# Urological Society for American Veterans (USAV) Annual Meeting

**SUNDAY, MAY 5, 2024**

**10:00 AM – 2:30 PM**

**Grand Hyatt San Antonio**

**Texas Ballroom C**

# 2024 USAV OFFICERS:

**OFFICERS & EXECUTIVE BOARD**

**President:** Robert L. Grubb, III, MD (Chief of Urology, Charleston VA, SC; Assoc. Professor Medical University of South Carolina)
**Imm. Past Presidents:** Muta Issa, MD, MBA, FACS (Chief of Urology, Atlanta VA Med. Ctr. / Professor of Urology, Emory University)
Jeffrey A. Jones, MD (Chief of Urology, Houston VA Med. Ctr. /Professor, Baylor College of Med.)
**Vice President/President Elect**: Jennifer M. Taylor, MD, MPH, (Staff Urology, M E DeBakey VA, Houston TX, Assist. Prof. Baylor College of Medicine)
**Secretary**: Bennett Stackhouse, MD, (US Dpt. of Veterans Affairs, Washington DC)
**Treasurer:** Florian R Schroeck, MD, MS, (The Dartmouth Institute, Geisel School of Medicine at Dartmouth, Hanover, NH, Research Faculty, VA Outcomes Group White River Junction VA Medical Center, White River Junction, VT)
**Member At Large:** Mark Sawyer, MD (Associate Professor, University of Colorado Surgery- Urology, Chief of Urology, VA ECHCS)
**Liaison to SGSU Board**: Stacey Koff, MD, FACS (Staff Urologist, Wash. DC VA)
**USAV Representative, SGSU Board Member:** Robert L. Grubb, III, MD (Chief of Urology, Charleston VA, SC; Assoc. Professor Medical Univ. of South Carolina)
**AUA Liaison:** Jeffrey A. Jones, MD (Chief of Urology, Houston VA Med. Ctr. /Professor, Baylor College of Med.)
**Membership Chair:** Atreya Dash, MD (University of Washington)

**SCIENTIFIC PROGRAM COMMITTEE**

**Scientific Program Co-Chairs:**

Thomas Masterson, MD (University of Miami Health System

Mark Sawyer, MD (Associate Professor, University of Colorado Surgery- Urology, Chief of Urology, VA ECHCS)

**USAV Administrative Office**

Executive Directors: Chris DeSantis, MBA /Jeannie DeSantis, MBA
DeSantis Management Group
1950 Old Tustin Avenue, Santa Ana, CA 92705
Email: usav@govurology.org
Web: www.govurology.org/usav

# USAV AGENDA:

| | |
|---|---|
| **10:00 - 10:30 AM** | **REGISTRATION, VISIT EXHIBITS - COMPLETE YOUR PRIZE CARD BY ASKING FOR A STICKER TO BE ELIGIBLE FOR THE DRAWINGS!** |
| **01) 10:15 AM** | Welcome & USAV Update<br>**Robert L. Grubb, III, MD,** USAV President<br>**Thomas Masterson, MD / Mark Sawyer, MD,** USAV Program Chairs |
| **02) 10:20 AM** | Setting up TP Biopsy Program in the VA.<br>**Jenna Dickman, MD,** Washington DC Veterans Affairs Medical Center |
| **03) 10:35 AM** | Strategies to Keep Veterans at the VA.<br>**Lori Lerner, MD,** Boston University Chobanian & Avedisian School of Medicine |
| **04) 10:50 AM** | Center for Prostatic Diseases Research (CPDR) Update?<br>**Gregory T. Chesnut, MD,** Society of Government Service Urologists (SGSU) Representative, Surgery at the Uniformed Services University of the Health Sciences |
| **05) 11:10 AM** | Expert Panel on Genitourinary Care for Transgender Veterans: Current Practices and Future Directions.<br>**Moderator: Jaime A. Cavallo, MD, MPHS**, Yale/CT VA<br>**Panelists: Lee C. Zhao, MD**, NYU/Manhattan VA, **Sean Iwamoto, MD**, Univ. of Colorado/Rocky Mt Regional VA, **Jeremy Shelton, MD**, MSHS, UCLA. |
| **11:40 AM** | **Lunch Break** (Please get your lunch and return to your seat for next two talks.) |
| **06) 11:45 AM** | Sponsor Highlights & Thank You! **Robert L. Grubb, III, MD** |
| **07) 11:55 AM** | **Open for Industry Supported Talk (TBD)** |
| **12:20 PM** | **Visit Exhibits / View Posters** |

## Meet & Greet with Industry!

**Visit Exhibits and Win!**
**Complete your Prize Card to be included in the drawings for great Prizes!!**
**Ask the exhibitors for a sticker!**

**Viewing of the Unmoderated Posters**

**08)** Unraveling Depleted Uranium Exposure and its Association with Bladder Cancer Risk Among Veterans: A Systematic Review and Meta-Analysis. **Shane Kronstedt, MD**

**09)** Agent Orange Exposure and Bladder Cancer Risk in Veterans: A Systematic Review and Meta-Analysis. **Shane Kronstedt, MD**

**10)** Suction through Ureteroscope Channel of Kidney-stone Dust for Ultimate Stone Treatment: The SUCKDUST Technique.
**Aubrey K. Jarman, BS, RD**

**11)** Association Between Membranous Urethral Length and Recovery of Urinary Continence in Men Undergoing Standard and Retzius-sparing Radical Prostatectomy. **Lindsey Webb, MD**

**12)** The Impact of Prolonged Ileal Conduits on Vesicovaginal Fistula Patients in Rural Ethiopia. **Adedayo Adetunji, MD**

**13)** Improving surgical Emergency Response Time Using Novel Surgical Emergency Team (SET) Protocol and Team Simulation.
**Madeline J. Anderson, MD**

**14)** Case Cart Preparedness: A Study in Process Improvement.
**Madeline J. Anderson, MD**

**15)** Overview of Robotic Surgery in the U.S. Military: From Conception, to Utilization, and Future Applications.
**Eric Wahlstedt, Med. Student**

**16)** Infected Penile Implant Salvage with Inflatable Prosthesis: Outcomes in the VA. **Dr. Laura Angulo-Llanos**

**17)** Positioning Prostatic Arterial Embolization into the Shared Decision Treatment Algorithm for Benign Prostatic Hypertrophy.
**Kamil Tomaszek**

**18)** Post-operative outcomes in rectourethral fistula repair using gracilis interposition flap in a largely radiated cohort. **Lourdes Jessica Connor, MD**

**Unmoderated Poster Session/Viewing (continued)**

**19)** Can Magnetic Resonance Imaging Predict Progression of Disease for Patients on Active Surveillance and Impact Biopsy Timing? **Syed Rahman, MD**

**20)** Discrepancies in Volume: Performance of MRI, Artemis, Ultrasound, and ExactVu Compared to Pathologic Measurement. **Maximilian Rabil**

**21)** Patient-Physician Communications about Prostate Cancer on YouTube in English and Spanish. **Stacy Loeb, MD**

**22)** MRI-TRUS Fusion Prostate Biopsy is Associated with a Lower Rate of Active Surveillance Failure Compared to In-Bore MRI-Guided Biopsy. **Daniel Jiang, MD**

**23)** The Impact of Novel Neoadjuvant Androgen Signaling Inhibitors on Robotic Radical Prostatectomy: A Propensity Score-Matched Comparison of Intraoperative and Short-Term Outcomes. **Sahil Parikh, Med. Student**

**24)** Beyond the Bulge: The Correlation between Extracapsular Extension on Multi-parametric Magnetic Resonance Imaging with Pathological Findings and Long-Term Oncologic Outcomes following Robot-Assisted Radical Prostatectomy. **Kyle Schuppe, Med. Student**

**25)** Does Location of Positive Margins After Radical Prostatectomy Affect Risk of Biochemical Recurrence? **William Azar**

**26)** MyUroflow Home Uroflowmetry Cost and Time Analysis. **Timothy Wright, MD**

**27)** Does Genomic Risk Score At Biopsy Correlate With Focality Of Disease At Radical Prostatectomy: Implications For Focal Therapy Candidates. **Jenna Winebaum, MD**

**12:55 - 2:00 PM Moderated Abstract Podium Presentations**

**28)** AIRD1A Knockouts in Bladder Cancer Cell Lines Suggests More Aggressive Tumor Behavior and a Potential Target. **Christopher Magnani, MD**

**29)** Infected penile implant salvage with malleable: outcomes in the VA. **Paulo Moscardi, MD**

**30)** High Veterans Affairs (VA) Patient Satisfaction with Fellow Semen Analysis System. **Brittany Berk, MD**

**31)** The Association of Psychotropic Medication and Lower Urinary Tract Symptoms. **Lennox Ksido**

**32)** The Association of A1c with Outcomes Following Oncologic Surgeries in Veterans. **Justin Lee, MD**

**33)** Clinically Adequate Uroflowmetry Data: Implementation of MyUroflow Home Testing. **Timothy Wright, MD**

**34)** Novel Placement of Denonvilliers' Space Expansion (SpaceOAR) with Cryoablation: Unexpected Postoperative Outcomes for Fistula Risk. **Gabrielle Yankelevich, MD**

**35)** Initial Pain Score at Viscous Lidocaine Instillation and Clinical Characteristics Predict Overall Pain during Fusion Prostate Biopsy. **Gabriela Diaz, MD**

**36)** Progression on Active Surveillance is Low in Men with PSA Density <0.15 or with Absence of Cancer in MRI-Identified Lesions. **Lindsey Webb**

**37)** Institutional Experience with Focal Ablation for Localized Prostate Cancer. **Syed Rahman, MD**

**38)** Effect of Novel Neoadjuvant Androgen Signaling Inhibitors Prior to Robotic Radical Prostatectomy on Pathological or Short-Term Survival Outcomes. **Sahil Parikh**

**39)** Is It Time We Include High-Risk MRI Features in Nomograms to Calculate the Risk of Lymph Node Invasion Prior to Radical Prostatectomy? **William Azar**

**40) 2:00 PM** NSO Update. **Jeremy Shelton, MD,** UCLA.

**2:15 PM** Awards Ceremony / Prize Drawings
**Robert L. Grubb, III, MD & Thomas Masterson, MD, Mark Sawyer, MD**

**BE SURE TO GET YOUR PRIZE CARD TURNED IN**
**Drawings at end of the meeting**

## Presentation Awards

**Best Unmoderated Posters (#08-#27)**
**Prize for Top 2 Posters**

**Best Moderated Podiums (#28-#39)**
**1st Prize * 2nd Prize * 3rd Prize**

*Thank You!*

*for attending today!*

**Join as a Member of the USAV**
**at**
**https://govurology.org/usav/**

**PAPER #8**

# Unraveling Depleted Uranium Exposure and its Association with Bladder Cancer Risk Among Veterans: A Systematic Review and Meta-analysis

Shane Kronstedt MD, Cedrick B. Chiu*, Jackson Cathey*, Gal Saffati MD*, David E. Hinojosa-Gonzalez MD*, Jeffrey A. Jones MD, Jeremy R. Slawin MD
Houston TX
(Presentation to be made by Shane Kronstedt, MD)

**Introduction and Objectives:** Bladder cancer is the fourth most diagnosed cancer in the Veterans Affairs (VA) system, affecting approximately 3,200 veterans annually. Risk factors for bladder cancer include smoking, older age, male sex, and exposure to carcinogens like aromatic amines and arsenic. However, additional exposure risks may exist, especially for military personnel who may encounter carcinogenic substances. One such recently identified substance is depleted uranium. First deployed widely during the Gulf War and used in subsequent conflicts, depleted uranium is used in tank armor and munition. Soldiers were exposed through diverse avenues, including munition handling, and burning vehicles. This study seeks to investigate the influence of depleted uranium exposure on the development of bladder cancer among veterans.

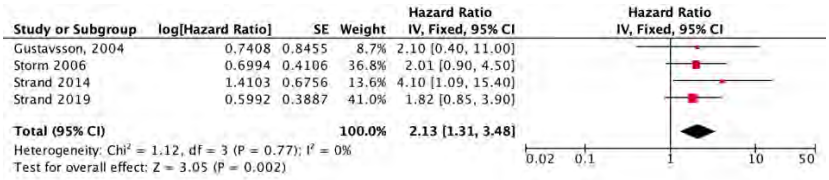
**Methods:** PubMed, Scopus, and Medline were systematically searched for studies on bladder cancer among veterans and depleted uranium exposure for studies published between 1980-2023. Search terms: “veteran”, “military”, “bladder cancer” and “depleted uranium” were used. Two reviewers (CBC and JMC) evaluated the selected studies against inclusion and exclusion criteria and quality. Any conflicts were resolved through discussion. Included studies were analyzed, and a meta-analysis was conducted to calculate the hazard ratio (HR) with a 95% credible interval.

**Results:** Following selection, four studies were used in the final analysis. These cohort studies collectively investigated cancer incidence among 28,899 military personnel and veterans with a history of deployment to the Balkans, an area where depleted uranium ammunition was extensively utilized. Two of these studies overlap in analysis of a population of Norwegian peacekeeper troops, while the other two feature distinct populations of Danish and Swedish veterans. The HR for depleted uranium was 2.13 (95% CI: 1.31-3.48) for the risk of bladder cancer among those exposed, as illustrated in Figure 1.

**Conclusion:** Our results show that depleted uranium exposure is associated with a greater than two-fold increase in the likelihood of developing bladder cancer. Further research is warranted to explore the correlation between bladder cancer and depleted uranium in different conflict zones, enhancing our understanding of the broader implications of this exposure.

**Source of Funding:** None

**Figure 1: Comprehensive forest plot of hazard ratios (HR) from included studies and met-analyzed cumulative HR.**



**PAPER #9**

**Agent Orange Exposure and Bladder Cancer Risk in Veterans: A Systematic Review and Meta-analysis**

Shane Kronstedt MD, Jackson Cathey BS*, Cedrick B. Chiu BS*, Gal Saffati MD*, David E. Hinojosa-Gonzalez MD*, Jeffrey A. Jones MD, Jeremy R. Slawin MD
Houston, TX
(Presentation to be made by Dr. Shane Kronstedt)

**Introduction and Objectives:** Bladder cancer is the fourth most diagnosed cancer in the Veterans Affairs (VA) system, affecting approximately 3,200 veterans annually. Risk factors for bladder cancer include smoking, older age, male sex, and exposure to carcinogens like aromatic amines and arsenic. However, many bladder cancers arise in the absence of a known risk factor, necessitating further investigation into alternative causes of the disease. Agent Orange, an herbicide widely used during the Vietnam conflict, has been implicated, but limited data exist on its association with bladder cancer risk. This study aims to explore the documented risk of exposure to Agent Orange and its connection to bladder cancer diagnosis among veterans.

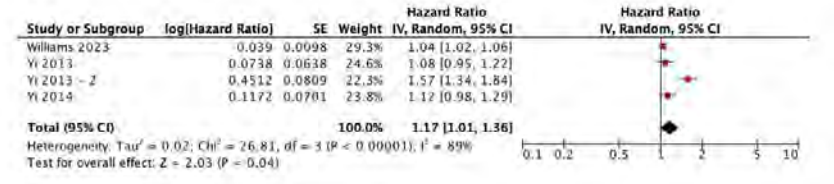
**Methods:** In December 2023, PubMed, Scopus, and Medline were systematically searched for studies on bladder cancer among veterans, focusing on identifying exposures associated with an elevated risk. Two independent reviewers (JMC and CBC) conducted the literature search using terms related to bladder and urothelial cancer, veterans, and various potential exposures. Inclusion and exclusion criteria and study quality were assessed, with conflicts resolved through discussion. Data was extracted independently by two authors, and a meta-analysis was conducted for selected studies that reported on Agent Orange as a risk factor for bladder cancer. The results are presented as a hazard ratio (HR) with a 95% credible interval.

**Results:** Four studies were included in the analysis, encompassing 2,705,283 veterans. Each study reported hazard ratios for exposure to Agent Orange. Three of these studies assess data from Korean veterans deployed in the Vietnam War and hence share overlap in the patient population analyzed. The fourth study summarizes data from the VA nationwide database for US veterans, an entirely distinct patient population. Each study referenced matched controls without Agent Orange exposure. A meta-analysis yielded an HR of 1.17 with a 95% credible interval of 1.01 – 1.36 (p = 0.04) for the risk of bladder cancer among these veterans exposed to Agent Orange. Figure 1 summarizes these results in a forest plot.

**Conclusion:** Our findings indicate a statistically significant elevation in the risk of bladder cancer associated with Agent Orange exposure. Further research is crucial to investigate the impact of Agent Orange exposure on clinical decision-making.

**Source of Funding:** None

**Figure 1. Forest plot summarizing hazard ratios of included studies and a cumulative HR computed in meta-analysis.**



**PAPER# 10**

**Suction through Ureteroscope Channel of Kidney-stone Dust for Ultimate Stone Treatment: The SUCKDUST Technique**

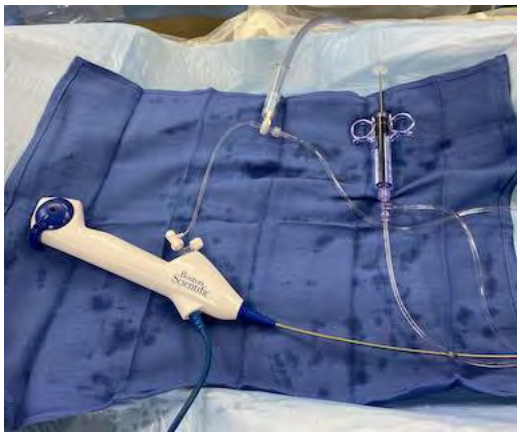
Justin K Achua, MD*; Eric C Ballon-Landa, MD*; Mark D Sawyer, MD
Aurora, CO. Presentation to be made by Dr. Achua.

Introduction and Objective: High power laser systems are increasingly used to dust even larger kidney stones during ureteroscopy. However, dust particle "snowstorms" make visualization challenging, and even very small fragments may remain in the kidney. Dust can also impact interpretation of intraoperative CT (ICT) imaging. Additionally, high intrarenal pressures (IRP) increase risk of systemic infection. A simple "Suction through Ureteroscope Channel of Kidney-stone Dust for Ultimate Stone Treatment" (SUCKDUST) technique is described.

Methods: SUCKDUST was developed during a case with poor visualization during stone dusting. The technique involves insertion of suction tubing connected to an operative fluid collection device into the lumen of a 10 mL Luer-lock syringe. The suction syringe is inserted into the side port of a UroLok irrigation device or directly to the channel of the scope for rapid removal of dust and urine. It was subsequently modified to allow fine suction (M-SUCKDUST) by avoiding twisting of the syringe. The suction technique is also routinely used to drain the bladder using a flexible cystoscope during supine endoscopic procedures in a hybrid room.

Results: Since July 2022, SUCKDUST technique has been used in dozens of ureteroscopy cases to remove stone dust without complication. The technique also facilitates rapid reduction of IRP, and has been used in 13/15 (87%) of cases when using a disposable intra-renal pressure monitoring ureteroscope (LithoVue Elite, Boston Scientific). We have found the technique to be more convenient and faster than manual irrigation using a syringe. In three cases where ultra-low dose (ULD) ICT was repeated and SUCKDUST was performed in the interim, there was subjective improvement of visible dust on coaxial imaging. Channel occlusion due to dust accumulation that could not be cleared has only occurred in a single case, when a basket was within the channel.

Conclusions: A simple technique for suction using the scope channel and a syringe allows for rapid reduction of IRP and clearance of dust. Active suctioning may be particularly beneficial for patients with infected stones or who are on blood thinners when measured IRP approach unacceptable thresholds. Dust clearance may improve interpretation of ICT imaging by reducing artifact. Given potential occlusion of the channel, the technique may be most suitable when using disposable cystoscopes.



Source of Funding: None

**PAPER #11**

**Association Between Membranous Urethral Length and Recovery of Urinary Continence in Men Undergoing Standard and Retzius-sparing Radical Prostatectomy**

*Lindsey T Webb*, BSME; Daniel Halstuch*, MD; Syed N Rahman*, MD; Eusebio Luna Velasquez*, MD; Gabriela M Diaz*, MD; Ghazal Khajir*, MD; Michael S Leapman, MD; Preston C Sprenkle, MD*

New Haven, CT

Presentation to be made by: Ms. Lindsey Webb

INTRODUCTION AND OBJECTIVE: Urinary incontinence significantly impairs quality of life after robotic-assisted laparoscopic prostatectomy (RALP). The prognostic significance of the membranous urethral length (MUL) for recovery of urinary continence is not known in the era of Retzius-sparing surgery, a technique that is associated with faster return of urinary control. We sought to assess the association between different pre- and intraoperative factors on recovery of urinary continence in men undergoing RALP.

METHODS: Between April 2013 and September 2021, patients undergoing RALP by a single urologist for clinically localized or locally advanced prostate cancer in our institution were studied retrospectively. MUL was determined from the average of the lengths from the sagittal and coronal views of the membranous urethra on MRI. Demographic, clinical, and pathological characteristics were documented. Urinary continence was defined as wearing no pads by patient-reported daily pad usage within 3 months (early) and 12 months (late) after RALP.

RESULTS: 207 patients underwent RALP. The median age of patients was 64 (interquartile range 59-68), median BMI was 28.0 (25.1-31.1), and median MUL was 13.8mm (12.3-15.5). Postoperatively, 83 (40%), and 147 (77%) men achieved early and late recovery of urinary continence, respectively. The continence rates for different MULs did vary, though not significantly. For MULs <12mm, continence rates were 31% early and 73% late. For MULs >12mm, continence rates were 44% early and 86% late. Multivariable logistic regression revealed that older patients (OR 1.074; p=0.018) with higher BMIs (OR 1.094; p=0.037), who did not undergo Retzius-sparing surgery (OR 0.357; p=0.007) remained incontinent early after surgery. For those who underwent Retzius-sparing surgery, on multivariable regression, MUL > 12mm was associated with lower likelihood of incontinence early (OR 0.054; p=0.008) and late (0.008; p=0.035).

CONCLUSIONS: Early recovery of urinary continence is associated with patient-driven characteristics of age, BMI, and use of the Retzius-sparing approach. MUL was associated with continence in the early and late time periods post-prostatectomy in patients who undergo a Retzius-sparing approach.

**Source of Funding:** None

**PAPER #12**

## The Impact of Prolonged Ileal Conduits on Vesicovaginal Fistula Patients in Rural Ethiopia. Adedayo Adetunji, MD


INTRODUCTION AND OBJECTIVE:

The development of vesicovaginal fistulas (VVF) from prolonged labor secondary to dystocia is a common problem for young women in rural Ethiopia. These women are smaller in stature and often deliver at home due to long distances to the nearest healthcare center. As a result of their VVF, they suffer from incontinence and social stigmatization, including being undesirable for marriage. These patients are often managed with ileal conduits (IC) and rarely undergo essential pelvic reconstructive surgery possibly due to insufficient expertise and resources. Although these patients can live for many years with IC, they are at increased risk for developing recurrent urinary tract infections, ureteral obstruction, hydronephrosis, and metabolic disturbances leading to a more rapid decline in renal function. This retrospective descriptive study seeks to evaluate the extent of kidney derangement in patients with VVF.

METHODS:

Data was obtained through retrospective chart review of patients with VVF who underwent IC diversion at the Hamlin Fistula Hospital in Ethiopia between 1989 and 2022. Patients who received reconstructive VVF repair were excluded. Data were collected on patient demographics, year of IC surgery, presence of hydronephrosis, history of kidney disease, creatinine level prior to IC surgery, and most recent creatinine level.

RESULTS:

This study included 221 women. The age at IC surgery ranged from 12 to 67 years. The average age at surgery was 29. Patients lived with IC from a few months up to 34 years. The mean duration of living with IC surgery was 12 years. Hydronephrosis in at least one kidney was present in 42 (19%) patients. A history of kidney disease was present in 95 (43%) patients, including an absent kidney, atrophic kidney, chronic kidney disease, or kidney infections such as pyelonephritis. 67 women had an estimated glomerular filtration rate (eGFR) less than 60 (30.3%). The mean time from diagnosis to creatinine levels exceeding 1.2 was 29.4 years, with a median time of 30.1 years.

CONCLUSIONS:

Our preliminary data suggests that kidney disease increases in cases where IC exists for a prolonged duration. Additionally, when IC surgery is performed correctly, kidney function can be preserved for an extended period. Given that delaying reconstructive surgery is sometimes viewed as beneficial, our results can help guide the timeframe for reconstructive surgery. Adequate resources must be allocated to train local physicians to perform definitive reconstructive surgery on women with VVF to prevent the rapid deterioration of renal function and improve overall quality of life.



SOURCE OF FUNDING: None.

**PAPER# 13**

**Improving surgical emergency response time using novel Surgical Emergency Team (SET) protocol and team simulation**

Madeline J Anderson*, DO; Wesley S Stephens*, MD; Amanda Borchers*, BSN, RN; Andrew M Harris, MD; Jessica L Feinleib*, MD; Mary E Sturgeon* DMD; Melissa R Newcomb*, MD; (Presentation to be made by Dr. Anderson)

Introduction

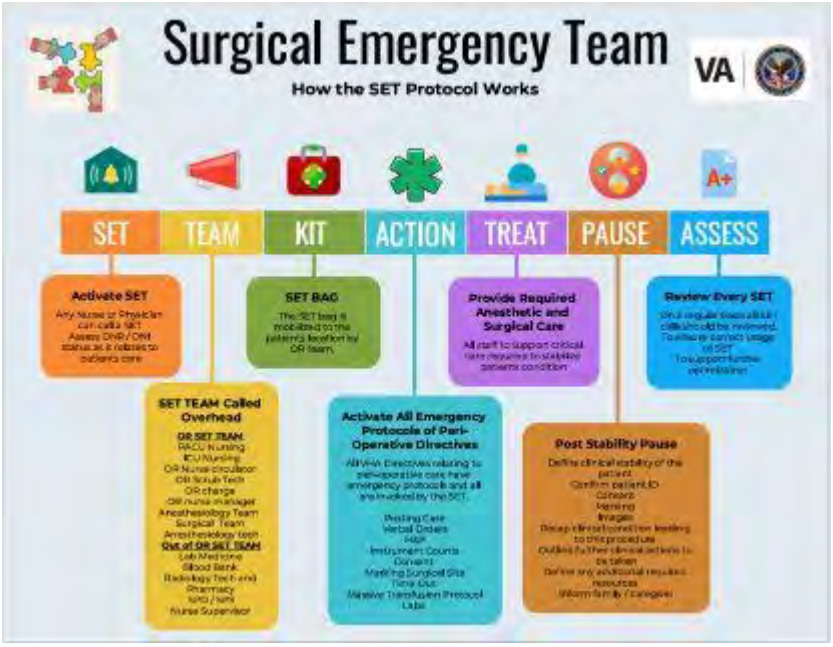
In a surgical emergency, prompt response and intervention are critical and in some cases lifesaving. Surgical emergencies, being a rare event at our VA hospital, often result in chaos and miscommunication. Inspired by a near-miss event involving a post-thyroidectomy patient with neck hematoma and delayed return to the operating room (OR), our team sought to develop a new protocol with use of simulation to improve emergent surgical response time.

Methods

Conversations with frontline stakeholders revealed misunderstanding of policies and lack of protocol in the rare event of a surgical emergency at our institution, delaying time to intervention. The Surgical Emergency Team (SET) protocol was developed, akin to Rapid Response Team, to quickly engage critical staff, clarify roles and responsibilities of team members, make key equipment readily available, and reduce barriers to vital interventions. Collaborating with Simulation Learning, Evaluation, Assessment, and Research Network (SimLEARN) team, we developed 5 simulation scenarios. We obtained response times from a baseline simulation prior to SET education and implementation, then measured response times after SET implementation.

Results

Implementation of SET protocol enacted with simulation resulted in improved communication, prompt arrival of critical staff to patient bedside, and made necessary equipment readily available. An elevator key was secured to speed accessibility to the lab and reduce blood bank response time. During simulation from PACU, the time from surgical emergency to incision was significantly reduced to 6.5 minutes, from 35 minutes pre-intervention.




Conclusion

Implementation of Surgical Emergency Team protocol using team simulations for surgical emergencies resulted in improved team communication and reduced time to intervention.

**PAPER #14**

**Case Cart Preparedness: A study in process improvement**

Madeline J Anderson*, DO, Wesley S Stephens*, MD, Brittany E Levy*, MD, Sherry Lantz*, MSN, RN, Melissa R. Newcomb*, MD and Andrew M. Harris, MD.
Lexington, KY: Presentation to be made by Dr. Madeline J Anderson

**Introduction and Objective**:
Case cart (CC) preparation requires coordination between sterile processing, logistics, and the operating room (OR). Due to discrepancy in composition of CCs, this study aimed to produce standardized CC preparation to facilitate case set-up.

**Methods**:
Despite having specific CC pick sheets (CCPS), OR nurses were pulling a substantial amount of disposable and non-disposable items, increasing room set up time and decreasing efficiency. A current-state process map of CC preparation was created, revealing significant variation across and within procedures' CCs. OR cases were audited in 9/2022 to assess CC completeness and time required to pull additional items. Initial audits of 58 CCs for all surgical cases revealed an average of 9.4 additional pulled items (7.3 from sterile processing and 2.1 from OR supply room) per case, ranging from 2-32 items, requiring an additional average of 6.5 minutes per case.
The OR quality improvement team subsequently engaged in a multi-department collaboration to create new CCPS and ensure all CCs arrive at the OR complete. Laparoscopic cholecystectomy (LC) cases were selected for the initial PDSA cycle, and prospective auditing of each case commenced in 1/2023. Robotic cases were added in PDSA 2, averaging 28.3 additional pulled items requiring an additional 20 minutes per case.

**Results**:
The new CCPS was utilized in PDSA cycle 1, and all LCs were audited. Subsequent PDSA cycles were initiated after adjusting the CCPS to ensure appropriate items were pulled and stocked. 41 LCs were audited, revealing an average of 2.3 items (0.7 from sterile processing and 1.6 from OR supply room) pulled over 3.2 minutes per case. For robotic cases, 49 cases were audited, revealing an average of 10.9 items (8.4 from sterile processing and 2.5 from OR supply room) pulled over 12.0 minutes per case.
**Conclusion**:
Standardization of CC preparation resulted in dramatically faster case set-up and improved overall case preparedness.

**Source of Funding: None**

**PAPER #15**

# Overview of Robotic Surgery in the U.S. Military: From Conception, to Utilization, and Future Applications

**Authors:** Eric R. Wahlstedt[1]*, Shane M. Kronstedt[2], Gal S. Grunhaus[2]*, David E. Hinojosa-Gonzalez[2]*, Zachary R. Mucher[3]
[1] B.S.E, Lexington, KY, USA
[2] M.D., Houston, TX, USA
[3] M.D., Houston, TX, USA

Presentation to be made by Mr. Eric R. Wahlstedt.

**Introduction and Objective**
This narrative review explores the inception, challenges, and future prospects of robotic surgery in the military. It highlights the military's role in developing early prototypes, current utilization, training struggles, partnerships with civilian organizations, and potential future applications. The military's influence on the evolving landscape of robotic surgery and the utilization of robotic surgery among military urologists is particularly emphasized.

**Methods**
A narrative review of the literature was conducted using online databases including PubMed. References included in the final review were selected by the authors based on relevance to the subject matter and availability in English. Topics included articles pertaining to urological surgery, robotic surgery, robotic surgical development, and military applications of robotic protypes and devices.

**Results**
The convergence of virtual reality and robotics was conceptualized at the National Aeronautics and Space Administration's Ames Research Center, with military surgeons playing a pivotal role in the development of an early robotic surgical system. Some early robotic surgical prototypes were initially designed for battlefield applications with oversight from Defense Advanced Research Projects Agency. Today, robotic surgery is widely utilized in VA and military institutions—particularly among urologists. From 2018 to 2019 the occurrence of Robotic Assisted Surgery (RAS) procedures within the Department of Defense exhibited a 10.91% growth in RAS utilization among surgeons with urologists performing 694 RAS procedures in 2017. Challenges, to military robotics programs include limitations in robotics curriculum and autonomy among residents in addition to surgeon deployments and personnel turnover. Collaborations with civilian partnerships and initiatives like the Institute for Defense Robotic Surgical Education seek to address the specific needs of advancing robotic surgical education in military settings.

**Conclusions**
The U.S. military played a critical role in the conception of robotic surgical devices. While challenges still exist in training surgeons and improving surgical education, the military is making advancements through increased robotic connections and networks to train the next generation of robotic surgeons. As the usage of robotic surgery continues to grow, it is evident the military will significantly influence developments in the years to come.

**PAPER #16**

# Infected Penile Implant Salvage with Inflatable Prosthesis: Outcomes in the VA

Laura Angulo-Llanos MD*; Thomas A Masterson MD
Miami, Florida
Presentation to be made by Dr. Angulo

**Introduction and Objective:**
Infection remains the most feared complication of penile prosthesis surgery, occurring in less than 5% of virgin cases. Initially, the standard of care for an infected penile implant was device removal, leading to significant penile shortening, corporeal fibrosis, increased surgical morbidity, and diminished patient satisfaction. In 1996, Mulcahy et al changed the paradigm after publishing a small case series of successful salvage procedures: extensive debridement, washout with multiple antibiotic solutions, and placement of a malleable Peniel prosthesis. This innovative approach aimed primarily to preserve penile length and facilitated the subsequent placement of an inflatable device in a following surgery. However, this salvage strategy leads to multiple surgeries, prompting a debate on whether immediate salvage with an inflatable device might offer a favorable alternative.
There have not been any large, multi-institutional studies assessing the long-term outcomes of salvage procedures with an inflatable device. The objective of this study is to better characterize the outcomes of salvage procedures of infected penile implants using an inflatable device in a large, multi-institutional database.

**Methods:**
This is a retrospective observational study that identified men who underwent salvage procedures for infected malleable penile implants with the following CPT codes 54411, 54417 by using the national VA medical system VINCI (VA Informatics and Computing Infrastructure).
A manual chart review was conducted to identify and confirm men who had an inflatable salvage procedure, determining outcomes such as reinfection rates and the necessity of device replacement.

**Results:**
A total of 460 veterans were identified using the CPT code. After removing duplicated records, 159 individuals remained. In cases where veterans underwent multiple salvage procedures, only the initial salvage procedure was documented for analysis.
Those salvaged with a malleable device were excluded from the study. Following an ongoing manual chart review, 13 cases with inflatable salvage procedure were confirmed. Among these cases, 3 (23%) were reinfected while 9 (77%) remained with the inflatable device. One case (8%) changed to a malleable device. No significant differences in reinfection rates were noted between Coloplast or AMS/Boston Scientific devices.

**Conclusion:**
Salvaging an infected penile prosthesis through washout and subsequent placement of an inflatable penile prosthesis in the VA system has a relatively high success rate. Further comprehensive analysis is needed to understand physician decisions regarding salvage with an inflatable versus a malleable versus device removal without salvage.

**PAPER #17**

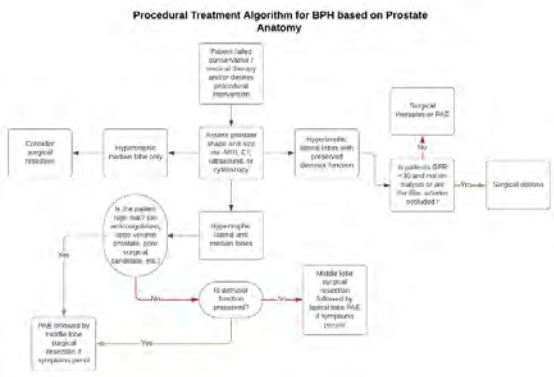
# Positioning Prostatic Arterial Embolization into the Shared Decision Treatment Algorithm for Benign Prostatic Hypertrophy

Authors: Tomaszek, Kamil RN, BSN*; Lerner, Lori DO
*Chicago, IL Presentation to be made by Mr. Kamil Tomaszek

Introduction: Benign Prostatic Hyperplasia (BPH) is a prevalent condition affecting approximately 80-90% of men in their 70s. While a spectrum of treatment options exist, there remains a notable absence of a well-defined treatment algorithm in the context of bi-lobar vs. tri-lobar disease, especially in the realm of Prostate Artery Embolization (PAE). With further utilization of PAE, clarifications on patients more likely to fail treatment have emerged, particularly those with median lobe hypertrophy. This study aims to pioneer a novel procedural treatment algorithm for BPH, establishing the position of PAE in the management of patients with bi-lobar or tri-lobar disease, and aiding in shared decision-making among medical disciplines.

Methods: We reviewed treatment approaches and philosophies of patients seeking treatment at an Interventional Radiology clinic that specializes in PAE. Patients were either referred by other providers or self-directed their care. In combination with urologists, patients were counseled towards PAE vs surgical therapy vs combined modalities. Over time, treatment failures have driven consideration of an algorithm directed towards those patients most at risk for failing PAE – namely, those with large median lobes. Using our experience, we created an algorithm with presumed patient factors that can inform patient counseling and lead to more appropriate treatment pathways.

Results:




Conclusion: The ever-expanding menu of treatment options for BPH demands more granular algorithms than currently exist. Patient factors and co-morbidities are important in defining treatment options most likely to be efficacious and successful for each individual. This algorithm is a first attempt to define a pathway for PAE that can better inform both patients and practitioners and help surgeons understand how anatomy can impact PAE outcomes. These factors are vital when considering when to refer a patient for PAE and/or how to partner with interventional radiologists in successfully addressing BPH.

References

Ng M, Baradhi KM. Benign Prostatic Hyperplasia. [Updated 2022 Aug 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK558920/

Lerner, L. B., McVary, K. T., Barry, M. J., Bixler, B. R., Dahm, P., Das, A. K., Gandhi, M. C., Kaplan, S. A., Kohler, T. S., Martin, L., Parsons, J. K., Roehrborn, C. G., Stoffel, J. T., Welliver, C., & Wilt, T. J. (2021). Management of Lower Urinary Tract Symptoms Attributed to Benign Prostatic Hyperplasia: AUA GUIDELINE PART I-Initial Work-up and Medical Management. *The Journal of urology*, *206*(4), 806–817. https://doi.org/10.1097/JU.0000000000002183

**PAPER #18**

# Post-operative outcomes in rectourethral fistula repair using gracilis interposition flap in a largely radiated cohort

Jessica Connor, MD*; Ian Coate, MD*; Gabrielle R Yankelevich, DO; Margaret Stroud*; William Stallings*; Harry Clarke, MD, PhD*; Virgilio George, MD*; M Lance Tavana, MD*.
Charleston, South Carolina
Presentation to be made by Dr. Jessica Connor

**Introduction and Objective:**
Rectourethral fistula (RUF) is a rare, but devastating complication following local prostate cancer therapies including prostatectomy, radiation, and cryotherapy. RUF repair utilizing a transperineal approach with gracilis muscle interposition flap may lead to more favorable outcomes than other approaches. We report, to our knowledge, the largest study of RUF repair with a gracilis flap, and our study is unique in that it is a largely radiated cohort.

**Methods:**
We performed a retrospective review of all gracilis interposition flap reconstruction surgeries performed for RUF at a university hospital in South Carolina between January 2010 and June 2023. All repairs were performed utilizing a multidisciplinary approach with urology, colorectal, and plastic surgery teams. All patients after repair were managed with foley catheter and suprapubic tube (SPT) drainage with initial voiding cystourethrogram (VCUG) performed at 4 weeks post-operatively. If there was a persistent leak, catheter drainage was maintained for 4 additional weeks and VCUG was repeated. Success was defined as absence of leak on VCUG within 3 months post-operatively.

**Results:**
22 patients met inclusion criteria. All had a pre-operative fistula biopsy and pre-operative bowel diversion. 68% of patients had a history of external beam radiation therapy (EBRT), 13.6% had brachytherapy, and 40.9% had cryotherapy. Initial post-operative VCUG was negative for RUF in 10 patients (45.5%). Of the 12 patients with a persistent fistula, 5 (42%) had no evidence of fistula on subsequent VCUG after 4 weeks. Overall, 68% of patients were successfully treated with gracilis interposition flap. 3 patients (13.6%) underwent or are planned for simple cystectomy diversion. Of the 7 failures, 3 (42.8%) had a history of salvage cryotherapy and 7 (100%) had history of EBRT. Of the 15 successes, 6 (40%) had history of cryotherapy and 7 (46.6%) had history of EBRT. There was a significant success difference of the repair based on EBRT status ($p<0.05$). There was no significant difference in success based on cryotherapy ($p<0.05$). There were 7 post-operative complications, primarily Clavien-Dindo Class I and II.

**Conclusions:**
We report a success rate of 68% for gracilis flap repair of RUF in the setting of local prostate cancer treatment. Patients had a higher rate of prior radiation therapy compared to other studies. A clinically significant portion of patients with an initial positive VCUG will seal their fistula with prolonged catheter drainage. Gracilis interposition flap is a reasonable surgical treatment for RUF.

Source of Funding: None

**PAPER #19**

**Can Magnetic Resonance Imaging Predict Progression of Disease for Patients on Active Surveillance and Impact Biopsy Timing?**

*Syed N Rahman*, MD; Lindsey T Webb*, BSME; Gabriela M Diaz*, MD; Ghazal Khajir*, MD; Soum D Lokeshwar*, MD; Preston C Sprenkle, MD*
New Haven, CT
Presentation to be made by: Dr. Syed N. Rahman

INTRODUCTION AND OBJECTIVE:
Prostate biopsy is not benign and should be avoided if possible. The objective of this study was to determine if initial PIRADS score could reduce the need for repeat prostate biopsy in men on active surveillance (AS) in the era of MRI-targeted fusion biopsies.

METHODS:
A prospectively collected cohort of AS patients was followed with an annual MRI and surveillance MR-US fusion prostate biopsy. Clinical characteristics including age, race, DRE, maximum PIRADS, PSA, PSAD, and Gleason grade group (GGG) were used to calculate sensitivity, specificity, NPV, and PPV for initial multiparametric MRI (mpMRI) PIRADS v2 scores to predict upgrade on biopsy.

RESULTS:
A total of 343 patients were enrolled in our institutional AS protocol after a preliminary prostate biopsy. Of these, 197 patients were GGG1, 105 were benign, and 41 were GGG2. The patients with benign pathology had a biopsy at another institution demonstrating prostate cancer (PCa). 343 patients underwent biopsy in year 1, and 158 patients in year 2. At year 1, 95/343 (27.6%) patients had upgraded to any PCa, defined as a higher GGG than at year 0, and 78/343 patients (22.7%) had upgraded to GGG2+ PCa, defined as a higher GGG than at year 0 which was GGG2 or higher. A PIRADS < 3 in year 0 showed that mpMRI was associated with a NPV of 83.9% for upgrade to any PCa and 95.8% for upgrade to GGG2+ on the year 1 biopsy. For PIRADS 3-5, PPV was 31.3% and 29.4%, and sensitivity was 86% and 96% for upgrade to any PCa and to GGG2+ on the year 1 biopsy, respectively. Ultimately, of the 81 patients who had an initial maximum PIRADS < 3, two had GGG2 PCa and one had GGG3 PCa at year 1 biopsy. When substratified to patients with < GGG2 disease on initial MR-fusion biopsy, a maximum PIRADS < 3 on the initial mpMRI was associated with a NPV of 86.67% for upgrade to any PCa and 86.67% for upgrade to GGG2+ PCa on the year 1 biopsy. For PIRADS 3-5, PPV was 37.69% and 35.38%, and sensitivity was 96.08% and 95.83%, for upgrade to any PCa and upgrade to GGG2+ PCa on the year 1 biopsy, respectively. In this cohort, 2 patients had GGG2+ PCa with PIRADS < 3 (both GGG2). At the year 2 biopsy, initial PIRADS < 3 was associated with a NPV of 88.9% for an upgrade to any PCa in the total cohort and a NPV of 84.62% in the < GGG2 cohort.

CONCLUSIONS:
In our institutional AS protocol, foregoing a first-year fusion biopsy in patients with a maximum PIRADS < 3 is associated with reasonable diagnostic statistical support with NPV >90% and sensitivity >90%. To be adequately assessed, the timing of prostate biopsies in AS protocols should be verified by institutional data prior to implementation.

**Source of Funding:** None

**PAPER #20**

# Discrepancies in volume: performance of MRI, Artemis, ultrasound, and ExactVu compared to pathologic measurement

*Maximilian J Rabil, BS*; Lindsey T Webb, BSME*; Gabriela M Diaz, MD*; Soum D Lokeshwar, MD*; Ankur U Choksi, MD*; Preston C Sprenkle, MD.*
New Haven, CT

Presentation to be made by Mr. Rabil

INTRODUCTION AND OBJECTIVE: The fusion of MRI and ultrasound (US) allows for better lesion targeting and diagnostic probability compared to random prostate biopsies. Accuracy of fusion in measuring prostate volume and its implications for decision making, however, has not been evaluated. We hypothesized that prostate volumes as measured by MRI and US will demonstrate clinically insignificant differences compared to pathologic prostate volume.

METHODS: Prostate volumes of patients who underwent Artemis and/or ExactVu prostate biopsy between 4/2021 and 6/2023 at a single academic medical center were reviewed retrospectively. Prostate volume was calculated using the ellipsoid formula for MRI, accumulation of segmented MRI 3D volume by Artemis, ellipsoid calculated TRUS volume, and with ExactVU 3D modeling software. The mean measured volume was compared with paired student's t-test and means of the difference in volume on pathology and each imaging modality were compared with ANOVA and Tukey's HSD post-hoc test.

RESULTS: 70 patients underwent prostatectomy after Artemis biopsy with 17 of those also utilizing ExactVu. The average mass as measured by pathology was 49.13 (SD 15.01) g which differed significantly from volumes measured by MRI (43.70mL, SD 17.75, $p<0.001$), Artemis segmentation (44.03mL, SD 17.35, $p>0.001$), and US (44.11mL, SD 17.58, $p>0.001$), but ExactVu measurement (41.96mL, SD 20.01, $p=0.47$) did not. The average difference in volume between MRI (9.86mL), Artemis segmentation (10.75mL), TRUS (9.11mL), and ExactVu (21.62mL) measurements and pathology weight differed significantly ($F(3,220)=8.21$, $p<0.001$).There is a significantly greater difference in measurements with ExactVu compared to all other modalities (Table 1).

CONCLUSIONS: Compared to pathology, all imaging modalities underestimate actual prostate volume, and ExactVu measurement displays a significantly greater amount of underestimation compared to all other modalities on a per case basis. This underestimation may represent poor measurement of the median lobe as previously reported. These differences are small and likely would not alter clinical decision making, but should be considered for their effect on PSA density calculation if further validated.

Source of funding: None

Table 1

| | Mean Difference (mL) | F-value | p-value |
|---|---|---|---|
| MRI vs Segmentation | 0.89 | 0.77 | 0.85 |
| | | | |
| MRI vs US | 0.75 | 0.65 | 0.89 |
| MRI vs ExactVu | 11.76 | 5.08 | 0.001 |
| Segmentation vs US | 1.64 | 1.42 | 0.57 |
| Segmentation vs ExactVu | 10.87 | 4.69 | 0.003 |
| US vs ExactVu | 12.51 | 5.40 | <0.001 |

**PAPER #21**

## Patient-Physician Communications about Prostate Cancer on YouTube in English and Spanish

Stacy Loeb, MD MSc PhD (Hon); Juan Ramirez BSc*, Andrea Anampa-Guzmán MD*, Rohit Singh MD*, Mariana Rangel Camacho BSc*, Tatiana Sanchez Nolasco MPH*, Adrian Rivera MPH*, Nataliya Byrne BA*, Sarah Berger*, Halimat Adeshola Olaoluwa MPH*, Dianelis Gonzalez BA*, Juan Casellas BSc*, Veronica Perez-Rosas PhD*, June Chan PhD*, Scarlett Lin Gomez PhD*, Aisha Langford PhD*

City/State of Origin: NY, NY. Presentation to be made by Dr. Stacy Loeb

Introduction and Objective: Physicians play an important role as digital "first responders" to combat online misinformation and disseminate evidence-based information. Less is known about the prevalence and nature of patient-physician communications within social media platforms.

Methods: We examined the first 50 English and 50 Spanish YouTube videos arising from a search for "prostate cancer" and "cancer de próstata." Videos were scored using the validated DISCERN criteria for the quality of consumer health information (range 1 *low* to 5 *high* quality), and PEMAT instrument for its understandability and actionability (range 0-100%). The Mann-Whitney U test was used to compare scores between videos with a physician speaker versus other. In addition, comments underneath the videos were examined for the presence of requests for medical advice and patient-physician communications.

Results: Overall, 68 (68%) of the 50 English and 50 Spanish prostate cancer videos reviewed had physician speakers. Videos with physician speakers had significantly higher overall DISCERN scores compared to other speakers (median 3.5 vs 3.0, p=0.02), but there was no significant difference in understandability (median 65.4% versus 69.2%, p=0.96) or actionability (median 50% for both, p=0.18). In the comments section associated with 49% of videos, YouTube users requested medical advice, and at least some advice was given in comments associated with 21% of videos. The comments section underneath 5% of videos contained multiple patient-physician interactions, including the provision of medical advice about risk factors, screening and treatment (Figure). In some cases, users expressed distrust for their physicians and obtained a "second opinion" from other physicians on YouTube.

Conclusions: In summary, approximately 2/3 of YouTube videos about prostate cancer in English and Spanish had physician presenters. Videos featuring physicians were significantly better in quality to other videos, but were not readily actionable. The YouTube comments section was frequently used for provision of medical advice by other lay users as well as physicians.

Source of Funding: This study was supported by the National Cancer Institute of the National Institutes of Health under R01CA278997. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

| User Comment | Physician Response |
|---|---|
| I had a prostatectomy 2yrs ago, my Gleason was 8, fortunately margins were clear, and had not spread to lymph nodes. PSA dropped from 9 to less than 0.01 where it has remained for past 2 yrs. I am still concerned with spreading and requested a referral from my urologist to have a PSMA Pet scan but he refused saying PSA is so low there is no cancer - who is right? | When your psa is undetectable the PSMA pet scan will almost always be negative. PSA is a more sensitive predictor of the presence of cancer. What the PSMA PET scan allows you to do is localize the cancer so you can treat it. In the post prostatectomy space you would really only do a PSMA if your PSA is detectable. Congrats on the excellent outcome of surgery. So long as your psa stays super low you have nothing to worry about. |
| I am suffering from symptoms that could either be from a bad case of enlarged prostate or even from prostate cancer. I have heard that some forms of prostate cancer do not affect PSA levels. The last PSA test had me at 1.6 ng/mL. which is a very good number. How confident can I be that my bothersome symptoms are not from prostate cancer? | PSA non producing prostate cancers are very rare and represent about 1% of prostate cancers. Your odds are very low. |
| la excesiva relaciones sexuales son un factor de riesgo o causa de cancer de próstata? | De hecho hay un par de estudios que sugieren que es un factor protector. |
| Doctor a mi abuelo lo quieren operar de la Prostata y dicen que solo va poder orinar por una sonda | Usualmente la sonda es sólo por un tiempo y luego se le quita. pero si tienen dudas pregúntenle a su médico |

**PAPER #22**

# MRI-TRUS Fusion Prostate Biopsy is Associated with a Lower Rate of Active Surveillance Failure Compared to In-Bore MRI-Guided Biopsy

Daniel Jiang MD, Mina Behdad MSHCA*, Edward Uchio MD*, Mark Jordan MD*, Greg Gin MD*
Long Beach, CA

Presentation to be made by Dr. Daniel Jiang

Introduction: Magnetic resonance imaging (MRI)-targeted prostate biopsy is more effective than transrectal ultrasound-guided (TRUS) biopsy in the detection of clinically significant prostate cancer. MRI-targeted approaches include in-bore MRI-guided biopsy and MRI-TRUS fusion biopsy. In-bore biopsy allows direct visualization of the needle within a specific target, whereas fusion biopsy allows additional systematic sampling. Thus far, no studies have compared the utility of these modalities in the active surveillance (AS) setting. Our aim is to determine if the use of in-bore versus fusion targeted biopsy in the AS setting leads to different clinical outcomes.

Methods: All patients at a single VA medical center on AS for prostate cancer with a positive MRI-targeted biopsy between July 2017 and November 2022 were retrospectively identified from a prospectively maintained database. MRIs and targeted biopsies were performed at three different institutions. Demographic, laboratory, pathologic, and clinical data were extracted. Two proportion z-tests were used to compare clinical outcomes between different sub-groups.

Results: 73 patients that remained on AS for prostate cancer after a positive MRI-targeted biopsy were identified. 56 had a MRI-TRUS fusion biopsy, 17 had an in-bore MRI-guided biopsy, and 6 had both. AS failure eventually occurred after 29.4% of positive in-bore biopsies compared to 7.1% of fusion biopsies (p = 0.014). Of the six patients who had both, all had in-bore biopsy first followed by fusion biopsy a median of 23.3 months later. Five of these six patients experienced an upgrade in Gleason score on fusion biopsy. We also identified 54 patients who had an MRI-targeted confirmatory biopsy while on AS after TRUS biopsy and found that 53.7% had Gleason score upgrading, with no difference between in-bore and fusion techniques.

Table 1

| AS failure after any positive MRI-targeted biopsy (initial, confirmatory, surveillance) | | | |
|---|---|---|---|
| | **In-bore** | **Fusion** | **P-value** |
| Eventual active surveillance failure | 5/17 (29.4%) | 4/56 (7.1%) | 0.014 |
| **AS failure after an initial MRI-targeted biopsy only** | | | |
| | **In-bore** | **Fusion** | **P-value** |
| Eventual active surveillance failure | 2/4 (50%) | 1/36 (2.8%) | 0.001 |
| Time on active surveillance (median) | 28.2 mos | 18.2 mos | |
| Time to active surveillance failure (median) | 23.5 mos | 17.7 mos | |
| **Positive in-bore biopsy and subsequent fusion biopsy** | | | |
| | **Upgrade** | **No upgrade** | **P-value** |
| Gleason score upgrading on fusion biopsy after in-bore biopsy | 5/6 (83.3%) | 1/6 (16.7%) | 0.021 |
| Time to Gleason score upgrading (median) | 23.3 mos | | |
| **MRI-targeted confirmatory biopsy after TRUS biopsy** | | | |
| | **In-bore** | **Fusion** | **P-value** |
| Gleason score upgrade on MRI-targeted biopsy | 16/25 (64%) | 13/29 (44.8%) | 0.159 |

Conclusions: MRI-TRUS fusion biopsy showed a lower rate of eventual AS failure when compared to in-bore MRI-guided biopsy, suggesting that it may be better able to accurately characterize a patient's disease burden while on AS. MRI-targeted techniques should be considered when performing confirmatory biopsy.

**PAPER# 23**

# The Impact of Novel Neoadjuvant Androgen Signaling Inhibitors on Robotic Radical Prostatectomy: A Propensity Score-Matched Comparison of Intraoperative and Short-Term Outcomes


Introduction

The role of neoadjuvant novel androgen signaling inhibitors (ASI) prior to robotic radical prostatectomy (RP) is an area of active investigation. The extent to which ASI impacts the difficulty of the surgical procedure and perioperative outcomes has yet to be fully explained. Old neoadjuvant therapies, including bicalutamide and leuprolide acetate have been used as first-generation ASI. Prior literature has demonstrated increased intraoperative bleeding and complications when neoadjuvant first-generation and androgen deprivation therapy (ADT) was used. In this context, we aim to evaluate differences in perioperative morbidity between patients who received novel neoadjuvant systemic ASI therapy and those who did not.

Methods

Men with localized or locally advanced prostate cancer (PCa) enrolled two phase II clinical trials (NCT02430480 and NCT03860987) to receive neoadjuvant enzalutamide and ADT with or without abiraterone for six months were included. Patients who underwent RP and did not receive ASI were used as controls. A propensity score was developed using a logistic regression model based on age, pre-operative PSA, pre-operative grade group, and adverse MRI characteristics. The estimated propensity scores were used to match patients in a 1:4 ratio of neoadjuvant ASI patients to controls. Perioperative characteristics included blood loss, complications, operative time, and length of hospital stay. Statistical evaluations were performed using t-tests and $X^2$ tests.

Results

In two Phase II trials from 2015-2023, we identified 41 patients who received ASI for clinically localized PCa and underwent RP. These 41 were propensity matched with 164 controls. Median blood loss ($p$=0.3) and operative time between groups did not differ ($p$=0.7). Intraoperative complications did not differ between the ASI and control group (0 vs. 0.6%, p=0.6). Median length of stay did not differ between the ASI and control groups (2 vs 2 days, $p$ = 0.4).

Conclusion

Neoadjuvant ASI did not alter surgical or perioperative outcomes. This demonstrates that even in high risk locally advanced PCa patients who received novel ASI prior to RP, surgery is a safe and reliable option. Urologists should feel comfortable offering surgery for these patients with high-risk disease instead of deferring to radiation therapy.


| Outcomes | Received Neo-Adjuvant Chemotherapy Pre-operatively (N=41) | Did Not Receive Neo-Adjuvant Chemotherapy Pre-operatively (N=164) | p-value |
|---|---|---|---|
| Intraoperative Blood loss (median, IQR) (ml) | 300 (200-400) | 300 (200-469) | 0.3 |
| OR time (median, IQR) (minutes) | 358 (320-411) | 366.5 (316.3-418.8) | 0.7 |
| Length of hospitalization (median, IQR) (days) | 2.0 (2.0-4.5) | 2.0 (1.0-3.0) | 0.4 |
| Readmission within 30 days (yes) (n, %) | 4 (9.8%) | 8 (4.9%) | 0.2 |
| Intraoperative complications (yes) (n,%) | 0 (0%) | 1 (0.61%) | 0.6 |


Bethesda, Maryland



Source of Funding: None



Sahil H. Parikh*, BS; Charles Hesswani*, MD; William S. Azar, MS; Christopher R. Koller*, MD; Kyle C. Schuppe*, BS; David G. Gelikman*, BS; Sarah Azari*, MD; Alexander P. Kenigsberg*, MD; Neil Mendhiratta*, MD; Daniel Nethala*, MD; Jason A. Hyman*, BS; Maria Merino*, MD; Bradford J. Wood*, MD; Sandeep Gurram*, MD; Ravi A. Madan*, MD; Fatima Karzai*, MD; Peter A. Pinto*, MD


Presentation to be made by Mr. Parikh

**PAPER #24**

# Beyond the Bulge: The Correlation between Extracapsular Extension on Multi-parametric Magnetic Resonance Imaging with Pathological Findings and Long-Term Oncologic Outcomes following Robot-Assisted Radical Prostatectomy

Kyle C. Schuppe*, BS; Alexander P. Kenigsberg*, MD; William S. Azar, MS; Charles Hesswani*, MD; Sahil H. Parikh*, BS; Christopher Koller*, MD; David Gelikman*, BS; Sarah Azari*, MD; Neil Mendhiratta*, MD; Daniel Nethala*, MD; Maria Merino*, MD; Baris Turkbey*, MD; Sandeep Gurram*, MD; Peter A. Pinto*, MD: Bethesda, Maryland

Presentation to be made by Mr. Kyle C. Schuppe

## Introduction and objective

Multi-parametric MRI (mpMRI) is becoming a standard for the preoperative staging and surgical planning of localized prostate cancer (PCa). MRI-visible Extracapsular Extension (ECE), the presence of visible tumor beyond the prostatic capsule, correlates with radical prostatectomy (RP) pathology. This study aims to evaluate the prognostic importance of MRI ECE on biochemical recurrence (BCR).

## Methods

This study queried a prospectively maintained database to identify patients who underwent RP between 2007 and 2023. Per institutional practice, all patients underwent preoperative prostate mpMRI. Patients with radiologic ECE were included and propensity matched 1:1 to patients without MRI-visible ECE based on age, preoperative prostate specific antigen (PSA), and biopsy Grade Group (GG). Univariate analyses were conducted to evaluate differences between the ECE and non-ECE groups and Kaplan-Meier survival curve and generalized Wilcoxon test to compare the groups over time.

## Results

A total of 76 patients were included, with 38 demonstrating ECE on mpMRI and 38 as propensity-matched controls. Baseline characteristics are shown in Table 1. ECE on MRI was associated with adverse pathologic findings, including increased rates of positive surgical margins (p=.008) and RP extracapsular extension (p<.0014). 3/38 (8%) in the ECE and 4/38 (11%) in the control groups demonstrated palpable disease on digital rectal exam (p=0.533). PIRADS scores were higher in the ECE group (p=0.003). Survival analysis (Figure 1) indicated that MRI ECE was associated with BCR (p=0.049) in patients with MRI ECE.

| Characteristics | No ECE on MRI | ECE on MRI | p-value |
|---|---|---|---|
| Race | White: 25 (65.79%)<br>African American: 10 (26.32%)<br>Hispanic: 1 (2.63%)<br>Asian: 1 (2.63%)<br>Other: 1 (2.63%) | White: 25 (65.79%)<br>African American: 10 (26.3%)<br>Hispanic: 2 (5.3%)<br>Asian: 1 (2.6%) | 0.88 |
| Age at RARP (Years) | 67.0, (IQR: 60.75 - 71.0) | 65.5, (IQR: 61.0 - 70.7) | 0.36 |
| PSA Density | 0.1537, (IQR: 0.1163-0.3391) | 0.2209, (IQR: 0.1096-0.3591) | 0.51 |
| Preop PSA (ng/mL) | 8.35, (IQR: 5.9175-13.08) | 7.85, (IQR: 5.725-15.5775) | 0.99 |
| Prostate Volume (cc) | 52.0, (IQR: 37.11-70.5) | 40.115, (IQR: 32.0-60.25) | 0.09 |
| PIRADS score | PIRADS 1: 0 (0%);<br>PIRADS 2: 1 (2.63%)<br>PIRADS 3: 5 (13.15%)<br>PIRADS 4: 15 (39.47%)<br>PIRADS 5: 17 (44.7%) | PIRADS 1: 1 (2.63%)<br>PIRADS 3: 2 (5.26%)<br>PIRADS 4: 3 (7.89%)<br>PIRADS 5: 32 (84.21%) | <0.01 |
| Clinical Stage | cT1c: 34<br>cT2a: 3<br>cT2c: 1<br>cT3: 0 | cT1c: 35<br>cT2a: 2<br>cT2c: 0<br>cT3: 1 | 0.53 |
| Highest Grade Group on BX | GG 1: 0 (0%);<br>GG 2-3: 18 (41.4%)<br>GG 4-5: 20 (18.4%) | GG 1: 0 (0%)<br>GG 2-3: 21 (26.3%)<br>GG 4-5: 17 (28.9%) | 0.49 |
| Surgical Margins on Pathology | Negative: 31 (81.57%)<br>Positive: 7 (18.43%) | Negative: 19 (50%); Positive: 19 (50%) | 0.01 |
| Extracapsular Extension on Pathology | Negative: 29 (76.3%)<br>Positive: 9 (23.68%);<br>Indeterminate: 1 (2.63%) | Negative: 13 (34.21%)<br>Positive: 25 (65.79%) | <0.01 |
| Median Follow-Up Time (Months) | 31, (IQR: 12-65.25) | 24, (IQR: 15.5-84.5) | 0.78 |

## Conclusion

ECE on mpMRI is associated with more aggressive disease and may predict worse pathologic outcomes. The vast majority of those with ECE on MRI did not have palpable disease on digital rectal exam. These findings indicate there may be an important role for MRI in clinical staging and preoperative risk stratification.

Source of Funding: None

**PAPER #25**

**Does Location of Positive Margins After Radical Prostatectomy Affect Risk of Biochemical Recurrence?**

William S. Azar, MS; Charles Hesswani*, MD; Kyle C. Schuppe*, BS; Christopher R. Koller*, MD; Sahil H. Parikh*, BS; Sarah Azari*, MD; Alexander P. Kenigsberg*, MD; Neil Mendhiratta*, MD; Daniel Nethala*, MD; Jibriel Noun*, BS; Maria Merino*, MD; Baris Turkbey*, MD; Peter A. Pinto*, MD; Sandeep Gurram*, MD: Bethesda, Maryland

Presentation to be made by Mr. William S. Azar

Introduction and Objective

Anterior positive surgical margins (PSMs) following robotic-assisted radical prostatectomy (RARP) are thought to be functionally different than margins at other locations given that the peri-prostatic fat anterior to these margins is removed during surgery. We aim to evaluate the role of anterior PSMs as compared to other PSM locations in relation to risk of biochemical recurrence (BCR) after RARP.

Methods

A prospectively maintained database of patients who underwent RARP between 2007 and 2023 was queried for patients with PSMs on post-operative pathology. Baseline characteristics including age, pre-operative PSA and Grade Group (GG) were determined. PSM location was identified and anterior PSMs were compared to non-anterior PSMs. Logistic regression was used to assess predictors of BCR. Kaplan-Meier analysis was used to assess BCR-free survival (bRFS), and overall survival (OS).

Results

A total of 439 patients who underwent RARP at our institution were identified, of which 153 were excluded for receiving adjuvant therapy or no follow-up. Out of the remaining 287 patients, 56 (19.5%) had PSMs on surgical pathology: 20 patients (36%) had anterior PSMs while 36 patients (64%) had non-anterior PSMs. Baseline characteristics including age, preop PSA, GG, and median follow-up time were comparable between both groups ($p > 0.05$). Presence of PSMs was strongly associated with development of BCR ($p<0.0001$). Patients with anterior PSMs had comparable rates of BCR to patients with non-anterior PSMs (45% vs 53%, $p=0.6$). On multivariate logistic regression, GG (OR 1.7, 95% CI: 1.3-2.2, $p=0.0001$), anterior PSMs (OR 3.4, 95% CI:1.2-9.2, $p=0.02$) and non-anterior PSMs (OR 5.2, 95% CI: 2.4-11, $p<0.0001$) were both strong predictors of BCR, with odds ratios demonstrating a stronger association between BCR risk with non-anterior PSMs compared to anterior ones. The median time to BCR was 81 months in patients with anterior PSMs and 28 months in patients with non-anterior PSMs ($p=0.36$). On Kaplan-Meier analysis, no significant difference in OS or bRFS was found between patients with anterior PSMs and patients with non-anterior PSMs at 7 years.

Conclusion

While anterior PSMs following RARP do pose a risk for BCR, they are less strongly correlated with BCR than non-anterior PSMs. In addition, a pronounced, though non-significant, difference in bRFS was noted in anterior PSMs when compared to non-anterior PSMs.

Analysis of Predictors of BCR Post-RARP: Multivariate Logistic Regression Findings

| Predictor | Odds Ratio (OR) | 95% Confidence Interval (CI) | p-value |
|---|---|---|---|
| Gleason Grade (GG) | 1.7 | 1.3 - 2.2 | **0.0001** |
| Anterior PSM | 3.4 | 1.2 - 9.2 | **0.02** |
| Non-Anterior PSM | 5.2 | 2.4 - 11 | **<0.0001** |

Source of Funding: None

## PAPER #26

### MyUroflow Home Uroflowmetry Cost and Time Analysis

Timothy W. Brandt M.D., Ananya Tripathi MS3*, Timothy W. Wright, MD, Carolyn A. Salter, M.D., Jonathan T. Wingate, M.D.
Tacoma, WA
Presentation to be made by Dr. Timothy Wright

**Introduction and Objective:** Multiple advancements in technology have made diagnostic testing in medicine more patient centric and accessible, while providing more robust data collection. These technologies can limit both time and cost to the patient and clinic if applied to the right patient population in the proper clinical setting. In our clinic, we have employed a novel uroflowmetry test which utilizes the patient's smart phone for at-home testing. The MyUroflow application is FDA (510k) approved for adult males and is provided to our patients at no cost to them. All that is required is an Android or Apple smartphone. The focus of this analysis is to evaluate the potential cost savings and improved access to care by employing this technology.

**Methods:** Retrospective data was collected in men 18 years or older who required uroflowmetry testing at our institution. We collected data on time required for in-clinic uroflowmetry testing over a 6-month period, prior to utilization of the app (1Jun2022-1DEC22), and from implementation of the app (12DEC2022-11OCT2023). Time analysis was completed by evaluating appointment slots dedicated to in-clinic uroflowmetry, which take 30-minute technician appointments and compared to the number of visits avoided using the app. Cost analysis was conducted using Current Procedural Terminology (CPT) code 51741 (Complex Uroflowmetry using calibrated electronic equipment) and regional reimbursements for both in and out of network ($26, $150) in the Tacoma area. The main outcomes evaluated were reduced technician visits and potential cost savings.

**Results:** Six months prior to the utilization of the app, there were 179 in-clinic uroflowmetry appointments completed. A total of 89.5 clinic hours were used during this time for uroflowmetry. Since the implementation of the app, 107 men underwent uroflowmetry testing using MyUroflow with a total appointment time savings of 53.5 hrs. This would be a total of in-network savings of $2,782 and out of network savings of $16,050.

**Conclusions:** MyUroflow can save clinic time and resources while providing greater access to care to our patients. The results of this study demonstrate a significant reduction in technician visits after implementation of the app. Cost savings are modest but do not reflect the true savings, since of the 107 patients using the app, the majority have completed multiple voids (average 31) and not just a single void. The use of MyUroflow in resource-scarce locations without in-clinic uroflowmetry is another application of this novel technology.

**Source of Funding:** None

**PAPER #27**

## DOES GENOMIC RISK SCORE AT BIOPSY CORRELATE WITH FOCALITY OF DISEASE AT RADICAL PROSTATECTOMY: IMPLICATIONS FOR FOCAL THERAPY CANDIDATES

Jenna Winebaum, Janet E. Cowan, Henry Chen, Kevin Shee, Hao G. Nguyen, Peter R. Carroll

Introduction/ Background:
Prostate cancer (PCa) management has evolved rapidly with a driving interest in maximizing treatment benefit while minimizing impact on patient quality of life. Focal therapy (FT) has emerged as a treatment strategy for selected patients. However, refinement of selection strategies is needed to minimize in - and out - of field recurrence. Genomic-risk score (GRS) testing has been shown to predict adverse pathology at radical prostatectomy (RP), risk of metastasis, and prostate cancer specific mortality. We aimed to determine if GRS on biopsy results consistent with focal disease would relate to extent of disease on whole gland findings.

Methods/ Materials:
Participants were diagnosed with localized disease, had GRS testing on biopsy, and underwent RP at the University of California, San Francisco between 2000-2022. High GRS on biopsy was defined as Decipher>0.6, GPS>40, or Prolaris>0.8. Major adverse pathology at RP was defined as GG4+, pT3b+, or pN1. The primary outcome was candidacy for focal or hemi-gland ablation on final pathologic specimen, defined by GG1-3 disease with unilateral or unifocal disease (single or contiguous sextants <=2) on RP. Multivariable logistic regression was used to evaluate associations between high GRS and likelihood of suitability for ablation, adjusted for diagnostic age, GG, PSA at diagnosis, and prostate MRI.

Results:
Out of the 3074 patients in the cohort who had biopsy mapped disease and underwent RP, 340 had GRS testing performed on biopsy, were considered candidates for ablation based on biopsy findings and were included for analysis. At final pathology, under our guidelines for candidacy for ablation, 172/340 (51%) were not candidates and 168/340 (49%) were candidates for focal therapy or hemi-gland ablation. On multivariable logistic regression GRS score was not associated with likelihood of candidacy for ablation based on RP findings; additionally, MRI having been performed was not associated with candidacy for ablation at RP.

Conclusions:
Our findings are congruent with other studies in highlighting the high degree of multifocality and bilateral disease in men with prostate cancer. We did not find that high GRS was predictive for candidacy for focal therapy. Possible study limitations include our selection criteria for surgery at UCSF and our high utilization of other treatment strategies, including active surveillance, in men who may be treated with FT at other sites.

**PAPER #28**

# AIRD1A Knockouts in Bladder Cancer Cell Lines Suggests More Aggressive Tumor Behavior and a Potential Target

Christopher J. Magnani, Vincent D. D'Andrea, Konrad Stawiski, Isabella Stelter, Timothy Hanlon, Li Jia, Adam S. Kibel, Matthew Mossanen, Mark A. Preston, Timothy N. Clinton, Lori Lerner, Kent W. Mouw, Filipe L.F. Carvalho

**Source of Funding:** BCAN Young Investigator Award, Karin Grunebaum Cancer Research Foundation

*Boston, Massachusetts*

*Presentation to be made by Dr. Christopher J. Magnani.*

**Introduction and Objective**

Bladder cancer is a common and lethal disease among veterans who are at increased risk due to both high smoking rates and exposures encountered on active duty. Further, bladder cancer patients treated with immunotherapy within the Military Health System have lower overall survival than clinical trial populations. There is a significant need to optimize care of the veteran population by identifying biomarkers to identify higher risk patients and guide targeted therapy. Inactivating *ARID1A* mutations are thought to promote tumor progression and metastasis, but the mechanism remains unknown. We sought to explore molecular pathways that may be involved in more aggressive *ARID1A*-mutant bladder cancer.

**Methods**

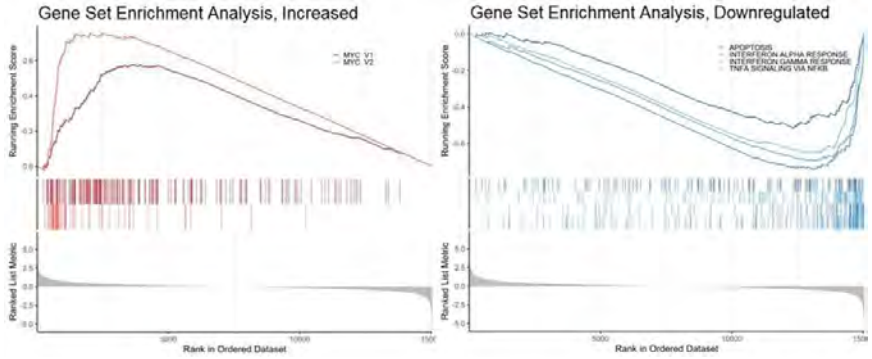
CRISPR/Cas9-mediated gene editing was used to generate three *ARID1A* knockout bladder cancer cell lines (5637, SW1710, T24). Whole transcriptome bulk mRNA sequencing (RNA-seq) was performed. Differential gene expression (DGE) analysis and Wald test applied with multiple testing correction were applied. Gene Set Enrichment Analysis (GSEA) further characterized biological pathways altered in knockouts.

**Results**

Unsupervised DGE analysis revealed distinct patterns across cell lines, including increased expression of the *ARID1B* paralog. Over-representation analysis revealed up-regulation in DNA replication pathways and down-regulation of cell death/apoptosis, immune response, and cell adhesion/migration. GSEA identified 24 altered Hallmark Pathways in *ARID1A* knockouts, including enrichment of *MYC* and *E2F* pathways and decreased *TP53*, apoptosis, hypoxic response, *TNFA* signaling, and interferon alpha and gamma (Figure).

**Conclusions**

*ARID1A* knockout in bladder cancer cell lines enhanced gene set pathways implicated in tumor progression and metastatic spread. Our results showed an enrichment of oncogenic pathways (*MYC, E2F*) and de-regulated cell cycle, adhesion, and migration that may drive more aggressive behavior in *ARID1A*-mutant bladder cancers. Up-regulation of *ARID1B* paralog in *ARID1A* knockouts suggests a genetic dependency and potential therapeutic target. Future translational work can explore screening for *ARID1A* mutation in bladder cancer patients within the Military Health System to predict clinical outcomes and develop targeted treatment with emerging therapeutics to improve survival and alleviate burden of disease among our veterans and their families.



**PAPER #29**

# Infected penile implant salvage with malleable: outcomes in the VA

Paulo Moscardi MD*, Thomas A Masterson MD
Miami Florida
Presentation to be made by Dr. Moscardi

Introduction and Objective:
Infection is the most feared complication of penile prosthesis surgery occurring in less than 5% of virgin cases. Standard of care was device removal. This led to significant penile shortening, corporeal fibrosis, increase surgical morbidity and low patient satisfaction. In 1991, Mulcahy et al changed the paradigm after publishing their small case series of successful salvage procedures: extensive debridement, washout with multiple antibiotic solutions, and placement of a malleable Peniel prosthesis. This preserves penile length, and allowed for easier placement of an inflatable device at a later date. Since that time, there have not been any large, multi-institution studies assessing the long-term outcomes of these salvage procedures. The objective of the study was to better characterize the outcomes of malleable salvage procedures in a large, multi-institutional database.

Methods:
We used the VA informatics and computing infrastructure (VINCI) to retrospectively identify men who underwent malleable penile implant salvage procedures (CPT 54411, 54417) in the national VA medical system. We performed manual chart review to determine confirm they had a malleable salvage procedure and determine outcomes such as reinfection rate, and replacement of malleable device with an inflatable at a later date.

Results:
We identified 460 veterans using CPT codes. After removal of duplicates records, we were left with 159. When veterans had multiple salvage procedures, we only recorded the initial salvage procedure for this analysis. Those salvaged with an inflatable device were excluded. After ongoing manual chart review, we confirmed 46 malleable salvage procedures. Of them, 15 (32%) were reinfected, 25 (54%) remined with the malleable, and 6 (13%) went on to have the malleable replaced with an inflatable. There were no differences in reinfection rates between Coloplast or AMS/Boston Scientific devices.

Conclusion:
Salvaging an infected penile prosthesis with washout and placement of a malleable in the VA system has high success rates and relatively low reinfection. More study is needed to understand the factors leading to re-infection after a salvage procedure. Interestingly, only 13% of veterans went on to have an inflatable prosthesis placed.

## PAPER 30

### High Veterans Affairs (VA) Patient Satisfaction with Fellow Semen Analysis System

**Authors:** Brittany D. Berk MD, Stacey A. Kenfield ScD,* Daniel Nolte MS,* Daniel Civello, Andre Belarmino MD, James F. Smith MD MS, Stan Honig MD, Akanksha Mehta MD, Nahid Punjani MD, Lori B. Lerner MD

**Presentation will be made by Dr. Brittany Berk**

Brittany Berk: bberk@bwh.harvard.edu, Boston, MA
Stacey A Kenfield*: stacey.kenfield@ucsf.edu, San Francisco, CA
Dan Nolte*: dnolte@meetfellow.com, San Leandro, California
Daniel Civello*: daniel@meetfellow.com, San Leandro, CA
Andre Belarmino*: Abelarmino@mednet.ucla.edu, Los Angeles, CA
James F. Smith*: james@meetfellow.com; San Leandro, CA USA
Stan Honig*: Stanton.honig@yale.edu, New Haven, CT
Akanksha Mehta*: ameht32@emory.edu, Atlanta, GA
Nahid Punjani*: Punjani.Nahid@mayo.edu, Phoenix, AZ
Lori Lerner: lori.lerner@va.gov, Boston, MA

**Introduction and objectives**: Patient satisfaction plays a pivotal role in promoting compliance with medical recommendations. The Fellow semen analysis (SA) kit is an at-home accredited system that was developed to improve the patient experience with both fertility and post-vasectomy testing. The purpose of this study was to measure patient satisfaction with the mail-in SA system, specifically comparing patients receiving care through Veterans Affairs (VA) clinics to other patients.

**Methods:** Patients completing a Net Promoter Score (NPS) survey following their experience with the mail-in SA system were included under an IRB protocol. The NPS survey is a validated tool that assesses user satisfaction across a diverse set of business operations. The survey categorizes each respondent as a "Promoter," "Passive," or "Detractor" to calculate NPS, an aggregate measure which ranges from -100 to 100. Scores > 80 are considered "world class" and scores < 0 are considered "poor." NPS was calculated by type of SA test and practice type (VA clinic, online, and others combined-acupuncture/wellness, fertility, obstetrics-gynecology, and urology). Qualitative descriptions were reviewed to provide personalized insights from participants. Chi-squared tests, Fisher's exact tests, and two-sample *t*-tests were used to determine statistical significance at the p=0.05 significance level.

**Results**: 1,590 patients (8.8%) completed the NPS survey from August 2023 to January 2024 and were included in the analysis. Survey responders tended to be older than non-responders (mean age 38.9 vs. 37.4; p<0.001) but did not differ in terms of race, education, income, or relationship status (all p>0.05). The majority of mail-in SA clients were Promoters (88.0%), while 6.5% were Passives and 5.5% were Detractors. Overall NPS was 82. NPS was 78 for fertility patients (N=347) and 84 for post-vasectomy patients (N=1,243). NPS was similar across practice types (VA Clinic: 86, N=37; Online Order: 88, N=276; Other: 81, N=1,277). There was no difference in the likelihood of being a promoter by SA type (p=0.5) or practice type (p=0.08). Positive comments across all practice types included privacy, flexibility, convenience, ease, and fast resulting. Negative comments included complexity, registration process, wanting more shipping options, package improvements, and better repeat test communication.

**Conclusions**: Patients who used the Fellow SA system were highly satisfied, as measured by NPS. VA patients were no less likely to be a promoter of the system than other practice types. NPS survey write-in responses indicated that a major driver of satisfaction is comfort and convenience.

**Sources of Funding:** None

**Disclosures:** Stacey Kenfield, Daniel Civello, and Andre Belarmino are consultants for Fellow Health. James Smith is the Chief Medical Officer for Fellow Health. Dan Nolte is Clinical Research Data Scientist for Fellow Health. Stanton Honig has stock equity in Fellow as an advisor.

**PAPER #31**

## The Association of Psychotropic Medication on Lower Urinary Tract Symptoms

Lennox R Ksido BA[1*], Manahil M Muneeb BS[1*], Mileca M Morris BS[1*], Carla Hachicho BA[1*], Matthew J Antonellis MSc*, Caroline E Canning BA*, Alexander H Fang BS[1], Jeffrey P Weiss MD, PhD[1]
1 – Brooklyn, NY: Presentation to be made by Mr. Lennox R Ksido
Source of Funding: None

Introduction and Objective: The association between lower urinary tract symptoms (LUTS) and psychotropic medications has been previously reported yet remains poorly characterized. Thus, there is a need for a more refined understanding of psychotropic medication use as it relates to the clinical urology setting. This study investigates the possible relationships between psychotropic medication use and LUTS through analysis of 24-hour bladder diaries within older men at a Veterans Affairs (VA) urology clinic.

Methods: A retrospective review was conducted using data from an Institutional Review Board approved database of men who completed a 24-hour bladder diary at an outpatient VA urology clinic between the years of 2008-2022. Adult men treated for LUTS were analyzed with regards to type of concurrent psychotropic medication use. Patients were divided into five groups by type of medication: antipsychotic, selective serotonin reuptake inhibitor (SSRI), lithium, combined antipsychotic and SSRI, and no psychotropic medication. Descriptive statistics were reported, and 24-hour bladder diary parameters were compared using ANOVA.

Results: Of 498 men with 24-hour bladder diaries, 16 patients were noted as taking antipsychotics, 40 as taking SSRIs, 6 as taking lithium and 5 as taking combined antipsychotics with SSRIs while 430 patients took no psychotropic medications. Median patient age was 68.5 (62.0, 76.0) years. On ANOVA, statistically significant differences were noted in 24-hour voided volume (24HVV) between antipsychotic, SSRI, lithium, combined and no medication (2967.0 ± 1599.0, 2149.2 ± 1390.3, 4862.0 ± 2261.4, 2752.3 ± 1077.6, 1877.4 ± 814.3 respectively, $p < 0.001$), nocturnal urine volume (NUV) (790.7 ± 546.9, 811.9 ± 561.2, 1849.0 ± 620.7, 1127.5 ± 463.2, 740.2 ± 446.9 respectively, $p = 0.011$) and maximum voided volume (MVV) (452.9 ± 330.0, 349.1 ± 205.3, 556.0 ± 245.5, 409.3 ± 204.2, 307.4 ± 146.9 respectively, $p = 0.019$).

Table 1 – 24-Hour Bladder Diary Parameters Among Psychotropic Medication Use

| | Antipsychotics (n = 16) | SSRIs (n = 41) | Lithium (n = 6) | Combination (Antipsychotic + SSRI) (n = 5) | No Medication (n = 430) | P – Value |
|---|---|---|---|---|---|---|
| Sleeping Hours | 7.5 ± 1.5 | 8.3 ± 2.1 | 7.8 ± 1.0 | 8.9 ± 1.1 | 8.1 ± 2.0 | 0.609 |
| ANV (count) | 2.9 ± 2.8 | 2.6 ± 1.8 | 4.0 ± 2.0 | 2.3 ± 1.1 | 2.7 ± 2.0 | 0.586 |
| TUV (mL) | 2967.0 ± 1599.0 | 2149.2 ± 1390.3 | 4862.0 ± 2261.4 | 2752.3 ± 1077.6 | 1877.4 ± 814.3 | **< 0.001** |
| NUV (mL) | 790.7 ± 546.9 | 811.9 ± 561.2 | 1849.0 ± 620.7 | 1127.5 ± 463.2 | 740.2 ± 446.9 | **0.011** |
| MVV (mL) | 452.9 ± 330.0 | 349.1 ± 205.3 | 566.0 ± 245.5 | 409.3 ± 204.2 | 307.4 ± 146.9 | **0.019** |
| NMVV (mL) | 356.2 ± 325.8 | 307.5 ± 223.4 | 587.5 ± 278.0 | 206.7 ± 210.1 | 249.0 ± 149.7 | **0.032** |
| Ni | 2.0 ± 0.8 | 2.4 ± 1.2 | 3.5 ± 1.4 | 3.7 ± 0.4 | 2.5 ± 1.3 | 0.065 |
| NUP (mL/h) | 102.5 ± 84.0 | 95.5 ± 63.9 | 171.7 ± 113.3 | 121.7 ± 59.0 | 85.6 ± 56.3 | 0.246 |
| NPi | 0.28 ± 0.10 | 0.39 ± 0.16 | 0.42 ± 0.16 | 0.51 ± 0.09 | 0.38 ± 0.18 | 0.105 |
| NBCi | 1.7 ± 2.7 | 1.2 ± 1.1 | 1.5 ± 0.8 | 0.3 ± 0.4 | 1.2 ± 1.1 | 0.406 |
| FUSP (hours) | 2.3 ± 1.9 | 2.6 ± 1.8 | 1.6 ± 1.1 | 2.7 ± 0.2 | 2.9 ± 2.8 | 0.596 |
| FNVV (mL) | 340.5 ± 377.3 | 249.9 ± 186.6 | 568.8 ± 293.9 | 310.0 ± 155.6 | 220.4 ± 139.1 | **0.039** |

Variables were compared via use of ANOVA. Bold indicates statistical significance (set at $p < 0.05$).

Conclusions: Within this cohort, five patient sub-groups of varying psychotropic medication use were phenotyped demonstrating significant differences in 24 HVV, NUV and MVV. In all cases, patients had a degree of global polyuria, especially among antipsychotic, lithium as well as combined antipsychotic and SSRI use. Although lithium is certainly known to cause nephrogenic diabetes insipidus, cause and effect has not been established. In light of this, our findings highlight the importance of evaluating psychotropic medication use for the benefit of treating men with nocturia. Future research on the mechanistic relationship between urine production and psychotropic medication is warranted.

**PAPER #32**

**Title: The Association of A1c with Outcomes Following Oncologic Surgeries in Veterans**

Authors: Justin Lee MD, Kathleen Escoto MPH, Emily Neckonoff BS*, David Nakach BS*, Izak Faiena MD
Bronx, NY: "Presentation to be made by Dr. Justin Lee"

Introduction and Objective: Diabetes is a known risk factor for complications following oncologic surgeries. Hemoglobin A1c (A1c) is a marker that reflects the average glucose levels for the past 90 days. No large-scale study to date has investigated the association between hemoglobin A1c levels and outcomes in urologic oncologic surgeries.

Methods: The VA Informatics and Computing Infrastructure (VINCI) Database was queried from 2001-2023 for cystectomy, prostatectomy, nephrectomy, and penectomy based on ICD9 and ICD10 codes. Hemoglobin A1c (A1c) values pre and postop were queried using LOINC codes. A categorical A1c variable was generated with the reference group including those with A1c < 5.7% or with no history of DM documented in their chart. Complication data was collected based on ICD9 and ICD10 codes. Patients with both missing A1c and missing DM data were excluded. Multivariable logistic regressions were used to predict for complication, readmission, and death within 30 days and 90 days following index surgery.

Results: A total of 98,595 patients were included in the study collected. A1c values within 90d of surgery was available in 41,631 patients. There were 8,025 cystectomies, 59,205 prostatectomies, 30,246 nephrectomies, and 1,119 penectomies. In multivariate analyses controlling for age, sex, race, ethnicity, BMI, smoking, and Charlson Comorbidity Index Score, patients undergoing prostatectomy had significantly higher odds of 90d complication at A1c level 5.7-6.4% (OR: 1.12, 95% CI: 1.04-1.21), A1c 6.5-8.9% (1.13, 1.07-1.19) and A1c > 9% (1.27, 1.14-1.43) when compared with reference patients (Table 1). Those undergoing nephrectomy also had significantly increased odds of 90d complication across every category of A1c as well compared to reference. Only patients undergoing penectomy with A1c > 9% had increased odds of 90d complications for (2.52, 1.31-3.85) compared with the reference group. There were no significant associations between A1c categories with 30d or 90d death across any procedure.

Conclusions: Elevated A1c values perioperatively were significantly associated with 30d and 90d complications for prostatectomy, nephrectomy, and penectomy in the VINCI database after controlling for several clinical factors.

Characters: 1936 + 225 = 2,151 (max 2,280)

Source of Funding: None

Graph on next page.

**Table 1**: Multivariate logistic regression including age, sex, race, ethnicity, BMI, smoking, Charlson Comorbidity Index Score predicting for complication, readmission and death.

| **Predicting for 30d Complications** | | | | | |
|---|---|---|---|---|---|
| Multivariate* | Total Population (n = 98,595) | Cystectomy (n = 8,025) | Prostatectomy (n = 59,205) | Nephrectomy (n = 30,246) | Penectomy (n = 1,119) |
| Hgb A1c < 5.7% or No DM | ref | ref | ref | ref | ref |
| Hgb A1c 5.7-6.4% | 1.16 (1.09-1.22) | 1.04 (0.83-1.30) | 1.05 (0.97-1.13) | 1.16 (1.06-1.27) | 0.99 (0.61-1.59) |
| Hgb A1c 6.5%-8.9% | 1.20 (1.15-1.25) | 1.18 (1.01-1.40) | 1.11 (1.05-1.17) | 1.10 (1.03-1.18) | 1.16 (0.82-1.65) |
| Hgb A1c > 9% | 1.23 (1.14-1.33) | 0.95 (0.67-1.36) | 1.17 (1.04-1.32) | 1.11 (0.98-1.26) | 2.12 (1.13-3.96) |
| **Predicting for 90d Complications** | | | | | |
| Multivariate* | Total Population | Cystectomy | Prostatectomy | Nephrectomy | Penectomy |
| Hgb A1c < 5.7% or No DM | ref | ref | ref | ref | ref |
| Hgb A1c 5.7-6.4% | 1.21 (1.14-1.27) | 1.16 (0.88-1.52) | 1.12 (1.04-1.21) | 1.20 (1.09-1.32) | 0.95 (0.61-1.50) |
| Hgb A1c 6.5%-8.9% | 1.23 (1.18-1.28) | 1.28 (1.04-1.57) | 1.13 (1.07-1.19) | 1.16 (1.08-1.25) | 1.30 (0.93-1.82) |
| Hgb A1c > 9% | 1.33 (1.23-1.44) | 1.17 (0.75-1.82) | 1.27 (1.14-1.43) | 1.19 (1.04-1.36) | 2.52 (1.31-3.85) |
| **Predicting for 30d Readmission** | | | | | |
| Multivariate* | Total Population | Cystectomy | Prostatectomy | Nephrectomy | Penectomy |
| Hgb A1c < 5.7% or No DM | ref | ref | ref | ref | ref |
| Hgb A1c 5.7-6.4% | 1.05 (0.99-1.12) | 1.37 (1.12-1.64) | 0.99 (0.92-1.08) | 1.06 (0.96-1.16) | 0.99 (0.62-1.57) |
| Hgb A1c 6.5%-8.9% | 1.09 (1.04-1.13) | 1.19 (1.03-1.37) | 1.06 (1.01-1.13) | 1.08 (1.01-1.16) | 1.15 (0.82-1.62) |
| Hgb A1c > 9% | 1.07 (0.99-1.17) | 1.03 (0.75-1.42) | 1.01 (0.89-1.14) | 1.13 (0.99-1.29) | 1.39 (0.75-2.56) |
| **Predicting for 30d Death** | | | | | |
| Multivariate* | Total Population | Cystectomy | Prostatectomy | Nephrectomy | Penectomy |
| Hgb A1c < 5.7% or No DM | ref | ref | ref | ref | ref |
| Hgb A1c 5.7-6.4% | 1.05 (0.80-1.38) | 1.45 (0.91-2.32) | 0.92 (0.51-1.68) | 0.91 (0.60-1.37) | 1 |
| Hgb A1c 6.5%-8.9% | 0.88 (0.71-1.10) | 0.73 (0.45-1.16) | 1.41 (0.96-2.07) | 0.69 (0.49-0.97) | 0.28 (0.32-2.39) |
| Hgb A1c > 9% | 1.31 (0.90-1.93) | 1.09 (0.47-2.55) | 1.89 (0.95-3.76) | 1.05 (0.59-1.86) | 1 |
| **Predicting for 90d Death** | | | | | |
| Multivariate* | Total Population | Cystectomy | Prostatectomy | Nephrectomy | Penectomy |
| Hgb A1c < 5.7% or No DM | ref | ref | ref | ref | ref |
| Hgb A1c 5.7-6.4% | 0.97 (0.80-1.19) | 1.19 (0.85-1.66) | 0.91 (0.59-1.44) | 0.83 (0.61-1.12) | 0.75 (0.21-2.59) |
| Hgb A1c 6.5%-8.9% | 1.01 (0.88-1.69) | 0.74 (0.59-0.99) | 1.37 (1.02-1.83) | 0.96 (0.77-1.19) | 1.08 (0.46-2.48) |
| Hgb A1c > 9% | 1.29 (0.98-1.69) | 0.65 (0.32-1.29) | 1.52 (0.84-2.75) | 1.36 (0.94-1.97) | 1.57 (0.43-5.72) |

## PAPER #33

**Clinically Adequate Uroflowmetry Data: Implementation of MyUroflow Home Testing**

Timothy W. Brandt M.D., Ananya Tripathi MS3*, Timothy W. Wright, MD and Carolyn A. Salter, M.D.
Tacoma, WA
Presentation to be made by Dr. Timothy Wright

**Introduction and Objective:** At our institution, we have noted that many of our clinic uroflowmetry tests provide inadequate voided volumes during the evaluation, rendering the test non-diagnostic. Multiple reasons have been attributed to these issues, such as shy voiding, poor single void attempt in the clinical setting, and limitation on number of attempts due to clinic resources. In our search for a solution to this issue, novel technologies have been explored. Among these technologies, MyUroflow, an FDA-approved (510 k) app for at-home uroflowmetry for adult males was evaluated and implemented. This analysis focuses on the use of this novel technology at our institution, and its diagnostic prowess compared to the conventional standard clinic uroflowmetry.

**Methods:** Retrospective data was collected in men 18 years or older who required uroflowmetry testing at our institution. In office uroflowmetry data was collected from 1JUN2022-1DEC2022 while data from the MyUroflow app was collected from 1DEC2022-1JUN2023. We selected different date ranges to reduce selection bias, since once the app was implemented, mostly elderly men continued to prefer in-office testing. The main outcome measured was adequacy of the test, as defined by a voided volume of ≥ 200mL. A chi-square test of independence was performed to compare the techniques.

**Results:** 232 men underwent uroflowmetry testing: 178 in-person and 54 MyUroflow patients. 49.4% of clinic patients compared to 81.5% of MyUroflow patients had sufficient voided volume to render diagnostic results ($p < 0.001$).

**Conclusions:** MyUroflow is able to capture more useable data compared to in-office testing, with significantly more men having diagnostic volumes. This approach effectively overcomes several of these challenges inherent to in-office uroflowmetry, especially the limitation of a single low-volume void that is insufficient for an accurate flow rate.

**Source of Funding:** None

**PAPER #34**

# Novel Placement of Denonvilliers' Space Expansion (SpaceOAR) with Cryoablation: Unexpected Postoperative Outcomes for Fistula Risk

Gabrielle R Yankelevich, DO; Zachary Connelly, MD*; Mayank Patel*; Kasparas Zilinskas*; Margaret Stroud*; William Stallings*, Benjamin Young*; Kyler Perry, DO*; Jessica Connor, MD*; Alexandra Darien, MD*; Harry S Clarke, MD, PhD*.

Charleston, South Carolina

Presentation to be made by Dr. Gabrielle Yankelevich

## Introduction

Cryoablation (CA) is a treatment option for localized prostate cancer. This method is associated with risks related to thermal damage, including thermal damage to the rectal wall. CA has a reported rectourethral fistula (RUF) rate of 0.5-4%, with higher rates for salvage CA. The SpaceOAR hydrogel injection is FDA-approved to create physical space in Denonvilliers' fascia to reduce the rectal dose during radiation therapy. We hypothesized that the expanded space between the prostate and the rectum after SpaceOAR could be utilized with primary or salvage cryotherapy to decrease the known RUF rate. This is the first study that studied the relationship between CA and SpaceOAR.

## Methods

From September 2017 to November 2022, 462 patients underwent SpaceOAR placement with fiducial markers (FM) or brachytherapy seeds (BT) and 70 patients underwent SpaceOAR placement with CA. There were only 14 patients who underwent sole CA in this timeframe, so a 65 patient-control group at the same institution from 2009-2016 who underwent cryotherapy was used for comparison for a total of 79 patients in the CA group. Risk of RUF as well as perineal pain, incontinence, hematuria, edema, erectile dysfunction (ED), and urinary tract infection (UTI) were assessed.

## Results

The cohorts of cryotherapy alone, SpaceOAR and FM and/or BT, and SpaceOAR with cryotherapy were matched for age, BMI, risk of biochemical recurrence, and comorbidities (hypertension, hyperlipidemia, chronic kidney disease, heart disease, etc). Conversely from the hypothesis, the risk of RUF was highest in the CA and SpaceOAR cohort. There were 4 fistulas in the sole CA group, 0 fistulas in the SpaceOAR and FM/BT group (all with FM), and 8 fistulas in the SpaceOAR with CA group (5.1% vs 0% vs 11.4%, $p < 0.001$). Risks included perineal pain (4.4% vs 3.7% vs 20%, $p < 0.001$), hematuria (13.2% vs 10.8% vs 23.2%, $p= 0.015$), edema (7.4% vs 1.1% vs 5.7%, $p < 0.001$), ED (52.9% vs 73.6% vs 74.3%, $p= 0.002$), and UTI (8.8% vs 5.8% vs 15.7%, $p=0.011$). Biochemical recurrence was not statistically different between the groups.

## Conclusion

The cohort of patients that obtained SpaceOAR with CA had a higher rate of RUF, perineal pain, ED, UTI, and hematuria. This is the first study that assessed the relationship between SpaceOAR and CA, but based on this study we would not recommend a spacer in conjunction with CA. Findings may differ for other spacer compositions, but there is limited thermal property data for these spacers.

Source of Funding: None

**PAPER #35**

# Initial Pain Score at Viscous Lidocaine Instillation and Clinical Characteristics Predict Overall Pain during Fusion Prostate Biopsy

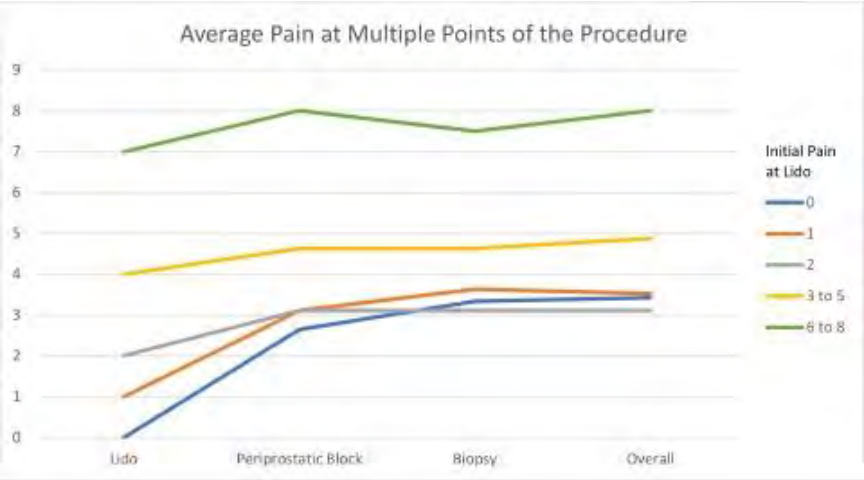
*Gabriela M Diaz*, MD; Lindsey T Webb*, BSME; Soum D Lokeshwar*, MD; Ankur Choski*, MD; Preston C Sprenkle, MD:* New Haven, CT
Presentation to be made by: Dr. Gabriela Diaz

INTRODUCTION AND OBJECTIVE: Pain experienced during an MRI-US fusion prostate biopsy may preclude awake biopsy and may lead to active surveillance biopsy noncompliance. To determine which patients would benefit from biopsy under sedation, the aim of this study was to identify prognostic factors for overall pain during a fusion prostate biopsy.

METHODS: Our IRB-approved prospectively collected database was queried for patients who underwent MRI-US fusion prostate biopsy from 3/2020 to 7/2023 and had pain scores, on a scale from 1-10 recorded at viscous lidocaine instillation (lido), periprostatic nerve block, biopsy, and overall. Clinical characteristics analyzed were age, race, BMI, DRE, biopsy status, PSA, MRI volume, and fusion score. Spearman's test and chi-squared were used to evaluate the correlation between clinical characteristics and overall pain.

RESULTS: A total of 779 patients were included in this study. The mean pain score at lido, periprostatic block, biopsy and overall was .095, 2.84, 3.47, and 3.56, respectively; with a total time of biopsy averaging 13 minutes. On multivariable analysis, patients of African American race (OR 2.90; p<0.001), and patients on active surveillance (AS) (OR 1.70; p=0.004), vs biopsy naïve patients, were more likely to experience the upper quartile (UQ) of overall pain, whereas men with an abnormal DRE (OR 0.65; p=.031) were less likely to experience the UQ of overall pain. A pain score at lido> 2 (OR 10.28, p=0.006) and a pain score during periprostatic block > 2 (OR, 7.49, p< .001) increased the odds of reaching the UQ of overall pain. BMI (p=0.332), PSA (p=0.570), MRI volume (p=0.634), and fusion score (p=0.367) were not significantly correlated with overall pain. Furthermore, older age ($r_s$= -0.147; p<.001) and longer total time of procedure ($r_s$= -0.125; p <.001) showed weak negative associations to overall pain.

CONCLUSIONS: A normal DRE finding, race, and ongoing AS demonstrated higher overall pain scores during prostate biopsy. An initial pain score at viscous lidocaine instillation > 2 increased the odds of an UQ overall pain score. As this is similar to the discomfort of a DRE exam, discomfort with rectal manipulation can serve as an aid to better assess patients at initial clinic visit who would benefit from sedation during prostate biopsy.




**Source of Funding:** None

**PAPER #36**

# Progression on Active Surveillance is Low in Men with PSA Density <0.15 or with Absence of Cancer in MRI-Identified Lesions

*Lindsey T Webb*, BSME; Gabriela M Diaz*, MD; Syed N Rahman*, MD; Ghazal Khajir*, MD; Preston C Sprenkle, MD*
New Haven, CT
Presentation to be made by: Ms. Lindsey Webb

INTRODUCTION AND OBJECTIVE: Many prostate cancers (PCa) have an indolent course that never requires treatment. Prostate biopsy is also not harmless and thus should be avoided if possible. This study aimed to determine if having both a PSA Density (PSAD) < 0.15 ng/mL$^2$ and no GG1 cores from targeted lesions can identify patients on active surveillance (AS) who do not progress to either GG2+ disease or to treatment.

METHODS: A prospectively collected cohort of AS patients with MRI-US fusion biopsy and current or previous biopsy documenting maximum GG1 PCa received annual biopsies. The core samples from the targeted lesions were a combination of cores from the targeted biopsy as well as cores from the systematic biopsy that neighbor and overlap the lesion, as determined by the fusion biopsy software. High progression risk was defined as a patient either having a PSAD > 0.15 or at least one GG1 core from a targeted lesion. Sensitivity, specificity, NPV, PPV, regression analysis, and Kaplan-Meier estimates were calculated for the presence of progression to GG2+ disease or treatment within 4 years.

RESULTS: One hundred sixty patients met inclusion criteria. Of these, 141 (88%) patients were GG1 and 19 (12%) were benign on initial MRI-US fusion biopsy. After 4 years, 102 (64%) had progressed to GG2+ and 83 (52%) had undergone treatment for PCa. 130 (81%) had high progression risk, which was associated with a sensitivity of 92.16% and 92.77%, a specificity of 37.93% and 32.00%, a PPV of 72.31% and 60.16%, a NPV of 73.33% and 80.00%, and an odds ratio of 7.18 (p<.001) and 6.04 (p<.001) for progression to GG2+ disease and treatment within 4 years, respectively. When controlling for the number of non-targeted cores and PI-RADS score, progression to GG2+ was not significant (p=0.45), but progression to treatment was (OR 2.61; p=0.03). The high progression risk group had an estimated mean time to progression to GG2+ of 2.49 years (SD 1.45) and to treatment of 2.85 years (SD 1.47). The men with PSAD <0.15 and non-targeted biopsy positivity had an estimated mean time to progression to GG2+ of 3.97 years (SD 1.11) and to treatment of 4.09 years (SD 0.94). If no more biopsies were taken in the lower risk group for the next 4 years, only 8 patients (26.7%) would have missed GG2+ disease and 6 (20%) would have missed receiving treatment.

CONCLUSIONS: Having both a PSAD <0.15 ng/mL$^2$ and no positive cores from a targeted lesion on initial MR-US fusion biopsy has both a low risk of progression to GG2+ disease and a low risk of progression to treatment within 4 years of biopsy. This can be used to avoid or delay biopsies in these lower risk AS patients.

**Source of Funding:** None

**PAPER #37**

## Institutional Experience with Focal Ablation for Localized Prostate Cancer

*Syed N Rahman*[*1], MD; Lindsey T Webb*[*1], BSME; Gabriela M Diaz*[*1], MD; Ajin Varghese*[*2], BS; Ghazal Khajir*[*1], MD; Soum D Lokeshwar*[*1], MD; Preston C Sprenkle*[*1], MD*

[1]New Haven, CT; [2]Old Westbury, NY

Presentation to be made by: Dr. Syed N Rahman

INTRODUCTION AND OBJECTIVE: Focal ablation is a growing treatment option for localized prostate cancer (PCa). Institutional variation in oncologic and patient outcomes can be significant. We provide our institutional experience in focal therapy for PCa.

METHODS: We retrospectively analyzed patients who received focal ablation (either transurethral ultrasound ablation (TULSA), cryotherapy, or irreversible electroporation (IRE)) from 2016 to 2023 for primary treatment of their pathologically confirmed localized PCa and who had at least one post-ablation biopsy. Demographic, clinical, and pathologic outcomes were collected. Descriptive statistics were utilized to describe patient characteristics, oncologic outcomes, and complications.

RESULTS: Of the 100 patients who had an ablation, 56 patients met inclusion criteria. Of these, 7% (4/56) had GG3 disease and 4% (2/56) had GG4 disease at pre-ablation biopsy. Overall, 47 patients had a partial gland ablation, and 9 had a whole gland ablation. One year after partial gland ablation, 55% (26/47) of patients had any PCa and 21% (10/47) had GG2+ PCa. Out-of-field recurrence was identified in 38% (10/26) of any PCa prostate biopsies. At two years, 13/21 had any PCa, 7/21 had GG2+ PCa, and 6 patients had an out-of-field recurrence. Of the complete gland ablation patients, 4/9 had any PCa, 2/9 had GG2+ PCa, and 2/4 had an out-of-field recurrence.

Ultimately, 14% (8/56) of patients underwent additional treatment (4 RALPs, 2 radiation therapies, 2 cryotherapies) consistent with 89% (50/56) whole-prostate salvage-free survival. 13 Clavien grade 1 and 5 Clavien grade 2 complications were reported. The most frequent complications were erectile dysfunction (4 pts) and hematuria (3 patients). Of patients with available pad use data, 11% (4/36) and 5% (1/20) required at least 1 pad per day at 1 and 2 years, respectively.

| | | Complete | | | Partial | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Pre-Ablation Gleason Grade Group (GGG) | | | Pre-Ablation Gleason Grade Group (GGG) | | | | |
| | | 1 | 2 | Total | 1 | 2 | 3 | 4 | Total |
| | | Count | Count | Count | Count | Count | Count | Count | Count |
| Follow up Biopsy 1 GGG | 0 | 1 | 4 | 5 | 1 | 19 | 1 | 0 | 21 |
| | 1 | 0 | 2 | 2 | 3 | 12 | 0 | 1 | 16 |
| | 2 | 1 | 1 | 2 | 0 | 4 | 0 | 1 | 5 |
| | 3 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| | Total | 2 | 7 | 9 | 4 | 37 | 4 | 2 | 47 |
| Follow up Biopsy 1 Out of Field | | 0 | 2 | 2 | 1 | 6 | 2 | 1 | 10 |
| Follow up Biopsy 2 GGG | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 8 |
| | 1 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 6 |
| | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 1 | 6 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | Total | 0 | 0 | 0 | 4 | 15 | 1 | 1 | 21 |
| Follow up Biopsy 2 Out of Field | | 0 | 0 | 0 | 1 | 4 | 1 | 0 | 6 |
| Post Ablation Salvage Treatment | RALP | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 4 |
| | RT | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| | Cryo | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 |

CONCLUSIONS: Within the 2-year follow-up period, our institutional results demonstrate that even in a patient population containing higher-risk patients, for patients with localized PCa, focal ablation offers a safe and effective treatment option with excellent preservation of quality of life and minimal salvage treatments.

**Source of Funding:** None

**PAPER #38**

# Effect of Novel Neoadjuvant Androgen Signaling Inhibitors Prior to Robotic Radical Prostatectomy on Pathological or Short-Term Survival Outcomes

Presentation to be made by Mr. Parikh: Bethesda, Maryland

## Introduction

Neoadjuvant novel androgen signaling inhibitors (ASI) prior to radical prostatectomy (RP) are being investigated as a treatment strategy for high risk prostate cancer. This study describes the influence of neoadjuvant ASI on final pathology and survival outcomes post RP.

## Methods

From 2015-2023 patients enrolled on Phase II trials (NCT02430480 and NCT03860987) who received neoadjuvant enzalutamide and androgen deprivation therapy (ADT) with or without abiraterone for 6 months were included. Patients who underwent RP without ASI were used as controls. A propensity score was developed controlling for age, race, PSA, biopsy Grade Group (GG) and adverse MRI features. A 1:2 ratio of ASI patients to controls were matched. Features on final pathology were compared between groups. T tests and X2 were used to describe pathologic response. Kaplan Meier analysis was conducted to assess overall survival (OS), biochemical recurrence free survival (bRFS) and metastasis free survival (MFS).

## Results

41 patients received ASI and underwent RP with median follow up of 50 months (IQR 36-62). These 41 were matched with 82 controls. 8 patients received enzalutamide, abiraterone and ADT. 33 patients received enzalutamide and ADT. Base characteristics after matching were similar between groups. 37 (90%) patients who received ASI had a GG downgrade on final pathology compared to 23 (28%) patients in the control group ($p < 0.001$). Among patients who received ASI, 4 (10%) experienced complete pathological response (T0) and 35 (85%) had minimal residual disease of <0.05cc on final pathology compared to 0 in the control group ($p=0.004$ and $p = <0.001$). No patient who received ASI had a GG upgrade on final pathology compared to 13 (16%) patients in the control group. On final pathology, adverse pathological features were similar between the groups (Table 1). OS, bRFS and MFS were similar between the groups ($p > 0.05$).

Table 1. Per-operative and post-operative characteristics after 1:2 propensity matching with patients who received neoadjuvant ASI and those who did not.

| | Received neoadjuvant ASI (n=41) | Did not receive neoadjuvant ASI (n=82) | *p*-value |
|---|---|---|---|
| Median age, year (IQR) | 62 (59-68) | 65 (59-70) | 0.2 |
| Race | | | |
| - White | - 31 (76%) | - 56 (68%) | 0.5 |
| - Not white | - 10 (24%) | - 26 (32%) | |
| Median pre-op PSA, ng/mL (IQR) | 6.1 (4.1-8.5) | 6.0 (3.8-10) | 0.8 |
| Biopsy GG, n (%) | | | 0.4 |
| - 2-3 | - 7 (17%) | - 21 (26%) | |
| - 4-5 | - 34 (83% | - 61 (74%) | |
| High risk MRI features, n (%) | 25 (61%) | 40 (49%) | 0.3 |
| Post-operative characteristics | | | |
| | Received neoadjuvant ASI (n=41) | Did not receive neoadjuvant ASI (n=82) | *p*-value |
| GG on final pathology, n (%) | | | |
| - Uncharacterizable | - 35 (85%) | - 0 | < 0.001 |
| - 1 | - 0 | - 1 (1%) | |
| - 2-3 | - 2 (5%) | - 31 (38%) | |
| - 4-5 | - 4 (10%) | - 50 (61%) | |
| Final pathology characteristics | | | |
| - ECE, n (%) | 14 (37%) | 59 (72%) | 0.6 |
| - SVI, n (%) | 9 (24%) | 27 (34%) | 0.3 |
| - PNI, n (%) | 23 (56%) | 62 (79%) | 0.01 |
| - PSM, n (%) | 6 (15%) | 25 (32%) | 0.08 |
| Rate of GG downgrading/minimal residual disease on pathology, n (%) | 37 (90%) | 23 (28%) | < 0.001 |
| Rate of GG upgrading, n (%) | 0 | 13 (16%) | - |
| BCR rate, n (%) | 11 (27%) | 25 (30%) | 0.8 |

## Conclusion

Patients receiving 6 months of neoadjuvant ASI showed significantly higher rates of pathological downgrading at final pathology, demonstrating tumor response from ASI. Although short term, at a median of 4.2 years, OS, bRFS and MFS were the same between the groups. This could be due to the small cohort of these Phase II trials and as such longer term follow up and large phase III trials may show survival benefits.

Source of Funding: None

Sahil H. Parikh*, BS; Charles Hesswani*, MD; William S. Azar, MS; Christopher R. Koller*, MD; Kyle C. Schuppe*, BS; David G. Gelikman*, BS; Sarah Azari*, MD; Alexander P. Kenigsberg*, MD; Neil Mendhiratta*, MD; Daniel Nethala*, MD; Jason A. Hyman*, BS; Maria Merino*, MD; Bradford J. Wood*, MD; Sandeep Gurram*, MD; Ravi A. Madan*, MD; Fatima Karzai*, MD; Peter A. Pinto*, MD

**PAPER #39**

**Is It Time We Include High-Risk MRI Features in Nomograms to Calculate the Risk of Lymph Node Invasion Prior to Radical Prostatectomy?**

Presentation to be made by Mr. William S. Azar: Bethesda, Maryland

Introduction and Objective: Defining lymph node invasion (LNI) by prostate cancer (PCa) is crucial for decision-making. There are nomograms to guide urologists on performing lymph node dissection (LND) during radical prostatectomy (RP). These were largely developed in the pre-MRI era. The goal of this study is to evaluate whether high-risk MRI features should help determine LND at time of RP.

Methods: A prospectively maintained database of patients with PCa who underwent RP between 2007-2023 was queried for patients with LNI on post-RP pathology. Patients lacking pre-operative MRIs, those receiving neoadjuvant treatment, and those with lymph nodes (LN) > 1cm on MRI were excluded. Baseline characteristics included age, race, pre-operative PSA, grade group (GG) on biopsy, and MRI characteristics such as extracapsular extension (ECE) or seminal vesicle invasion (SVI). A multivariate logistic regression adjusting for age, preoperative PSA, GG, and PI-RADS score was performed to assess prediction of LNI by presence of ECE or SVI.

Results: A total of 42/815 (5%) patients who underwent RP for PCa were found to have LNI and compared to 773/815 (95%) controls without LNI. The median age at time of RP of patients with LNI was 61 (IQR 57-68). 23 (55%) patients underwent standard LND (sLND) and 19 (45%) extended LND (eLND). Clinical staging included 29 (69%) patients with cT1c disease, 10 (23%) patients cT2a, and 3 (7%) patients cT2b. GG distribution across patients with LNI showed 12 (29%) patients with GG 2-3 and 30 patients (71%) with GG 4-5. The median LN yield was 22 nodes in sLND and 26 in eLND. 11 (26%) patients with LNI had confirmed ECE on pre-op MRI, while 25 (3.2%) patients without LNI had confirmed ECE. In the group with LNI, 9 (21%) patients demonstrated SVI on pre-op MRI compared to 19 (2.5%) in patients without LNI. On multivariate analysis, the presence of ECE or SVI on MRI was independently associated with increased risk of LNI with an odds ratio (OR) of 13.3 (95% CI: 3-67, $p$ = 0.001). This model would have predicted LNI in 4 (33%) patients with 'intermediate risk' disease when current AUA guidelines advise against LND in such patients. ECE and SVI were also assessed on multivariate analysis independently rather than combined and demonstrated ORs of 5.6 (95% CI: 2-14, $p$ < 0.001) and 6.9 (95% CI:1.5-16, $p$ = 0.007), respectively.

Multivariate Analysis: ECE and SVI Impact on Lymph Node Invasion

| Predictor | Odds Ratio (OR) | 95% Confidence Interval (CI) | *p*-value |
|---|---|---|---|
| ECE or SVI on MRI (Combined) | 13.3 | 3 - 67 | **0.001** |
| ECE on MRI | 5.6 | 2 - 14 | **<0.001** |
| SVI on MRI | 6.9 | 1.5 - 16 | **0.007** |

Conclusion: This study demonstrates that ECE and SVI on MRI, independently or combined, are strong independent predictors of LNI on RP. Nomograms incorporating high risk MRI features should be developed to better predict LNI.

Source of Funding: None

William S. Azar, MS; Charles Hesswani*, MD; Kyle C. Schuppe*, BS; Christopher R. Koller*, MD; Sahil H. Parikh*, BS; Sarah Azari*, MD; Alexander P. Kenigsberg*, MD; Neil Mendhiratta*, MD; Daniel Nethala*, MD; Jibriel Noun*, BS; Maria Merino*, MD; Baris Turkbey*, MD; Peter A. Pinto*, MD; Sandeep Gurram*, MD