (cancer or benign), and/or after surgery. We compared the prevalence of proteinuria in the urology clinic, in kidney cancer patients, and in patients suspected of having CKD.

**Methods:** Cross-sectional study of three populations including urology patients, kidney cancer patients, and patients that had both a urinalysis and albumin-to-creatinine ratio (ACR). Proteinuria was classified under KDIGO guidelines.

**Results:** In 5,027 urologic patients, 81.5% were A1, 16% were A2, and 2.5% were A3. Of 1,015 kidney cancer patients, 78% were A1, 18% were A2, and 3.9% were A3. For 893 urology patients that had both a urinalysis and ACR, 77% were A1-urinalysis, 17% were A2-urinalysis, 5.6% were A3-urinalysis, 67% were A1-ACR, 26% were A2-ACR, and 7.2% were A3-ACR.

**Conclusion:** The population risk of proteinuria in the urology clinic is 18.5%, which is similar to reported rates in the general population (~20%). Although the average urology patient does not appear to be at an increased risk, patients with kidney cancer (21.9%) and/or suspicion of CKD (22.6%) may be at increased risk for proteinuria, and macroproteinuria in particular (3.9-7.2% vs. 2.5%). We recommend further evaluation of patients with proteinuria detected by urinalysis to have either repeat urinalysis or ACR to identify and classify CKD.

**Podium #184**

**ASSOCIATION OF RACE AND MARGIN STATUS AMONG PATIENTS UNDERGOING ROBOTIC PARTIAL NEPHRECTOMY FOR T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT**

Matthew Bream, MD¹, Robert Abouassaly, MD, MS³, Jonathan Kiechle, MD¹, Nilay Shah, PhD², Marc Smaldone, MD, MS³, Alex Kutikov, MD³, Christopher Gonzalez, MD, MBA¹, Neal Meropol, MD¹, Karl Coutinho, MD¹, Hui Zhu, MD⁴ and Simon Kim, MD, MPH¹

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Presented By: Matthew Bream, MD

**Introduction:** Racial disparities remain a prevalent problem in health care and are often associated with poorer quality health care delivery. With robotic partial
nephrectomy (RPN) increasingly becoming the preferred treatment for T1 renal tumors, little is known whether the quality of care for RPN varies by race. We examined margin status in RPN to assess whether race is an independent predictor of oncologic outcome.

**Methods:** Using the National Cancer Database (NCDB), we identified a cohort of patients with T1N0M0 renal cell carcinoma who underwent RPN from 2010-2011. The association between race and positive surgical margins (PSM) was assessed using chi-square and a multivariable logistic regression model adjusted for patient demographic, clinicopathologic, and hospital factors.

**Results:** Of a total 4,792 patients undergoing RPN, 413 (8.6%) had a PSM. The percentage of patients with PSM was higher for African-American (AA) patients (12.9%) compared to Hispanic (8.4%) and White (8.0%) patients (p=0.004). On multivariable analysis, AA patients had higher odds of PSM compared to White patients (OR: 1.82; p=0.001). Other factors associated with higher odds of PSM were patients insured by Medicaid compared to private health insurance (OR: 1.77, p=0.02), treatment at a non-academic center compared to academic centers (OR: 1.40, p=0.009), and chromophobe compared to clear cell histology (OR: 3.48, p=0.03).

**Conclusion:** With RPN widely accepted as the preferred approach for localized tumors, AA patients are at higher risk for PSM's following surgery. These results bring attention to the quality of care provided to vulnerable patient populations undergoing RPN.

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**Podium #185**

**UNPLANNED ADMISSIONS AFTER SHOCK WAVE LITHOTRIPSY AT HIGH VOLUME CENTERS**

Joel Z. Cornfield, MD², Harrison M. Abrahams, MD³, Patrick N. Ciccone, MD⁴ and Joseph Jenkins, MD, JD¹

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Presented By: Joseph Jenkins, MD

**Introduction:** Unplanned admissions (UPA) after shock wave lithotripsy (SWL) have been reported to be 12%. In the new world of medical reimbursement with its emphasis on value over volume, understanding the magnitude of UPA is critical to defining quality.

**Methods:** For a three-month period, three geographically diverse, high volume (over 1000 cases/year) SWL centers contacted all non-Medicare and non-Medicaid SWL patients 30 days post lithotripsy to determine if an UPA had occurred. Patients were contacted by phone, email, and text.

**Results:** During the study period, a total of 1330 patients underwent SWL, 1123 (84%) were successfully contacted. Of these, 82 (7.3%) experienced UPA within thirty days of their SWL treatment. Multiple causes led to UPA: uncontrolled pain (50%), infection (10%), bleeding (4%), as well as unrelated conditions. No confounding demographics or treatment parameters of the treated population were predictive of UPA.

**Conclusion:** In the study’s high volume centers, all cause UPA post-SWL are reduced by 39% when compared to the national post-SWL average. Additionally, the 7.3% UPA rate compares favorably to the reported 15% rate for ureteroscopy. The cost reduction of decreasing UPA is significant, amounting to $1,168/patient. Additionally, this study represents a challenge to improve protocols and postoperative care. Further, defining the causes of such
readmissions begins to create a pathway to correct the avoidable and recognize the unavoidable.

Podium #186
WHY CHOOSE UROLOGY? INVESTIGATING THE INTERESTS AND MOTIVES OF TODAY’S UROLOGY APPLICANT
Amir Lebastchi, MD¹, Ian McLaren, MD¹, Roger Khouri Jr., BS¹, Gary Faerber, MD¹, Kate Kraft, MD¹, Khaled Hafez, MD¹, Casey Dauw, MD¹, Vincent Bird, MD¹, Thomas Stringer, MD², Ajay Singla, MD², Matthew Sorensen, MD³, Hunter Wessells, MD³ and Sapan Ambani, MD⁴
¹University of Michigan Department of Urology; ²University of Florida Department of Urology; ³University of Toledo Department of Urology; ⁴University of Washington Department of Urology
Presented By: Amir Lebastchi, MD

Introduction: Urology has experienced a notable increase in popularity. An improved understanding of the applicant pool is needed. We sought to investigate the motives and interests of today’s Urology applicant.

Methods: We emailed an electronic survey to all applicants to the participating institutions in the 2016 Urology Match. Applicants were asked to discuss what factors influenced their decision to pursue Urology. Analysis of variance with post-hoc testing was performed to evaluate for and compare differences.

Results: A total of 322 applicants responded, of which 78% of applicants were less than 28-years-old with women comprising 23%. Diversity of the procedures, prior exposure to the field during clinical rotations, as well as the mix between surgery and medicine were identified as the most important factors influencing the decision to pursue a career in Urology (Figure 1). Of the subspecialties, urologic oncology drove students’ interest in urology most (39.1%), followed by general urology (16.2%), and robotic surgery (15.5%).

Conclusion: The diversity of Urology serves as the major source of attraction to our specialty. Diversifying the urologic disciplines to which students are exposed to may lead to an increased interest in lesser-represented urologic subspecialties and ultimately enhance recruitment to the field.
Introduction: The traditional medical school curriculum does not include a mandatory urology rotation. Understanding the components of the modern medical student’s path to urology would allow for improved recruitment in this model.

Methods: We emailed an electronic survey to all applicants to the participating institutions in the 2016 Urology Match.

Results: 322 Applicants completed the survey. While only 8.7% of respondents had a mandatory urology rotation, 58.6% believed that a mandatory urology rotation would have influenced their decision. More applicants devoted at least one year to research in other fields (45.2%) than to research in urology (31.6%). Urology faculty and residents served as mentors for most students in their decision to pursue urology (89.0%). Applicants dedicated most of their elective rotations to urology, with 62.0% spending more than 8 weeks on urology rotations and 79.1% completing two or more away rotations (Table 1).

Conclusion: Most students are not formally exposed to urology in their required clinical rotations. Most urology residency applicants become interested in urology late in medical school and dedicate most of their elective rotations to urology. Increasing early exposure to urology might enhance recruitment.
Podium #188

MINDFULNESS-BASED STRESS REDUCTION IMPROVES INDICATORS OF EMOTION REGULATION, POSITIVE AFFECT, AND SLEEP QUALITY IN A URO-ONCOLOGY PATIENT SAMPLE

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Presented By: David Victorson, PhD

Introduction: Individuals diagnosed with major urological cancers, such as prostate, kidney, and bladder cancer, are faced not only with the stressors of a diagnosis, but also with short and long term treatment related side effects and their impact on quality of life (QOL). Mindfulness Based Stress Reduction (MBSR) is an intensive, eight-week emotion regulation training program that has been shown to be effective in reducing symptoms and side effects for different cancer patient populations. The objective of this presentation is to examine the effect of MBSR in a uro-oncology patient sample.

Methods: Participants were adults diagnosed with clinically localized prostate, kidney or bladder cancer as well as their spouse/significant other. A battery of patient reported outcomes questionnaires (e.g., PROMIS and other measures of psychosocial health and QOL) was administered at baseline, 8−weeks, 6 months and 12 months. Significance tests and effects sizes were calculated to determine the magnitude of significant differences between time points (e.g., .2=small; .5=medium; .8=large).

Results: This analysis included 68 participants who presented diagnoses of prostate cancer (81%), bladder cancer (19%), and kidney cancer (6%). The majority of the participants were male (94%). Analysis of pre/post changes in outcomes revealed statistically significant improvements in emotion regulation (p=.03; effect size = .41]; positive affect (p=.02; effect size = .47); and sleep quality (p=.03; effect size = .42). Effect sizes suggested a trend towards clinical significance.

Conclusion: Our study demonstrated the psychosocial benefits of mindfulness training for patients diagnosed with uro−oncological cancers. Limitations and future directions will be discussed.
**Introduction:** To assess the laboratory and clinical outcomes of local cryoablation of oligometastatic prostate cancer (OmPC).

**Methods:** This is a retrospective study of patients treated with cryoablation of OmPC nonosseous solid organ or soft tissues metastasis at the Karmanos Cancer Institute in Detroit, MI. The electronic medical record was reviewed for laboratory and clinical data. Statistical analysis was prepared with Graphpad Prism 6.0.

**Results:** Seven procedures in six patients with prostatic oligometastatic lesions were treated with cryoablation over a two-year period. There was one technical failure which required reablation. Median follow-up was six months (1-21 month). The median PSA pre-intervention was 10.4 ng/dL (0.8-20.7) and median post-intervention nadir was 0.25 ng/dL(<0.1-1.3), p<0.05. PSA decreased by a median of 94%, range of 41%-100% (Waterfall plot, figure 1). Two patients had complete response with undetectable post-intervention PSAs which remained undetectable at most recent follow-up of three and six months, respectively. Median time to progression, defined as increase of PSA by 2ng/ml from nadir, was 12 months. Three grade 1-3 CTCAE complications were noted in three patients: ureteral injury requiring stent placement, left foot numbness, and urinary frequency.

**Conclusion:** Cryoablation of nonosseous OmPC is a relatively safe and effective treatment. Further investigation into the utility of this treatment is warranted.
**Poster #2**

**MULTI-PARAMETRIC MAGNETIC RESONANCE IMAGING/ULTRASOUND FUSION BIOPSY, A BETTER DIAGNOSTIC TOOL THAN STANDARD 12-CORE TRANSRECTAL ULTRASOUND GUIDED BIOPSY**

Wei Phin Tan, MD¹, Mukund Gande, BS¹, Thomas Hwang, BS¹, Paul Yonover, MD, FACS², Daniel Dalton, MD, FACS³, Kalyan Latchamsetty, MD, FACS⁴ and Christopher Coogan, MD, FACS⁴

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Presented By: Wei Phin Tan, MD

**Introduction:** Studies have found that multi-parametric Magnetic Resonance Imaging/Ultrasound fusion biopsy (MRI FB) improves the detection of clinically significant (CS) prostate cancer (CaP) compared to standard 12-core transrectal ultrasound guided biopsy (TRUSBX). Our objective was to determine if MRI FB is superior at detecting CS prostate cancer (GS ≥ 7) compared to TRUSBX.

**Methods:** A retrospective study of 367 patients who underwent both a MRI FB and TRUSBX at a single center between September 2014 and September 2015 was performed. All patients underwent a 3-Tesla multi-parametric MRI. Using a 3-dimensional model fusion software [InVivo (Phillips), Gainesville (USA)], 2-5 fusion biopsies were performed on each prostate lesion.

**Results:** Median age was 63 years (range 42-88). Median BMI was 27.2 kg/m² (range 19.26-48). Median PSA was 7.23 ng/dL (range 0.82-35.29). A diagnosis of prostate cancer was made in 75 patients. 45 (60%) clinically significant prostate cancer was detected on TRUSBX whereas 61 (81.3%) of clinically significant prostate cancer was detected on MRI FB, p<0.001 (Table 1). Addition of targeted biopsy led to Gleason upgrading in 30 (40%) cases. Conversely, 14 cases (18.7%) of clinically significant prostate cancer was missed on the MRI FB group but detected in the TRUSBX group. Three cases of high-grade disease (GS≥8) detected on MRI FB but missed on TRUSBX. Three cases were upgrade to high grade disease based off MRI FB.

**Conclusion:** MRI FB improves the detection rate of cancer men suspicious for CaP. Further research is needed to determine which patients may benefit from this platform in terms of active surveillance, focal therapy and cancer detection.

**Poster #3**

**RISK OF HOSPITALIZATION FOLLOWING OUTPATIENT PROSTATE BRACHYTHERAPY**

Robert Blackwell, MD, William Gange, Jennifer Saluk, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD MBA, Robert Flanigan, MD and Gopal Gupta, MD

Loyola University Medical Center

Presented By: William Gange

**Introduction:** Transperineal prostate brachytherapy is a common outpatient procedure for the treatment of prostate cancer. The rates of subsequent emergency department visits and inpatient admissions is unknown.

**Methods:** Patients who underwent prostate brachytherapy (CPT code 55875) for prostate cancer (ICD9 code 185) in an ambulatory surgery setting were identified in the Healthcare Cost and Utilization Project (HCUP) State Ambulatory Surgery Database for California in 2011. Emergency department visits and inpatient admissions within 30 days of treatment were determined from the California HCUP State Emergency Department Database and State Inpatient Database,
Results: In one year, 1,401 patients underwent brachytherapy for prostate cancer. Within thirty days, 114 (8.1%) patients experienced 133 hospital visits. Emergency department visits were required by 90 (6.4%) patients, at a median time from surgery of 6 days (IQR 2-13). Inpatient hospitalization was required by 43 (3.1%) patients at a median 8 (IQR 4-20) days. Common presenting diagnoses included urinary retention n=34 (25.6%), hematuria n=14(10.5%), and urinary tract infection n=11(8.3%).

Logistic regression demonstrated that increasing patient age (65-75 years: OR 3.1 (95% CI 1.1-8.7); >75 years: OR 3.9 (95% CI 1.2-11.6) and any inpatient admission within 90 days prior to surgery (OR 2.1 (95% CI 1.4-3.1) increased the risk of requiring hospital-based medical evaluation following outpatient prostate brachytherapy. Baseline medical comorbidity (Charlson comorbidity score) did not influence risk.

Conclusion: Emergency department visits and inpatient admissions are common following prostate brachytherapy. Risk of readmission is higher in elderly patients and those who have had recent inpatient hospitalizations.

Poster #4
CLINICAL UTILITY OF THE 4KSCORE® TEST IN PATIENTS CONSIDERED FOR PROSTATE BIOPSY IN A LARGE UROLOGY GROUP PRACTICE
Chirag Dave, MD¹, Jason Hafron, MD², Danielle Osterhout², Jeffrey Schock, MD², Randy Chudler, MD², Yan Dong, MA³, Gregory Oldford, MD² and Kenneth Kernen, MD²
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Presented By: Chirag N. Dave, MD

Introduction: The 4Kscore is a blood test combining four kallikrein assays with clinical information in an algorithm that calculates the probability of Gleason 7 or higher prostate cancer on biopsy. The objective of this study was to assess whether the results of the 4Kscore influenced physician-patient management decisions for men referred for suspicious clinical or abnormal PSA findings.

Methods: The study includes 290 patients who had a 4Kscore test from January to July 2015 as part of the evaluation for prostate cancer as clinically indicated by their urologist. Subsequently, urologists were asked to evaluate the impact of the 4Kscore test on whether or not to perform a prostate biopsy for prostate cancer.

Results: Initially, 96% of men were considered for prostate biopsy, however, after 4Kscore only 35.9% of patients underwent biopsy. Nearly half of patients were low risk by 4kscore (4Kscore ≤7.5%) and urologists did not recommend prostate biopsy 93.2% of the time. One 4K score low risk patient was found to have Gleason 7 (Gleason 3+4) disease at biopsy. Alternatively, 80.2% of patients with a high risk 4K score (4Kscore ≥20%) were recommended to have a prostate biopsy. 38.8% of these patients had high-grade disease (Gleason ≥ 7) on biopsy. Urologists reported that the 4Kscore test influenced their biopsy decisions 83.8% of the time.

Conclusion: The 4Kscore test is a useful tool to identify high-grade prostate cancer. The test can be used to reduce prostate biopsies, which could yield significant cost savings while improving patient care.
**Poster #5**
CIPROFLOXACIN RESISTANT BACTERIA ON PRE-PROSTATE BIOPSY RECTAL SWAB CULTURE; A NORTHWEST OHIO STUDY
Bradley Buck, MD, Ryan Flynn, MD and Samay Jain, MD
University of Toledo
Presented By: Bradley J. Buck, MD

Introduction: Ciprofloxacin is routinely given to patients prior to trans-rectal prostate biopsy. To quantify the percentage of Northwestern Ohio patients harboring ciprofloxacin resistant bacteria, and to assess if resistance is increasing and/or if previous biopsy is a risk factor for resistance, the present study was undertaken.

Methods: After IRB approval, a retrospective chart review of all patients who underwent rectal swab culture within the Department of Urology at the University of Toledo Medical Center between January 1st of 2012 and December 31st of 2015 was completed. Patient demographic data was collected including the presence of ciprofloxacin resistance bacteria. Chi-squared analyses were completed where applicable to test for significant differences.

Results: During the study period 311 cultures for resistant organisms were completed. The average age at time of culture was 64 (± 8.7 SD) years old. Resistance rates were 13.2%, 13.8%, 19.5%, and 13.3% in 2012, 2013, 2014, and 2015 respectively. We found no statistically significant difference in resistance across years. Additionally, previous biopsy was not significantly associated with ciprofloxacin resistance.

Conclusion: The current study continues to highlight the need to test for ciprofloxacin resistant bacteria. We saw no significant increase across years. As our institution continues to obtain sensitivity data, our local antibiogram may help guide prophylaxis within our community.

**Poster #6**
PILOT STUDY: 9.4 T MAGNETIC RESONANCE ELASTOGRAPHY OF EX-VIVO PROSTATE CANCER
Harpreet Wadhwa, MD¹, Steven Kearney, PhD², Cristian Luciano, PhD², Dieter Klatt, PhD², Thomas Royston, PhD² and Simone Crivellaro, MD³
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Presented By: Harpeet S. Wadhwa, MD

Introduction: The limited sensitivity and specificity of current MRI protocols in prostate cancer detection leaves room for improvement. Magnetic resonance elastography (MRE) provides quantitative data and images showing the size, location, stage, and viscoelastic properties of lesions within tissue. In this study we assessed the efficacy of MRE imaging of ex vivo prostate specimen to identify cancerous lesions.

Methods: This was a prospective, single institution study. Five men undergoing radical prostatectomy for prostate cancer were included. Using an ultra-high magnetic field 9.4 T scanner images were obtained of the stiffness of the specimen (immediately after surgery). Shear waves were induced in the specimen with a cylindrical tube, where the specimen had been perfectly adapted, connected to a piezoelectric actuator (P-840.1, Physik Instrumente GmbH & Co., Karlsruhe, Germany) and actuated axially creating radially converging waves cutting into the prostate.
Results: Preliminary data for comparison with the pathology report are at the time of writing this abstract available in five cases with results summarized in Table 1. Our MRE protocol was able to identify cancerous lesions with 100% sensitivity and 88% specificity.

Conclusion: Ex-vivo MRE imaging shows potential in identifying cancerous lesions in the prostate gland. Further study is warranted to explore potential in clinical use and clinical value of this protocol.

Poster #7
TESTING THE APPLICABILITY OF EPSTEIN’S ACTIVE SURVEILLANCE CRITERIA IN A LARGE ROBOTIC PROSTATECTOMY COHORT
Naveen Kachroo, MD PhD, Mireya Diaz, PhD, Mani Menon, MD and Ali Dabaja, MD
Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Naveen Kachroo, MD

Introduction: Active Surveillance (AS) has been gaining increasing popularity as an effective treatment in low risk prostate cancer (PCa). This study assessed the accuracy of Epstein’s stringent criteria for AS eligibility in identifying those with insignificant disease in a large post-surgical cohort.

Methods: A prospectively maintained database of patients who underwent Robotic-assisted Radical prostatectomy (RARP) as primary PCa treatment between September 2001-December 2013 at a high volume US tertiary referral center was used. Patients satisfying Epstein’s criteria pre-operatively based on a standard biopsy strategy were identified. Statistical differences in post-operative disease status and biochemical recurrence were assessed.

Results: A total of 6,372 men underwent RARP, of which 1,358 (21.3%) satisfied Epstein's criteria. 22% Caucasians and only 14% African-Americans met AS criteria. No racial differences in post-surgical disease status or outcome were noted. 209 of patient’s satisfying Epstein’s criteria (15.3%) had pT3/T4 disease and 2 patients had positive lymph nodes. 550 patients (41%) were upgraded with 68 (5%) having Gleason 4+3 disease and 11 (1%) having Gleason ≥8 disease. Less than 5% of patients had both insignificant disease on biopsy as well as on final pathology. Those meeting AS criteria were significantly less likely to encounter biochemical recurrence at eight years (0.96 vs. 0.73) and 10 years (0.93 vs. 0.69) (Log rank test, p<0.001).

Conclusion: Although a significant number of patients meeting Epstein’s criteria
were found to be upstaged, upgraded and had significant disease at RARP, this
did not appear to affect long term outcome suggesting accuracy in patient
selection for AS.

Poster #8
INFECTIONOUS COMPLICATIONS FOLLOWING TRANSRECTAL
ULTRASOUND GUIDED PROSTATE BIOPSIES IN PATIENTS RECEIVING
TARGETED PROPHYLAXIS FOR FLUOROQUINOLONE-RESISTANT
RECTAL SWAB CULTURES
Dimitri Papagiannopoulos, MD¹, Nicholas O'Block, BS¹, Lester Raff, MD²,
Michael Abern, MD³, Christopher Coogan, MD¹ and Kalyan Latchamsetty, MD¹
¹Rush University Medical Center; ²Uropartners; ³University of Illinois
Presented By: Dimitri Papagiannopoulos, MD

Introduction: According to the AUA, fluoroquinolones (FQ) are first-line
prophylactic agents before transrectal ultrasound-guided biopsies (TRUSBx). For
urologists who use rectal swabs to guide prophylaxis, FQ-resistant cultures are
as high as 25%. We explore the incidence and risk factors for infectious
complications in patients with FQ-resistant rectal cultures.

Methods: A retrospective review was performed on 1,361 patients with FQ
resistant rectal swab cultures prior to TRUSBx at 28 urology clinics in the
Chicago-land area from January 2013 to December 2014. Characteristics of
patients with and without infectious complications after biopsy were compared
using the Kruskal Wallis and Chi-square tests. Multivariable logistic regression
was performed to determine predictors of any infection. Analyses were
performed using R version 2.14.2 (R Foundation for Statistical Computing,
Vienna, Austria).

Results: Ultimately, 1,110/1,361 patients with complete data were analyzed. In
total, 45/1,110 (4.1%) had an infectious complication: febrile UTI (19,1.7%),
sepsis (11,1.0%) epididymo-orchitis (8,0.72%), UTI (4,0.36%), prostatitis
(2,0.18%), prostatic abscess (1,0.090%). Patient age, diabetes mellitus,
antibiotic use within 6 months, and number of prior biopsies were not associated
with infectious complications (p>0.05). An increasing number of biopsy cores
approximated but did not reach statistical significance (p = 0.06). On multivariate
analysis, bactrim use resulted in a 70% decreased risk of infection (OR 0.30,
95% CI 0.13-0.72).

Conclusion: In patients with FQ-resistant rectal swab cultures, infectious
complications (4.1%) and sepsis rates (1%) were encouragingly low, which may
argue for targeted prophylaxis. Additionally, if a swab is bactrim sensitive, its
administration may offer additional protective benefit.

Poster #9
HIGH NEGATIVE PREDICTIVE VALUE OF MPMRI OF THE PROSTATE IN
PATIENTS WITH NO IDENTIFIED MRI LESIONS
Michelle Van Kuiken, MD, Robert Blackwell, MD, Everardo Arias, Bryan Bisanz
and Gopal Gupta, MD
Loyola University Medical Center
Presented By: Michelle E. Van Kuiken

Introduction: mpMRI of the prostate has become a useful tool for helping to
diagnose clinically significant prostate cancer however it remains unclear if
mpMRI can rule out clinically significant prostate cancer in the absence of biopsy.
We aim to look at the negative predictive value of mpMRI in both biopsy naïve and prior biopsy negative patients.

**Methods:** We retrospectively reviewed 195 patients who underwent mpMRI at our institution. Of the 195 patients, 83 of these patients were biopsy naïve and 112 had had a prior negative biopsy. All patients underwent traditional TRUS biopsy in addition to Uronav fusion guided biopsy. A Pearson-Chi squared test was used for statistical analyses.

**Results:** There were 20 patients identified who had no lesions detected on mpMRI - 11 biopsy naïve and nine prior biopsy negative. There was no significant difference in the rate of mpMRI detected lesions between the two groups nor in the amount of clinically significant cancer diagnosed on standard TRUS biopsy alone (p=0.235 and 0.776, respectively). Of the 11 biopsy naïve patients, zero patients (0%) were found to have prostate cancer on TRUS biopsy. Of the 9 prior negative patients, 1 patient (11%) was found to have clinically significant prostate cancer defined as Gl ≥ 7 that was missed on mpMRI for an overall negative predictive value of 95% among the 2 groups.

**Conclusion:** mpMRI has a high negative predictive value and offers promise for reducing the number of unnecessary biopsies performed, especially in a biopsy naïve population.

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**Poster #10**

**NATIONAL UTILIZATION AND PERIOPERATIVE OUTCOMES OF ROBOTIC RADICAL NEPHRECTOMY FOR CLINICAL T1 RENAL CELL CARCINOMA: RESULTS FROM A POPULATION-BASED COHORT**

Matthew Bream, MD¹, Robert Abouassaly, MD, MS¹, Marc Smaldone, MD, MS², Alex Kutikov, MD², Christopher Gonzalez, MD, MBA¹, Neal Meropol, MD¹, Hui Zhu, MD³, Joseph Hwang, MS¹ and Simon Kim, MD, MPH¹

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**Presented By:** Matthew Bream, MD

**Introduction:** Radical nephrectomy (RN) is the most common surgical treatment for localized renal cell carcinoma (RCC). Robotic surgery has been rapidly disseminated in urology, yet it is unknown the degree to which robotic radical nephrectomy (RRN) has supplanted laparoscopic radical nephrectomy (LRN). Using the National Cancer Data Base (NCDB), we sought to assess the national use of LRN and RRN for T1 renal tumors and compare perioperative outcomes.

**Methods:** A cohort of patients who underwent minimally invasive RN for clinical T1N0M0 RCC from 2010 and 2011 was identified from NCDB. The primary outcome was receipt of either LRN or RRN. Secondarily, we compared perioperative outcomes between the two groups (length of stay, 30-day readmissions, and 30-day mortality). Pearson chi-square and multivariable logistic regression analysis were used to identify patient demographic, clinicopathologic, and hospital factors associated with RRN.

**Results:** Of the 7384 patients undergoing minimally invasive RN, 1555 (21%) were treated with RRN. From 2010 to 2011, there was a trend for greater use of RRN 18% to 24% (p<0.001). On multivariable analysis, patients were more likely to undergo RRN at academic hospitals (OR: 1.55; p<0.001), for tumors < 4 cm (OR: 1.22; p<0.001), and with a concomitant RPLND (OR: 1.79; p<0.001). No statistically significant differences were observed for the perioperative outcomes.

**Conclusion:** In this population-based cohort, approximately one-fifth of all RNs were done robotically with more being done for smaller tumors and at academic hospitals.
hospitals. With similar 30-day outcomes, the use of robotic surgery for RN may face greater scrutiny.

Poster #11
ROUTINE EARLY UNCLAMPING OR NO CLAMPING DO NOT NEGATIVELY IMPACT OUTCOMES OF ROBOTIC PARTIAL NEPHRECTOMY
Jatin Gupta, DO, MS, Sean Henderson, DO, Janice Rosenthal, RN and Ronney Abaza, MD, FACS
OhioHealth Robotic Urologic Surgeon
Presented By: Ronney Abaza, MD, FACS

Introduction: Warm ischemia time (WIT) during partial nephrectomy can be reduced by early unclamping (EU) of the renal artery before renorrhaphy completion or by off-clamp (OC) resection and renorrhaphy. Criticisms include potential increased bleeding and/or reduced visibility, potentially contributing to positive margins or urine leaks from missing collecting system defects in a less hemostatic environment. We began universal use of EU and OC robotic partial nephrectomy (RPN) in all patients in 2010 to reduce WIT. We investigated whether this strategy impacted RPN trifecta of WIT<25min, no complications, and negative margins.

Methods: A prospective database of 280 consecutive RPNs in 271 patients by a single surgeon (RA) was reviewed, including 35 OC and 245 EU. Outcomes were reviewed and trifecta rate compared with the literature.

Results: Mean tumor size and R.E.N.A.L. score were 3.4cm (0.5-12.8cm) and 7.7 (4-12) with collecting system entry in 69.5%. Mean blood loss and operative time were 128mL and 181min with mean hospitalization of 1.04d. There were only 1 transfusion (0.4%), positive margin (0.4%), and urine leak (0.4%). Complications occurred in 13 patients (4.8%). Using EU and OC universally, only four had WIT >25min such that only 18 patients did not achieve trifecta for a trifecta rate of 93% as compared with 70% in the literature.

Conclusion: Despite similar size and complexity of tumors, universal use of EU or OC rather than traditional clamp technique during RPN did not increase bleeding, positive margins, or complications as has been theorized and did not jeopardize ability to achieve trifecta.

Poster #12
DO SURGEONS MODIFY THEIR CLAMPING TECHNIQUE DURING ROBOTIC PARTIAL NEPHRECTOMY FOR COMPLEX TUMORS?
Leedor Lieberman¹, Ravi Barod, MD², Deepansh Dalela, MD², Mani Menon, MD² and Craig Rogers, MD²
¹Henry Ford Hospital; ²Vattikutti Urology Institute, Henry Ford Health System, Detroit, MI
Presented By: Leedor Lieberman

Introduction: Hilar clamping is often performed to facilitate robotic partial nephrectomy (RPN). Modifications have been described to minimize ischemia time, including early unclamping, selective clamping, and off-clamp techniques. We assess the utilization of these techniques in a large international consortium of high-volume surgeons performing RPN for complex tumors.

Methods: We retrospectively evaluated 752 patients with complex tumors who underwent RPN at 11 centers worldwide between 2008 and 2014. Definitions: Complex tumors: RENAL or PADUA nephrometry score > 6; Standard Clamping-
main renal artery; Modified Clamping- early unclamping, selective clamping, and off-clamp RPN. Clamping techniques were assessed in patients with eGFR<60 and in patients with a solitary kidney.

**Results:** Clamping techniques (Table) included standard clamping (81.1%), early unclamping (10.8%), selective clamping (8.1%), and off-clamp (3%). Mean warm ischemia time (WIT) of standard clamping was 22.7 minutes. Of patients with an eGFR < 60, only 14.9% underwent early unclamping and 3.2% underwent selective clamping. Of patients with solitary kidneys (n= 14), thirteen were performed with standard hilar clamping with mean WIT of 14.6 minutes.

**Conclusion:** Modified clamping techniques were only used in a minority of cases of complex RPN, but WIT with standard clamping was low. Overall, surgeons did not modify clamping technique based on low pre-operative GFR or solitary kidney status.

**Poster #13**
**UNRELIABILITY OF COMPARING LYMPH NODE YIELDS IN ROBOTIC CYSTECTOMY BETWEEN INSTITUTIONS**
Sean Henderson, DO, Jatin Gupta, DO, MS, Janice Rosenthal, RN and Ronney Abaza, MD, FACS
OhioHealth Robotic Urologic Surgeon
Presented By: Ronney Abaza, MD, FACS

**Introduction:** Nodal yield has been proposed as a quality measure for cystectomy surgeons, but other factors may impact yields beyond surgeon ability. We previously demonstrated no difference in nodal yield between open and robotic cystectomy (RC) at a high-volume academic institution. We now assess whether institutional variations in specimen processing may impact nodal yield in RC, as demonstrated in open surgery, since this might explain wide variations between institutions performing RC even with similar templates.

**Methods:** Consecutive RC procedures by the same surgeon and assistant with identical technique and template but at different hospitals were reviewed. Included were one high-volume academic center (site A) and one lower-volume community hospital (site B). Nodes were submitted to pathology in identical fashion.

**Results:** A total of 57 RC were performed at site A and 30 at site B. Despite identical team, technique, and template, a significant difference in mean node count was identified between hospitals with 34 nodes (10-67) at site A and 20 nodes (7-40) at site B (p<0.01). There was no difference in proportion of node positive patients on pathology (32% vs. 33%, p=0.45) or mean number of positive nodes when present (p=0.26).

**Conclusion:** Variations in nodal yield with RC may depend on institutional specimen handling. The wide differences in counts between RC surgeons with similar templates may depend more on their pathology departments than surgeon ability. This has implications for using nodal yield as a surrogate for quality and for comparing surgeons or open and robotic surgery at different institutions.
Posters

Poster #14
COMPARISON OF ROBOTIC CYSTECTOMY WITH INTRACORPOREAL VS EXTRACORPOREAL ILEAL CONDUIT: AN INITIAL EXPERIENCE
Takahiro Osawa, MD¹, Jeffrey Montgomery, MD², Cathy Twu-Wong², Christine Schafer², Todd Morgan, MD², Brent Hollenbeck, MD², Nobuo Shinohara, MD¹ and Alon Weizer, MD²
¹Department of Urology, Hokkaido University, Sapporo, Japan; ²Department of Urology, University of Michigan Health System, Ann Arbor, Michigan
Presented By: Takahiro Osawa, MD

Introduction: We compared our initial experience with Robotic-assisted Radical Cystectomy (RARC) with intracorporeal ileal conduit (ICIC) to a cohort undergoing RARC with open ileal conduit (OIC) to understand differences in early outcomes and cost.

Methods: After IRB approval, we compared consecutive 25 patients who underwent ICIC with 32 patients who underwent OIC from February 2013 to December 2015. Operative data and short-term outcomes, and costs between the 2 groups were assessed.

Results: Median intravenous infusion volume (p=0.011), median Estimated blood loss (EBL, p=0.042), median length of hospital stay (LOS, p=0.001), and inpatient complication rate (p=0.045) were significantly lower for ICIC. Median operative time (p<0.001) was significantly longer for ICIC. Although there was a trend for higher cost in ICIC, there was no significant difference in the median total admission costs (p=0.091). Using a regression model, ICIC results in a cost savings if the operative time is less than 470 minutes.

Conclusion: Our initial experience with ICIC suggests that this is an acceptable approach, but further study is necessary to assess if a totally intracorporeal approach to cystectomy with ileal conduit urinary diversion has meaningful clinical advantages over robotic cystectomy with open ileal conduit diversion.
Poster #15
INSIGHT INTO RESIDENT SURGICAL INVOLVEMENT USING ROBOLOG
Petar Bajic, MD¹, Kristin Baldea, MD¹, Ryan Thorwarth, BS², Marcus Quek, MD¹ and Gopal Gupta, MD¹
¹Loyola University Medical Center; ²Loyola University Stritch School of Medicine
Presented By: Petar Bajic, MD

Introduction: The ACGME surgical case-logging system designates a resident as surgeon or assistant. During robotic surgery, the resident may act as surgeon for some steps and assistant for others, making the traditional system inadequate. Designating “surgeon” after console participation does not adequately reflect actual trainee experience. We seek to analyze our residents’ robotic experience using RoboLog, a novel tool for tracking trainee involvement.

Methods: We previously developed a web-based logging tool to track surgical skill progression for specific steps of robotic surgical cases. An attending feedback function is built in. RoboLog provides automated summary reports to residents and attendings on a monthly basis and can be queried for other data.

Results: RoboLog was piloted for one year with participation from 10 residents and 7 attendings. 310 total cases were logged and 35 reviews by faculty were performed. Detailed data on resident experience was obtained. Level of involvement was also stratified by PGY level with the most surgical steps being performed by chief residents and fellows, and fewer by intermediate level residents.

Conclusion: The current ACGME designation of surgeon is inadequate for robotic surgery and cannot differentiate between a resident who performs part or all of a procedure. RoboLog provides insight into robotic training experience and has generated interest in a standardized training curriculum. Residents with low participation in certain surgical steps can be identified early and deficits corrected. When combined with results from other institutions, benchmarks for participation in specific surgical steps based on PGY levels can be developed.

Poster #16
PREDICTORS OF 90-DAY POSTOPERATIVE READMISSION AFTER ROBOTIC ASSISTED RADICAL CYSTECTOMY
Vishnu Ganesan¹, Nima Almassi, MD², Daniel Ramirez, MD², Robert Stein, MD², Jihad Kaouk, MD², Andrew Stephenson, MD², Amr Fergany, MD² and Georges-Pascal Haber, MD, PhD²
¹Cleveland Clinic Lerner College of Medicine; ²Cleveland Clinic Glickman Kidney and Urological Institute
Presented By: Vishnuvardhan Ganesan

Introduction: Robotic assisted radical cystectomy (RARC) is gaining increasing adoption as an alternative to open cystectomy. The morbidity of RARC remains high with reported 90-day readmission rates of 20-25%. We sought to identify risk factors of 90-day readmission in patients undergoing RARC at our tertiary referral center.

Methods: We retrospectively analyzed our database of 261 patients who underwent RARC between 2011 and 2015. Patient demographics, perioperative data, and readmission rates were collected and analyzed. The primary outcome was 90-day readmission.

Results: A total of 72 patients (28%) were readmitted within 90 days. Infections
were the most common cause of readmission, with 14%, 10%, 8%, and 6% of patients having a fever, sepsis, pyelonephritis, and UTI respectively. On univariable analysis, there was no association between risk of readmission and age, gender, body mass index (BMI), Charlson comorbidity index, urinary diversion (UD) type, estimated blood loss and operative time. Patients who were readmitted had on average a longer initial hospital stay, LOS, (10.1 days vs. 8.5 days, p = 0.03). On multivariable analysis, we found that only LOS was associated with 90-day readmission (OR = 1.06, p = 0.02).

**Conclusion:** RARC is a complicated surgery with a high readmission rate. It remains difficult to predict preoperatively which patients will experience a readmission. Patient with a prolonged hospital stay are at a higher risk of being readmitted possibly due to a complication occurring in the initial post-op period. Such patients should be more closely monitored in the early postoperative phase.

**Poster #17**

**OPIOID-FREE ANALGESIA FOLLOWING ROBOT-ASSISTED LAPAROSCOPIC PROSTATECTOMY (RALP)**

Carson Wong, MD, FRCSC, FACS¹, Pankaj Goyal, MBBS² and Chirag Shah, MD³

¹SouthWest Urology, LLC; ²Rice Memorial Hospital; ³University Hospitals Parma Medical Center

Presented By: Carson Wong, MD, FRCSC, FACS

**Introduction:** Opioid analgesia following abdominal/pelvic surgery has potential adverse events and can delay return of normal bowel function. To minimize its use, we utilized scheduled acetaminophen with ketorolac for perioperative analgesia following RALP.

**Methods:** Prospectively collected data of consecutive RALP patients using perioperative acetaminophen with ketorolac for analgesia were reviewed. All procedures were performed under general anesthesia utilizing a balanced technique that was not standardized, with the exception that patients received acetaminophen 1000mg intravenous (IV) (15 minute infusion) and ketorolac 30mg IV prior to extubation. Following discontinuation of IV acetaminophen from the hospital formulary, oral acetaminophen 1000mg was provided in the preoperative holding area. Acetaminophen 1000mg IV/oral was administered q6 hours post-surgery, while ketorolac 30mg IV was administered at q8 hour intervals. Patients were ambulating the evening of surgery. Following passage of flatus and tolerating a regular diet, patients were discharged home. Opioid consumption was reviewed.

**Results:** 105 patients had a median age of 62 years and an American Society of Anesthesiologists (ASA) class of 3. Median operative time was 90 minutes and estimated blood loss was 75mL. Mean hospitalization and urethral catheter duration were 22.0 hours and 6.0 days, respectively. 22(20.9%) patients received opioid medication in the post anesthetic care unit (PACU), but did not require opioid medication on the hospital floor; while 72(68.6%) patients did not require opioid analgesia in the PACU/hospital floor. No immediate/delayed adverse events were noted.

**Conclusion:** Perioperative scheduled acetaminophen and ketorolac are effective for pain management following RALP, minimizing the need for opioid analgesia.
Poster #18
PREDICTORS OF URINARY SYMPTOMS AND PAD USE AFTER ROBOT-ASSISTED RADICAL PROSTATECTOMY (RARP)
Luchen Wang¹,², Mireya Diaz, PhD² and Craig Rogers, MD²
¹Wayne State University School of Medicine; ²Vattikuti Urology Institute, Henry Ford Hospital
Presented By: Luchen Wang, BS

Introduction: Little is known about predictors of urinary function after RARP in newly trained surgeons. We assessed potential predictors among cases from a newly hired surgeon (CR) immediately after training (residency, oncology fellowship).

Methods: We analyzed pad use and IPSS preoperatively, and at 3, 6, 12 months postoperatively among the initial 218 consecutive RARP cases 2007−2012. We examined several predictors using multivariable mixed models and an autoregressive covariance structure: case number, preoperative IPSS, patient age, BMI, diabetes, hypertension, coronary artery disease (CAD), diuretic use, nerve sparing, lymph node dissection, and prostate weight.

Results: Median IPSS and pad use at the four time points were 7, 7, 6, and 5; and unavailable, 2, 0, and 0 respectively. On Wilcoxon signed−rank test, median IPSS and pad use decreased from 3 to 6 month (p=0.007, p<0.005 respectively). On mixed models, preoperative IPSS (p<0.005), age (p=0.025), prostate weight (p=0.023), BMI (p=0.036), and CAD (p=0.001), were significant predictors of postoperative IPSS; while preoperative IPSS (p=0.003), age (p<0.005), and diabetes (p=0.038) were significant predictors of pad use. Surgeon case number was not a significant predictor for IPSS (p=0.067) or pad use (p=0.549).

Conclusion: This is likely the first study to assess potential predictors of IPSS and pad use after RARP in a newly trained surgeon, and the first to do so with mixed models. Our results show that several patient characteristics, but not surgeon experience, are associated with IPSS and pad use (at least 50% patients totally continent after 6 months).

Poster #19
IMPACT OF OBESITY ON COMPLICATIONS AFTER ROBOTIC AND OPEN PROSTATECTOMY
Scott Johnson, MD, Vignesh Packiam, MD, Andrew Cohen, MD, Charles Nottingham, MD and Norm Smith, MD
University of Chicago
Presented By: Scott Charles Johnson, MD

Introduction: Robotic assisted radical prostatectomy (RALP) is associated with less morbidity than open radical prostatectomy (ORP). However, the impact of obesity among the two approaches is unclear.

Methods: Using the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database, we identified patients who underwent RALP or ORP between 2008-2012. Those without BMI or comorbidity information were excluded. BMI was assessed as a categorical variable according to the WHO classification. Demographic and comorbid conditions were compared between BMI groups and multivariable logistical regression was used to identify independent predictors of complications.

Results: We identified 17,817 RALP and 4,789 ORP for analysis. Of the entire cohort, only 18.7% had a BMI within the normal range (18.5-24.9), while the
remaining 81.3% were at least overweight (BMI>25). Class I, II, and III obesity accounted for 24.9%, 7.0% and 2.3% of the cohort; respectively. Overall, complications were higher with ORP (20.2%) than RALP (5.6%), which held true across all BMI categories. The rate of wound, renal, thromboembolic, infectious, neurologic, and overall complications among RALP were directly related to BMI. However, only wound and renal complications were related to BMI in ORP. In multivariable analysis of all patients obesity was found to be an independent predictor of wound, renal and thromboembolic complications.

**Conclusion:** Obesity has a larger direct impact on morbidity for RALP compared to ORP. Overall morbidity, however, remains lower for RALP across all BMI groups.

**Poster #20**

**SURVEY OF ABDOMINAL ACCESS AND ASSOCIATED MORBIDITY FOR ROBOT-ASSISTED RADICAL PROSTATECTOMY (RARP) DOES PALMER’S POINT WARRANT FURTHER AWARENESS AND STUDY?**

William Johnston III, MD¹, Susan Linsell, MHSA², David Miller, MD² and Khurshid Ghani, MD²

¹Beaumont School of Medicine/Michigan Institute of Urology; ²University of Michigan

Presented By: William K. Johnston, III, MD

**Introduction:** RARP is often initiated in the peri-umbilical location. Palmer’s Point (PP), located in the left upper quadrant, has been reported as an alternative laparoscopic access site, but rarely reported for RARP. To better understand RARP surgeons’ access preferences, we surveyed two diverse organizations.

**Methods:** An anonymous online questionnaire consisting of 17 questions that assessed training, experience, and preferences for RARP access was emailed to members of the Endourology Society (ES) and the Michigan Urological Society Improvement Collaborative (MUSIC; a consortium of 42 urology practices across Michigan).

**Results:** Of the 111 respondents (ES, n=71 and MUSIC, n=40), training in RARP during residency and fellowship was confirmed by 33% and 41%, respectively. Among this group, 71% gain access with a Veress needle, 73% insert at the peri-umbilical area, and 77% reported prior experience with Veress needle. Eighteen and 9% of surgeons reported a personal experience with a vascular or bowel injury, respectively, and 21% of the respondents were personally aware of 1-2 deaths or life threatening vascular complications among colleagues (5% reported 3 or more). The majority of respondents (56%) were unfamiliar with PP and most (67%) reported never gaining access at this location.

**Conclusion:** In this survey, death or life threatening vascular injury was not an uncommonly reported event during access for RARP. Most surgeons reported use of a Veress needle through a peri-umbilical location, but were unaware or not utilizing PP for access. Further study may increase awareness and evaluate whether use of PP can reduce morbidity for RARP.
**Poster #21**

**COMPARISON OF INTRAOPERATIVE OUTCOMES WITH NEWEST AND PREVIOUS GENERATION DA VINCI ROBOTS FOR ROBOTIC PROSTATECTOMY**

Jatin Gupta, DO, MS, Sean Henderson, DO, Janice Rosenthal, RN and Ronney Abaza, MD, FACS  
OhioHealth Robotic Urologic Surgeon  
Presented By: Ronney Abaza, MD, FACS

**Introduction:** As robotic technology evolves, the impact of new platforms on outcomes has not been evaluated. The daVinci Xi robot has higher definition, longer reaching instruments, laser-guidance, and other modifications meant to ease docking. Whether such incremental changes impact outcomes or efficiency is unknown.

**Methods:** We reviewed robotic prostatectomies (RP) performed by a single surgeon at one hospital from 7/13-12/15 using the daVinci Si HD robot (Si) and then after adoption of the newest robotic surgery platform (Xi). The surgeon was beyond the learning curve having performed >1700 RPs before the first case in the study. Intraoperative outcomes for Si versus Xi cases were compared.

**Results:** A total of 683 consecutive procedures were assessed, including 353 with Si and 330 with Xi. Mean operative time for RP with lymphadenectomy was 144min with Si versus 148min with Xi, representing a mean difference of 4min (p<0.05) despite similar mean BMI of 29.8kg/m2 versus 29.4kg/m2 (range, 15-50kg/m2) (p=0.38) and similar mean prostate size of 52g versus 51g (24-143g) (p=0.51). There was no difference in blood loss (102mL vs. 99mL, p=0.42) with no intra or postoperative transfusions in either group. Mean hospital length of stay (1.01 vs. 1.00 days) and catheter time (6.13 vs. 6.11 days) were also statistically no different.

**Conclusion:** Procedure times were shorter by 4min with the older technology such that Xi did not improve efficiency. Other perioperative outcomes were not affected by the robot used, but further followup is needed to assess whether continence, potency, and oncologic control might differ.

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**Poster #22**

**STRUVTITE STONE RECURRENCE IN PATIENTS WITH AND WITHOUT PREDISPOSING RISK FACTORS FOR INFECTION**

Andrew McCall, MD, Matt Ziegelmann, MD and Amy Krambeck, MD  
Mayo Clinic  
Presented By: Andrew N. McCall, MD

**Introduction:** Struvite stones (SS) have been associated with multiple predisposing anatomic conditions including neurogenic bladder (NGB), indwelling or intermittent catheterization, and urinary reconstruction. However, the risk of recurrent urinary tract infection (UTI) and stone disease is not known independent of these risk factors. We sought to identify the risk of SS recurrence and UTI in patients with and without predisposing risk factors.

**Methods:** Retrospective review of all patients treated at our institution for struvite urolithiasis between 2009 and 2013 was performed. Statistical analysis was performed to identify conditions associated with UTI or SS recurrence.

**Results:** We identified 39 patients surgically treated for SS disease, of which 23% had pure SS, and 77% had mixed stones. Surgical treatment included 77% percutaneous nephrolithotomy (PCNL), and 23% with ureteroscopy (URS). Stone
free rate of 97%. Recurrent UTI was higher in those with an anatomic predisposition (p=0.003). Recurrent stones developed in 28% patients. There was a greater risk of recurrent UTI when comparing URS to PCNL (p=0.02). Prolonged antibiotic use was not associated with a difference in stone or UTI (p=0.27) recurrence rates. Recurrent stone disease was only associated with chronic catheterization (p=0.04).

**Conclusion:** After surgical treatment of SS, stone and UTI recurrence is common, but only UTI recurrence is higher in patient with anatomic abnormalities. Prolonged antibiotics do not appear to decrease risk of recurrent stone disease or recurrent symptomatic UTIs. Chronic catheterization was the only identifiable risk factor for stone recurrence after surgical stone clearance.

**Poster #23**

**14 FRENCH URETERAL ACCESS SHEATH USE DURING RETROGRADE INTRARENAL SURGERY (RIRS) ALLOWS FOR TREATMENT OF LARGE INTRARENAL CALCULI WITH NO INCREASED RISK OF COMPLICATIONS**

George Ghareeb, MD, Nathan Brooks, MD and Chad Tracy, MD

University of Iowa Hospitals & Clinics Department of Urology

Presented By: George M. Ghareeb, MD

**Introduction:** Prior studies have suggested that larger ureteral access sheaths may improve stone-free rates for larger calculi; however, there are no studies that directly compare intraoperative/postoperative outcomes or complications between standard (12 Fr) and larger (14 Fr) sheaths.

**Methods:** We retrospectively reviewed preoperative, intraoperative, and follow-up data for 181 patients undergoing unilateral ureteroscopy by a single surgeon (CT) from 1/2013 to 7/2015. Primary outcomes included the incidence of intraoperative ureteral injury and stone-free rates when using 14 Fr, 12 Fr, or no sheath. Postoperative imaging (CT or renal ultrasound) within 3 months was used to determine postoperative hydronephrosis rates.

**Results:** An access sheath was used in 141/181 (78%) cases; (28% 14 Fr; 72% 12 Fr). Sheath use was more common in patients with larger stones (123.2±8.7 vs. 59.3 mm2, p<0.001). Patients with use of a 14 Fr sheath had greater stone burden compared to the 12 Fr sheath group (180.8±18.0 vs. 104±9.1 mm2, p<0.001). Stone free rates were 83%, 75% and 68% for 14 Fr, 12 Fr, or no access sheath, respectively. There were 10 intraoperative ureteral injuries, with no difference between groups (0% 14 Fr vs. 6% 12 Fr, p=0.5; 10% no sheath, p=0.47). Seven patients developed postoperative hydronephrosis, with no difference identified based on sheath size (0% 14Fr vs. 2.4% 12 Fr. p=1, 2% any sheath vs. 3% no sheath, p=0.54).

**Conclusion:** Despite a significantly larger stone burden, use of a 14 Fr access sheath improves stone-free rates with no increased risk of intraoperative or postoperative complications.
**Poster #24**
**GLOBAL COSTS OF MODERN FLEXIBLE URETEROSCOPY AT A HIGH VOLUME TEACHING HOSPITAL**
Michael S Borofsky, MD¹, Casey A Dauw, MD¹, Nadya E York, MD¹, Christine Hoovler² and James E Lingeman, MD¹
¹Indiana University School of Medicine; ²IU Health Methodist Hospital
Presented By: Michael S. Borofsky, MD

**Introduction:** Flexible ureteroscope (fURS) ownership is so costly that disposable scopes have been suggested as cheaper options. Comprehensive insight into the global costs of fURS ownership is critical but remains understudied.

**Methods:** Utilization and repair data for all cases where a Storz fiberoptic Flex-X2 or digital Flex-Xc fURS was used at a single institution between 2011 and 2015 was reviewed. List price and repair costs were obtained from Storz. Reprocessing costs were calculated accounting for disposables, reagents, and labor. Maintenance costs were estimated by combining cost of repairs and reprocessing. Cost analyses were performed at both list pricing and standard discount rates (15% off purchase, 5% flex-Xc repairs, 15% flex-X2 repairs). Global fURS costs were calculated accounting for price of purchase, repairs, and maintenance of a new scope over its first 100 uses.

**Results:** fURS was performed 2292 times over the study period (2142 Flex-X2, 149 Flex-Xc). Repairs were necessary every 11.3 and 9.9 cases for the Flex-X2 and Flex-Xc. The Flex-Xc had greater costs on both a per-case and global basis (table 1). Repairs accounted for the majority of global expenditures (70-80%) with acquisition expense accounting for 20-25% and reprocessing 3-5%.

**Conclusion:** Expenditures associated with ownership of modern fURS are considerable and driven primarily by high cost of repairs.

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**Table 1 – Costs of fURS maintenance and ownership on a per case and global basis assuming list pricing and discount rates.**

<table>
<thead>
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<th>Per Case</th>
<th>Global first 100 cases</th>
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<tr>
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<td>Reprocessing Cost/Use</td>
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<tr>
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<td>Flex-Xc</td>
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**Poster #25**
**STONE VOLUME MEASUREMENT USING REDUCED-DOSE (RD) CT IS COMPARABLE STANDARD-DOSE (SD) CT**
Amy Lim, John Bell, MD, Stephen Nakada, MD and Perry Pickhardt, MD
University of Wisconsin
Presented By: Amy H. Lim, MD

**Introduction:** Stone volume measurement via CT is more precise compared to linear measurements. We developed a CT protocol with effective doses 70-90%
less than that of a non-contrast CT, averaging 0.9 mSv (lower than a 2-view KUB). We compared automated stone volume measurements using standard dose non-contrasted CT (SD-NCCT) vs reduced dose non-contrasted CT (RD-NCCT).

**Methods:** In this prospective trial, we studied a cohort of patients who underwent concurrent SD NCCT and RD NCCT scans during the same imaging session. 20 patients were identified with urolithiasis. Automated stone volume was assessed on both SD-NCCT and RD-NCCT images. SD-NCCT images were reconstructed with the standard FBP algorithm; RD-NCCT images were reconstructed using FBP, PICCS, ASiR, and Veo techniques and their absolute values were compared.

**Results:** 42 renal stones were included in our analysis. Stone volumes on SD-NCCT ranged from 9.9 mm³ to 8757 mm³. Mean percentage volume error for each RD-NCCT series compared with the reference standard SD-NCCT series was as follows: 35.8% for FBP, 24.9% for PICCS, 23.6% for ASiR, and 19.9% for Veo. The failure rate for automated calculation was significantly higher for the RD-FBP series when compared to Veo (P = 0.009).

**Conclusion:** Follow-up of renal stone burden with sub-mSv RD-NCCT using Veo would provide a surveillance method that maintains accuracy at a lower dose compared with conventional radiography. Using the VEO reconstruction algorithm, the error in volume with RD-NCCT relative to SD-NCCT is acceptable (<20%).

**Poster #26**

**PERIOPERATIVE COMPLICATIONS OF PERCUTANEOUS NEPHROLITHOTOMY IN THE SPINA BIFIDA POPULATION**

Srikanth Vedachalam, Robert Blackwell, MD, Kristin Baldea, MD, Anai Kothari, MD, Paul Kuo, MD MBA, Gopal Gupta, MD and Thomas Turk, MD

Loyola University Medical Center

Presented By: Srikanth Vedachalam

**Introduction:** Nephrolithiasis appears in spina bifida (SB) patients with high frequency, with percutaneous nephrolithotomy a favorable approach to manage the often large stone burden. We compare these perioperative outcomes of percutaneous nephrolithotomy in SB patients compared to the general population.

**Methods:** The Healthcare Cost and Utilization Project State Inpatient Database from California and Florida (years 2007-2011) were used. ICD-9 codes based on prior studies in SB patients were used to identify our two study groups: SB and non-SB patients undergoing PCNL for nephrolithiasis. Univariate analyses using Student's t-test and chi-squared test were used, as appropriate.

**Results:** Overall 15,322 unique patients who underwent PCNL were identified. Of these, 121 patients carried a diagnosis of SB (0.79%). SB patients were younger at the time of PCNL (37 vs. 56 years), more likely to have Medicaid insurance, and lower rates of diabetes and hypertension. Perioperatively, SB patients had longer hospital stays (13 days vs. 6 days, p<0.001) and were more likely to require more than one procedure (23% vs. 12%, p<0.001). SB patients were also had higher rates of preoperative UTI (29% vs. 14%, p<0.001), postoperative UTI (15% vs. 6%, p<0.001), and a higher rate of sepsis following surgery (19% vs. 7%, p<0.001). There was no increased risk of death, MI, PE, DVT, acute renal failure, pneumothorax or pneumonia.

**Conclusion:** Spina bifida patients were at a higher risk for postoperative
infectious complications following percutaneous nephrolithotomy. These patients also presented with a higher rate of preoperative UTIs.

**Poster #27**
**PRELIMINARY IN VITRO COMPARISON OF FIXED AND VARIABLE PULSE LASER: EVIDENCE FOR DECREASED RETROPULSION AND SHORTENED FRAGMENTATION TIME**
John R. Bell, MD, Kristina L. Penniston, PhD, RD, Sara L. Best, MD and Stephen Y. Nakada, MD
University of Wisconsin - Madison
Presented By: John R. Bell, MD

**Introduction:** A variable pulse width (VPW) laser permits the surgeon to adjust the pulse width depending on the treatment situation. At our institution, a VPW and a fixed pulse width (FPW) device are both used. We sought to compare the performance differences using the VPW laser using both long and short pulse modes versus the FPW laser.

**Methods:** Identical 7 mm stone phantoms were created using Bego Stone Plus in a 5:1 ratio. An artificial ureteral environment was created using a clear PVC tube with a measuring tape placed alongside the tubing in order to measure the greatest degree of retropulsion. For each trial, a phantom stone was placed in the tube. A 273 micron laser fiber was placed through a flexible ureteroscope in order to fragment the stone phantom. The VPW laser was trialed on both long pulse width and short pulse width settings. Laser fibers were standardized for all repetitions. Five trials were conducted for each arm.

**Results:** The VPW device results in faster fragmentation compared to the FPW device (p =0.008). The long pulse width mode causes less retropulsion compared to the FPW device (p =0.03).

**Conclusion:** Fragmentation times for the VPW device between the long and short pulse modes were similar, but the short pulse mode caused significantly more retropulsion.
**Poster #28**

**IMPLEMENTING FIRST-LINE IMAGING REQUIREMENTS FOR PATIENTS PRESENTING WITH SUSPECTED NEPHROLITHIASIS IN AN OUTPATIENT SETTING**

Robert Medairos, BS¹, Kohl Boydston, BS¹, Jacob Hess, BA², Deborah Lamm, MSPH, MS², Christopher Buckle, MD, MBA, FRCPC² and Christopher Coogan, MD¹

¹Rush University Medical Center; ²AIM Specialty Health

**Presented By:** Robert Anthony Medairos

**Introduction:** Recent evidence demonstrated the benefit of using first-line ultrasound (US) for suspected nephrolithiasis in the emergency department (ED); however, the utility of first-line US in the outpatient setting has yet to be investigated. This study aims to assess the impact of implementing a requirement for first-line US or abdominal radiograph (KUB) prior to computed tomography (CT) in the outpatient setting.

**Methods:** A retrospective study was performed using data obtained from a specialty benefits management (SBM) company and a third party payer. Effective November 1, 2013, the SBM implemented a requirement of first-line US or KUB within 60 days prior to CT request approval. The study population included non-pregnant adult patients without prior US/KUB within 60 days of an initial CT request for suspected nephrolithiasis. Two analysis groups were divided based upon attestation to prior KUB/US: Group A (initial CT request was approved) and Group B (initial CT request was redirected to an US/KUB). Subsequent 90 day CT imaging, ED visits, and hospitalizations were analyzed using chi-squared analysis.

**Results:** A total of 1307 patients from November 1, 2013, through May 31, 2014, were evaluated. Group B (n=447) had significantly lower percentage of CT scans compared to Group A (n=860) (43.8% vs. 52.1%, p<0.005). No significant differences were observed for subsequent ED visits (7.4% vs. 6.7%, p=0.67) or hospitalizations (13.6% vs. 15.0%, p=0.51).

**Conclusion:** Implementing first-line US or KUB prior to CT imaging for outpatients with suspected recurrent nephrolithiasis may reduce the number of CT imaging studies without altering clinical outcomes.

**Poster #29**

**COMPLIANCE AND PREDICTORS OF INCREASED FLUID INTAKE IN PATIENTS WITH UROLITHIASIS BASED ON 24-HOUR URINE VOLUME**

Aziz Khambati, MD, Rich Matulewicz, MD, Daniel Oberlin, MD, Kent Perry Jr., MD and Robert Nadler, MD

Northwestern University

**Presented By:** Aziz Khambati, MD

**Introduction:** Increasing fluid intake to achieve a urine volume (UV) of >2.5 L/day decreases the risk of stone events. However, the compliance rate and predictors of successful increase in UV following dietary counselling in patients with urolithiasis are not well described. We assess demographic and clinical variables that may be associated with fluid intake in patients with urolithiasis.

**Methods:** In a retrospective study, 363 patients with a low UV (<2.5L/day) on an initial standard metabolic stone evaluation were identified. All patients received detailed dietary counselling on lowering risk of stone events, including increasing fluid intake to achieve UV greater than 2.5 L/day. Follow-up 24-hour urine volume
was assessed to measure compliance and predictors of increased fluid intake as measured by UV greater than 2.5 L/day.

**Results:** Our cohort contained 363 patients, 53.4% men and 46.6% women. The mean UV of the initial and follow-up urine collection was 1.63 and 2.52 L/day, respectively. The overall compliance rate of obtaining UV of >2.5 L was only 50.1%. On logistic regression, age >62 years (OR 0.42, 95% CI 0.21-0.81), male sex (OR 3.0, 95% CI 1.86, 4.89), and urolithiasis-related medical (OR 1.66, 95% CI 1.04-2.65) or surgical (OR 2.3, 95% CI 1.30-4.07) intervention was associated with compliance. Conversely, ethnicity, body mass index, and marital status were not associated with compliance.

**Conclusion:** The overall compliance rate to fluid intake as measured by 24-hour UV is low. Understanding risk-factors for non-adherence, especially in at risk demographics, can be used for quality improvement initiatives.

**Poster #30**

**RANDOM BIOPSIES OF UPPER TRACTS DURING URETEROSCOPY SHOW HIGH RATES OF UROTHELIAL CARCINOMA**

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Presented By: Adarsh Manjunath, MD

**Introduction:** Changes associated with upper tract urothelial carcinoma (UTUC) can be subtle. We analyzed the utility of random biopsies to detect UTUC in the absence of visual suspicion during ureteroscopy.

**Methods:** All patients that underwent ureteroscopy (URS) with biopsy by single surgeon from 2001 to 2013 were reviewed. 12 patients that had a biopsy in the absence of a suspicious ureteral/renal pelvis lesion were included. 39 URS were performed in total.

**Results:** Mean age was 72.8 years. Indication for URS was history of lower urinary tract carcinoma (LUTC) in 6/12 patients, remote history of UTUC in 2/12, hematuria in 3/12, and ureteropelvic junction obstruction in 1/12. 4 patients had a single biopsy, which were all negative for UTUC; 8/12 patients had multiple biopsies. 7/12 patients had UTUC on random biopsy, of which 3 had high-grade and 4 low-grade UTUC, respectively. In 4/8 patients with multiple biopsies, UTUC was absent in up to 3 biopsies before a subsequent positive biopsy. Of 6 patients with history of LUTC, UTUC was diagnosed in 2/6 patients. Only one patient with hematuria had UTUC. The retrograde pyelogram was normal in all patients with UTUC on biopsy. Cytology was positive in only 2/39 (5.1%) samples. Neither positive cytology nor a suspicious retrograde pyelogram was associated with presence of UTUC (p=0.084 and p=0.239).

**Conclusion:** Patients with a remote history of UTUC/LUTC are at highest risk for positive biopsies in a visually normal pelvis/ureter. Random sampling during surveillance URS after prior negative biopsies may be indicated.
Poster #31
ENOXAPARIN AND URETEROSCOPY: COMPLICATIONS AND OUTCOMES
Mary Beth Westerman, Johann P. Ingimarsson and Amy E. Krambeck
Mayo Clinic Department of Urology
Presented By: Mary Elizabeth Westerman, MD

Introduction: The ICUD/AUA guidelines state that anticoagulation in routine ureteroscopy is safe and without increased risk of complications. However these recommendations are based on three small case series. Herein, we characterize complications of ureteroscopy on enoxaparin.

Methods: Patients undergoing ureteroscopy were identified via a CPT code search. Medication lists at the time of procedure were queried for enoxaparin were identified. Records were then retrospectively reviewed to confirm anticoagulation use and identify peri-procedural complications. Patients were included if ureteroscopy was planned but could not be completed due ureteral caliber. Patients were excluded if an additional non-ureteroscopic procedures were performed.

Results: A total of 4,784 ureteroscopic procedures were performed at our institution between December 2009 and January 2016. Of these, 60 (1.3%) were performed with patients on enoxaparin. There were 24 stone extractions, 33 diagnostic or surveillance ureteroscopies, and three were stent placements and aborted ureteroscopies due to small ureteral caliber. The overall complication rate was 10% (6/60). This included three readmissions related to hematuria/clot retention, two procedures which were ended due to bleeding and 1 ED visit for hematuria. There were also three minor events (5%) comprising patient phone calls or anticoagulation adjustments. Five of six major events (83.3%) occurred in patients who were not pre-stented while three of three minor events (100%) occurred in patients who were not pre-stented.

Conclusion: Up to 10% of patients undergoing ureteroscopy on enoxaparin may experience bleeding related complications. Risk may be mitigated by pre-stenting. The ICUD/AUA guidelines on anticoagulation thus may not apply to enoxaparin.

Poster #32
DO NON-CYSTINE DIBASIC AMINO ACID LEVELS IN CYSTINURICS INFLUENCE CYSTINE LEVELS?
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Presented By: Marcelino E. Rivera, MD

Introduction: Cystinuria is associated with a high level of cystine excretion along with other dibasic amino acids, ornithine, lysine, and arginine. There is limited data identifying whether non-cystine dibasic amino acids influence cystine excretion. Therefore, we aim to identify the influence of non-cystine dibasic amino acid on cystine excretion.

Methods: An IRB approved retrospective review of all adult patients with a diagnosis of cystinuria who completed a 24-hour urinalysis from 2005-2015.

Results: We identified 55 patients who met inclusion criteria. Median cystine, ornithine, lysine and arginine excretion in the cohort was 2349 umol/24h (IQR 1383, 3257), 1467 umol/24h (IQR 876,2330), 8407 umol/24h (IQR 4293,11425), 2485.5 umol/24h (IQR 792.8, 3944). Cystine excretion was not correlated with 24-hour urine volume or with arginine excretion. However there
was a significant correlation between cystine and lysine ($R=0.78$, $p<0.0001$) and in particular cystine and ornithine ($R=0.85$, $p<0.0001$) excretion. On multivariate linear regression analysis both lysine: $0.098$ (95%CI 0.034-0.162, $p<0.01$) and ornithine: $0.972$ (95%CI 0.652-1.292, $p<0.001$) remained correlated with cystine excretion.

**Conclusion:** Cystine excretion is significantly positively correlated with ornithine and lysine. As of yet, the role of elevated non-cystine dibasic amino acids in 24-hour urine studies is unknown. Further investigation is warranted to determine the true consequence of elevated non-cystine dibasic amino acids in cystine stone formers.

**Poster #33**

**ROBOT-ASSISTED LAPAROSCOPIC EXTRAVESICAL URETERAL REIMPLANT: A CRITICAL LOOK AT SURGICAL OUTCOMES**

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Presented By: Andrew M. Todd, MD

**Introduction:** Robot-assisted laparoscopic extravesical ureteral reimplantation (RALUR) has become very popular. Although there are some practical and theoretical advantages to RALUR over open or pure laparoscopic ureteral reimplant, current literature provides mixed results regarding surgical success and complication rates.

**Introduction:** We provide a critical analysis of the relationship between patient characteristics and several surgical and non-surgical outcomes of a prospective series of 54 children who had RALUR over a 2.5-year period at our institution.

**Study Design:** Retrospective analysis of a prospective series of surgical outcomes based on risk variables. We divided study cohort into 2 groups: Unilateral RALUR (RALUUR) and Bilateral RALUR (RALBUR).

**Results:** The current study suggests two phenomena that may explain the recently reported inferior results with RALUR. In an era were more children with VUR are observed, it is quite possible that we are currently selecting for a “more complex and difficult” surgical cohort. In addition, as we have gotten more comfortable with the procedure, our inclusion criteria and preoperative preparation may have become less rigorous, especially with respect to younger age and pre-operative management of BBD.

**Conclusion:** Rigorous selection criteria are needed for RALUR.
**Poster #34**

**EARLY EXPERIENCES WITH A COLLABORATIVE PEDIATRIC DYSFUNCTIONAL ELIMINATION SYNDROME CLINIC**

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University of Iowa Hospitals and Clinics

Presented By: Douglas W. Storm, MD

**Introduction:** Some difficult to treat children with bladder and bowel dysfunction have an underlying psychologic component either contributing to or caused by their urologic issue. We reviewed our initial experience involving a multidisciplinary clinic where these children with difficult to treat urologic issues are seen jointly with a pediatric psychologist and a pediatric urology provider.

**Methods:** We performed a retrospective review of all patients seen in our collaborative clinic. We evaluated patient demographics, type of visit, underlying diagnosis and outcomes.

**Results:** 40 individual patients were seen in the clinic with 58 total visits. Mean patient age was 8.5 years (4–15 years) and 58% were male. Urologic diagnosis included daytime urinary incontinence (83%), nocturnal enuresis (25%), voiding dysfunction (23%), recurrent urinary tract infections (8%) and constipation (73%). Psychologic diagnosis included ADHD (43%), anxiety (18%), autism spectrum (5%), ODD (15%), OCD (3%) and intellectual disabilities (5%). Average initial bowel/bladder questionnaire score was 30 (12-47) which changed to a mean score of 20 (5-31) (p=0.01). Eight patients were referred for further psychologic services and another 33% were already established with psychologic services prior to our collaborative evaluation.

**Conclusion:** With coordination and by having pediatric specialists with an interest in helping these children, establishing such a multidisciplinary clinic is viable and is beneficial for these difficult to treat patients. In our early experience these children and their families, do need and benefit from the focused psycho-urologic therapy that our multidisciplinary clinic can offer.

**Poster #35**

**DELAYED BLADDER PERFORATION AFTER AUGMENTATION CYSTOPLASTY: WHAT IS THE BEST MANAGEMENT?**

Ted Lee, MD, David Kozinski, BS, Rebekah Beach, MD, Julian Wan, MD, David Hanauer, MD, David Bloom, MD and John Park, MD

University of Michigan

Presented By: Ted Lee, MD

**Introduction:** Delayed bladder perforation is a well described complication after augmentation cystoplasty (AC). Although laparotomy and primary closure is the definitive treatment, a non-operative approach has been described to be effective. We sought to critically evaluate our management of perforations and describe our experience with non-operative management.

**Methods:** Among 390 patients who underwent AC over a 15-year period, 10 patients presented with perforation. We retrospectively reviewed the clinical presentation, management, hospital course, and complications.

**Results:** Decision for surgical versus non-operative approach was based on clinical stability, peritoneal signs, radiologic findings. (Figure 1) Five (50%) were initially managed with laparotomy, and five (50%) were managed conservatively (3 with maximal drainage only; two with maximal drainage and transabdominal
Three of the five laparotomies and 2/5 conservatively managed patients suffered from re-perforation. Overall, half of patients re-perforated; three had multiple re-perforations. Mean length of stay, including readmissions, was 11.2 days. The two patients initially managed with drain placement were without complications.

**Conclusion:** Non-operative management is feasible in select clinically stable patients with limited extravasation/ascites. It is likely most suited for contained loculated leaks in which drain placement is possible. Regardless of approach, management of delayed perforation in AC patients is a difficult process, with high risk of subsequent re-perforation(s) and readmissions.

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**Poster #36**

**USE OF RETROGRADE PYELOGRAM PRIOR TO OPEN PEDIATRIC PYELOPLASTY TO PLAN FOR MUSCLE-SPLITTING, MINIMALLY INVASIVE INCISION**

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Presented By: Jessica Casey, MS, MD

**Introduction:** As robotic-assisted surgery becomes increasingly utilized for pediatric ureteropelvic junction (UPJ) obstruction, open surgeons need to remain competitive by employing muscle-splitting, minimally invasive, small (<2cm) incisions. To prepare for this type of incision during pyeloplasty, one must define the exact location of the UPJ prior to incision. The use of retrograde pyelogram (RPG) at the time of pyeloplasty allows the surgeon to identify the location of UPJ and plan their incision site. We hypothesize that when utilizing a muscle-splitting, minimally invasive open approach, RPG frequently changes the pyeloplasty incision from the typical tip of the 11th or 12th rib flank incision.

**Methods:** A retrospective review of open pyeloplasties performed by two surgeons at our institution from 7/1/2010 to 6/30/2015 was performed to determine rate of use of RPG and incision site and to determine if factors such as preoperative renal size differences are predictive of incisional site.
Results: 77 of 87 (88.5%) pyeloplasties had intraoperative RPGs performed. In 21.8% of pyeloplasties the incision was changed from a typical incision to an alternative incision (i.e. either muscle-transecting incision in the same location, Gibson incision, or McBurney’s incision). There was no significant difference in the renal size differential between the typical incision and those with an alternative incision (1.5cm vs. 2.0cm, p=0.20).

Conclusion: The consistent use of RPG prior to pyeloplasty allows for surgeons to plan for muscle-splitting, minimally invasive open incisions in the era of robotic-assisted surgery. In our experience, 21.8% of pyeloplasties required either alternative incision sites or techniques.

Poster #37
MODIFIED TECHNIQUE OF TRIAMCINOLONE INJECTION FOR THE TREATMENT OF MITROFANOFF STOMAL STENOSIS: OPTIMIZING RESULTS AND REDUCING COST OF CARE
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Presented By: Andrew C. Strine, MD

Introduction: Continent catheterizable channels (CCC) using the Mitrofanoff principle are often created during continent reconstruction but may develop stomal stenosis in up to 30% of patients. We describe our experience with a modified technique of triamcinolone injection for the treatment of stomal stenosis, thereby avoiding the need for a more invasive and costly stomal revision.

Methods: We performed a retrospective review of patients who underwent a modified technique of triamcinolone injection (40 mg/mL) at our institution. Demographic information and perioperative data were collected. A successful outcome was defined as a return to ease with catheterization.

Results: A total of 21 injections were performed in 17 CCC of 16 patients. Demographic information and perioperative data are provided in Table 1. Thirteen CCC (76.5%) were successfully treated with a single injection. Two patients (9.5%) required a total of 4 repeat injection at a median of 8.5 months between injections (range, 3.2-18.4), while only 1 patient required a stomal revision at 34.9 months after the initial injection. There were no predictors of failure after the initial or any injection on univariate analysis.

Conclusion: Our modified technique of triamcinolone injection is a durable option for the treatment of stomal stenosis of any cutaneous stoma with a success rate of 76.5% after a single injection.
Introduction: Robotic pyeloplasty (RP) has gained widespread acceptance among pediatric urologists. While the safety and efficacy of RP has been well established in older children, a paucity of evidence is available in infants. Early experience with RP in infants was updated, and outcomes were compared to a similar cohort undergoing open pyeloplasty (OP).

Methods: A database was reviewed for patients less than one year of age who underwent RP and OP between October 2011 and December 2015. Demographic information and perioperative data were compared. A successful outcome was defined as an improvement in hydronephrosis on postoperative renal ultrasound.

Results: A total of 50 patients were identified. Demographic information and perioperative data are provided in Table 1. Complications occurred in 4 patients (21.1%) undergoing RP and 6 patients (19.4%) undergoing OP (p=1.0). All were Clavien-Dindo grade I-II complications, except for urinary extravasation requiring a nephrostomy tube after RP and narcotic overdose requiring transfer to the intensive care unit after OP. There was 1 patient (5.3%) with an unsatisfactory improvement in postoperative imaging after RP and none after OP (p=0.38).

Conclusion: RP is comparable to OP in infants with regards to operative time and success but offers less postoperative pain and shorter hospitalization.
INTRODUCTION: Postoperative urinary drainage is standard with robotic pyeloplasty (RP) but typically requires an additional general anesthetic for stent removal and may be associated with an increased morbidity in children. Early outcomes with stentless RP were compared to a cohort of children undergoing stented RP.

METHODS: A database was reviewed for patients who underwent stentless and stented RP between May 2014 and October 2015. Demographic information and perioperative data were compared. A successful outcome was defined as a resolution of preoperative symptoms and improvement in hydronephrosis on postoperative renal ultrasound.

RESULTS: A total of 30 patients were identified. Demographic information and perioperative data are provided in Table 1. Complications occurred in 1 patient (5.0%) undergoing stented RP and none undergoing stentless RP (p=1.0). All patients undergoing stented RP required an additional general anesthetic, including 1 patient who underwent 2 unplanned ureteroscopic procedures for an encrusted stent. There were no failures in either group during the study period.

CONCLUSION: Stentless RP is safe and feasible in children with a comparable success, shorter operative time, and less postoperative pain than stented RP.
Introduction: Pediatric genitourinary rhabdomyosarcoma accounts for 25% of all pediatric soft tissue sarcomas. The treatment of these tumors has shifted over time from debilitating radical exenterations to organ sparing techniques using multimodal therapy. Our review aims to summarize recent relevant literature related to the current treatment practices of pediatric genitourinary rhabdomyosarcoma and how these practices have shifted over time.

Methods: A PubMed database search was utilized to identify relevant literature from 1997-2015 relating to the treatment of pediatric genitourinary rhabdomyosarcoma with emphasis on organ preservation and maintaining organ function.

Results: Thirty-one articles from 1997 through 2015 were identified relating to current management concepts in pediatric genitourinary sarcomas. Relevant articles were reviewed in detail and discussed.

Conclusion: The treatment of pediatric genitourinary rhabdomyosarcoma has shifted from debilitating pelvic exenteration to a multimodal treatment approach involving surgery, chemotherapy and radiation therapy in an effort to preserve genitourinary organs and maintain relatively normal organ function. Continued research is required to continue to improve post-treatment organ function. Further studies are needed utilizing urodynamic evaluation to better define post-treatment organ function. Exciting recent developments in RMS research of fusion proteins that induce cell transformation and inhibit apoptosis and myogenic differentiation may result in future management changes to treatment protocols.
Poster #41
SINGLE SURGEON OUTCOMES OF LIVE ROBOTIC SURGERY IN PEDIATRIC UROLOGY
Joseph Rodriguez, MD and Mohan Gundeti, MD
University of Chicago
Presented By: Joseph Rodriguez, MD

Introduction: The aim of this paper is to review outcomes of live pediatric robotic surgery performed by a single surgeon at an annual course.

Methods: Retrospective data on all robotic pyeloplasties, heminephrectomies, and ureteral reimplantations performed by a single surgeon from December 2008 to July 2015 was collected. Data from all cases performed in a live fashion at the surgeon’s institution was analyzed with regard to length of surgery, estimated blood loss and number of complications. Two-tailed t-test and chi-squared analysis were utilized.

Results: A total of 190 patients were included in the study. The distribution of sex as well as mean age and BMI did not differ significantly between the groups. The number of comorbidities was similar as well. Mean operative time, EBL and number of complications were less in the live cohort across all procedures. This was statistically significant for EBL and LOS in pyeloplasty, and for operative time and LOS for ureteral reimplantation.

Conclusion: Perioperative outcomes from live case demonstrations were non inferior to routine surgeries in a review of pediatric patients from a single surgeon.

Poster #42
THE COMPLETE PRIMARY REPAIR OF EXSTROPHY– SINGLE PROCEDURE OR STAGED RECONSTRUCTION?
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Presented By: Joshua D. Ring, MD, MS

Introduction: Complete Primary Repair of Exstrophy (CPRE) was recommended as a method to reduce numbers of procedures for the reconstruction of Bladder Exstrophy (BE). Performed since 1989, some suggest it as a replacement for the staged reconstructive procedure (SRP), the gold standard. Does CPRE reduce the numbers of procedures for reconstruction of BE?

Methods: Literature was reviewed from 1989 – 2016, and articles evaluating outcomes of patients undergoing CPRE extracted. Effort was made to obtain final data from each reporting institution/group. Eleven articles meeting criteria were evaluated for qualitative systematic review. Age at initial closure, complications, additional procedures, and outcomes were evaluated to provide an overview of CPRE.
Results: Ten groups reported BE management using the CPRE technique. 236 patients (153 boys; 72 girls; 11 unknown sex) had primary closure ranging from birth to 5.6 years. Osteotomy was favored by most in infants closed beyond the first 72 hours of life along with spica cast immobilization. Three groups recommended concomitant augmentation for infants with small bladder capacities. Ureteral reimplantation was required in 58 patients with recurrent urinary tract infections resistant to prophylaxis. Hypospadias repair was required for the majority of boys having complete penile disassembly, and the majority of children eventually required bladder neck reconstruction (BNR) for continence. Overall, voiding without BNR was noted in 16 – 37% of children in the reported series.

Conclusion: CPRE has been suggested as a single procedure for the management of BE. Literature review suggests the majority of patients require multiple procedures to complete reconstruction and attain continence.

Poster #43
A NOVEL PRE-OPERATIVE MODEL TO PREDICT 90-DAY SURGICAL MORTALITY IN PATIENTS BEING CONSIDERED FOR EXTRIPATIVE SURGERY FOR RENAL CELL CARCINOMA
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Presented By: Adam C. Calaway, MD

Introduction: Decisions regarding the pursuit of surgical therapy are impacted by competing risks for perioperative mortality. We utilized the National Cancer Database (NCDB) to evaluate 90-day mortality and developed a nomogram predicting short-term mortality after renal cell carcinoma surgery.

Methods: The NCDB was queried to identify all patients with clinically localized, non-metastatic disease treated with partial or radical nephrectomy. Patients with incomplete data were excluded. Logistic regression was performed to identify pre-operative variables associated with mortality. A nomogram was tested against the dataset to predict 90-day mortality.

Results: 183,407 patients were identified that met inclusion criteria (median age 61.1). Overall 90-day mortality for the cohort was 1.9%. Odds ratios for 90-day mortality using preoperative variables are shown in Table 1. The nomogram ranged from 0-14 (Table 1). Compared to patients with 0-1 points, those with 2-3 (OR 2.69, 2.26-3.20; p < 0.001), 4-5 (OR 5.98, 5.06-7.06; p < 0.001), and 6+ (OR 12.34, 10.46-14.55; p < 0.001) were at incrementally significantly higher odds of 90-day mortality.

Conclusion: Management of localized kidney cancer must consider competing causes of mortality, especially in elderly patients with multiple co-morbidities. A nomogram to calculate risk of short-term mortality can aid in pre-operative counseling.
Poster 44
SEQUENCE OF NEPHRECTOMY VERSUS INFERIOR VENA CAVA THROMBECTOMY IN PATIENTS WITH RENAL CELL CARCINOMA WITH INFERIOR VENA CAVA THROMBUS
Sarah Vij, MD, Karin Westesson, MD, Joseph Zabell, MD, Amr Fergany, MD, John Rabets, MD and Venkatesh Krishnamurthi, MD
Cleveland Clinic Foundation
Presented By: Sarah C. Vij, MD

Introduction: Radical nephrectomy and inferior vena cava (IVC) thrombectomy is one of the most challenging urologic surgeries. The optimal surgical approach varies depending on surgeon preference, laterality, size of the tumor and thrombus level. A “kidney-first” approach (nephrectomy prior to thrombectomy) has been primarily employed at our center. More recently, a “thrombus-first” approach (thrombectomy prior to nephrectomy) has been used, particularly for left-sided tumors with higher level thrombi. We sought to compare these two groups on peri-operative outcomes.

Methods: A prospective database of all radical nephrectomy with IVC thrombectomy cases at Cleveland Clinic between 1995 and 2015 was reviewed. Level III and IV thrombi operative reports were reviewed to determine which technique was utilized. Charts were analyzed for thrombus level, laterality, tumor size, operative time, estimated blood loss (EBL), and peri-operative complications.

Results: Of 326 patients who underwent radical nephrectomy with IVC thrombectomy for level II-IV thrombi at Cleveland Clinic Foundation between 1995 and 2015, 142 patients had level III or IV thrombi. “Thrombus-first” technique was employed in 16 patients while “kidney-first” technique was employed in 126 patients. The “thrombus-first” group had mean EBL of 1775 cc versus 3049 cc for the “kidney-first” group (p = 0.09). Mean operative time for the
“thrombus-first” group was 365 minutes compared to 418 minutes (p = 0.09).

**Conclusion:** A “thrombus-first” technique may be useful, particularly with left-sided tumors where approaching the IVC first is technically easier. This technically challenging operation can be performed “kidney-first” or “thrombus-first” depending on anatomical considerations and surgeon comfort.

**Poster #45**

SEVERITY OF PREOPERATIVE PROTEINURIA IS A RISK FACTOR FOR OVERALL MORTALITY IN PATIENTS UNDERGOING NEPHRECTOMY

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Presented By: David Y. Yang, MD

**Introduction:** The relationship between pre-operative proteinuria (PPU) and survival following nephrectomy (NX) is incompletely characterized. Herein, we evaluated the association of PPU with overall (OS) and cancer-specific (CSS) survival in our institutional NX registry.

**Methods:** We identified patients with localized renal cell carcinoma treated with partial (Px) or radical (Rx) NX between 1995-2010. Patients’ pre-operative renal function was categorized based on GFR and proteinuria. OS and CSS were evaluated using the Kaplan-Meier (K-M) method. A multivariable Cox regression model assessed covariates associated with OS and CSS.

**Results:** We identified 1,347 patients who met inclusion criteria. There were 804 (60%) patients with normal to mild (<150 mg/day) PPU, 332 (25%) with moderate (150-500 mg/day) PPU, and 211 (16%) with severe (>500 mg/day) PPU. K-M OS curves stratified by PPU severity are depicted in the Figure (p<0.001). Controlling for GFR, severe PPU was associated with diminished OS (HR 1.49; p=0.002). PPU level was not significantly associated with CSS.

**Conclusion:** Regardless of GFR, PPU is associated with diminished OS but not CSS following Rx or Px NX, underscoring the importance for close follow-up.
Introduction: Open radical nephroureterectomy (ORNU) with excision of the bladder cuff remains the standard treatment for upper tract urothelial carcinoma (UTUC). Meanwhile, evidence to support the use of a minimally invasive approach has been variable with conflicting outcomes.

Methods: We reviewed 422 patients who underwent open (ORNU), laparoscopic (LRNU) and hand-assist laparoscopic (HaRNU) radical nephroureterectomy for UTUC from 1995 to 2009 at our institution. Patients with metastatic disease at RNU, neoadjuvant chemotherapy, and non-urothelial primary were excluded. Kaplan-Meier analyses were performed to evaluate cancer-specific mortality (CSM) and recurrence free survival (RFS).

Results: Median age at RNU was 73 years (IQR 65.2, 78.6). 67.8% (n=283) were male. A total of 63%, 26% and 11% underwent ORNU, HaRNU and LRNU, respectively. Median follow up time was 43 months (IQR 17.2, 100.2). Lymphadenectomy was performed most commonly during ORNU (28.7%) compared to HaRNU (24.9%) and LRNU (8.7%) (p<0.01). For HaRNU, LRNU and ORNU there was no statistically significant difference in 10-year CSM (28.7% vs. 26.0% vs. 31.2%; p=0.37) (Figure 1) or 5-year RFS (36.8% vs. 52.9% vs. 42.2%; p=0.11), respectively.

Conclusion: Surgical approach was not significantly associated with cancer-specific mortality. Therefore, a minimally-invasive approach appears to be an oncologically safe option for appropriately selected patients with UTUC.
Poster #47
PREOPERATIVE NEUTROPHIL-TO-LYMPHOCYTE RATIO >3 IS INDEPENDENTLY ASSOCIATED WITH CLAVIEN III–V COMPLICATION RATES FOLLOWING RESECTION OF LARGE RENAL CELL CARCINOMAS IN AN URBAN UNDERINSURED POPULATION
Brian McArdle, DO, MBA, Sarah P Psutka, MD, MSc, Matthew Houlihan, DO, Mark Wille, MD and Courtney MP Hollowell, MD
Cook County Health and Hospitals System
Presented By: Brian J. McArdle, DO, MBA

Introduction: Associations between neutrophil-to-lymphocyte ratio (NLR) and short-term postoperative complications remain unexplored in minority and underinsured populations with locally advanced tumors. Herein, we assess associations between preoperative NLR and postoperative Clavien III-V complications following resection of large RCC (≥7 cm) in a largely uninsured, minority population.

Methods: We retrospectively reviewed the records of 97 patients treated surgically for pT2-4 N-any M-any RCC between 2008 and 2013. Preoperative (within 30 days) NLR was calculated. Postoperative complications (30 days) were categorized. Moderate to severe postoperative (Clavien class III-V) complications and preoperative clinicopathologic features as well as NLR as a continuous and categorical feature (NLR>3) were estimated with univariable and multivariable logistic regression.

Results: This population was 88.6% unemployed, and 95 (98%) were uninsured or had Medicare/Medicaid coverage. Pathologic TNM stage was >pT3 in 47% (n=46), pN1 in 5% (n=5), and pM1 in 5% (n=5) with a median tumor size of 9.5cm (8-12). Median (IQR) preoperative NLR was 2.7 (1.9-4.2), and 37 (38%) of patients had NLR≥3. In total, 37 (38.1%) of patient experienced a complication of any kind, and 20 (20.6%) had a Clavien III-V complication. NLR >3 was both univariably (OR 3.00, 95%CI 1-11; p=0.05) and multivariably (OR 3.19, 95%CI 1.04-12.01; p=0.04) associated with increased odds of early postoperative Clavien III-V complications.

Conclusion: In this inner-city, underinsured patient population with large and locally advanced RCC, preoperative NLR > 3 is associated with increased risk of moderate-severe postoperative morbidity.

Poster #48
SHOULD PATHOLOGIC DIAGNOSIS BE OBTAINED PRIOR TO RENAL MASS ABLATION?
Amy Lim, Matthew Grimes, MD, Tyler Wittmann, MD, Sara Best, MD, J. Louis Hinshaw, MD, Fred Lee, MD, Meghan Lubner, MD, Timothy Ziemlewicz, MD, Shane Wells, MD, Stephen Nakada, MD and E. Jason Abel, MD
University of Wisconsin
Presented By: Amy H. Lim, MD

Introduction: Pathologic diagnosis of cancer in renal masses allows for optimal patient selection before treatment and appropriate follow-up after thermal ablation. However, biopsy is still often performed at the same time as ablation and pathologic findings are either non-diagnostic or benign in 7-45% of tumors in large ablation series. The objective of this study was to compare findings for renal mass biopsies obtained prior to treatment (priorbx) to biopsies obtained on the same day as ablation (samedaybx).
**Methods:** An institutional database identified consecutive patients with renal masses treated with thermal ablation from 2001-2015. Patients treated without biopsy (37) were excluded. Radiologic tumor and patient data were reviewed. Fischer’s exact or chi-square tests were used to evaluate differences between groups, non-diagnostic biopsy rate and the rate of ablation for benign tumors.

**Results:** A total of 280 renal tumors were treated with ablation including 197 (70.4%) with priorbx and 83 (29.6%) with same-day bx. There was no difference in patient or tumor characteristics between same-day bx and prior bx groups (table). Prior bx patients had longer skin-to-tumor distance median 10.5 vs. 8cm, p=0.0001. Non-diagnostic biopsy findings were significantly more common in patients with same-day bx compared to prior bx, 14.5% vs. 1.5%, p<0.001. Ablation of oncocytoma was also more common in patients with same-day bx compared to prior bx, 15.7% vs. 3.0%, p<0.001. RCC diagnosis was obtained in only 69.9% of tumors with same-day bx compared to 95.4% of tumors with prior bx, p<0.001.

**Conclusion:** Pre-ablation biopsy is associated with a decreased rate of treatment for benign and unidentified renal

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**Poster #49**

**ESTIMATING THE AMOUNT OF HEALTHY KIDNEY PARENCHYMA REMOVED DURING PARTIAL NEPHRECTOMY: A COMPARISON BETWEEN WHOLE MOUNT AND SINGLE CROSS-SECTIONAL SLICE TECHNIQUES**

Clinton Bahler, MD, MS and Chandru Sundaram, MD
Indiana University School of Medicine
Presented By: Clinton D. Bahler, MD, MS

**Introduction:** Renal volume loss during partial nephrectomy is thought to be due to resected healthy parenchyma and reconstruction related tissue injury, but is poorly understood. Our objective is to evaluate a technique for estimating the amount of healthy margin resected.

**Methods:** Whole mount analysis of freshly resected renal masses was used as the gold standard for calculating the amount of healthy kidney removed. Photographs of each cross-sectional whole mount slice were used to calculate the area of healthy margin removed and the resultant volume. The cross-sectional slice containing the largest tumor diameter was chosen for analysis for the single slice technique. The resected healthy margin area, tumor area, and contact angle were used to estimate volume loss.

**Results:** Thirty whole mount partial nephrectomy specimens were evaluated with median (range) tumor diameter and volume of 3.2cm (1-6.1) and 10.7cm3 (0.5-101.9), respectively. The median healthy margin length was 5.6mm. The median (range) healthy margin calculated by the whole mount and single slice technique was 9.0cm3 (1.0-22.1) and 7.8cm3 (1.0-31.0), respectively (p=0.37). The Pearson correlation was 0.84, and the median (range) percent difference between the whole mount and single slice techniques was -0.5% (-39% to 57%). Tumor diameter and margin length were predictors of volume loss on multivariable analysis.

**Conclusion:** The healthy margin resected during partial nephrectomy can be accurately estimated from a single cross-sectional image of the specimen. Future studies evaluating renal function after partial nephrectomy should control for the amount of healthy margin resected.
Poster #50
TREATMENT TRENDS AND LONG-TERM SURVIVAL ASSOCIATED WITH CRYOTHERAPY AND PARTIAL NEPHRECTOMY FOR SMALL RENAL MASSES IN THE NATIONAL CANCER DATABASE USING PROPENSITY SCORE MATCHING
Weston Kitley, BS, Clint Bahler, MD, MS and Chandru Sundaram, MD
Indiana University School of Medicine
Presented By: Weston Kitley, BS

Introduction: Trends in the utilization of ablative therapy are unknown for the treatment of small renal masses. Our goal is to utilize a high capture national database to both assess utilization of ablative therapies and long-term survival.

Methods: The National Cancer database captures 70% of all cancer cases in the United States and was queried between 1998 and 2012 for renal cell carcinomas that were treated with ablative therapy, partial nephrectomy, or radical nephrectomy. The analysis was limited to clinical stage 1a. Propensity score matching was used in a 1:1 fashion. Kaplan Meier survival analysis and a Cox proportional hazards model were used to compare overall survival for cryotherapy and partial nephrectomy.

Results: A total of 119,240 cases of clinical stage 1a renal masses were treated between 1998 and 2012. Cryotherapy peaked at 927 (9.1%) cases in 2010 and had 913 (8.4%) in 2012. Partial nephrectomy accounted for 18% of the cases in 1998, but surpassed nephrectomy in utilization in 2008 and by 2012 accounted for 6,766 (62%) of the cases. After matching, Kaplan Meier overall survival was lower for Cryotherapy when compared to partial nephrectomy at 24(94.5% vs. 96.5%), 48 (86.8% vs. 90.9%), and 96 months (66.0% vs. 74.9%). Cryotherapy also had a lower overall survival (HR 1.46, p<0.001) on adjusted analysis.

Conclusion: Cryotherapy for small renal masses plateaued at 9% utilization in 2009. Cryotherapy had a lower overall survival than partial nephrectomy on adjusted analysis, but this result should be used with caution until confirmed in randomized studies.

Poster #51
TWO DIMENSION SIMULATION OF URINE FLOW IN A URETER UNDER PERISTALTIC CONTRACTIONS WITH AND WITHOUT OBSTRUCTION
Zahra Najafi, MS², Thomas Tieu, MD¹, Bradley Schwartz, DO¹, Abhilash Chandy, PhD² and Ajay Mahajan, PhD²
¹Southern Illinois University SOM; ²University of Akron
Presented By: Thomas Tieu, MD

Introduction: Urolithiasis can cause obstructive features to the urine flow. We use a commercial product to model ureteral urine flow under peristaltic contraction with and without a stone.

Methods: Ureteral flows were solved using a computational fluid dynamics solver package, ANSYS FLUENT. Unblocked ureters and ureters with varying degrees of obstruction, 5%, 15% and 35%, were investigated. The ureter was modeled as a two dimensional axisymmetric pipe. Ureteral length and radius were assumed to be 300 mm and 4 mm, respectively. Peristalsis movement was a sinusoidal wave on the boundary of the ureteral wall. Urine was modeled as a viscous, homogeneous, incompressible Newtonian fluid. The Reynolds number calculated to 1.72 and flow is laminar.

Results: In the unblocked ureter model, peristaltic movement changes the flow
in the ureter from linear to unsteady. High pressure gradients form and cause recirculation and retrograde flow from peristaltic contractions. Urine velocity is maximum after a contraction, leading to high velocity jet-flow. In locations with recirculation vortex cells, there is higher shear stress on the ureteral wall. In blocked ureter models, shear stress and backflow proximal to the stone increases as the proportion of obstruction increases. Shear stress is 20x greater with obstruction of 35%. Without obstruction, negative flow is mostly by the ureteral wall. With obstruction, negative velocities occur in the central portion of the ureter.

**Conclusion:** This simplified model of urine flow demonstrates theoretical changes in urine flow dynamics accounting for peristalsis and obstruction in the ureter.

**Poster #52**

**CYSTOSCOPY AT THE TIME OF HYSTERECTOMY IMPROVES DETECTION OF URETERAL INJURY: A POPULATION BASED ANALYSIS**

Eric Kirshenbaum, MD, Robert Blackwell, MD, Elizabeth Dray, MD, Matthew Zapf, Anai Kothari, MD, Paul Kuo, MD, Robert Flanigan, MD, Elizabeth Mueller, MD and Gopal Gupta, MD

Loyola University
Presented By: Eric Kirshenbaum, MD

**Introduction:** Approximately 600,000 hysterectomies are performed annually in the United States. Urinary tract injury occurs in 1-2% of all major gynecologic surgeries, most commonly during hysterectomies. We sought to determine how frequently cystoscopy is used at the time of hysterectomy to diagnose potential urinary tract injury, and whether it can prevent a delay in urinary tract injury diagnosis.

**Methods:** Data from the Healthcare Cost and Utilization Project (HCUP) State Inpatient Database (SIP) for Florida was used to identify patients who underwent hysterectomy between 2009-2011. Patients who had undergone hysterectomy, caesarean section, or cystoscopy were identified. ICD9 codes identified patients with a ureteral injury diagnosis, bladder injury diagnosis or as having undergone ureteral repair or bladder repair. Pearson’s Chi square test was used to compare treatment and outcome variables.

**Results:** Of the 70,373 patients who underwent hysterectomy, cystoscopy was performed concurrently for 9,820 patients (14%). Urinary tract injury was diagnosed over the course of follow-up in 996 patients (1.4%). Patients with missed urinary tract injuries had significantly increased rate of hospital readmission (95% vs. 17%), increase readmission for UTI (8% vs. 1%) and higher rate of wound infections (6% vs. 0.6%). In patients who developed a urinary tract injury, there was a decreased rate of delayed ureteral injury when cystoscopy was performed at the time of hysterectomy (17% vs. 58%).

**Conclusion:** Urinary tract injury is an uncommon complication of hysterectomy. Routine cystoscopic screening following hysterectomy is a minimally invasive diagnostic procedure that can decrease the rate of delayed diagnosis of ureteral injury.
Poster #53
POST-FINASTERIDE SYNDROME: REAL OR IMAGINED?
Michael J Butcher, DO², Wesley Baas, MD¹, Aye Lwin³, Bradley Holland³, Michelle Herberts³, Joseph Clemons³, Kristin Delfino, PhD⁴, Stanley Althof, PhD⁵, Tobias S Kohler, MD, MPH¹ and Kevin T McVary, MD¹
¹Southern Illinois University School of Medicine, Division of Urology; ²Male Infertility Department at Park Nicollet; ³Southern Illinois University School of Medicine; ⁴Southern Illinois University School of Medicine, Center for Clinical Research; ⁵Center for Marital and Sexual Health
Presented By: Wesley Baas, MD

Introduction: Post-finasteride syndrome (PFS) has recently been recognized as a medical disorder comprising a cluster of sexual, physical, and psychological/neurologic symptoms associated with 5-alpha reductase inhibitor (5ARI) use with purported persistent symptoms despite cessation of drug usage. The aim of this study was to help quantify reports, create a demographic of patient reports, and assess the cluster of symptoms to correlate consistency of the PFS complaints.

Methods: We collected the entire dataset of 3,295 Food and Drug Administration Adverse Event Reporting System (FAERS) cases that were submitted from April 2011 to October 2014 on all 5ARIs. We then evaluated the single-dose 5ARI monotherapies and analyzed these cases for symptoms and side effects associated with different doses.

Results: 2,048 monotherapy cases using 5ARIs were identified with 1581 being finasteride 1mg, 240 5mg, and 226 of unreported doses. Finasteride was associated with many sexual side effects: decreased libido, ejaculatory disorder, erectile dysfunction, testicular atrophy, orgasmic disorders, hypogonadism, and overall increased sexual complaints. Finasteride 1 mg demonstrated more adverse events than the 5mg in the following areas: sexual dysfunction, libido decrease, ejaculation disorders, erectile dysfunction, testicular atrophy, hypogonadism, skin abnormalities, metabolic abnormalities, self-harm, slow cognition, depression, anxiety, emotional anhedonia, and insomnia.

Conclusion: FAERS data suggests that finasteride is associated with a diverse collection of symptoms, particularly in the 1 mg dosage.

Poster #54
OUTCOMES OF TUNICA ALBUGINEA PLICATION FOR PEYRONIE’S DISEASE WITH LIMITED USE OF PERMANENT SUTURE
Dimitri Papagiannopoulos, MD, Jessica Phelps, BS, Emily Yura, MD and Laurence Levine, MD
Rush University Medical Center
Presented By: Dimitri Papagiannopoulos, MD

Introduction: Tunica albuginea plication (TAP) is a recognized penile straightening procedure for Peyronie’s Disease (PD). Historically, surgeons employed exclusively non-absorbable suture to reduce the risk of recurrent curvature. Many patients are aware of nodularity at the suture sites (50-88%), and some find them painful (10-33%). We explored if the limited use of permanent sutures provided a durable response and reduced bothersome nodules.

Methods: We retrospectively reviewed all patients who underwent TAP procedures from 2007-2014 at our institution. A single non-absorbable 2-0 Tevdek was typically placed in the center of the plication in an inverted vertical
mattress fashion at the point of maximal curvature (POMC). Then, two 3-0 polydiaxone (PDS) sutures buried the Tevdec in a Lembert fashion. Typically, only PDS was used in plications away from the POMC. Patients were contacted to complete a survey regarding post-operative satisfaction.

Results: In total, 142 PD patients underwent the TAP procedure. The mean number of TAP sites, permanent sutures, and absorbable sutures were 4.7 (SD 1.4), 2.3 (SD 1.3), and 9.5 (SD 3.1) respectively. Permanent suture represented 19% of all stitches. In total, 57/142 patients (40.1%) completed the survey with a mean duration of 4.3 years since surgery. Of these patients, 7.0% complained of a bothersome residual curve, 21.0% experienced nodularity, and 7.0% found these nodules bothersome.

Conclusion: In this surgical outcome study of the TAP procedure, the limited use of non-absorbable suture did not appear to compromise durable straightening and was associated with decreased nodularity and pain at plication sites.

Poster #55
PREDICTORS OF PENILE IMPLANT SATISFACTION - 1000+ PATIENTS FROM THE PROPPER STUDY
Tobias Kohler, MDMPH, Will Brant, Anthony Bella, Edward Karpman, Brian Christine, Brian Kansas, Leroy Jones, Nelson Bennett, Mohit Khera and Gerard Henry
SIU SOM
Presented By: Tobias S. Kohler, MD, MPH, FACS

Introduction: Current literature consistently reveals an overall IPP satisfaction rate of 85-95%. We sought to assess satisfaction rates and predictors at annual follow up through the PROPPER study.

Methods: Subgroup analysis of prospectively collected data as part of the PROPPER IPP patient registry with at least one year of patient satisfaction data follow-up. PROPPER patients filled out surveys annually.

Results: As of September 2015, 654 subjects had at least one year of evaluable data. 83% were satisfied/very satisfied, 7% were neutral, and 10% were dissatisfied/very dissatisfied. Variables that did not influence satisfaction included age, ethnicity, implant model, surgical approach, concurrent curvature correction, primary ED category, duration of ED, baseline depression status, concomitant ED diagnoses such as peyronies or diabetes, anti-coagulant use, IIEF baseline score or severity, UCLA-PCI sexual function bother or baseline, concurrent procedures, drain use, hospital admission status, foley at time of discharge and reservoir type or placement approach. Factors that were associated with satisfaction included surgery type (virgin/salvage/revision), use of device at one year, and device problem reported at one year. A stepwise logistic regression model indicated that only baseline UCLA-PCI bowel function, AUA SI total score, and penile length with device inflated were significantly associated with satisfaction. Factors cited for device non-use and less use than desired at one & two years (10%) were health decline, partner issues, and device problems.

Conclusion: Our data offers insight into potential predictors of satisfaction with noteworthy predictors that included baseline voiding and bowel function and penile length characteristics.
Introduction: Penile duplex Doppler ultrasound (PDDU) with intracavernosal injection (ICI) with erectogenic agents is commonly used to evaluate vascular parameters in men with erectile dysfunction (ED). Recent studies have suggested significant variability in outcomes based on ICI dosing protocols, suggesting a need for standardization of injection protocols. Given a lack of literature on this topic, we sought to identify predictors for increased need of ICI dosing to achieve adequate rigidity at the time of PDDU.

Methods: A retrospective chart review was performed of all patients undergoing PDDU for evaluation of ED from January 2014 to November 2015. At the time of PDDU, men received a combination of papaverine (30 mg/mL), phentolamine (1 mg/mL), and alprostadil (10 mcg/mL) in 0.1 mL increments until an erection sufficient for penetration was achieved or 1.0 cc was administered. Clinicopathologic and demographic variables were reviewed, and univariate and multivariate analyses were used to identify characteristics associated with increased erectogenic requirements.

Results: A total of 262 men (mean age 53) underwent PDDU during the study period. Mean IIEF-6 score was 12.4 (SD 10.2), and a mean 2.1 injections (SD 1.1) with 0.34 cc (SD 0.34) were administered. On multivariate analysis, lower IIEF-ED domain score (p<0.0001), coronary disease (p<0.01), and diabetes (p=0.02) were associated with increased requirement for erectogenic medications.

Conclusion: Patients with lower IIEF scores, coronary disease, and diabetes mellitus may require higher volumes of erectogenic medications at the time of PDDU. This information may help to create standardized and efficient protocols for repeated dosing regimen.

Poster #57
LESSONS LEARNED FROM A CONTEMPORARY SERIES ON PENILE IMPLANT COMPLICATIONS
Joshua Ring, MD and Tobias Kohler, MD
Southern Illinois University School of Medicine
Presented By: Joshua D. Ring, MD, MS

Introduction: Inflatable penile prostheses (IPP) are used for refractive erectile dysfunction (ED). We report our series of complications that required a repeat procedure.

Methods: Retrospective review of patients with ED treated with an IPP that required revision treated at a single academic institution. Patient demographics, intraoperative techniques, follow-up data were recorded.

Results: Two-hundred-and-forty patients underwent primary or revision procedures with 140 Coloplast and 100 AMS devices. Device malfunction occurred in 11 patients (4.6%): nine AMS vs. two Coloplast (p=.0092). Specifically, five AMS MS™ pumps became “frozen”, two Conceal™ reservoirs developed leaks, one AMS cylinder developed a leak, and three (two
Coloplast/one AMS) patients developed device aneurysm. Eight (3.3%) patients became infected, in which seven underwent explantation of the IPP for malleable replacements. Three of seven required malleable explantation due to recurrent infection. Only one of eight was non-diabetic (p=.01). Corporal perforation injuries occurred in six patients (2.5%), four urethral injuries, and two bladder injuries after standard reservoir placement in patients with a history of robotic prostatectomy. Miscellaneous reoperations (1.7%) occurred for pump repositioning (two), SST correction (one), and chronic pain (one). Overall, 27 patients required an additional procedure (11.3%).

**Conclusion:** Mechanical failure was the most common reason for revision. We prefer adjunct plication over modeling for Peyronie’s. We never use the space of retzius after robotic prostatectomy. Diabetes was a documented infectious risk factor. Malleable salvage failures likely occurred due to failure to adequately treat the local infection long enough prior to salvage.

**Poster #58**

**DESCRIPTION OF A MODIFIED GLANULOPEXY TECHNIQUE FOR MANAGING SST DEFORMITY IN MEN WITH PENILE PROSTHESES**

Matthew Ziegelmann, MD and Landon Trost, MD

Mayo Clinic Rochester

Presented By: Matthew J. Ziegelmann, MD

**Introduction:** Glanular hypermobility (GH) or SST deformity is relatively common during penile prosthesis (PP) placement and severely impacts PP utilization. However, management strategies are limited. Herein, we describe a novel technique for managing this challenging scenario.

**Methods:** A modified glanulopexy was performed in all men with GH/SST at the time of or following PP placement. The technique involves creating two incisions on each side of the distal dorsal penile shaft and glans penis. A Keith needle is used to pass a suture from one side of the distal corpora to the ipsilateral glans, contralateral glans, and then contralateral distal shaft. The suture is then pulled until optimal glans positioning is achieved. Patients were prospectively followed to evaluate outcomes.

**Results:** From 2014-2015, 13 patients underwent the technique for GH (n=9, 68%) or SST deformity (n=4, 31%). Eight (62%) were performed at the time of PP, while five (38%) were placed as a separate procedure. Vicryl suture was used in six (46%) patients and Ethibond in seven (54%). Three patients who received Vicryl sutures required repeat glanuloplasty for recurrent deformity, prompting a change to Ethibond in all patients. With median follow-up of eight-months, all patients demonstrated appropriate glanular positioning without diminished sensation. Three (23%) patients underwent PP removal including one for infection and two for dissatisfaction.

**Conclusion:** The modified glanulopexy technique with permanent suture successfully corrects severe GH or SST in men with PP without reduced penile sensation. Given the relatively high rate of device removal, further study is required to compare outcomes with established techniques.
Poster #59
CAN RESPONSE TO COLLAGENASE CLOSTRIDIUM HISTOLYTICUM INJECTIONS FOR PEYRONIE’S DISEASE BE PREDICTED?
Brian Montgomery, MD, Matthew Ziegelmann, MD and Landon Trost, MD
Mayo Clinic
Presented By: Brian Montgomery, MD

Introduction: Collagenase clostridium histolyticum (CCH) is the first FDA approved treatment for Peyronie’s disease (PD). Despite consistent data demonstrating improved curvature, limited data exist on predictive variables.

Methods: A prospective database of all men undergoing CCH injections was maintained from March 2014 to January 2016. Baseline and post therapy objective penile curvatures were assessed following pharmacologic erection, and clinicopathologic data were reviewed to assess for potential variables predictive of treatment success.

Results: A total of 40 patients (mean age 58) with a mean pre-treatment curvature of 52.5°±21.3° completed therapy with CCH during the study period. Overall, 25 patients (62.5%) experienced a ≥10° improvement in curvature. In comparing dorsal and lateral curvatures, mean absolute improvements were similar (dorsal 16.3° vs. lateral 18.0°, p=0.72). Responders were more likely to note a meaningful response and subjective improvement after the first injection when compared to non-responders (80% vs. 47%, p=0.03 and 92% vs. 67%, p=0.04). There were no statistically significant differences between the group of responders and non-responders with regard to duration of disease or stability, prior penile trauma, distance to curvature, baseline curvature, indentation or hourglass deformity, use of penile traction, frequency of manual modeling, or, surprisingly, plaque calcification.

Conclusion: CCH therapy for PD resulted in a ≥10° change in curvature in the majority of our patients (62.5%). Although responders were more likely to note a meaningful response and subjective improvement after the first series of injections, no other variables predicting outcomes could be identified.

Poster #60
THE EFFECT OF MECHANICAL THERAPY ON PENILE PROSTHESIS PLACEMENT IN MEN WITH SEVERE CORPORAL FIBROSIS
Peter Tsambarlis, Fahad Chaus and Laurence Levine, MD
Rush University Medical Center
Presented By: Peter Tsambarlis, MD

Introduction: Penile prosthesis (PP) implantation in men with severe corporal fibrosis presents a significant surgical challenge. Over the past five years, we have employed a pre-operative protocol of daily traction therapy (TT) and/or vacuum erection device (VED) use for at least three months prior to PP placement in these complex patients. Our goal was to evaluate this approach.

Methods: We retrospectively reviewed all patients who underwent PP placement at our institution between 2010 and 2015. Thirteen men had severe corporal fibrosis due to prior PP infection or priapism. They each performed daily mechanical therapy for at least three months based on our protocol. Our goal was to evaluate this approach.

Results: All 13 men underwent successful PP placement with standard sized cylinders. SPL increased 0.8 cm (range 0.5-2 cm) after mechanical therapy and
PP placement. All patients had a PP implanted following local corporotomy scar excision without the need for additional maneuvers such as extensive corporal scar excavation and multiple or extended corporotomies. There was one infection and one erosion requiring revision in our cohort.

**Conclusion:** The use of mechanical therapy prior to surgery appears to result in softening of corporal fibrosis and facilitates placement of a PP. We strongly recommend preoperative corporal tissue rehabilitation with VED and, for those most concerned about length loss, TT to improve surgical outcomes and facilitate PP implantation in men with severe corporal fibrosis.

**Poster #61**

**CLINICAL CHARACTERISTICS OF YOUNG MEN WITH ERECTILE DYSFUNCTION**

Ross Avant, MD, Matthew Ziegelmann, MD, Joshua Savage, PA-C and Landon Trost, MD
Mayo Clinic

Presented By: Ross A. Avant, MD

**Introduction:** Erectile dysfunction (ED) is usually considered a condition of older men and is associated with various comorbidities. However, ED commonly occurs in younger men, with limited data available on clinical characteristics and outcomes in this population. Given the paucity of data, we sought to describe common clinical and pathologic characteristics of men under 30 presenting with ED.

**Methods:** A retrospective chart review was performed of all men <30 years old undergoing penile duplex Doppler ultrasonography (PDDU) at our institution from January 2014 to November 2015. Variables included demographic information, medical comorbidities, PDDU vascular parameters, curvature assessments, IIEF scores, and prior use of medical therapy, trauma, or surgeries.

**Results:** A total of 27 men (mean age 21; SD 6.9) <30 years old underwent evaluation for ED and PDDU during the study period. Relevant comorbid conditions included depression (22%), current tobacco use (11%), and current alcohol use (54%). Mean BMI and IIEF-6 score were 24(2.9) and 12(9.8), respectively. Mean total/free testosterone values were 502/15 (96.3/4.2), and fasting glucose and lipid results were within normal ranges for all men. Mean peak systolic velocity, end diastolic velocity, and resistive index were 63.6(24.1), -1.8(7.8), and 1.0(0.3), respectively, accounting for a 15% (4/27) rate of venoocclusive dysfunction.

**Conclusion:** The majority of men under 30 with ED have normal laboratory and PDDU findings. Although no tests are able to differentiate between organic and psychogenic ED, these results confirm that ED in younger cohorts likely represents a distinct disease process from that of older men.
Poster #62
DO THE BENEFITS OF TESTOSTERONE REPLACEMENT IN LATE ONSET HYPOGONADISM OUTWEIGH THE RISKS? A SYSTEMATIC REVIEW
Nikita Abhyankar¹, Martin Kathrins, MD², Craig Niederberger, MD¹ and Alan Seftel, MD³
¹University of Illinois at Chicago; ²Brigham and Women's Hospital; ³Cooper University
Presented By: Nikita Abhyankar, MBChB, BMedSc

Introduction: Controversy exists regarding treatment of late onset hypogonadism (LOH). Beyond questioning the safety of testosterone replacement therapy (TRT) among men with LOH, the Food and Drug Administration safety advisory has questioned whether LOH is a ‘distinct, well-recognized cause of hypogonadism.’ We present a systematic review of randomized, placebo-controlled trials of TRT to determine if men with LOH represent a well-studied patient population.

Methods: A PubMed search of randomized, placebo-controlled trials of TRT in men with LOH was performed between 1/1/1990 and 11/1/2015. Subsequent bibliography reviews were performed. Definitions of late onset varied between studies but generally included men aged over 40.

Results: PubMed search identified 68 trials and eight more were identified from bibliography review. Twenty-seven trials met inclusion criteria. Nineteen randomized, placebo-controlled trials of TRT in men with LOH showed some benefit versus placebo. Parameters evaluated included depression, bone mineral density, lean body mass, sexual function, aging male symptoms score (AMSS), depression, exercise induced myocardial ischemia and exercise capacity. 5 studies showed neither benefit nor detriment in AMSS, lipid profile, prostatic changes, vascular reactivity and cognitive performance. Three studies showed adverse outcomes; two with erythrocytosis and one with increased cardiovascular-related adverse events.

Conclusion: Based on 27 high quality trials, LOH is a well-studied diagnosis in the setting of TRT. The majority (70%) of the trials identified some benefit in treatment, while a minority (11%) identified adverse effects from treatment. Based on current evidence for TRT in men with LOH, the benefits outweigh the risks.

Poster #63
COMPARATIVE EVALUATION OF PHYSICAL CHARACTERISTICS OF DIFFERENT INFLATABLE PENILE PROSTHESES
Paholo G. Barboglio Romo, MD MPH, Harshitha P. Chikkatur, Sahana Beldona, Yooni Yi, MD, Tim M. Bruns, PhD and Bahaa S. Malaeb, MD
University of Michigan
Presented By: Paholo G. Barboglio Romo, MD, MPH

Introduction: We sought out to evaluate and compare the existing inflatable penile prostheses (IPP) in an independent setting.

Methods: New IPP were obtained from the two manufacturers: American Medical Systems and Coloplast. The AMS 700 LGX, CX, CXR and Coloplast Titan Touch and Narrow were interrogated. Fluid displacement by the pump operated manually was evaluated. We measured internal pressure, length and width (girth) of the cylinders at 2 ml increments. A urodynamic transducer connected to an analog amplifier and recording system was utilized to measure
pressure. An Instron system was utilized to assess for buckling and 50% girth compression by applying a negative load while measuring the negative extension between the superior and inferior plate.

**Results:** Regular size IPP (Titan, LGX, CX) were inflated up to 22ml and narrow ones (Titan Narrow, CX-R) up to 12ml. Measurement parameters are described in the table. The figure shows compression by 50% curves for each device. Titan Touch, Titan Narrow and CX-R required a higher load to reach 50% compression when compared to LGX and CX (p<0.001).

**Conclusion:** Ex-vivo data suggests that the tested prostheses have significant differences in their behavior. This is not an attempt to find the best prosthesis, but rather understand and quantify the main variations among different devices.

![Table: Prosthesis parameter measurements](image1.png)

![Figure: Instron to assess prosthesis compression by 50% (preload [N]): compression extension [mm]](image2.png)
Annual Business Meeting Agenda

I. Call to Order: Gary M. Kirsh, MD

II. Minutes of the 2015 Annual Business Meeting: Gary J. Faerber, MD

III. Secretary Report: Gary J. Faerber, MD

IV. Treasurer Report: Mark D. Stovsky, MD, MBA, FACS

V. Historian Report: Edward E. Cherullo, MD

VI. Committee Reports
   1. Audit and Budget Committee: James C. Ulchaker, MD
   2. Board of Directors Report: Gary J. Faerber, MD
   3. 2016 Local Arrangements Committee: Aaron J. Milbank, MD
   4. Program Committee: Gary J. Faerber, MD
   5. Editorial and Awards Committee: Aaron J. Milbank, MD
   6. Health Policy Committee: Matthew T. Gettman, MD
   7. Long Range Planning Committee: Gary J. Faerber, MD
   8. Young Urologists Committee: Tobias S. Kohler, MD, MPH, FACS
   9. Bylaws Committee: Aaron J. Milbank, MD
  10. Education Committee: Bradley F. Schwartz, MD

VII. Representative to the Board of Directors of the AUA: Chandru P. Sundaram, MD

VIII. Future Meeting Report: Gary J. Faerber, MD

IX. Membership Committee Report and Election of New Members: Patrick H. McKenna, MD, FAAP, FACS

X. Unfinished Business

XI. New Business

XII. Nominating Committee Report and Elections: Patrick H. McKenna, MD, FAAP, FACS

XIII. Introduction of Incoming President

XIV. Adjournment
Membership Candidates and Transfers

* Application Not Complete

CANDIDATES FOR MEMBERSHIP

Active
* ALMALLAH, MD Yahia
ARETAKIS, MD Kari
ARNOLD, II, MD Don
BENSON, MD Aaron
BONIQUIT, MD Christopher
BONNELL, MD Alice
CHING, MD Christina
CHO, MD Luke
EEG, MD Kurt
EKWENNA, MD Obi
FARNHAM, MD Scott
* GANGEL, MD Michael
LARGE, MD Michael
LE, MD Brian
MAURER, MD Gregory
* MAXWELL, MD Keegan
SANTACROCE, MD Dino
* SHREVE, MD Eric
TROST, MD Landon
VINCENT, MD Charles
WINDSPERGER, MD Andrew
YOUNG, MD Diane
Active Applicants: 22

Associate
DAUW, MD Casey
* DEHAAN, DO Alexander
FAASSE, MD Mark
HESHMAT, MD Samy
HOU, MD Amy
JANDA, MD Gregory
* JENKINS, MD, MBA Lawrence
JOHNSON, MD Elizabeth
JORDAN, DO Michael
* LEAVITT, MD David
REGAN, MD Stanton
* RIEDER, MD Jocelyn
* TOMASINI, MD Jeffrey
* VINSON, MD Mohabe
WU, MD Zhigang
Associate Applicants: 15

TOTAL APPLICANTS 37
INTERNAL TRANSFERS

To Active Membership
ADAMS, MD Christopher
ARLEN, MD Angela
BEST, MD Sara
DUPREE, IV, MD, MPH James
FOK, MD, MPH Cynthia
GARVEY, MD Daniel
GILLEY, MD David
JOHNSON, MD, MPH Emilie
KOVAC, MD, PhD, MSc, FRCSC Jason
PATEL, MD Amit
RAYBOURN, III, MD James
SHAH, MD Amul
BENNETT, Jr., MD Nelson
GARGOLLO, MD Patricio
NELSON, III, MD James
SCHAEFFER, MD, PhD Edward
SINDHWANI, MD, MS, MBBS, MSBS Puneet

To Active Membership Internal Transfers: 17

To Senior Membership
ATASSI, MD Bassem
BANSAL, MD Narendra
CONRAD, MD Michael
FERRERA, MD Dominic
HOEKSTRA, MD Philip
KAYE, MD Keith
KEYS, Jr., MD Richard
KOERNER, MD Thomas
KRICK, MD David
NELLESSEN, MD David
SANII, MD Kamrooz
THOMALLA, MD James

To Senior Membership Internal Transfers: 12

TOTAL INTERNAL TRANSFERS 29
Membership Summary Report

ACTIVE
Active Member 1,149
Active Member - Transfer Internal 12
Active Member - Transfer into Section 5
Total Active Count: 1,166

AFFILIATE
Affiliate Member 2
Total Affiliate Count: 2

ASSOCIATE
Associate Member 81
Total Associate Count: 81

HONORARY
Honorary 1
Total Honorary Count: 1

SENIOR
Senior Member 528
Senior Member - Transfer Internal 12
Total Senior Count: 540

TOTAL MEMBERSHIP COUNT: 1,790
Proposed Bylaws Changes

Article I Membership

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 have reached the age of 65, or 20 years as an Active Member and are retired or are permanently disabled.
North Central Section of the AUA Bylaws  
(Amended 11/2015)

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 25 years in either the Section or the AUA and have reached the age of 65, or 20 years as an Active Member and retired or are permanently disabled.

Section 8 – Associate Members
Requirements for Associate Membership are as follows:

a. Requirements are the same as Active Membership except for board certification.

b. Candidate Members Eligible for Fast Track Associate Status. Associate Membership will be offered to all Candidate Members who have passed the qualifying examination (Part I) of the ABU.

c. Non-Members Eligible for Associate Status. Associate Membership is available to non-member urologists who are practicing within the geographic boundaries of a chartered AUA Section, but are not certified by the ABU.

If an Active Member fails to become recertified as required by the ABU (or other certifying board), the Section will transfer the individual to Associate Member status.

If an Active Member becomes decertified by the ABU, or other certifying board, the member shall be automatically dropped for non-compliance with the Section Bylaws, pursuant to Expulsion and Reinstatement policies.

d. Transfer to Active Membership. Associate Members who have passed the ABU certifying exam (Part II) will be transferred to Active Membership in the Section.

Section 9 – Affiliate Members
Affiliate membership is available to Non-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
immediately to the Secretary of the AUA the names of the members of the Section
who have been elected for membership in the Section, and (t) take such other
action as directed by the Board of Directors.

Section 6 – Secretary-Elect
The Secretary-Elect shall be elected at the Annual Business Meeting one (1) year
before the termination of the current Secretary's term of office. The term of office
shall be one (1) year and the Secretary-Elect shall automatically become the new
Secretary at the conclusion of the Annual Meeting at which the current Secretary's
term expires. The Secretary-Elect shall become familiar with the duties of the
Secretary during the Secretary's final year in office. The Secretary-Elect shall
attend all meetings of the Board of Directors and the Finance Committee, and
make site visits but shall not be eligible to vote.

Section 7 – Treasurer
The term of office shall be 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 eulogy for Section past
presidents, or any member who has made outstanding contributions to Urology, at
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
Bylaws

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.

Robert C. Ackles, MD
Naples, FL

William C. Baum, MD
Bradenton, FL

Donald G. Blain, MD
St. Clair Shores, MI

Zaher N. Boctor, MD
Oak Brook, IL

Stephen Banta Burdon, MD
Boston, MA

Chanderbhan M. Choithani, MD
Brookfield, WI

Bernard E. Cohler, MD
Chicago, IL

Engin Deniz, MD
Williamsburg, VA

Christopher A. Graf, MD
Sheboygan, WI

John B. Graham, MD
Evanston, IL

Daniel B. Gute, MD
Wellesley, MA

William L. Huffman, MD
Lakewood, OH

William M. Kaylor, MD
Lakewood, OH

Herbert S. Lakin, MD
Oak Park, IL

Paul O. Madsen, MD
Madison, WI

Antoine Nahoum, MD
Ann Arbor, MI

George C. Poore, MD
Frederick, MD

Leon M. Prinz, MD
Chicago, IL

Pramod R. Rege, MD
Orlando, FL

Axel Trangrud, MD
Milwaukee, WI

Andres I. Vargas Jr., MD
Willard, OH

Raul F. Waters, MD
Monona, WI

Theodros Yohannes, MD
Xenia, OH
Award Recipients

* Indicates Deceased Member

Traveling Fellowship Recipients

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. Sarle, 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
1977  Randall G. Rowland, MD, PhD; Lexington, KY
1975  Reza S. Malek, MD; Rochester, MN
1975  John W. Timmons Jr., MD; Gainesville, FL
1974  Bageshwari P. Sirba, MD; Allen Park, MI
1974  Kalish R. Kedia, MD; Middleburg Heights, OH
1973  Mark S. Soloway, MD; Miami, FL
1973  * Martin I. Resnick, MD; Cleveland, OH
1972  Daniel S. Merrill, MD; Minneapolis, MN
1972  Mark S. Soloway, MD; Miami, FL
1971  * Martin I. Resnick, MD; Cleveland, OH
1971  Nasser Javadpour, MD; Minneapolis, MN
1970  Kenneth A. Kropp, MD; Toledo, OH
1969  * Carl V. Dreyer, MD; Toledo, OH
1968  Carl R. McKinley, MD; Minneapolis, MN
1967  * John P. Donohue, MD; Melbourne Beach, FL
1966  Jack W. Jaffe, MD; Shaker Heights, OH
1965  * Daniel B. Gute, MD; Wellesley, MA
1964  A. Colin Markland, MD; Charleston, SC
1963  Stanley R. Levine, MD; Highwood, IL
1962  Robert Adrain Rehm, MD; Hilliard, OH
1961  * Charles A. Linke, MD; Rochester, NY
1960  Herbert Sohn, MD, JD; Chicago, IL

Thirlby Award Recipients
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; Brounsburg, 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

306
Award Recipients

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
1987  William C. Mobley, MD; Davenport, IA
1986  Jeffery Wacksman, MD; Bonita Springs, FL
1985  * William S. Jasper Sr., MD; Meidna, OH
1984  * Gerald W. Koos, MD; Duluth, MN
1983  Riad N. Farah, MD; Detroit, MI
1982  Carl R. McKinley, MD; Minneapolis, MN
1981  Jerrold J. Widran, MD; Palm Desert, CA
1980  Paul R. Hartig, MD; Edina, MN
1979  * William S. Jasper Sr., MD; Meidna, OH
1978  Jack L. Summers, MD; Sun City Center, FL
1977  James J. Meyer, MD; Chanhassen, MN
1976  Everette J. Duthoy, MD; Naples, FL
1975  * Charles J. Cooney, MD; Fort Wayne, IN
1974  Stanley J. Antolak Jr., MD; Edina, MN
1972  Lorris M. Bowers, MD; Brimfield, IL
1970  * Emile Maltry Jr., MD; Fargo, ND
1969  Joseph A. Santiago, MD; Milwaukee, WI
1968  * Thomas C. Hall, MD; Traverse City, MI
1966  Sidney P. Hurwitz, MD; Milwaukee, WI
1965  * Bruce E. Linderholm, MD; Minneapolis, MN
1964  * Bernard J. Begley, MD; San Diego, CA
1963  * Julian B. Galvin, MD; Pepper Pike, OH

John D. Silbar Award Recipients

2015  Matthew A. Uhlman, MD, MBA; Iowa City, IA
2014  Adam Kadlec, MD; Elmhurst, IL
2013  Clinton D. Bahler, MD; Indianapolis, IN
2012  Henry M. Rosevear, MD; Iowa City, IA
2011  Crystal Dover, MD; Madison, WI
2010  Christina B. Ching, MD; Cleveland, OH
2009  Brian L. Gallagher, MD; West Des Moines, IA
2008  David C. Arend, MD; Sioux Falls, SD
2007  Lynn L. Woo, MD; S. Euclid, OH
2007  Saleem S. Zafar, MD; Toledo, OH
2006  Curtis Crylen, MD; Greeley, CO
2005  Steven R. Mindrup, MD; Marion, IA
2004  John C. Thomas, MD; Nashville, TN
2003  Dimitri D. Kuznetsov, MD; Port Townsend, WA
2002  W. Patrick Springhart, MD; Shreveport, LA
2001  Melody A. Denson, MD; Austin, TX
2000  Courtney M.P. Hollowell, MD; Chicago, IL
1999  Steven Elliott Kahan, MD; Portsmouth, NH
Bizarre and Interesting Case Award Recipients
1999  Steven E. Kahan, MD, JD; Portsmouth, NH
1998  Daniel S. Elliott, MD; Rochester, MN
1997  Sheila K. Gemar, MD; Willmar, MN
1996  Cheryl T. Lee, MD; Ann Arbor, MI
1995  Jerald A. Hochstetler, MD; Goshen, IN
1994  Mark J. Waples, MD; Milwaukee, WI

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
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
2015  Khaled Shahrour, 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  Ronney Abaza, MD, FACS; Dublin, OH
2014  Raman Unnikrishnan, MD; Cleveland, OH
2013  Kristin A. Greco, MD; Maywood, IL
2013  Ishai S. Ross, MD; Detroit, MI
2012  Devon Snow-Lisy, MD; Cleveland, OH
2012  Megan Schober, MD, PhD; Farmington Hills, MI
2012  Kristina L. Penniston, PhD, RD; Madison, WI
2011  Mitra De Cogain, MD; Rochester, MN
2011  Nathan A. Bockholt, MD; Coralville, IA
2011  Dae-Yun Kim, MD, PhD; Chicago, IL
2011  George R. Schade, MD; Ann Arbor, MI
2010  Eric A. Klein, MD; Cleveland, OH
2010  Robert E. Jackson, MD; Ypsilanti, MI
2010  Chad Reichard, BS; Chicago, IL
2010  Anthony J. Polcari, MD; Chicago, IL
2010  Kristina L. Penniston, PhD, RD; Madison, WI
2010  Srinivas Vourganti, MD; Cleveland, OH
2008  Helen Kuo, MD; Indianapolis, IN
2006  Brian L. Gallagher, MD; West Des Moines, IA
2005  W. Scott Webster, MD; Dallas, TX
2004  Ahmad H. Bani Hani, MD; Chadds Ford, PA
2003  David C. Miller, MD, MPH; Ann Arbor, MI
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
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. Schroech, MD, MS; Ann Arbor, MI
2013  Miriam Hadj-Moussa, MD; Ann Arbor, MI
2013  Daniel Miller, MD, MPH; Ann Arbor, MI
2013  Charles R. Powell II, MD; Indianapolis, IN
2012  Boyd R. Viers, MD; Rochester, MN
2012  Matthew Maurice, MD; Cleveland, OH
2012  Peter Stuhldreher, BS, MD; Cleveland, OH
2012  Joseph Zabell, MD; New Brighton, MN
2012  Conrad Tobert; Grand Rapids, MI
2011  Jason Hedges, MD, PhD; Portland, OR
2011  Simon Kim, MD, MPH; Rochester, MN
2011  Amit Patel, MD; Westmont, IL
2011  Sandip Prasad, MD, MPhil; Charleston, SC
2011  Frank J. Penna, MD; Birmingham, MI
2011  Christopher Mitchell, MD; Rochester, MN
2010  Jonathan Ellison, MD; Ann Arbor, MI
2010  Suzette E. Sutherland, MD; Plymouth, MN
2010  Clint K. Cary, MD; Indianapolis, IN
2010  K. Scott Coffield, MD; Temple, TX
2010  Eric Umbreit, MD; Rochester, MN
2010  Jeffery C. Wheat, MD; Ann Arbor, MI
2008  Joshua J. Meeks, MD, PhD; Chicago, IL
2008  Khanh Pham, MD; Milwaukee, WI
2008  Christopher J. Weight, MD; Rochester, MN
2008  Mark D. Stovsky, MD, MBA, FACS; Beachwood, OH
2006  Curtis Crylen, MD; Greeley, CO
2005  David S. Morris, MD; Hendersonville, TN
2004  James A. Kontak, MD; Cleveland, OH
2003  Peter Langenstroer, MD; Milwaukee, WI
2002  David A. Taub, MD, MBA; Toledo, OH
2001  Timothy L. Mulholland, MD; Mason City, IA
2000  Bradley C. Leibovich, MD; Rochester, MN

College Bowl/Super Bowl
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
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
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 91 residents, representing 22 of the Section's 22 residency programs, will participate in the Annual Meeting.

**Case Western Reserve University**
Edward E. Cherullo, MD
Case Western Reserve University, Urology Institute
11100 Euclid Ave.
Cleveland, OH 44106
Matthew Bream, MD
Anand Patel, MD
Emily Slopnick, MD
Melody Chen

**Cleveland Clinic Foundation**
Steven C. Campbell, MD, PhD
Cleveland Clinic Foundation, Glickman Urological and Kidney Institute
9500 Euclid Ave Q10
Cleveland, OH 44195
Samuel C. Haywood, MD
Bryan D. Hinck, MD
Sarah C. Vij, MD
Yaw A. Nyame, MD, MBA

**Indiana University Medical Center**
Chandru P. Sundaram, MD
Indiana University Medical Center
535 N. Barnhill Drive, Suite 420
Indianapolis, IN 46202
Rajat Jain, MD
Tim Large, MD, MA
Mimi W. Zhang, MD
Chandra K. Flack, MD
Adam C. Calaway, MD
Jessica T. Casey, MS, MD

**Loyola University**
Thomas M.T. Turk, MD
2160 S First Ave
Loyola University Chicago, Bldg. 54, Dept. of Urology, Rm. 248
Maywood, IL 60153
Eric Kirshenbaum, MD
Michelle E. Van Kuiken
Petar Bajic, MD
Belinda Li, MD
Catherine Eden, MD
Jessica Wetterlin, MD
Mayo School of Graduate Medical Education (Rochester)
Matthew T. Gettman, MD
Mayo Clinic - Urology
200 First St, SW
Rochester, MN  55905
Andrew N. McCall, MD       Ross A. Avant, MD
Derek J. Lomas, MD, PharmD   Vidit Sharma, MD
Derek J. Gearman, MD        Philip M. Wanzek, DO
Matthew J. Ziegelmann, MD   Amir Toussi, MD
Deepak K. Agarwal, MD       Andrew T. Blackburne, MD
Marcelino E. Rivera, MD     David Y. Yang, MD
Griffin T. Morrisson, MD    Brian Montgomery, MD
Alessandro Morlacco, MD     Mary E. Westerman, MD

Medical College of Wisconsin
Peter Langenstroer, MD, MS
Medical College of Wisconsin, Dept. of Urology
9200 West Wisconsin Ave.
Milwaukee, WI  53226-1140
Melissa A. St. Aubin, MD     Michael Avallone, MD

Northeast Ohio Medical University
Raymond A. Bologna, MD
554 Merriman Road
Akron, OH  44303
Neel Parekh, MD

Northwestern University Feinberg School of Medicine
Stephanie J. Kielb, MD
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