RPE-01

A Propensity-Score Matched Analysis of Patients Receiving Inflatable Penile Prostheses and the Risk of Complications, Infections, and Re-Interventions

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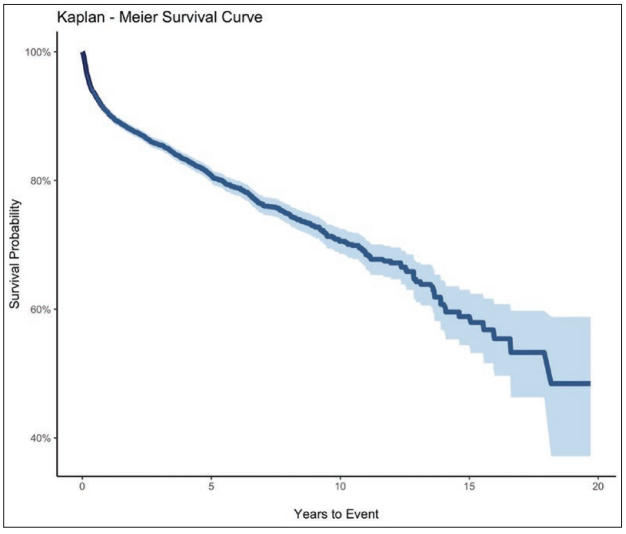
Introduction and Objective: Over 20,000 men undergo inflatable penile prosthesis (IPP) placement yearly for erectile dysfunction. The relationship between pre-operative comorbidities and post-operative complications is incompletely understood, and we sought to characterize risk for complications in patients with common suspected risk factors undergoing IPP placement.

Methods: We queried the TriNetX database for men who underwent IPP placement from 2003-2023. We examined the impact of diabetes, hypertension, nicotine use, radiation therapy, radical prostatectomy, and urethral surgery (urethroplasty, artificial urinary sphincter (AUS), male urethral sling (MS)) on outcomes. Our primary outcome was need for reintervention, secondary outcomes included overall rate of complications and infection. We evaluated outcomes overall and for comparison cohorts using the remaining demographic variables to perform propensity score matching.

Results: For 11,026 patients, there was a 13.5% risk of undergoing at least one reintervention. Kaplan-Meier analysis showed median IPP survival of 18.2 years and a estimated 10- and 20-year survival probability at 70.6% and 48.4% respectively. Overall complication rate was 19.3% with a 5.2% rate of infection. Those with prior urethral surgery were at higher risk of both complication and re-intervention. Patients with a history of smoking, prior radical prostatectomy, and prior AUS/MS placement had highest rates of device removal. Patients with a history of diabetes were less likely to undergo IPP replacement at the time of explant. There were no identified risk factors for IPP infection.

Conclusions: In this large cohort of IPP patients, we identified an association between pre-operative factors and IPP outcomes, with a higher rate of complications than previously reported. These findings can help inform patient selection prior to IPP placement and identify patients at high risk for suboptimal outcomes.



RPE-02

Evaluation of Intravesical Gemcitabine plus Docetaxel and Bacillus Calmette-Guerin (BCG) for Treatment of Non-Muscle Invasive Bladder Cancer

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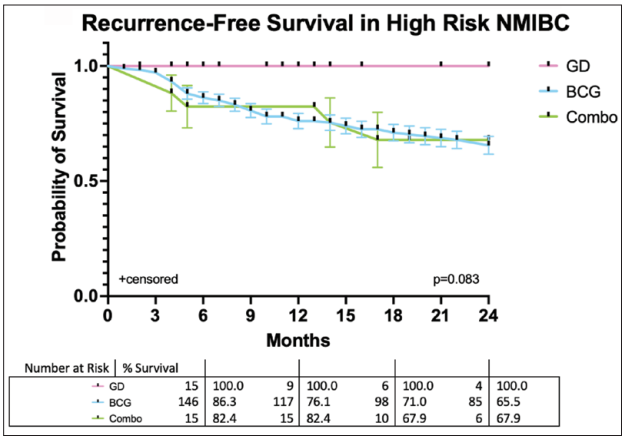
Introduction and Objective: Intravesical instillation with Bacillus Calmette–Guérin (BCG) is standard-of-care treatment for Non-Muscle Invasive Bladder Cancer (NMIBC). Due to recent BCG shortages, Gemcitabine-Docetaxel (GD) has emerged as alternative intravesical therapy. We aim to evaluate the 24-month recurrence-free survival of BCG compared to GD for management of intermediate and high risk NMIBC.

Methods: Retrospective review of patients with treatment-naïve NMIBC treated at our institution from 1/2017-12/2022 was performed. 336 patients with intermediate and high risk NMIBC who underwent intravesical treatment were identified. Patients were stratified by intravesical therapy into 3 cohorts: BCG (full dose BCG induction + maintenance, reduced BCG induction + maintenance, full BCG induction + reduced maintenance, BCG induction), GD (GD induction + maintenance, GD induction), and combined (BCG induction + GD maintenance). Groups were compared using log-rank tests and plotted by Kaplan-Meier method.

Results: 275 patients received BCG (179 high risk, 96 intermediate risk), 40 received GD (22 high risk, 18 intermediate), and 21 combined (17 high risk, 4 intermediate). Recurrence-free survival across all groups did not reveal significant differences for high risk (p=0.083) or intermediate risk (p=0.633). In pair-wise comparisons, there was no difference in survival for high risk when comparing BCG to GD (p=0.026) and GD to combination (p=0.031); correcting for multiple comparisons of survival curves set the Bonferroni-corrected alpha at p<0.0167. For intermediate risk, survival was also similar across treatment groups.

Conclusions: Our study found that BCG, GD, and combined therapy offer similar survival benefits at 24 months for both intermediate and high-risk patients. Additional prospective studies with longer follow up and greater power in non-BCG cohorts are needed to further evaluate efficacy of GD compared to BCG.



RPE-03

Classic Bladder Exstrophy Closure without Osteotomy or Immobilization: An Exercise in Futility?

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Introduction and Objective: The outcome of primary closure in classic bladder exstrophy (CBE) plays a pivotal role in a patient's eventual continence. The key factor regarding a closure's success has long been established as a properly stabilized pelvic ring. The authors sought to review the outcomes of bladder exstrophy closure without the use of osteotomy or lower extremity/pelvic immobilization.

Methods: A prospectively maintained institutionally approved exstrophy-epispadias complex database of 1490 patients was reviewed for patients with CBE who had undergone closure without osteotomy nor immobilization. All patients were referred to the author's institution either due to failed closure or for further reconstructive care.

Results: Of a total of 1016 CBE patients, 56 closure events were identified that met inclusion with a total of 47 unique patients. 38 closures were completed prior to 1990 (67.9%). 45 closure events developed eventual failure (45/56, 80.4%) (Table 1). 13 closure events were secondary closures (13/56, 23.2%). The primary closure failure rate was 83.7% (36/43) while the secondary closure failure rate was 69.2% (9/13). Failures were attributed to dehiscence, bladder prolapse, and vesicocutaneous fistula (25/45, 55.6%) (23/45, 51.1%) (6/45, 13.3%) respectively. 37 patients developed social continence (37/47, 78.7%), while only 8 patients developed spontaneous voided continence (7/47,17.0%) (Table 2). The most common methods of voiding were continent catheterizable channels (25/47, 53.2%) of which all were socially continent.

Conclusions: These results illustrate the critical role osteotomy and post-operative immobilization play in both primary and secondary exstrophy closure. While this is a historical case series, the authors believe that the utility of osteotomy and post-operative immobilization has been previously cemented within the literature. Therefore, surgeons should prioritize using these tools whenever possible.

Table 1. Patient Demographics and Closure Outcomes

Variable, n (%)	
Total Closure Events	56
Primary Closures	43 (76.8%)
Success	7 (16.3%)
Failure	36 (83.7%)
Secondary Closures	13 (23.2)
Success	4 (30.8%)
Failure	9 (69.2%)
Failure modality	45 Total failure events
Dehiscence	25 (55.6%)
Bladder Prolapse	23 (51.1)
Vesicocutaneous Fistula	6 (13.3%)
Total patients	47
Male	33 (70.2%)
Female	14 (29.8%)
Birthyear, Median (IQR)	1986 (1979-1990)
Median Age at Closure (IQR) [days]	4 (1-193)
Median number of closure events (IQR)	2 (2-3)
Median Age at last follow-up (IQR) [years]	21.4 (12.8-33.0)
Osteotomy in subsequent closure	27 (57.4%)
Combined Anterior with Posterior*	10 (37.0%)
Anterior	5 (18.5%)
Posterior	5 (18.5%)
Pubic Ramotomy	2 (7.4%)
Unknown	5 (18.5%)
Immobilization in subsequent closure	20 (42.6%)
Buck's Traction	13 (65%)
Bryant's Traction	6 (30%)
Spica Casting	1 (5%)

*Combined Anterior Innominate with Posterior Vertical Iliac

RPE-04

Does Tumor Volume Assessed by Cumulative Cancer Location Predict Grade Reclassification on Active Surveillance in the MRI Era?

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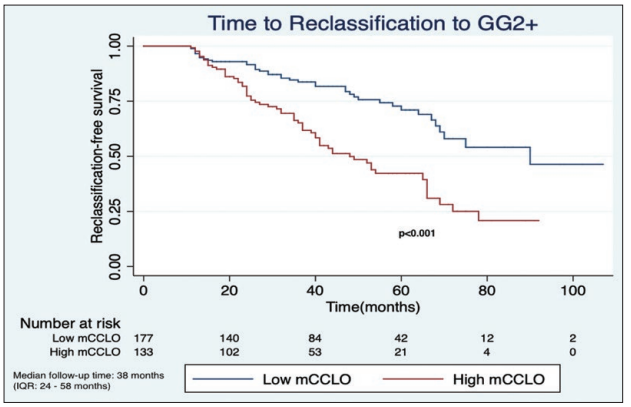
Introduction and Objective: Cumulative cancer location (CCLO) has previously been shown to be associated with grade reclassification (GR) during active surveillance (AS) in men without prostate MRI (Erickson et al, Eur Urol Onc 2018). Given the variability in interpreting metrics such as number of positive cores and maximum percentage of cancer in a core, we aimed to determine the ability of CCLO to predict GR in the MRI era.

Methods: We identified patients enrolled in AS between 2011 and 2021 with Grade Group (GG) 1 disease who underwent prostate MRI. We developed an "MRI-CCLO" (mCCLO) score by summing the total number of uniquely involved sextants positive for cancer on both diagnostic and confirmatory biopsy, with an additional point for an MRI with at least one PI-RADS >2 lesion. Men were stratified into low (1-2) and high (>3) mCCLO risk groups. The primary outcome was GR to >GG2 on subsequent biopsies. Kaplan-Meier analysis was used to compare GR rates between mCCLO risk groups. Using multivariable analyses, we compared performance of a base model (age, confirmatory biopsy year, race, PSA density, and highest PI-RADS score) with the base model plus either mCCLO, number of positive cores, or maximum percentage of cancer in a core.

Results: Among a total of 310 patients, the high mCCLO group had significantly higher rates of GR compared to the low mCCLO group (Figure). Each model had comparable discriminative ability (c-indices, 95% CI: mCCLO [0.68, 0.63-0.74], number of positive cores [0.68, 0.63-0.73], maximum percentage of cancer in a core [0.67, 0.61-0.72], base model [0.66, 0.60-0.72]).

Conclusions: The mCCLO score is comparable to traditional biopsy metrics in predicting GR but may offer greater reproducibility and less variability in interpretation.



RPE-05

Racial Differences in New-onset Cardiovascular Disease in Men with Prostate Cancer Treated with Hormone Therapy

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Introduction and Objective: Cardiovascular disease is the leading cause of death in patients with prostate cancer. Androgen deprivation therapy (ADT) has been associated with increased cardiovascular disease mortality. Given black men have elevated risk of cardiovascular disease mortality compared to other racial groups, this study sought to evaluate the relationship of race with ADT-associated cardiotoxicity.

Methods: We conducted a retrospective chart review of patients with locally advanced and metastatic prostate cancer who received ADT at a single institution from 2017 to 2022. Methods of ADT included gonadotropin-releasing hormone agonists/antagonists, non-steroidal anti-androgens, and bilateral orchiectomy. Patients were identified using International Classification of Diseases diagnosis/procedure codes. Data was collected on patient demographics, details regarding prostate cancer staging/treatment, and cardiovascular diagnoses/events, both proceeding and following hormone treatment initiation.

Results: A total of 119 patients met inclusion criteria, including 94 black men and 25 white men. Median age at time of diagnosis was 68 and 63, for black and white men respectively. The groups did not differ with respect to stage at diagnosis and treatment history including type of ADT administered. Mean duration of ADT was similar in white and black men (8.37 v. 7.0 years, p = 0.38). Prevalence of pre-existing cardiovascular diagnoses prior to starting ADT was similar between the two groups (28% v. 35%, p = 0.5). After initiating ADT, black men had greater likelihood of developing new cardiovascular diagnoses (46% v. 24%, p = 0.05), with a trend toward higher rate of coronary procedures in black men (9.5% v. 4%, p 0.12).

Conclusions: This data suggests a higher incidence of cardiovascular morbidity in black men on androgen deprivation therapy and may translate to a higher risk of cardiovascular mortality.

	White (n=25)	Black (n=94)	P-value
Age at diagnosis, yr, median (IQR)	68 (61-76)	63 (52-71)	0.06
Method of prostate cancer detection, n (%)			0.61
PSA screening	23 (92)	89 (95)	
Radiographic	2 (8)	5 (8)	
T stage at diagnosis, n (%)			0.06
T2	10 (40)	19 (20)	
T3	7 (28)	22 (23)	
T4	8 (32)	53 (56)	
Hx of Radical Prostatectomy	5 (20)	9 (10)	0.15
Hx of Radiation Therapy	13 (52)	32 (34)	0.10
Hx of Chemotherapy	5 (20)	20 (21)	0.89
Androgen Deprivation Therapy (ADT)	25 (100)	94 (100)	-
By Type			0.29
GnRH agonist	17	62	
GnRH antagonist	8	23	
Orchiectomy	0	8	
Duration of Androgen Deprivation Therapy, yrs			0.38
Median (IQR)	4.0 (3-6)	5.0 (3-17)	
Mean (st dev)	7.0 (6.82)	8.37 (6.91)	
Follow up			0.93
Median (IQR)	4.0 (3-6)	4.7 (3-7)	
Mean (st dev)	4.6 (2.4)	4.6 (2.8)	
Cardiovascular Diagnosis, n (%) (Prior to ADT initiation)	7 (28)	33 (35)	0.50
Multiple Cardiovascular Diagnoses	3 (12)	24 (26)	0.15
New Cardiovascular Diagnosis, n (%) (After ADT initiation)	6 (24)	43 (46)	0.05
By Type			
Coronary Artery Disease	5 (20)	30 (32)	0.39
Myocardial Infarction	1 (4)	5 (5)	0.79
Cerebrovascular Accident	1 (4)	7 (7)	0.43
Limb Amputation	0	0	-
Coronary stent/bypass procedure	1 (4)	8 (9.5)	0.12
New CV medication (after ADT initiation)	3 (12)	13 (14)	0.81

RPE-06

Cost-Effectiveness Analysis of the Clear Cell Likelihood Score against Renal Mass Biopsy for Evaluating Small Renal Masses

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Introduction and Objective: Increasing use of cross-sectional imaging has increased the incidental discovery of small renal masses (SRMs). Though SRMs usually have a low metastatic potential, clear cell renal cell carcinoma (ccRCC) has a high potential for an aggressive phenotype. The ability to identify the subtype could expedite treatment of high-risk patients. The clear cell likelihood score (ccLS), a grading based on multiparametric magnetic resonance imaging that assigns the mass a score of 1 to 5, has been proposed as a possible alternative to percutaneous renal mass biopsy (RMB) for differentiating ccRCC. The objective of this study is to examine the cost-effectiveness of evaluating SRMs with the ccLS versus RMB.

Methods: Decision analysis was performed using TreeAge software. Costs were obtained from institutional fees. Probabilities were derived from literature review. All patients in the RMB branch undergo biopsy while only patients that received an indeterminant ccLS of 3 undergo biopsy. Effectiveness was assigned a value of 1 for the correct diagnosis and a value of 0 for an incorrect or indeterminant diagnosis.

Results: In the base case model, the ccLS was both more effective (0.78 vs. 0.73) and less expensive than RMB, with an average of $639.53 less for patients evaluated with the ccLS ($1,326.75) as compared to patients undergoing RMB ($1,966.40). Probabilistic sensitivity analysis showed that the sensitivity of the ccLS had the greatest impact on the model. In threshold analyses, the ccLS was the preferred strategy when the ccLS sensitivity was greater than 66% and when the cost of MRI was less than $5761.44.

Conclusions: The ccLS was a more cost-effective option than RMB alone for evaluating SRMs for ccRCC. Utilization of the ccLS in guiding clinical decision-making for SRMs can lead to significant cost savings in addition to preventing patients from undergoing an invasive procedure and assuming its associated risks.

MP1-01

Hospital Anxiety and Depression Scale (HADS) Score Trends Among Testicular Cancer Survivors, Longitudinal Study

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Introduction and Objective: We sought to investigate the long-term adverse effects of Testicular Cancer (TC) by analyzing the changes in Hospital Anxiety and Depression Scale (HADS) scores over time in our institutional cohort of TC survivors, hypothesizing that anxiety and depression indices will improve over time, and specifically after treatment completion.

Methods: A longitudinal analysis of TC survivors at our institute between 2013 and 2020, metrics were measured annually using a validated HADS score to calculate indices of anxiety and depression. Multivariable linear mixed-effects regression models adjusted for pathology type, stage, treatment type, age, marital status, education, income, insurance, employment status, living situation, and time from diagnosis to first survey administration to calculate the mean predicted HADS, HADS-Anxiety, and HADS-Depression scores.

Results: A total of 353 patients were included in the study. Baseline mean scores were 7.3, 4.9, and 2.4 for HADS overall, HADS-Anxiety, and HADS-Depression, respectively. Mean scores did not change over time, ANOVA testing of p=0.84, p=0.78, and p=0.65 for overall HADS, HADS-Anxiety, and HADS-Depression, respectively (Figure 1). Stratification by pathology, stage, or treatment showed no significant interaction.

Conclusions: No significant change over time in our patient's HADS scores. Considering the risks associated with depression and anxiety, such as suicide, it is essential to consider early referrals to psychiatric services. Our results are from a single institution, limited by a small sample size, and our data lacks granularity, including mental health history. Nonetheless, our findings serve as a useful framework for future prospective studies.

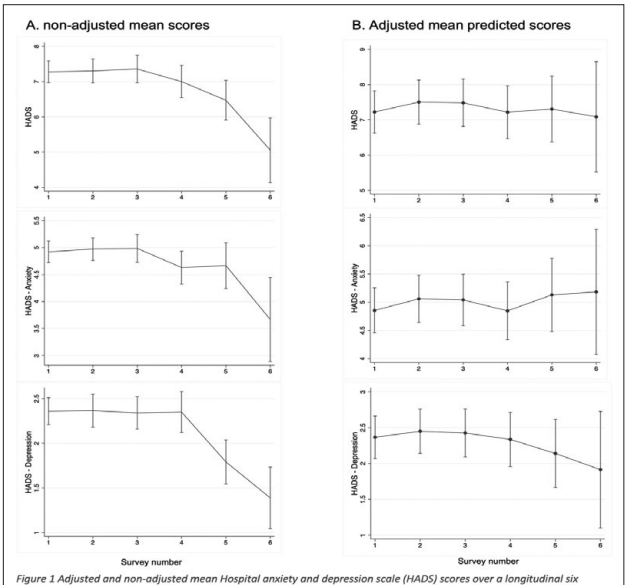

Figure 1 Adjusted and non-adjusted mean Hospital anxiety and depression scale (HADS) scores over a longitudinal six annual patient surveys among testicular cancer patients

Table 1 Descriptive baseline demographics of the study cohort at 1st survey

Factor	Value
N	353
Age, mean (SD)	40.5 (11.2)
HADS, mean (SD)	7.3 (5.6)
HADS - Anxiety, mean (SD)	4.9 (3.7)
HADS - Depression, mean (SD)	2.4 (2.8)
Pathology type	
Non-seminoma	191 (54.1%)
Seminoma	162 (45.9%)
Stage	
I	233 (67.1%)
II	45 (13.0%)
III	69 (19.9%)
Treatment type	
Orchiectomy only	139 (39.8%)
Primary RPLND	15 (4.3%)
Chemotherapy only	93 (26.6%)
radiation only	28 (8.0%)
Chemo + RPLND	62 (17.8%)
Chemo + radiation	11 (3.2%)
Chemo + radiation + RPLND	1 (0.3%)
Marital Status	
Single	90 (25.6%)
Widowed	1 (0.3%)
Separated	1 (0.3%)
Divorced	16 (4.6%)
Married/marriage-like	243 (69.2%)
Education	
Graduate or professional training	114 (35.2%)
Some graduate or professional training	12 (3.7%)
Completed college	118 (36.4%)
Some college	42 (13.0%)
Trade school	11 (3.4%)
Completed high school	23 (7.1%)
Less than 12th grade	4 (1.2%)
Employment status	
Employed full time	285 (84.3%)
Employed part time	17 (5.0%)
Unemployed	7 (2.1%)
Disabled	6 (1.8%)
Retired	11 (3.3%)
Student	12 (3.6%)
Income	
Less than $10,000	6 (1.9%)
$10,000 to $19,999	10 (3.1%)
$20,000 to $39,999	13 (4.0%)
$40,000 to $59,999	25 (7.7%)
$60,000 to $79,999	32 (9.9%)
$80,000 to $99,999	29 (9.0%)
$100,000 or greater	184 (56.8%)
Decline to answer	25 (7.7%)
Insurance	
Medicaid	9 (2.6%)
Medicare	13 (3.8%)
Disability Insurance	2 (0.6%)
HMO or other limited provider plan	83 (24.0%)
Private Health Insurance	219 (63.3%)
No insurance	2 (0.6%)
Other	18 (5.2%)
Living situation	
Live alone	34 (10.5%)
Live with children only	4 (1.2%)
Live with other adults(s), no children	126 (38.9%)
Live with other adults and children	160 (49.4%)

MP1-02

Voided Urine Optical Assay to Detect Prostate Cancer: Preliminary Results

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Introduction and Objective: Contretemps continue over the use of DRE, serum PSA, image guided prostate biopsies, new urine and serum methods, as well as next generation imaging to detect prostate cancer (PCa). This prospective study was to further validate our voided urine optical assay to detect PCa. The hypothesis is that PCa can be detected by the identification of malignant cells (MC) shed in non-DRE voided urine, using a fluorescent biomolecule (TP4303), that has a high affinity (3.1×10-9M) for genomic receptor VPAC, upregulated and expressed in high density on PCa MC.

Methods: After IRB approval, PCa patients scheduled for radical prostatectomy provided 15-50 mL of non-DRE voided urine. Urine was cytocentrifuged, with cells fixed on a glass slide, incubated with 0.5µg TP4303 and DAPI for nuclear staining. The field was analyzed using a Zeiss AX10 Observer microscope (20X). Total number of cells and MC were counted with their florescent intensity measured using Zeiss software, data analyzed, compared with PSA values and evaluated statistically. We previously demonstrated high sensitivity (99.3%) for PCa detection.

Results: For the initial 62 PCa patients, PSA values were 6.5±4.1 ng/mL for GG1 (N=10), 7.2±3.8 for GG2 (N=31), 13.2±14.6 for GG3 (N=13), 6.2±2.2 for GG4 (N=2) and 50.2±104.9 for GG5 (N=6). Similar to the PSA values, % MC shed (66.7±27.7) in voided urine and the fluorescent intensity (35.8±5.7) associated was also the highest in GG5. All PCa patients in GG1 to GG5 shed MC in voided urine with the highest % composition of MC and the highest fluorescence correlated with PCa aggressiveness.

Conclusions: The data indicate: i) MC are shed in non-DRE voided urine of PCa patients irrespective of GG ii) shed MC are detected by targeting VPAC genomic receptors and iii) voided urine optical assay provides a simple, noninvasive, reliable method for the preliminary detection of PCa with a potentially lower cost.

MP1-03

Characteristics of an Exosome-Based Urine Test for Prostate Cancer Screening in a Veterans Population

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Introduction and Objective: There remains a need to identify patients with elevated PSA for whom a prostate biopsy can safely be deferred. The ExoDx IntelliScore® (EPI) is a urine test designed to aid urologists in recommending biopsy for patients >50 years with mid-range PSA (2-10 ng/mL). The aim of this study was to examine the characteristics and utility of this test in patients with elevated PSA at a Veterans Affairs hospital clinic.

Methods: We retrospectively reviewed prospectively-maintained clinical records of patients undergoing EPI testing from 2021-2022. EPI testing was recommended in patients with elevated PSA who desired further risk stratification prior to proceeding with prostate biopsy.

Results: The positive test rate was 80% (57/71). Comparing patients with a positive versus negative test, there was no difference in mean patient age (71±1 v. 73±1, p=0.4) or PSA (8.89 v. 6.24, p=0.09). There was no difference in the positive test rate between patients who had and who had not undergone prior biopsy (77% v. 83%, p=0.59). The positive test rate was higher in black patients versus non-Black patients (95% vs. 63%, $p < 0.001$). All patients who had a negative EPI test avoided a biopsy. Of the patients with a positive test, 38 (67%) underwent further workup with a prostate biopsy (24/57 = 46%) or an MRI (14/57 = 25%). GG2 or higher disease was detected in 25% (6/24) of specimens.

Conclusions: The rate of positive tests was high (80%) in our population. Age, PSA, and prior biopsy status did not predict positive test rate. Black patients were more likely to have a positive test than non-Black patients, suggesting EPI may have less clinical utility in these patients. Despite a high EPI positivity rate, GG2 or higher disease was only detected in 25% of biopsies, suggesting that a positive test may not be predictive of clinically significant cancer.

MP1-04

Introduction of a New Transperineal Prostate Biopsy Template: Outcomes of a Peripheral Zone Focused Template

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Introduction and Objective: The transperineal ultrasound-guided prostate biopsy (TPBx) has become increasingly popular among urologists to sample the prostate given its lower rates of complications. Several TP templates have been introduced, all including standard anterior zone sampling, due to its inherent ease via the TP approach. We have developed an institutional template that focuses on peripheral zone (PZ) sampling, with a template core that closely resembles that of the TR approach. We hypothesized that the risk of urinary retention (UR) would be decreased with this template and sought to investigate the rates of postoperative complications and oncological outcomes following adoption of the template.

Methods: We reviewed our retrospective institutional TPBx database to identify patients who underwent templated TPBx from 09/2016 to 05/2022. Our template, which does not target the anterior zone, includes a total of twelve-cores sampled from the prostate (Figure 1). Patients that underwent anterior zone sampling on targeted templated TPBx were excluded. Records were reviewed to determine demographic, clinical and oncological information, with particular emphasis placed on post-biopsy complication rates.

Results: We identified 226 patients that met inclusion criteria. The overall complication rate was 3.5%, with one patient (0.4%) experiencing post-procedural sepsis and 4 (1.8%) experiencing UR (Table 1). Two patients (0.9%) presented to the emergency department (ED) and one (0.4%) required hospitalization within 30 days of the procedure.

Conclusions: Here, we introduce a PZ focused TPBx template that improves on the risk of UR compared to those that routinely sample the anterior zone, while providing similar infectious prevention benefit.

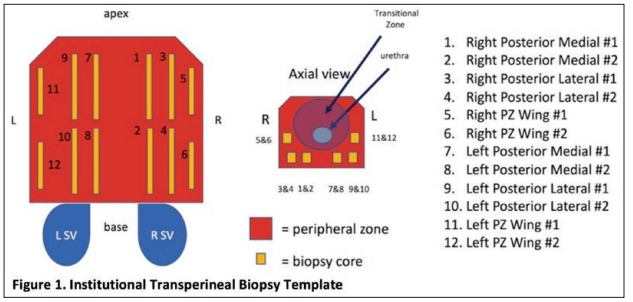

Figure 1. Institutional Transperineal Biopsy Template

		Total Cohort
		226
Transient Gross Hematuria		33 (14.6%)
Transient Hematospermia		14 (6.2%)
Post-Op Complications		8 (3.5%)
	Sepsis	1 (0.4%)
	Urinary Retention	4 (1.8%)
	Urinary Tract Infection	2 (0.9%)
	Vasovagal Response	1 (0.4%)
ED Presentation (30 days)		2 (0.9%)
Readmission (30 days)		1 (0.4%)

Table 1. Post-Biopsy Complications

MP1-05

Transperineal Prostate Biopsy Associated With Improved Safety Profile Among US Veterans: A Retrospective Analysis

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Introduction and Objective: Prostate biopsy (PB) has a known risk of infectious complications and acute urinary retention (AUR) that may be higher with a transrectal versus transperineal approach. Due to the higher incidence of prostate cancer among veterans, we implemented a quality improvement initiative to change the primary approach of PB from transrectal to transperineal. Our study aimed to characterize the change in the 90-day complication rate of PB.

Methods: We implemented a transperineal PB program at our institution and conducted a retrospective review of two patient cohorts representative of the last group of patients to undergo transrectal PB and the first group of patients to undergo transperineal PB. An institutional and federal law-compliant database was created, and basic statistics were calculated.

Results: In total, 182 men underwent PB at our institution (n=62 TR, n=120 TP) from November 2021 through September 2022. Transperineal PB was associated with a lower overall rate of complications compared to transrectal PB (4.2% vs. 9.8%, p=0.04) with a significantly lower rate of UTI complications (0.8% vs. 4.8%, p =0.04). A significantly lower percentage of patients did not receive antibiotic prophylaxis in the transperineal PB cohort compared to transrectal PB (67.5% vs. 100%, p<0.001). Both cohorts had similar rates of AUR (3.3% vs. 3.2%, p>0.99). There was no statistical difference between transrectal and transperineal PB groups in the overall cancer detection rate (74.1% vs. 70.8%, p=0.98) or cancer detection by Gleason grade.

Conclusions: Findings from this study demonstrate among veterans, transperineal PB was associated with lower infection rates with no difference found in rates of AUR and cancer detection when compared to transrectal PB.

Overall Complications:	***n***	**%**
Trans-rectal PB:	6	9.77
Trans-perineal PB:	5	4.17
Total:	11	6.04

Complication Type:	Trans-Rectal PB, *n (%)*	Trans-Perineal PB, *n (%)*	P-value
Acute urinary retention	2 (3.2%)	4 (3.3%)	P > 0.99
UTI, prostatitis, Epididymo-orchitis	3 (4.8%)	1 (0.8%)	*P = 0.04*
Sepsis	0	0	
90-day Readmissions	2 (3.2%)	0	*P = 0.04*

MP1-06

Comparing Complication Risk in Patients Undergoing Transperineal Prostate Biopsy with and without Template Anterior Zone Sampling

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Introduction and Objective: The transperineal (TP) prostate biopsy (PBx) approach has adopted standard sampling of the anterior zone (AZ). There is debate in urology focused on the necessity of AZ sampling during a TP PBx, mainly due to the increased risk of potential post-biopsy complications. We examine the complications associated with sampling of the AZ during TP PBx by comparing the rates of urinary retention and hematuria between two institutions, one that routinely samples the AZ and one that does not.

Methods: This is a retrospective review of 452 patients, 226 from Fox Chase Cancer Center (FCCC) and 226 from Vanderbilt University Medical Center (VUMC). The VUMC cohort underwent AZ sampling, while the FCCC cohort did not. The outcomes investigated were rates of urinary retention requiring catheter placement and hematuria requiring catheter placement. We calculated differences in these outcomes with 2-sided Fisher-exact tests via STATA statistical software.

Results: There was no statistically significant difference between the FCCC and Vanderbilt cohorts related to age and BMI (Table 1). The majority of patients were Caucasian and Non-Hispanic (Table 1). At FCCC, two patients (0.88%) developed post-biopsy hematuria requiring catheter placement versus none (0%) at VUMC (p=0.50). Two patients (0.88%) developed acute urinary retention requiring catheter placement at FCCC versus one (0.44%) at VUMC (p=0.499).

Conclusions: Between these two institutions, we found no statistically significant difference in urinary retention or hematuria rates regardless of whether AZ sampling occurred during the TP PBx. Our data indicates that one should not omit AZ sampling solely on the basis of decreasing the risk of urinary retention and/or hematuria complications.

Variable	FCCC Cohort	Vanderbilt Cohort
N (total)	226	226
Age (median; p=0.068)	65	64
BMI (median; p=0.295)	27.98	27.935
Race (%)	79.91 (Caucasian) 11.90 (African-American) 5.94 (Other) 1.83 (Asian) 0.46 (Unknown)	70.69 (Caucasian) 18.97 (African-American) 7.47 (Other) 2.30 (Asian) 0.57 (American Islander/Alaskan Native)
Ethnicity (%)	93.15 (Non-Hispanic/Latino) 3.65 (Hispanic/Latino) 3.20 (Unknown)	86.78 (Non-Hispanic/Latino) 10.92 (Unknown) 2.30 (Hispanic/Latino)
Location of Procedure (%)	65.60 (Clinic) 34.40 (Main OR)	69.91 (Surgery Center) 24.34 (Clinic) 5.75 (Main OR)
Post-Biopsy Hematuria (%; p=0.500)	0.88	0
Acute Urinary Retention (%; p=0.499)	0.88	0.44

Table 1. Demographics and Complications Data

MP1-07

Prospective Evaluation of Perceived Stress Among Men Viewing Prostate Biopsy Pathology Results Online Prior to Discussion with a Clinician

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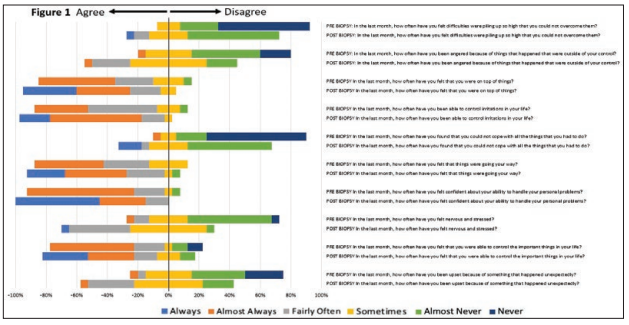
Introduction and Objective: The 21st Century Cures Act mandates that patients have instantaneous access to clinical data. We hypothesize that compared to patients viewing their prostate biopsy results with a clinician, patients first reviewing their biopsy pathology results online may experience higher levels of stress.

Methods: We prospectively evaluated patients undergoing prostate biopsy from 12/2022-4/2023. Patients completed a pre-survey prior to biopsy and a post-biopsy survey after discussing their results with the clinician. Collected variables: viewing results prior to clinician discussion, perceived stress scale (PSS-10), age, pre-biopsy PSA and PSA density, prostate size, and pathology results.

Results: Twenty patients (median age 67.5 years) have been enrolled. Median pre-biopsy PSA, PSA density, and prostate volume were 6.5 ng/ml, 0.11 ng/ml2, and 49.5 cc, respectively. Final pathology: n=7 benign, n=9 grade group (GG) 1, n=3 GG2, n=1 GG3.
All patients viewed their pathology results online prior to clinician discussion. 55% (11/20) of patients contacted the office about their results before speaking with the clinician and 25% (5/20) of patients reported additional stress after viewing their results online, however none regretted viewing results online first. 40% (8/20) of patients utilized online resources to better understand their results. Patients reported high levels of understanding of their results even before discussion with clinician.
Comparing pre- and post-biopsy PSS-10, we observed worsened stress, nervousness, anger, and coping domains. Although differences in other domains were less stark, all demonstrated increases in perceived stress (Figure 1).

Conclusions: Viewing pathology results online prior to discussion with a clinician is common and is associated with worsened stress, nervousness, and coping. Further enrollment is necessary to evaluate and compare stress levels among patients who waited to discuss results with a provider.



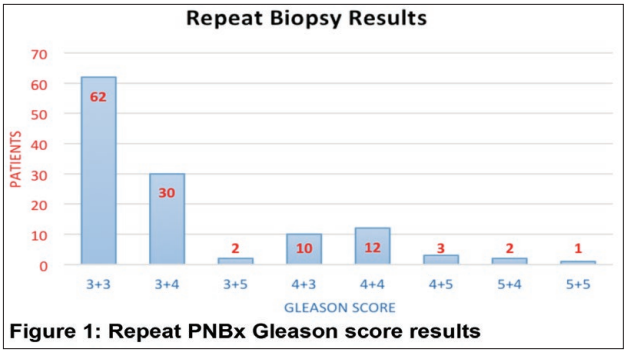


Figure 1: Repeat PNBx Gleason score results

MP1-08

Assessing the Utility of Repeat Biopsy on Patients with High Grade Prostatic Intraepithelial Neoplasia and Atypical Small Acinar Proliferation Using a Large Multi-Institutional Collaborative

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Introduction and Objective: Our purpose is to determine the incidence of clinically significant prostate cancer (csPCa) in the Philadelphia Urological Regional Collaborative (PURC) database after initial prostate needle biopsy (PNBx) of Atypical Small Acinar Proliferation (ASAP), High Grade Prostatic Intraepithelial Neoplasia (HGPIN), or both. We aim to investigate ability of multiparametric MRI (mpMRI) to predict finding csPCa at repeat PNBx and be a screening tool to obviate need for a second procedure.

Methods: We performed a retrospective review of PURC, a multi-institutional dataset of prostate cancer (PCa) patients. Men with only ASAP, HGPIN, or both on initial PNBx who had a repeat PNBx within 1 year were included. Detection of csPCa (Gleason≥3+4) on repeat PNBx was tabulated along with demographics, laboratory, and mpMRI data. mpMRI was positive if the PI-RADS score was ≥4.

Results: From an initial cohort of 14,272, we identified 279 patients who had repeat PNBx within one year after initial PNBx of ASAP, HGPIN, or both (Demographics in Table 1). 122 patients had PCa on repeat PNBx with 59 (21.1%) harboring csPCa (Figure 1). 143 patients (51.3%) underwent mpMRI prior to repeat PNBx. 5.59% had negative mpMRI but csPCa on repeat PNBx; 18.9% had positive mpMRI and csPCa on repeat PNBx; 28.0% had positive mpMRI and Gleason 6 PCa or negative results on repeat PNBx.

Conclusions: 21.1% of patients with HGPIN and/or ASAP results on initial PNBx were found to have csPCa on repeat PNBx. Of those who had a negative mpMRI prior, only ~5% were found to have csPCa on repeat PNBx.

Table 1: Patient Characteristics

	N (%) or Mean / Median	
	Total	csPCa
Number of Patients	279 (100%)	59 (21.1%)
Age (years)	65	65
Ethnicity		
Caucasian	205 (73.5%)	39 (66.1%)
African American	54 (19.4%)	18 (30.5%)
Asian American	9 (3.22%)	0 (0%)
Other/Unknown	11 (3.94%)	2 (3.39%)
Family History		
1st degree relative	51 (18.3%)	8 (13.6%)
2nd degree relative	15 (5.38%)	4 (6.78%)
1st & 2nd degree relatives	10 (3.58%)	4 (6.78%)
Positive Unknown	3 (1.08%)	0 (0%)
Unknown	25 (8.96%)	4 (6.78%)
None	175 (62.7%)	39 (66.1%)
Median initial PSA	4.69	5.0
ASAP	133 (47.7%)	26 (44.1%)
HGPIN	116 (41.6%)	29 (49.2%)
ASAP & HGPIN	30 (10.8%)	4 (6.78%)

MP1-09

Assessing Patient Reported Recovery after Prostate Biopsy with the Medaux Platform

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Introduction and Objective: The transperineal (TP) prostate biopsy (PBx) technique has gained popularity due to the decreased risk in infectious complications. Barriers to this approach have been increased discomfort and decreased patient experience with the procedure. Here we present patients' reported outcomes undergoing TP vs. transrectal (TR) PBx at a single institution.

Methods: We enrolled patients into the MedAux Prostate platform which generated surveys for patients to complete on days 1 and 7 post-PBx. The survey responses were analyzed to investigate whole cohort PBx recovery outcomes, as well as compare the recovery between the TP and TR approaches. We tested associations using the statistical t-test, with p-values <0.05 considered statistically significant.

Results: A total of 83 patients (41 TR and 42 TP) completing surveys for days 1 and 7 were used for analysis. There was no significant difference in patient discomfort when comparing the TP and TR cohorts (0.95 ± 0.94 vs. 1.34 ± 1.1, p=0.087, respectively). For quality of life domains, no significant differences were seen between the two techniques (Figure 1B-C). On assessment of patients' perception, those without a history of a prior PBx reported their PBx being better than expected compared to those who underwent a prior TR biopsy (p=0.046).

Conclusions: Our analysis presents the first assessment of patient perceptions following TP or TR PBx. The study shows no significant differences in patient procedural experience (pain score), post-procedural side effects, and quality of life domains. Interestingly, having a prior TR biopsy was associated with an inferior experience during TP biopsy.

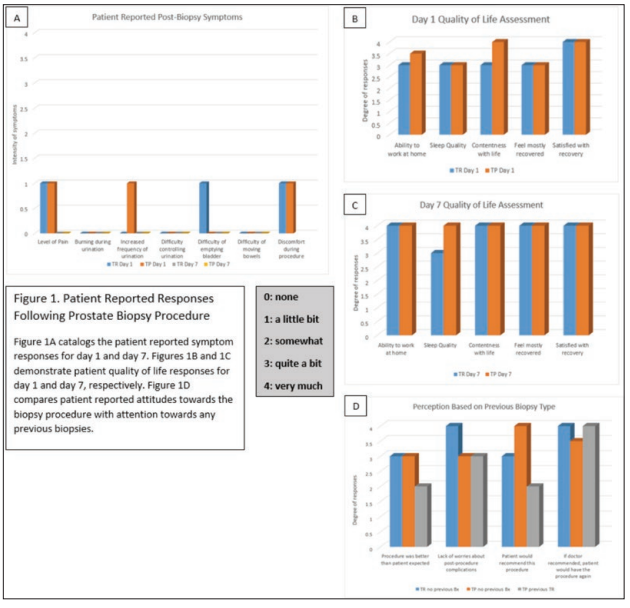

Figure 1. Patient Reported Responses Following Prostate Biopsy Procedure

Figure 1A catalogs the patient reported symptom responses for day 1 and day 7. Figures 1B and 1C demonstrate patient quality of life responses for day 1 and day 7, respectively. Figure 1D compares patient reported attitudes towards the biopsy procedure with attention towards any previous biopsies.

MP1-10

Changes in Planned Disease Management after Piflufolastat F-18 PET/CT in Men with Biochemically Recurrent Prostate Cancer and Low PSA Levels: A CONDOR Study Secondary Analysis

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Introduction and Objective: Piflufolastat F-18 is a FDA-approved PSMA-targeted imaging agent for prostate cancer patients at initial staging and disease recurrence. In a phase 3 study of prostate cancer patients with biochemical recurrence, 63.9% (131/205) of participants had a change in intended disease management plan based on pre- and post-piflufolastat F-18 PET/CT medical management questionnaires (MMQs). Clinical utility of piflufolastat F-18 scanning in men with very low/low PSA levels (<0.5 ng/mL) hasn't been previously described. We report changes in intended management in this patient subset.

Methods: Men ≥18 years old with rising PSA after definitive prostate cancer therapy and negative/equivocal imaging were enrolled. A single ~9 mCi (333 MBq) dose of piflufolastat F-18 was administered followed by PET/CT 1-2 hours later. Treating physicians completed a pre-PET MMQ documenting the initial intended management plan for their patients based on available clinical information. After PET, a post-PET MMQ was completed in light of PET findings. Differences from pre-scan recommendations were reported as changes in intended management plans.

Results: 208 men (median PSA 0.8 ng/mL [range 0.17-98.45], n=202) underwent piflufolastat F-18-PET/CT. 200 patients had both baseline PSAs and completed MMQs. 69 patients had baseline PSA levels ≤0.5ng/mL. 27 (39.1%) recorded a change in intended management based on positive (n=20) or negative (n=7) PET: salvage local-to-systemic therapy (n=15); systemic-to-local therapy (n=3); observation-to-treatment (n=5); and treatment-to-observation (n=4).

Conclusions: The frequency of changes in intended disease management in biochemically recurrent prostate cancer patients with low baseline PSA (≤0.5ng/mL) was 39.1%. Both negative and positive PET/CT results impacted treatment recommendations and can provide useful and actionable information.

Variable	N (%)	Biopsy Cohort, n (%)	Biopsy Cohort, n (%)
N	83	41	42
Transperineal biopsy	42	0	42
Transrectal biopsy	41	41	0
Median number of prior prostate biopsies	1	1	1
Known hx of PCa	42	19	23
Average pre-procedural PSA	6.95	6.75	7.15
Preoperative ASA/antiplatelet	26 (31.3)	13 (31.7)	13 (31.0)
Pre-procedural anticoagulant	7 (8.4)	5 (12.2)	2 (4.9)
Hx of UTI	0	0	0
Hx of post biopsy sepsis	2 (2.4)	0	2 (4.8)
Hx of rectal bleeding	0	0	0
Biopsy indication			
ePSA	63	34	29
Abnormal DRE	2	1	1
Other	18	6	12
Average number of biopsies	12.9	13.05	12.76
Average size of prostate (g)	45.77	38.64	50.37
Complications (Days 0-14)	0	0	0
Complications (Days 15-30)	0	0	0
Blood in stool day 1	16	9	7
Patient reported blood clot	3	2	1
Blood in stool day 7	1	1	0
Patient reported blood clot	0	0	0
Presence of Symptoms days 1	2 (2.4)	1 (2.4)	1 (2.4)
Presence of Symptoms days 7	1 (1.2)	0	1 (2.4)

Table 1. Patient Demographics and Cancer Characteristics

MP1-11

Definitive Local Treatment for Metastatic Prostate Cancer: An NCDB Retrospective Study

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Introduction and Objective: Prostate cancer (PCa) is the second leading cause of cancer mortality in US males with metastatic disease (mPCa) comprising 5% of cases. This study compares the use of definitive local treatment (LT) via pelvic radiotherapy (RT) or radical prostatectomy (RP) with androgen deprivation therapy (ADT) vs. ADT alone for metastatic prostate cancer.

Methods: The National Cancer Database (NCDB) was queried from 2004-2017 to conduct a retrospective cohort analysis of cTanyNanyM1 PCa who received LT + ADT vs. ADT alone. Clinicopathologic variables were compared and Cox Proportional Hazards Model was used to identify predictors of Overall Survival (OS). The Kaplan-Meier (KM) method and log rank test were used to compare overall survival for LT+ADT vs. ADT alone.

Results: A total of n=36,635 patients with cM1 were identified with 3197 (8.7%) patients receiving LT + ADT. Among LT + ADT, 2884 (90.2%) patients received RT + ADT and 313 (9.8%) received RP + ADT. Median follow-up was 2.8 years. Kaplan-Meier analysis showed significant improvement in 5-year OS for patients who received LT + ADT vs. ADT alone. For ADT alone, 5-year OS was 31.3% (CI= 30.7-31.8%) vs. 54.2%. (CI= 52.4-56.1%) for LT+ADT. Furthermore, comparing the type of LT on KM analysis: RP + ADT showed better 5-yr OS, 74.0% (CI= 67.5-79.1%) vs. 52.2% (CI= 50.2-54.2%) for XRT+ADT (p<0.001).

Conclusions: Definitive local treatment in addition to ADT significantly improves 5-year OS for patients with metastatic prostate cancer. There is a significant improvement in patient outcomes for those who are treated with RP vs RT. These findings support multimodal treatment for metastatic prostate cancer, and further studies are needed to optimize the choice of definitive LT in this setting.

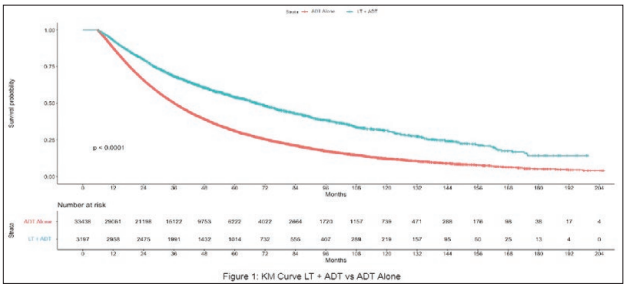

Figure 1: KM Curve LT + ADT vs ADT Alone

MP1-12

Darolutamide in Combination with Androgen-Deprivation Therapy and Docetaxel: Efficacy and Safety by Disease Volume and Risk in the Phase 3 ARASENS Study

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Introduction and Objective: Darolutamide + androgen-deprivation therapy (ADT) + docetaxel significantly reduced the risk of death by 32.5% (P<0.0001) vs placebo + ADT + docetaxel in patients with metastatic hormone-sensitive prostate cancer (mHSPC). Outcomes based on disease volume and risk provide additional information to clinicians.

Methods: In ARASENS (NCT02799602), patients with mHSPC were randomized 1:1 to darolutamide 600 mg twice daily or placebo, with ADT + docetaxel. High-risk disease was defined as ≥2 of: Gleason score ≥8, ≥3 bone lesions, presence of measurable visceral metastasis. High-volume disease was defined as visceral metastases and/or ≥4 bone metastases with ≥1 beyond the vertebral column/pelvis. Overall survival (OS) was assessed using an unstratified Cox regression model.

Results: Of 1305 patients, 1005 (77%) had high-volume disease, 912 (70%) had high-risk disease, 300 (23%) had low-volume disease, and 393 (30%) had low-risk disease. Darolutamide + ADT + docetaxel prolonged OS regardless of high- or low-volume disease with hazard ratios (HRs) of 0.69 and 0.68 vs placebo + docetaxel + ADT, respectively. OS benefit of darolutamide vs placebo was also similar for patients with high- or low-risk disease (Table). Darolutamide improved clinically relevant secondary endpoints vs placebo in high/low-volume and risk subgroups, with HRs generally in the range of those observed in the overall population. The incidences of treatment-emergent adverse events were consistent with the overall ARASENS population across subgroups by high/low volume and high/low risk.

Conclusions: Darolutamide + ADT + docetaxel improved OS and clinically relevant secondary efficacy outcomes vs placebo + ADT + docetaxel in patients with high- and low-volume and high- and low-risk mHSPC. The favorable safety profile of darolutamide was reconfirmed in high/low-volume and high/low-risk populations.

Table. Overall survival in the overall ARASENS population and subgroups.

No. deaths/ No. patients (%)	Darolutamide + ADT + docetaxel	Placebo + ADT + docetaxel	HR (95% CI)
All patients	229/651 (35.2)	304/654 (46.5)	0.68 (0.57–0.80)
De novo disease[a]	206/558 (36.9)	271/566 (47.9)	0.71 (0.59–0.85)
Recurrent disease[a]	22/86 (25.6)	30/82 (36.6)	0.61 (0.35–1.05)
High-volume disease	203/497 (40.8)	268/508 (52.8)	0.69 (0.57–0.82)
Low-volume disease	26/154 (16.9)	36/146 (24.7)	0.68 (0.41–1.13)
High-risk disease	185/452 (40.9)	239/460 (52.0)	0.71 (0.58–0.86)
Low-risk disease	44/199 (22.1)	65/194 (33.5)	0.62 (0.42–0.90)

[a]Thirteen patients did not have assessment of distant metastases at initial diagnosis.
ADT, androgen-deprivation therapy; CI, confidence interval; HR, hazard ratio.

MP1-13

Comparative Real-World Evidence on Darolutamide, Enzalutamide, and Apalutamide for Nonmetastatic Castration-Resistant Prostate Cancer Patients in the United States (DEAR)

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Introduction and Objective: Novel androgen receptor inhibitors (ARIs) are recommended for patients with nonmetastatic castration-resistant prostate cancer (nmCRPC). DEAR is the first study comparing real-world utilization, outcomes, and occurrence of adverse events (AEs) between darolutamide and enzalutamide/apalutamide in nmCRPC patients.

Methods: This retrospective chart review cohort study used electronic medical records from the PPS network of US urology practices. Eligible patients had nmCRPC, no prior novel hormonal therapy, and initiated first ARI treatment between 8/2019-3/2022. We describe % of patients who discontinued initial ARI treatment (DISC), % who progressed to metastasis (PROG), and % with AEs. A comparative analysis was performed between darolutamide and enzalutamide/apalutamide using Cox proportional hazards models for time to DISC/time to PROG, adjusting for observed baseline factors.

Results: 870 patients were included (darolutamide/enzalutamide/apalutamide, n=362/382/126). Median age (80/79/80 years), median baseline prostate-specific antigen doubling time (6.8/6.4/7.4 months), other baseline characteristics, and median follow-up (22.2/22.7/23.3 months) were similar for darolutamide/enzalutamide/apalutamide. A lower % of patients had a DISC event on darolutamide vs enzalutamide/apalutamide (30.4 vs 40.8/46.0) or PROG event (17.7 vs 28.3/27.8). Multivariate analyses showed that patients on darolutamide had a lower risk of DISC and PROG over time vs enzalutamide/apalutamide (Table). A lower % of patients on darolutamide had AEs vs enzalutamide/apalutamide (24.9 vs 29.3/30.2).

Conclusions: Overall, a lower % of patients had DISC, PROG, or AEs on darolutamide vs enzalutamide/apalutamide. Patients on darolutamide had considerably lower risk of DISC and PROG vs enzalutamide/apalutamide. This study confirmed darolutamide's strong efficacy and favorable tolerability profile in real-world setting. Longer treatment duration seen with darolutamide may be associated with a lower risk of progression to mCRPC vs enzalutamide/apalutamide.

Table. Outcomes.

Adjusted Cox proportional hazards model,[a] HR (95% CI)	Darolutamide (n=328) vs enzalutamide (n=341)	Darolutamide (n=328) vs apalutamide (n=122)
Time to DISC[b]	0.73 (0.56–0.94)	0.61 (0.44–0.85)
Time to PROG[c]	0.59 (0.43–0.82)	0.65 (0.42–0.99)

[a]Adjusted for age at index, race, insurance coverage, index yr, BL PSA, BL PSA doubling time, time from CRPC to index date, and Gleason score. [b]DISC was defined as occurrence of any of the following: initial ARI treatment stop/switch to another ARI/death. [c]PROG was defined as evidence of bone, visceral/soft tissue, or distant nodal metastases, such as secondary neoplasm diagnosis codes or codes associated with a PC-related claim, manual data entry in patient charts, and/or initiation of mCRPC treatment (abiraterone, sipuleucel-T, docetaxel, cabazitaxel, mitoxantrone, or radium-223).

MP1-14

Impact of Piflufolastat F-18 on Renal Function in High-Risk Prostate Cancer Patients from the OSPREY Trial

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Introduction and Objective: Piflufolastat F-18, a PSMA-targeted radiopharmaceutical, is approved for imaging prostate cancer patients at the time of initial staging and disease recurrence. As part of its normal biodistribution, piflufolastat F-18 is eliminated via urinary excretion. We report on the impact of piflufolastat F-18 on renal function in men with high-risk prostate cancer.

Methods: Piflufolastat F-18-PET/CT was evaluated in NCCN high-risk prostate cancer patients scheduled to undergo radical prostatectomy with pelvic lymphadenectomy. A single dose of 9 mCi (333 MBq) of piflufolastat F-18 was administered IV, followed by PET/CT 1-2 hours thereafter. Serum creatinine (mg/dL) was measured at baseline and within 28 days of dosing. Changes were measured and stratified by estimated glomerular filtration rate (eGFR).

Results: 268 men (median PSA 9.7 ng/mL [range 1.2-125.3], n=267) underwent piflufolastat F-18-PET/CT. Baseline creatinine levels (mean±SD, median) were 0.979±0.187, 0.949 mg/dL; n=264; and post-piflufolastat F-18 levels were 0.987±0.206, 0.949 mg/dL; n=252. Minimal changes in creatinine levels (mean±SD, median) were seen after piflufolastat F-18 dosing and this lack of effect was observed over a range of eGFRs (Table 1).

Conclusions: Despite high renal uptake of piflufolastat F-18, kidney function remained unchanged after dosing without any change in creatinine clearance at all eGFR ranges. Piflufolastat F-18 appears to be safe/well tolerated including men with mild/moderate renal insufficiency.

Table 1	Change in Creatinine (mg/dL) (Baseline to Post)	
eGFR (mL/min)	**Mean±SD (95% CIs)**	**Median (range)**
All Patients (n=249)	0.003±0.118 (-0.012 – 0.018)	0 (-0.519 – 0.678)
30 to <60 (n=16)	-0.070±0.203 (-0.178 – 0.038)	0 (-0.519 – 0.200)
60 to <90 (n=168)	0.0002±0.115 (-0.017 – 0.018)	0 (-0.210 – 0.678)
≥90 (n=65)	0.029±0.085 (0.008 – 0.050)	0.023 (-0.271 – 0.300)

MP1-15

Disparities in Surgical Care for Post-prostate Cancer Treatment Complications: Racial Perspectives from a National Medicare-based Analysis

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Introduction and Objective: While racial disparities in prostate cancer (PCa) incidence, severity, mortality, treatment, and outcomes have been documented, their impact on care for post-PCa treatment complications remains under-reported. We investigated racial differences in the receipt of surgical care for urinary incontinence (UI) and erectile dysfunction (ED) post-radical prostatectomy (RP) and/or radiation therapy (RT).

Methods: Using the 100% Medicare standard analytical files (SAF), a retrospective cohort study of localized PCa patients from 2015-2021 was completed. Men who underwent RP and/or RT, and subsequently developed UI and/or ED, were grouped into 4 cohorts: RP-ED (n=11,567), RP-UI (n=12,100), RT-ED (n=8,358), and RT-UI (n=5,329). Rates of surgical care (artificial sphincter or male sling for UI, penile prosthesis for ED) for these complications were compared between White and Black men. Covariate-adjusted impact of race on time to surgical care (age, location, Charlson comorbidity index as covariates) was performed using Cox proportional-hazards modeling.

Results: Surgical care incidence rates were 6.8, 3.61, 3.07 and 1.54 per 100 person-years for RP-UI, RT-UI, RP-ED, and RT-ED cohorts, respectively. Statistically significant intra-cohort racial difference in surgical care incidence were present, except in the RT-UI cohort. Black men were less likely to receive UI surgical care (RP-UI AHR:0.80, 95% CI:0.67-0.96), but more likely to receive ED surgical care (RP-ED AHR:1.79, 95% CI:1.49-2.17; RT-ED AHR:1.50, 95% CI:1.11-2.01) than White men [Table 1].

Conclusions: Surgical care for post-PCa treatment complications was low among PCa survivors aged ≥65 years, and significantly impacted by race. We observed that Black men were more likely to receive ED surgical care, while White men were more likely to receive UI surgical care. Studies investigating the basis for this observation would be novel and informative.

Table 1: Racial comparison for receipt of surgical care for post-PCa treatment complications

Cohort	Race	N	Key patient characteristics†			Incidence rate of surgical care per 100 person-years		Cox proportional hazard regression model	
			Mean age (SD)	% located in South region	Mean Charlson Comorbidity Score (SD)	Rate (95% CI)	p-value	Unadjusted hazard ratio (95% CI)	Adjusted hazard ratio (95% CI)
RP-ED	White	10,543	68.74 (3.20)	32.18	2.77 (1.42)	2.81 (2.61-3.02)	< 0.0001*	Reference	Reference
	Black	1,024	67.92 (2.76)	55.91	3.01 (1.62)	5.80 (4.91-6.85)		2.03 (1.69-2.44)	1.79 (1.49-2.17)
RP-UI	White	11,168	69.34 (3.53)	34.95	2.87 (1.50)	7.10 (6.77-7.43)	0.0120*	Reference	Reference
	Black	932	68.38 (3.06)	57.22	3.05 (1.66)	5.67 (4.77-6.74)		0.84 (0.70-1.01)	0.80 (0.67-0.96)
RT-ED	White	7,225	71.09 (4.63)	34.39	3.09 (1.75)	1.41 (1.23-1.61)	0.0011*	Reference	Reference
	Black	1,133	69.79 (4.22)	61.60	3.35 (1.92)	2.32 (1.80-2.99)		1.70 (1.28-2.26)	1.50 (1.11-2.01)
RT-UI	White	4,844	73.06 (5.87)	31.96	3.71 (2.18)	3.66 (3.28-4.09)	0.4567	Reference	Reference
	Black	485	71.84 (5.51)	56.88	4.06 (2.39)	3.15 (2.19-4.56)		0.88 (0.60-1.30)	0.72 (0.48-1.07)

*Statistically significant at p </= 0.05
†Significantly different at p </= 0.05 using two sample t tests for age and Charlson score and Chi-square test for geography.

MP1-16

Contemporary Patterns of Prostate Cancer Screening Among LGBTQ+ Patients

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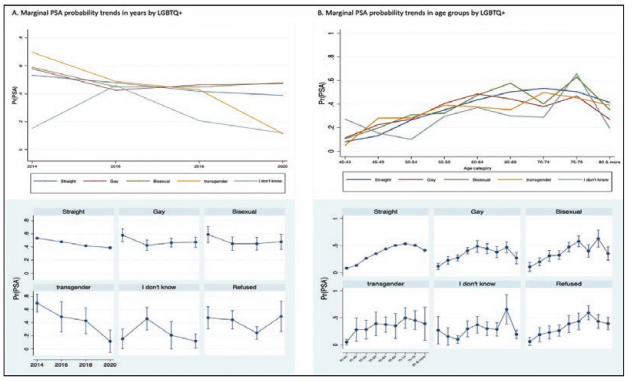
Introduction and Objective: Historically, LGBTQ+ populations have been under-represented in cancer research. Herein, we seek to analyze the current national prostate-specific antigen (PSA) screening trends in LGBTQ+ individuals with a prostate, who may face additional barriers to care.

Methods: Using PSA screening data from the CDC Behavioral Risk Factor Surveillance System (2014-2020), we conducted a complex weighted multivariable logistic regression analysis adjusted for potential confounders to evaluate the association between sexual orientation and gender identity (SOGI) and PSA screening.

Results: Of 270,326 respondents, 10,259 identified as LGBTQ+. Adjusted screening prevalence by SOGI was for straight 0.45 (95%CI 0.44-0.46), gay 0.47(0.42-0.51), bisexual 0.48(0.42-0.53), transgender 0.43(0.28-0.59), and "don't know" 0.33 (0.21-0.45), P=0.34. Two-way interaction between LGBTQ+ identity and survey year was statistically significant (p<0.01); the marginal probability analysis showed that transgender individuals and those unsure of their SOGI were less likely to be screened in 2020 compared to previous years. Two-way interaction between LGBTQ+ status and age group was statistically significant (P<0.01); the marginal probability analysis indicated that those unsure of their SOGI are more likely to be tested at a younger age compared to cisgender straight individuals by +0.29 (p<0.01), and are less likely to be screened at the recommended age of 65-69 by -0.41 (p<0.01).

Conclusions: Our national analysis showed that PSA screening trends did not appreciably differ among gay and bisexual individuals in relation to straight individuals. Transgender individuals and those unsure of their SOGI experienced a decline in PSA screening rates from 2016 to 2020. Individuals unsure of their SOGI were less likely to undergo guideline age-recommended PSA screening, indicating a need for further study.



MP1-17

Racial Disparities in Treatment of Depression Secondary to Androgen Deprivation Therapy for Prostate Cancer

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Introduction and Objective: Androgen deprivation therapy (ADT) is a crucial treatment modality for some men with prostate cancer (PCa). Yet, ADT has its own associated morbidity including developing clinical depression. Limited literature exists investigating the diagnosis and treatment of post-ADT depression. This study aimed to analyze the management of post-ADT depression and identify any potential racial disparities.

Methods: A multi-center, international, electronic health record network (TriNetX) was queried for patients diagnosed with PCa and treated with ADT from 2003-2023. Differences in rates of diagnosing depression and receiving subsequent treatment with antidepressant medications were then compared between White and Black patients. Means, standard deviations, odds ratios, and test statistics were calculated with 95% confidence intervals. Statistical analyses were conducted within the TriNetX platform.

Results: Data was queried from 93 healthcare organizations to yield 78,313 PCa patients treated with ADT. More ADT patients developed depression compared to non-ADT patients [9% vs 6%; OR 1.6; 95% CI (1.5-1.7); p<0.0001]. Of those with post-ADT depression, 35% were treated with medication. White patients were more likely than Black patients to be diagnosed with depression after starting ADT [10% vs 8%; OR 1.3; 95% CI (1.2-1.4); p<0.001]. Of patients with post-ADT depression, White patients were more often treated with a selective serotonin reuptake inhibitor (18% vs 13%, p=0.0040).

Conclusions: This analysis demonstrates a significant association between ADT and the development of clinical depression, while highlighting its potential medical undertreatment. Black patients are diagnosed with, and treated for, post-ADT depression less frequently than White patients. Routine screening initiatives aimed at identifying patients suffering from post-ADT depression may help alleviate this disparity. Limitations of this study include retrospective design and uncertainty around severity of depression, which might correlate with need for medication.

MP2-02

Retrograde Percutaneous Nephrolithotomy using RetroPerc: An Early Adopter's Experience

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Introduction and Objective: Retrograde renal access percutaneous nephrolithotomy technique was first described by Lawson in 1983; however, the technique was not widely adopted in the urology community. RetroPerc is a new retrograde access device that uses direct endoscopic visualization with a flexible ureteroscope. RetropPerc may be an alternative for the urologist not comfortable obtaining antegrade access in order to perform a percutaneous nephrolithotomy.

Methods: Procedures were performed by a single surgeon in an ambulatory surgical center. RetroPerc was attempted in a total of 8 patients. Patient ages ranged from 53 to 74 years old, BMIs ranged from 22.1 to 33.7 and stone burden ranged from 14mm to 40mm with stone burden localized in the renal pelvis or the lower pole. C-arm fluoroscopy was used to track the puncture wire from the selected calix to its exit site in the skin.

Results: Retrograde access was successful in a total of 6 patients out of 8. Retrograde punctures were performed in an inter-pole or lower pole calix. Puncture-to-skin exit times ranged from 35 seconds to 183 seconds. Puncture attempts that were not successful resulted from: puncture wire hitting a rib, wire that tracked caudally and not suitable for tract dilation, and not visually identifiable wire skin exit site. No complications related to the renal access were noted.

Conclusions: RetroPerc is a viable and safe alternative for retrograde renal access. Both inter-pole and lower pole are suitable for retrograde punctures sites. Retrograde puncture attempts that were not successful were likely related to the learning curve associated with a new technique and not with inherent limitations of the device or the technique itself. Appropriate patient selection and surgical planning are key for a successful implementation of retrograde access. Further research is needed to identify the clinical scenarios where retrograde access maybe advantageous to the traditional antegrade approach.

MP2-01

Novel Pipeline Program Focused on Expanding Representation of Underrepresented Minorities in Urology

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Introduction and Objective: There is a need for pipeline programs in urology to increase the number of underrepresented minorities in medicine (URiM) and in particular urology. Pipeline programs have been started with medical students to increase their knowledge of urology but there are few looking at pre med students. EVMS department of urology started a 2 month summer internship 2 years ago providing the students with an opportunity to shadow faculty in the clinics and OR's. We performed this study to evaluate the perceptions of this pilot program and how we can improve it going forward.

Methods: 12 premed students from Hampton University 8 and Norfolk state university 4 were sent questionnaires regarding their experience in the internship. Demographic data, and perceptions of the program were gathered.

Results: 10 of the 12 students filled out the questionnaire. Of those 10 4 were from Norfolk State University and 6 were from Hampton University. At the time of the internship all were either 3rd or 4th year students. 100% of respondents stated that this internship increased their knowledge of what physicians and urologists do. 80% felt that urology may be a good fit for them when they finish medical school. 100% of the students would recommend it to others and were satisfied with the internship.

Conclusions: To increase understanding of urology for URiM it is our opinion that we need to start prior to medical school. OR There are numerous efforts to increase the pipeline for URiM into urology. This innovative program appears to increase the students knowledge of urology and even interest in urology as a career. Continued mentorship, improvements and expansions to the program will increase our exposure.

MP2-03

Ambulatory Percutaneous Nephrolithotomy is a New Standard of Care: An Analysis of Over 1600 Cases

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Introduction and Objective: The safety of percutaneous nephrolithotomy (PCNL) has improved through advances in technology and surgical approaches. Our data demonstrates ambulatory PCNL (aPCNL) is safely performed in most patients.

Methods: We analyzed patients who underwent aPCNL, including standard PCNL (24-30Fr) and mini-PCNL (14-23Fr), at two free-standing ambulatory surgery centers (ASCs) between 2015-2022. Exclusion criteria included BMI > 50, severe cardiopulmonary conditions, and history of prior anesthetic complication. Positioning was either prone or supine. Standard practices included endoscopic combined intrarenal surgery (ECIRS) technique for renal access, ureteral stent for drainage with a hemostatic plug, and local anesthesia through an intercostal rib block. Patients were observed for 90 minutes post-operatively. Patient and case data was collected prospectively. Descriptive statistics were performed.

Results: 1610 cases were analyzed (Table 1). The mean patient age was 57.4, mean BMI was 33.1, and mean ASA score was 2.3. 27% of patients had diabetes and 59% had hypertension. 17% of patients had a positive urine culture treated pre-operatively. The mean stone burden was 31.4mm. Standard PCNL was used in 66% of cases and 92% of cases were done through a single access. In 99% of cases a ureteral stent was placed for drainage. The mean treatment time was 18 minutes and mean observation time was 84 minutes. There was no planned second look in 90% of cases. The average EBL was 41mL. 1.9% of patients had a Clavien-Dindo complication > grade 2. 1.7% of patients required hospital transfer.

Conclusions: Ambulatory PCNL is efficacious and safe in appropriately selected patients. We found a low morbidity rate and low risk for hospital transfer. Precluding specific patient factors, PCNL can be routinely performed as an outpatient at experienced centers.

Table 1. Demographics and Operative Characteristics of Ambulatory Surgery Center PCNL Patients

n		1610
Age		57.4
Gender (F)		51.15%
Laterality (L)		54.33%
BMI		33.1 (12-49)
ASA		2.3 (1-4)
	1	4.40%
	2	59.50%
	3	35.57%
	4	0.39%
Diabetes Mellitus		414 (26.79%)
Hypertension		920 (59.27%)
Positive Urine Culture (treated)		255 (16.92%)
Pre-operative Creatinine		1.01 (0.41-5.57)
Stone Burden (1D mm)		31.35 (1.2-170)
Staghorn stone		109 (7.12%)
Complications Clavien-Dindo 2-5		30 (1.87%)
Clavien-Dindo Grade		
	2	13
	3	14
	4	3
	5	0
Only double J stent		99.42%
Hounsfield Units		887.12
EBL (mL)		41.67
Fluoroscopy Time (sec)		66.14 (0-322)
Treatment time (min)		18.27 (1-200)
OR Time (min)		89.79 (25-305)
30Fr Sheath		26.84%
24Fr Sheath		38.89%
Mini-PCNL		34.27%
Multiple Accesses		130 (8.44%)
No Planned Second Look		90.29%
PACU Time (min)		84.15 (30-247)
Transfer to Hospital		24 (1.67%)

MP2-04

Trends in Usage and Cost of Potassium Citrate and Alternative Alkalizing Agents for Nephrolithiasis

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Introduction and Objective: The rising incidence of nephrolithiasis places a hefty financial burden on the U.S. healthcare system. Potassium citrate, a mainstay in the medical management of nephrolithiasis, is cost-prohibitive for patients and further exacerbates this burden. Alternative alkalinizing agents have demonstrated similar efficacy and are less expensive. This study aims to examine urologists' prescribing patterns for alkalinizing agents over time.

Methods: The Medicare Part D Prescribers Database was used to identify prescriptions by urologists for alkalinizing agents including potassium citrate, potassium bicarbonate, sodium citrate, and sodium bicarbonate. The total annual expenditure, number of claims, and cost per claim from 2013 to 2020 were analyzed.

Results: Potassium citrate represented >99% of claims and costs each year for alkalinizing agents. Expenditure for potassium citrate increased from $13,711,645.99 in 2013 to $27,189.128.66 in 2020 (Table). Claims for potassium citrate also increased from 97,734 in 2013 to 152,450 in 2020. The percentage of branded potassium citrate prescribed, which was $49.49–$170.80 more expensive per claim than the generic version, declined from 2.23% in 2013 to 0.02% in 2020. The yearly cost per claim was $140.30–$209.37, $27.00–$47.35, $18.17–$42.69, and $21.75–$70.56 for potassium citrate, potassium bicarbonate, sodium citrate, and sodium bicarbonate, respectively. Potassium citrate was $118.54–$155.04 more expensive per claim than the next most expensive alternative and $122.09–$185.84 more expensive per claim than the cheapest alternative. Prescribing the next most expensive alternative instead of potassium citrate would have resulted in cost savings ranging from $11,585,492.14–$23,573,029.70 per year.

Conclusions: Urologists can generate significant cost savings by prescribing alternative alkalinizing agents. Lowering the cost of alkali therapy is essential to reducing financial toxicity for patients and improving equitable access to preventative stone treatment.

Table: Yearly Expenditure and Claims Trend for Alkalinizing Agents by Urologists

Expenditure Trend	2013	2014	2015	2016	2017	2018	2019	2020
Potassium Citrate	$13,711,645.99	$20,931,955.10	$24,567,308.30	$25,783,551.26	$30,866,712.68	$30,602,831.58	$28,722,021.73	$27,189,128.66
Potassium Bicarbonate	$0.00	$0.00	$989.11	$1,089.07	$982.38	$934.91	$2,357.11	$3,509.95
Sodium Citrate	$7,080.81	$6,915.63	$3,495.78	$1,831.81	$1,458.61	$2,988.61	$1,599.36	$2,409.26
Sodium Bicarbonate	$4,742.48	$14,122.81	$12,950.33	$15,535.13	$8,529.78	$4,445.42	$2,866.65	$3,571.02
Claims Trend	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Potassium Citrate	97,734	109,978	126,654	139,839	147,427	155,523	158,063	152,450
Potassium Bicarbonate	0	0	28	23	33	24	84	130
Sodium Citrate	389	233	98	63	62	70	88	68
Sodium Bicarbonate	218	251	299	289	157	63	88	98

MP2-05

ChatGPT Performance on Standardized Urology Knowledge Assessment Questions

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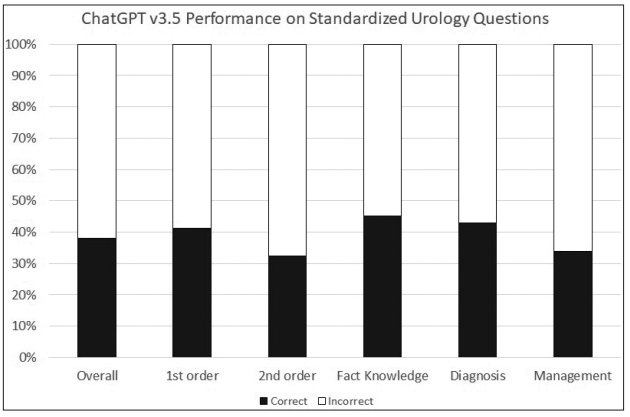
Introduction and Objective: Chat Generative Pre-Trained Transformer (ChatGPT), a Large Language Model, has the ability to produce novel outputs generating a sequence of words based on the previous text. Previous publications have shown ChatGPT's ability to approach passing scores on the United States Medical Licensing Exam (USMLE) as well as provide accurate and complete answers to medical reasoning questions across 17 specialties. Thorough testing of ChatGPT's clinical reasoning ability in urology has not been conducted. The objective of this study was to measure ChatGPT's accuracy rate with respect to medical knowledge assessment exams aimed at urologists.

Methods: One hundred multiple-choice questions similar in content and wording were created to parallel the Self-Assessment Study Program. These questions were wholly unique and distinct from the SASP and were submitted to ChatGPT v3.5. Questions were categorized based on topic, type (knowledge, diagnosis, or management), as well as degree of complexity (first- or second-order).

Results: ChatGPT answered 38% of questions correctly. First-order questions (n=63) were answered correctly more (41%) than second-order questions (n=37, 32%). Questions testing knowledge of facts (n=31, 45%) were answered correctly more than those testing diagnosis (n=7, 43%) or management (n=62, 34%). Strengths included fluid/electrolytes (n=7, 71%), core principles (n=7, 57%), and neoplasm (n=21, 52%). Weaknesses included urinary diversion (n=4, 0%), trauma/fistulae (n=12, 8%), and infection/inflammatory disease (n=6, 17%).

Conclusions: ChatGPT has been used to assess the effectiveness of the language model to clinically reason and answer USMLE questions. With respect to urology knowledge assessment questions, ChatGPT performed below 40%. Further development of the language model may allow improved clinical reasoning and potentially question generation for the advancement of resident education.



MP2-06

Characterizing the Burden of Intraoperative Urological Surgical Waste: Opportunities for Reduction and Mitigation

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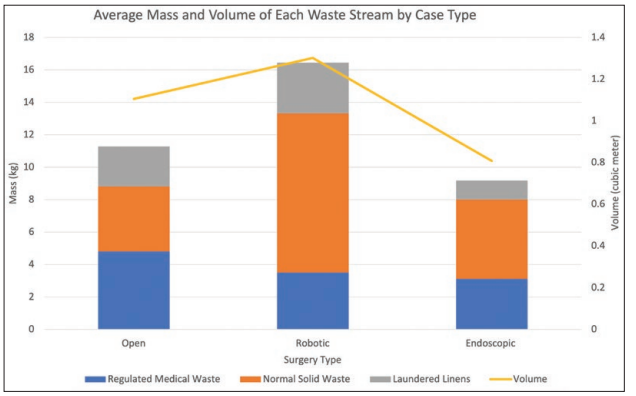
Introduction and Objective: In the US, each hospital patient produces about 15.33kg of waste daily, resulting in 5.5 million metric tons of waste every year. The burden of urologic surgical waste has not yet been fully examined. This study aimed to establish baseline estimates of the various types and amounts of intraoperative urological surgical waste, to understand the scope of the problem.

Methods: Data from 31 cases among four surgeons at an urban academic center between July and September of 2021 were analyzed. Three waste streams were measured: regulated medical waste (RMW), normal solid waste (NSW), and laundered linens (LL). Data collection began when the OR team started preparing the room and ended when the team disposed of personal protective equipment. A waste catalog was recorded for each case.

Results: The average 11.11kg and 0.97m^3 generated per case translated to 344.41kg and 30.05m^3 of total waste. Mass and volume of RMW, NSW, and LL were significantly different between case types, with robotic generating the most and endoscopic generating the least (Figure 1). One-way ANOVA was used to compare mean mass and volume of waste streams between case types. In all cases, there was improper disposal of non-RMW items as RMW. The average length of case, in minutes, was 98 for open, 201 for robot-assisted, and 55 for endoscopic. NSW accounted for 52.7% of total waste weight, RMW for 31.3%, and LL for 16.0%.

Conclusions: The results demonstrate the excessive environmental and economic burden of urologic surgical waste, but also highlight opportunities for mitigation and reduction. These include proper waste segregation, better packaging of surgical equipment, and OR-based educational initiatives.



MP2-07

Incidence of Research Gap-Years in Urology Residency Applicants and the Association with USMLE Step 1 and Step 2 CK Scores

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Introduction and Objective: The application process for urology residency has historically been competitive. Advanced degrees and research productivity have traditionally been favorably viewed by residency programs. Our goal is to examine trends in academic gap-years (AGYs) taken by urology applicants.

Methods: This was a retrospective observational study of urology applicants to a single institution from 2015-2021. An AGY was defined as an interruption in medical training which delayed residency application by ≥1 year with the primary goal of pursuing research and/or education. AGYs included non-PhD degree-seeking gap-years (DSGYs), research gap-years (RGYs), or teaching gap-years (TGYs). Exclusion criteria included MD-PhD applicants and personal/logistical interruptions. Bivariate logistic regression was used to compare gender, medical degree type, incidence, and USMLE scores amongst students who took an AGY with those who did not.

Results: We reviewed 1899 applications, representing 63.38% of the total applications submitted to urologic residencies. The average incidence of AGYs in applicants was 7.85%, with a non-significant increasing trend (r=0.217). The majority (77.85%) of AGY applicants took an RGY. Non-male applicants comprised 26.6% of AGY applicants, compared to 27.7% of all applicants. From 2015 to 2021 there was a significant increase in Step 2CK scores amongst all applicants (p=0.0161). Applicants with lower USMLE Step 1 and Step 2CK scores showed significant correlation with taking an AGY/RGY (AGY: p=<0.001, p=0.0032; RGY: p=<0.001, p=0.0492).

Conclusions: Our results depict that urology applicants who took an AGY/RGY had significantly lower USMLE Step 1 and Step 2CK scores when compared to applicants who did not take an AGY/RGY. This data suggests that USMLE scores could be a driving factor for the decision to take an AGY/RGY. This may have future implications as Step 1 has become pass/fail.

Figure 1. Proportion of AGY Applicants and Relation to USMLE Scores From 2015-2021

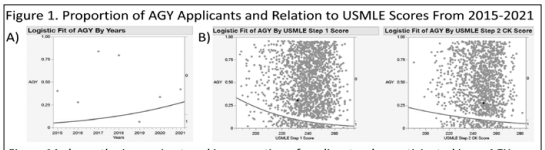

Figure 1A shows the increasing trend in proportion of applicants who participated in an AGY over time (r=0.217). Figure 1B illustrates the relationship between USMLE score and proportion of applicants who took an AGY, showing that applicants with lower USMLE Step 1 and Step 2 CK score were more likely to take an AGY (p<0.001 and p<0.032, respectively).

MP2-08

Gender Diversity in Urology Residency Program Leadership Is Associated with Gender Diversity in Residency Cohort

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Introduction and Objective: The American Urological Association (AUA) has identified the lack of gender diversity amongst current providers and trainees as a major detriment to urologic care. Previous literature has described interventions in addressing this ongoing issue, but significant disparities remain. We evaluated the impact of faculty diversity, specifically in the program director (PD) role, in improving diversity in the future generation of urologists.

Methods: Demographics for all program faculty and current residents matched in the 2017-2022 cycles at United States' accredited urology residency programs were collected from institutional websites. Data verification was completed using the AUA Accredited Listing of U.S. Urology Residency Programs and official program social media channels. Programs formed in 2022 were excluded. The proportion of female residents across cohorts were compared using two-tailed Student's t-tests.

Results: 143 accredited programs were studied, and six were excluded due to lack of data. Of the 137 programs included, 30 (22%) have female PDs. Of all 1,799 residents, 571 (32%) are women. There has been an upward trend in the proportion of females matched, rising from 26% in 2018 to 30% in 2019, 33% in 2020, 32% in 2021, to 38% in 2022. When compared to programs with male PDs, those with female PDs had a significantly higher proportion of female residents (36.2% vs 28.8%, p=0.02).

Conclusions: Nearly one-quarter of urology residency PDs are female, and approximately one-third of current urology residents are women, a proportion that has been increasing over time. Our findings indicate that programs with female PDs are more likely to match female residents, suggesting that programs with a female PD may rank female applicants more favorably or female applicants may rank programs with female leadership more highly. Given the ongoing gender disparities in urology, these findings indicate notable benefit in supporting female urologists in attaining academic leadership positions.

MP2-09

Effect of USMLE Score Cutoffs on Recruitment of Underrepresented Applicants in the Urology Match

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Introduction and Objective: The United States Medical Licensing Examination (USMLE) is a three-step testing process for medical licensure in the United States. The first of these examinations, USMLE Step 1, has been used as an objective measure to screen applicant pools for urology residency positions. Emphasis on Step 1 scores may reduce diversity in competitive specialties and disadvantage those who are underrepresented in medicine (URM). We aim to determine how screening using USMLE score cutoffs may affect recruitment of URM applicants.

Methods: De-identified data from the Association of American Medical Colleges' Electronic Residency Application Service system was reviewed, representing all applicants to our institution's urology residency program from 2018-2022. We analyzed self-reported demographic variables including race/ethnicity, age, sex/gender, and USMLE scores. Chi-square tests and ANOVA were used to determine the association between race/ethnicity and other sociodemographic and academic metrics. Applicants were stratified by USMLE Step 1 cutoff scores and the distribution of applicants by race/ethnicity was assessed using a Gaussian nonlinear regression fit.

Results: A total of 1258 applicants submitted applications to our program during the five-year period, including 872 males (69.3%) and 386 females (30.7%). Most applicants were White (43.5%), followed by Asian (28.3%), Hispanic/Latino (11.7%), and Black (7.0%). There was an association between race/ethnicity and USMLE scores (Table 1). As cutoff score increases, percentage of URM applicants decreases (Figure 1).

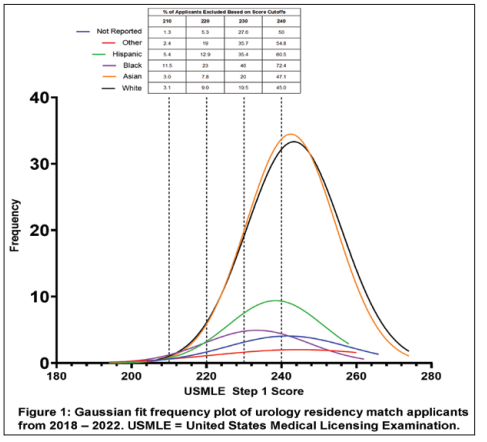

Figure 1: Gaussian fit frequency plot of urology residency match applicants from 2018 – 2022. USMLE = United States Medical Licensing Examination.

Table 1: Characteristics of urology residency match applicants from 2018 – 2022. Data are n (%) or median, unless otherwise stated. US = United States, USMLE = United States Medical Licensing Examination, AOA = Alpha Omega Alpha Medical Honor Society.

Self-reported identity	American Indian n = 5 (0.4%)	Asian n = 356 (28.3%)	Black n = 88 (7.0%)	Hispanic/Latino n = 147 (11.7%)	White n = 547 (43.5%)	Other n = 38 (3.0%)	Not Reported n = 77 (6.1%)	p value
Age (years)	27	26	27	27	27	28	27	0.294
Male	4 (80%)	243 (68.3%)	48 (54.5%)	99 (67.3%)	391 (71.5%)	33 (86.8%)	54 (70.1%)	0.011
Female	1 (20%)	113 (31.7%)	40 (45.5%)	48 (32.7%)	156 (28.5%)	5 (13.2%)	23 (29.9%)	
US/Canadian Graduates	5 (100%)	319 (89.6%)	86 (97.7%)	112 (76.2%)	510 (93.2%)	26 (68.4%)	58 (75.3%)	<0.001
USMLE Step 1 Score	247	242	232	237	242	238	241	<0.001
USMLE Step 2 Score	254	249	237	247	249	243	247.5	<0.001
Publications and Abstracts	5	9	6	6	6	6	6	<0.001
AOA	0	58 (16.3%)	8 (9.1%)	20 (13.6%)	133 (24.3%)	2 (5.3%)	8 (10.4%)	<0.001
Gold Humanism	0	29 (8.1%)	13 (14.8%)	14 (9.5%)	58 (10.6%)	3 (7.9%)	5 (6.5%)	0.461

MP2-10

Comparison of the Financial Toxicity Associated with Nephrolithiasis and Urologic Cancer Care

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Introduction and Objective: Financial toxicity (FT) is a nonspecific term used to characterize the self-reported economic consequences resulting from a medical problem. We aim to compare the FT associated with urologic cancer care and nephrolithiasis in the setting of a private practice. While physician specific recommendation remains one of the largest decision influencers of treatment choice, there is growing evidence that the degree of FT may be impacting this decision.

Methods: Financial toxicity (FT) is a nonspecific term used to characterize the self-reported economic consequences resulting from a medical problem. We aim to compare the FT associated with urologic cancer care and nephrolithiasis in the setting of a private practice. While physician specific recommendation remains one of the largest decision influencers of treatment choice, there is growing evidence that the degree of FT may be impacting this decision.

Results: A total of 1051 patients diagnosed with a urologic malignancy, and 407 patients actively being treated for nephrolithiasis completed the survey. A total of 82% of nephrolithiasis patients reported at least moderately to severe financial toxicity compared to 48% in cancer care. Patients with nephrolithiasis had the lowest average FT score (22.3 +/- 3.9) suggesting the highest degree of financial distress. In the nephrolithiasis group there was not a statistically significant difference between men and women. There was a statistically significant correlation between increasing age and decreasing FT (P=0.043, R2 0.1004) in the nephrolithiasis population.

Conclusions: This study identifies that in the setting of a private practice with insured patients, there remains significant financial distress in the management of their care. Our current data supports that there are discrepancies in the FT associated with various urologic conditions with current data suggesting that stone patients have the highest FT.

MP2-11

Diversity, Equity and Inclusion Pipeline Programs in Urology

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Introduction and Objective: Diversity, equity, and inclusion are essential for a thriving medical profession, including urology. Pipeline programs effectively improve recruitment and retention of underrepresented minority (URM) students in various disciplines. In urology, these programs have demonstrated success in increasing URM representation with high match rates among participants. Additionally, mentorship within these programs reduces burnout, enhances URM recruitment, and positively influences mentees' career trajectories.
This study assessed the impact of diversity, equity, and inclusion pipeline programs in urology on URM student recruitment and retention.

Methods: We conducted a comparative online analysis of urology pipeline programs, including R. Frank Jones Urology Interest Group, Prospect, Urology Unbound, UReTer, UCLA Pre-Medical Enrichment Program, U of Michigan's UROVERSITY, and the University of Southern California's Keck School of Medicine initiative. Data collection involved questionnaires and demographic experiences, focusing on each program's general goals such as mentorship, research, professional development, recruitment, retention, promotion, and increasing diversity. Success was assessed by examining urology residency match rates and mentor-mentee experiences.

Results: Latinx and Black populations constituted 19% and 13.2% of the US population, respectively, but only accounted for 11.5% and 5.7% of newly matched urology students in 2023. However, centers with urology pipeline programs experienced increased diversity in urology matches. For example, R. Frank Jones Urology Interest Group reported that in 2020, out of 66 students, 60% were Black and 21% were Latinx, with 31 out of 39 students matching into urology in 2021. Similarly, UCSF's UReTer Underrepresented Trainees Entering Residency pilot program had 15 of 16 minority students successfully matching in urology.

Conclusions: Diversity, equity, and inclusion pipeline programs in urology effectively increase URM student representation in the field. The high match rates and positive mentorship.

MP2-12

Fostering Mentorship: How an Intergenerational Networking Event Can Promote Underrepresented Medical Student Interest in Urology and Surgery

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Introduction and Objective: The American Urological Association Diversity & Inclusion (D&I) Taskforce recommends creating mentorship opportunities for underrepresented minorities. This study explores an intergenerational networking event composed of medical students, residents, and attendings as a viable approach to promote D&I in surgical fields.

Methods: Underrepresented in medicine (URiM) students were invited via email for voluntary participation in a networking dinner at an attending urologist's home. Students, residents, and faculty attended to facilitate multi-level mentorship. An optional, de-identified survey evaluating interest in surgery, student needs, and event impact was completed at event conclusion. Data was analyzed via two-tailed paired t-tests.

Results: Twenty-one students attended and all completed surveys. The top reasons for participating were to meet residents and faculty, find a community with URiM allies, and learn about surgical lifestyles. After the event, students reported a more positive perception of surgical careers and increased connections with near peers and surgeons. Notably, 85% of students felt that residents and faculty cared about them post-event, compared to 52% pre-event ($p<0.01$). Students described lifestyle, mentorship, and research as barriers to entering surgery, though 20% also noted D&I concerns.
On a 5-point Likert scale from very unhelpful to very helpful, 100% of students felt this event was more helpful (4.8±0.40) compared to other institutional D&I events. Comments described the event as "beneficial" and "insightful". Others wrote, "I really enjoyed hearing from surgeons of different levels" and "I can reach out to surgeons for opportunities".

Conclusions: Our survey suggests there is a strong need for URiM mentorship to foster interest in urology. Similar events that promote relationships among near peers and individuals of all training levels may tangibly increase URiM interest in urological and surgical careers.

Table 1. Responses regarding feelings pre- and post-event from a single Urology and Surgery Meet and Greet participant survey administered at event conclusion, N=21

Statement	Pre-event (N=21)		Post-event (N=21)		p-Value
	Percent in agreement	Mean (SD) response	Percent in agreement	Mean (SD) response	
I have established connections with near peers e.g., fellow classmates or upperclassmen, interested in surgery.	71%	3.9 (1.22)	95%	4.7 (0.58)	<0.01
I have established connections with surgical residents and faculty.	62%	3.5 (1.38)	95%	4.7 (0.58)	<0.01
I feel that surgeons and residents care about me.	52%	3.6 (1.16)	90%	4.6 (0.81)	<0.01
I feel welcomed by the surgeons and residents.	76%	4.3 (0.85)	100%	4.9 (0.36)	<0.01
My overall perception about a surgical career is positive.	76%	4.0 (0.97)	90%	4.5 (0.68)	0.02
I am interested in pursuing a surgical career.	81%	4.3 (0.80)	90%	4.5 (0.59)	0.07

[a]Responses represent the following Likert scale: strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5)
Abbreviations: SD, standard deviation

MP2-13

Differences in Urologist Practice Setting: An Analysis Using the AUA Census Database

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Introduction and Objective: The average age of practicing urologists is one of highest among surgical subspecialties. There exists data that shows more rural areas of the United States have a smaller number of urologists per capita than the general population. The goal of the study is to determine the difference in characteristics of urologists between different practice settings.

Methods: The 2021 American Urological Association Annual Census data was used to conduct this population-based cross sectional study. The data was subgrouped to practice settings that included single urology group, academic, multi-specialty group, solo practice, private hospital, and VA/military. The primary endpoint was to determine if there was a difference in expected age of retirement.

Results: There were a total of 1,742 practicing urologist respondents, of which 572 (30.3%) practiced in single urology groups, 501 (28.8%) in academics, 258 (14.8%) in multi-specialty groups, 121 (6.9%) in private hospitals, and 68 (3.9%) in VA/military (Table 1). Male gender was highest in the single urology group with 90.5%, whereas it was the lowest in the academic setting at 75.1%. The mean number of major inpatient procedures performed per month was highest in the academic setting at 8.36 compared to 5.00 in the VA/military setting. The predicted age of retirement also varied significantly between groups, with the highest in the academic setting (67.53) compared to the lowest (65.74) in VA/military.

Conclusions: We show that more males are likely to be in a single urology group, with the highest number of procedures performed and the highest predicted age of retirement in academic centers.

Table 1. Demographics and Characteristics of Different Practice Settings

	Total Cohort	Single Urology Groups	Academic Medical Centers	Multi-specialty Groups	Private Hospitals	VA and Non-VA Hospitals	P-value
	n = 1,742	n = 527 (30.3%)	n = 501 (28.8%)	n = 258 (14.8%)	n = 121 (6.9%)	n = 68 (3.9%)	
Age							
34 years old or under (%)	61 (3.5%)	17 (3.2 %)	12 (2.4%)	10 (3.8%)	9 (7.4%)	1 (1.5%)	0.069
35 to 44 years old (%)	459 (26.4%)	113 (21.4%)	182 (36.3%)	52 (20.2%)	41 (33.9%)	21 (30.9%)	**<0.001**
45 to 54 years old (%)	440 (25.3%)	135 (25.6%)	140 (27.9%)	67 (26.0%)	25 (20.7%)	17 (25.0%)	0.583
55 to 64 years old (%)	469 (26.9%)	173 (32.8%)	94 (18.8%)	83 (32.2%)	28 (23.1%)	16 (23.5%)	**<0.001**
Over 65 (%)	313 (18.0%)	89 (16.9%)	73 (14.6%)	46 (17.8%)	18 (14.9%)	13 (19.1%)	0.690
Population Characteristics							
Male Gender (%)	1463 (84.0%)	477 (90.5%)	376 (75.1%)	221 (85.7%)	107 (88.4%)	53 (77.9%)	**<0.001**
Non-Caucasian Race (%)	355 (20.4%)	95 (18.0%)	108 (21.6%)	35 (13.6%)	27 (22.3%)	12 (17.7%)	0.079
Hispanic Origin (%)	74 (4.3%)	24 (4.6%)	15 (3.0%)	12 (4.7%)	10 (8.3%)	5 (7.4%)	0.280
Rural-Urban Commuting Area							
Small Towns (%)	26 (1.5%)	4 (0.8%)	0 (0.0 %)	6 (2.3%)	1 (0.8%)	0 (0.0%)	**0.011**
Rural Areas (%)	8 (0.5%)	1 (0.2%)	1 (0.2%)	2 (0.8%)	2 (1.7%)	0 (0.0%)	0.140
Micropolitan (%)	129 (7.4 %)	28 (5.3%)	4 (0.8 %)	30 (11.6%)	19 (15.7%)	4 (5.9%)	**<0.001**
Metropolitan (%)	1579 (90.7%)	494 (93.7%)	496 (99.0%)	220 (85.3%)	99 (81.8%)	64 (94.1%)	**<0.001**
Current Occupation							
Educator (%)	191 (11.0%)	18 (3.4%)	125 (25.0%)	13 (5.0%)	5 (4.1%)	22 (32.4%)	**<0.001**
Administrator/Medical officer/Practice Manager (%)	17 (1.0%)	5 (1.0%)	8 (1.6%)	1 (0.4%)	1 (0.8%)	2 (2.9%)	**0.027**
Researcher (%)	152 (8.7%)	12 (2.3%)	112 (22.4%)	5 (1.9%)	1 (0.8%)	17 (25.0%)	**<0.001**
Primary Subspecialty Area							
General w/o subspecialty (%)	984 (56.5%)	389 (73.8%)	76 (15.2%)	185 (71.7%)	85 (70.3%)	41 (60.3%)	**<0.001**
Oncology (%)	195 (11.2%)	33 (6.3%)	114 (22.8%)	13 (5.0%)	10 (8.3%)	13 (19.1%)	**<0.001**
Pediatrics (%)	141 (8.1%)	16 (3.0%)	89 (17.8%)	20 (7.8%)	7 (5.8%)	1 (1.5%)	**<0.001**
Endourology (%)	76 (4.4%)	9 (1.7%)	50 (10.0%)	4 (1.6%)	2 (1.7%)	5 (7.4%)	**<0.001**
Female Pelvic Medicine and Reconstructive Surgery (%)	123 (7.1%)	26 (4.9%)	72 (14.4%)	9 (3.5%)	6 (5.0%)	1 (1.5%)	**<0.001**
Erectile Dysfunction (%)	49 (2.8%)	17 (3.2%)	14 (2.8%)	8 (3.1%)	1 (0.8%)	1 (1.5%)	0.622
Male Infertility (%)	41 (2.4%)	9 (1.7%)	25 (5.0%)	1 (0.4%)	1 (0.8%)	1 (1.5%)	**<0.001**
Male Reconstruction/Trauma (%)	32 (1.8%)	4 (0.8%)	22 (4.4%)	1 (0.4%)	1 (0.8%)	3 (4.4%)	**<0.001**
Robotic Surgery (%)	77 (4.4%)	20 (3.8%)	27 (5.4%)	12 (4.7%)	8 (6.6%)	2 (2.9%)	0.564
Other (%)	24 (1.4%)	4 (0.8%)	12 (2.4%)	5 (1.9%)	0 (0.0%)	0 (0.0%)	0.083
Employment status							
Partner in Practice (%)	502 (28.8%)	387 (73.4%)	24 (4.8%)	72 (27.9%)	1 (0.8%)	1 (1.5%)	**<0.001**
Employed by others (%)	1059 (60.8%)	116 (22.0%)	461 (92.0%)	172 (66.7%)	114 (94.2%)	66 (97.1%)	**<0.001**
Sole Owner of Practice (%)	130 (7.5%)	13 (2.5%)	0 (0.0%)	4 (1.6%)	1 (0.8%)	0 (0.0%)	**<0.001**
Combination of the Above (%)	51 (2.9%)	11 (2.1%)	16 (3.2%)	10 (3.9%)	5 (4.1%)	1 (1.5%)	**<0.001**
Practice Characteristics							
Mean Number of Urologists (SD)	11.24 (12.3)	14.74 (15.3)	15.95 (11.0)	7.38 (10.1)	4.61 (4.1)	5.81 (5.0)	**<0.001**
Mean Number of Physician Assistants (SD)	2.48 (4.6)	3.30 (5.2)	3.28 (4.1)	2.06 (6.5)	1.22 (2.2)	1.31 (1.3)	**<0.001**
Mean Number of Nurse Practitioners (SD)	2.02 (3.1)	2.13 (3.8)	3.49 (3.3)	1.29 (2.2)	1.14 (1.9)	1.40 (1.8)	**<0.001**
Mean Number of Office locations (SD)	4.30 (6.2)	6.36 (8.6)	4.47 (3.6)	3.53 (4.4)	3.36 (9.1)	1.60 (1.2)	**<0.001**
Physician Characteristics							
Mean Number of Patient Encounters per Week (SD)	74.51 (34.6)	92.48 (34.2)	56.33 (26.8)	79.04 (30.8)	78.42 (29.2)	47.46 (22.5)	**<0.001**
Mean Number of Nights on Call per Week (SD)	1.90 (1.8)	1.80 (1.4)	1.32 (1.4)	2.19 (1.8)	2.17 (1.8)	1.41 (1.5)	**<0.001**
Mean Number of Minutes Spent per Patient (SD)	16.50 (6.9)	13.45 (5.2)	18.87 (7.4)	16.01 (6.7)	15.32 (4.5)	21.99 (6.0)	**<0.001**
Mean Number of Hours on Clinical activities (SD)	47.19 (17.3)	50.79 (16.9)	44.51 (17.0)	50.16 (17.2)	45.92 (15.9)	33.07 (11.8)	**<0.001**
Mean Number of Hours on Non-clinical activities (SD)	8.77 (8.9)	6.08 (6.1)	14.14 (9.9)	6.01 (6.2)	5.17 (8.2)	13.54 (11.7)	**<0.001**
Mean Number of Major Inpatient Operative Procedures Performed per Month (SD)	6.60 (7.3)	6.14 (7.0)	8.36 (8.0)	6.24 (8.1)	6.07 (5.3)	5.00 (5.4)	**<0.001**
Age at Planned Full Retirement from Practice (SD)	66.58 (7.1)	66.06 (6.9)	67.53 (6.5)	65.57 (7.3)	65.97 (7.9)	65.74 (6.8)	**0.001**

MP2-14

Identifying Gender Disparity for Professional Burnout in Urology Residents

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Introduction and Objective: Female trainees are increasingly securing urology residency positions, comprising 30% of positions in 2020. Although evidence shows urology residents are prone to burnout, there is a paucity of data analyzing differences in burnout-related variables among urology residents of different genders. The objective of this study was to determine whether a gender disparity existed in rate of burnout between male and female urological residents.

Methods: The 2019 American Urological Association Annual Census data was reviewed for U.S. urology residents' responses to 22-item Maslach Burnout Inventory. Describing the differences in burnout variables between males and females, basic statistics were performed with chi-square test and t-test analysis for categorical and continuous variables, respectively. Univariate and multivariate logistic regression was performed to identify contributions to burnout in each gender.

Results: A total of 512 residents were in the study: 360 (70.3%) male and 152 (29.7%) female. Overall burnout was reported by 222 (43.4%) of respondents. There was no significance in burnout between male and female (42.2% vs. 46.1%) (Table 1). Males reported compensation (p=0.039) and malpractice climate (p=0.009) in practice settings as greater importance and prioritized retreats (p=0.034). While female respondents favored Uber/taxi services after call (p=0.026) (Figure 1).

Conclusions: Rates of burnout were similar between the two genders. The male respondents were more likely to consider resident retreat compared to dedicated Uber/taxi services after call. Meal plan was the most important factor for both genders.

Figure 1. Bar Graph Representation of Benefit/Resources for Resident Rankings

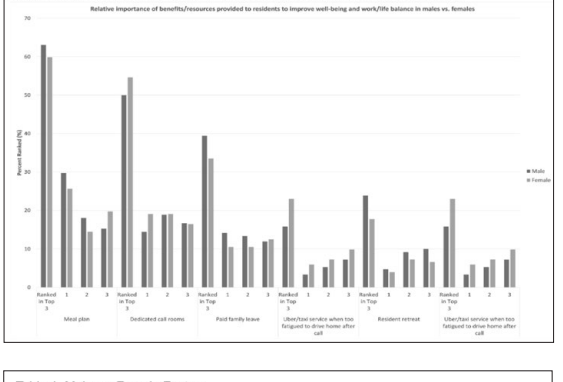

Table 1. Male vs. Female Factors

	Total Cohort		Male		Female		
	n = 512		n = 360 (70.3%)		n = 152 (29.7%)		
Population Characteristics							
Mean Age (years) (SD)	31.43	(2.69)	31.50	(2.64)	31.25	(2.78)	P = 0.341
Hispanic Ethnicity (%)	28	(5.47 %)	18	(5.00 %)	10	(6.58 %)	P = 0.691
Non-Caucasian Race (%)	174	(33.98 %)	121	(33.61 %)	53	(34.87 %)	P = 0.863
In a Relationship (Partnered, Married, Remarried) (%)	355	(69.34 %)	250	(69.44 %)	105	(69.08 %)	P = 1.000
Have any children (including biological, step and adopted)? (%)	222	(43.36 %)	152	(42.22 %)	70	(46.05 %)	P = 0.483
At what age do you plan to fully retire, or did you retire from practice? (SD)	146	(28.52 %)	112	(31.11 %)	34	(22.37 %)	P = 0.058
Total current educational debt	66.33	(7.48)	66.56	(7.72)	65.80	(6.86)	P = 0.276
one	142	(27.73 %)	108	(30.00 %)	34	(22.37 %)	P = 0.197
< $50,000	33	(6.45 %)	22	(6.11 %)	11	(7.24 %)	
$50,000 - $100,000	37	(7.23 %)	21	(5.83 %)	16	(10.53 %)	
$100,001 - $150,000	42	(8.20 %)	29	(8.06 %)	13	(8.55 %)	
$150,001 - $200,000	55	(10.74 %)	33	(9.17 %)	22	(14.47 %)	
$200,001 - $250,000	58	(11.33 %)	44	(12.22 %)	14	(9.21 %)	
> $250,000	131	(25.59 %)	92	(25.56 %)	39	(25.66 %)	
I prefer not to say	14	(2.73 %)	11	(3.06 %)	3	(1.97 %)	
Select all the factors that influence your choice of practice setting							
Compensation (%)	377	(73.63 %)	275	(76.39 %)	102	(67.11 %)	**P = 0.039**
Local Urologist Supply (%)	162	(31.64 %)	120	(33.33 %)	42	(27.63 %)	P = 0.245
Geographic Location (%)	426	(83.20 %)	298	(82.78 %)	128	(84.21 %)	P = 0.790
Family/lifestyle/call schedule (%)	434	(84.77 %)	299	(83.06 %)	135	(88.82 %)	P = 0.790
Quality of research (%)	141	(27.54 %)	90	(25.00 %)	51	(33.55 %)	P = 0.061
Academic setting (%)	244	(47.66 %)	163	(45.28 %)	81	(53.29 %)	P = 0.118
Malpractice climate (%)	78	(15.23 %)	65	(18.06 %)	13	(8.55 %)	**P = 0.009**
Contractual obligations (%)	139	(27.15 %)	97	(26.94 %)	42	(27.63 %)	P = 0.959
What kind of community would you most like to practice?							P = 0.148
Rural	12	(2.34 %)	8	(2.22 %)	4	(2.63 %)	
Suburban	194	(37.89 %)	148	(41.11 %)	46	(30.26 %)	
Urban	235	(45.90 %)	157	(43.61 %)	78	(51.32 %)	
I don't know	71	(13.87 %)	47	(13.06 %)	24	(15.79 %)	
Rank the relative importance of the following benefits or resources that may be provided to residents to improve well-being and work/life balance – Mean Ranking (SD)							
Meal plan	2.48	(1.49)	2.44	(1.51)	2.58	(1.44)	P = 0.379
Resident retreat	4.36	(1.54)	4.26	(1.54)	4.61	(1.51)	**P = 0.034**
Paid family leave	3.55	(1.69)	3.45	(1.69)	3.77	(1.68)	P = 0.082
Uber/taxi service when too fatigued to drive home after call	4.57	(1.47)	4.68	(1.42)	4.31	(1.57)	**P = 0.026**
Dedicated call rooms	3.02	(1.55)	3.10	(1.56)	2.82	(1.50)	P = 0.085
Ability to attend health appointments during work hours	3.02	(1.46)	3.06	(1.47)	2.91	(1.46)	P = 0.335
Access to a urology-specific call room where you take call? - Yes	330	(64.45 %)	243	(67.50 %)	87	(57.24 %)	P = 0.077
Difficulty attending medical/mental/dental appointments during working hours? - Yes	252	(49.22 %)	166	(46.11 %)	86	(56.58 %)	P = 0.077

MP2-15

Attitudes Among 2023 Urology Residency Applicants Regarding Dobbs v. Jackson Women's Health Organization

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Introduction and Objective: The June 2022 U.S. Supreme Court ruling Dobbs v. Jackson Women's Health Organization overturned Roe v. Wade, declaring no constitutional right to abortion. Twelve states have passed total abortion bans. We surveyed 2023 Urology Residency Match applicants to examine attitudes towards the Dobbs decision and its impact on professional decision-making.

Methods: An IRB-exempt REDCap survey was distributed by the Society of Academic Urologists following rank list submission. Participants were 2023 Urology Match adult applicants. Responses were anonymous, collected in aggregate, and characterized using descriptive statistics.

Results: Of 508 applicants, 215 (42%) completed the survey (Table 1). 88% disapprove of the Dobbs ruling, with 25% factoring the verdict into their application decisions. 20% (15% of male vs. 24% of female) eliminated programs in states where abortion is illegal and 34% (25% of male vs. 44% of female) considered doing so.
Overall, 59% (51% of male vs. 70% of female) were concerned for their or their partner's health/safety should they match in a state where abortion was illegal and 66% (55% of male vs. 82% of female) would want their program to assist them or their partner with abortion care during residency. Although residency program selection decisions are multifactorial, 36% reported reproductive healthcare access as moderately/extremely important. Due to urology's competitiveness, 68% of applicants reported feeling somewhat obligated to apply to states where abortion legislation conflicts with their priorities.

Conclusions: The Dobbs ruling is impacting the urology workforce distribution by substantially affecting urology applicants' residency decision-making. Although the specialty competitiveness pressures applicants to apply broadly, many consider reproductive healthcare access. A majority of respondents want support from their program should they or their partner require abortion care during residency.

Demographics	n (%)
Total Respondents	215
Age in years [median (IQR)]	27 (26-29)
Gender	
Female	84 (39.1)
Male	126 (58.6)
Non-binary	3 (1.3)
Decline to state	2 (1.0)
Race/Ethnicity	
Asian/Pacific Islander	36 (16.7)
Black	10 (4.7)
White	143 (66.5)
Hispanic/Latino	18 (8.4)
Other*	8 (3.7)
Relationship Status	
Single	102 (47.4)
Married/partnered	113 (52.6)
Religion	
Atheist/agnostic	71 (33)
Christian (all denominations)	74 (34.5)
Muslim	11 (5.1)
Jewish	19 (8.8)
Other**	21 (9.8)
Decline to state	19 (8.8)
Prior urology applicant?	
No	178 (82.8)
Yes	37 (17.2)
Applied to additional specialty?	
No	172 (80)
Yes	43 (20)

Table 1: Demographic information
*Includes Native American/Alaska Native, Middle Eastern, multiracial, and other
**Includes Buddhist, Hindu, and other

MP2-16

NIH Grant Funding Trends in Urology Based on Race and Gender

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Introduction and Objective: Federal NIH grant funding to Urology has decreased over the last decade, and lack of diversity/representation at the faculty level raises concerns over how the funding pool is allocated. This study seeks to characterize disparities in NIH funding data to Urologic faculty.

Methods: A database was created from 145 ACGME accredited Urology residency programs. Underrepresented in medicine (URiM) status was determined by origin of name, photo, biography, Twitter, LinkedIn, and Doximity. The NIH Research Portfolio Online Report Tool was queried between 1985 and 2023 for any grants related to each Urology faculty. URiM status, gender, years of practice, and Doximity residency rank were factors in multivariable analysis.

Results: 2,131 faculty (9% URiM and 91% non-URiM) were included. A total of 301 Urologists received 793 urologic grants for a total of 3,115 grant years and $993,919,052 in total funding. Median per-grant value was $726,203 (IQR 339,949-1,648,695). There were 8,615 generated publications; median publications per grant was 5 (IQR 1-13). Grants were awarded to the following by race: White 72.9%, Asian 21.8%, Hispanic 3.0%, Black 2.1%. Men received 708 grants (89.3%) worth $917,083,475 total. Women received 85 grants (10.7%) worth $76,835,577 total. Likelihood of being awarded a grant was significantly associated with non-URiM status ($p<0.001$) and men ($p<0.0001$).
On multivariable analysis, Doximity rank ($p<0.001$) and man-gender ($p=0.038$) were significant predictors of receiving a grant; URiM status was not ($p=0.52$). Years of practice was a predictor for number of grants awarded ($p=0.001$) and total funding ($p=0.002$); URiM status and gender were not (respectively $p=0.47$/$p=0.99$ (number of grants) and $p=0.53$/$p=0.17$ (amount funding).

Conclusions: NIH grants were more likely awarded to men and to faculty from higher Doximity ranked institutions with no differences based on URiM status. Years of practice was associated with increased number of grants and total funding.

MP2-17

Urology Access and New Patient Visit Types for Urology APPs Suggests that Fluency in Urologic Care is a Factor for Scheduling Preferences

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Introduction and Objective: Urology and Primary Care practices have embraced the integration of APPs into their respective workforces. Urology access for NPV types is an important metric for access to care. The objective was to measure components of the encounter such as principal diagnoses for which Urology APP care was sought, reason for Urology APP choice, (PCP and urologist availability), patient experience, and encounter satisfaction.

Methods: The cohort consisted of patients in single urban university practice between 7/2022 and 1/2023 who scheduled an appointment with a Urology APP for a specific diagnosis. Survey of 10 questions performed. Questions were related to choice of provider, availability of urology provider and PCP, access to urology APP within 2 weeks or within 2-4 weeks, patient experience and satisfaction with encounter. Statistical analysis.

Results: 115 patients were available for analysis. The five most common diagnoses were Prostate Exam (15.6%), PSA Screening (11.7%), Testicular Pain (11.7%), Elevated PSA (11.7%), Hematuria (8.7%). Urology Access with Urology APP occurred within 2 weeks for 51.3% of encounters and within 2-4 weeks for 44.3%. 37 percent reported the wait for a urologist > 4 weeks at time of scheduling. Patients expressed a positive experience with the Urology APP; 4.78/5.0 ($p<0.001$) and satisfaction with encounter; 4.77/5.0 ($p<0.001$). The choice to pursue a Urology APP visit was not predicated on access to a PCP; 1.67/5.0 ($p < 0.001$) or availability of a PCP 2.03 ($p<0.001$).

Conclusions: Patients see Urology APPs for common urologic conditions. For a specialty problem, patients in an urban setting prefer specialty care whether with a urologist or Urology APP who is fluent in urologic care. Access/availability to PCP did not have a large impact on the type of care sought. The interactions with Urology APPs were highly satisfactory and on preliminary analysis the seeking of Urology APP care is not fundamentally driven by lack of access to physician providers.

MP3-01

Is Cryopreservation at the Time of Orchiectomy a Feasible Option to Preserve Fertility for Transgender Females While Actively on Hormonal Therapy?

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Introduction and Objective: Gender affirmation is a growing national issue with urologists often at the center of the patient care team. As the number of patients seeking surgery for hormone deprivation increases so too should our understanding of available fertility options. Patients are directed to cryopreserve ejaculate prior to initiation of gender-affirming hormones. However, this is often not conducted, and patients may inquire regarding fertility options later in their care. Our objective is to characterize histology, presence or absence of spermatogenesis, and duration of previous hormone deprivation.

Methods: We performed bilateral orchiectomy on two patients in the process of male to female transition. Total testosterone levels, duration of gender-affirming hormone usage, testicular weight and size, and presence or absence of spermatogenesis were characterized.

Results: A 25-year-old patient with four years of gender affirming hormone usage was found to have 24-gram (g) and 21-gram testicles measuring 7.8 x 4.7 x 2.1 cm and 6.4 x 4.9 x 1.7 cm respectively. Total serum testosterone five months pre-operatively was 4 ng/dL. Final pathology revealed minimal spermatogenesis, with no available sperms for preservation. A 37-year-old patient with one year of gender affirming hormone usage was found to have 44g (5.0 x 3.5 x 2.2 cm) and 31g (4.5 x 3.2 x 2.2 cm) testicles. Total serum testosterone four months pre-operatively was 63 ng/dL. No spermatogenesis was identified bilaterally with no viable sperms.

Conclusions: As little as one year of gender affirming hormone usage can result in complete absence of sperm and spermatogenesis in testis of individuals undergoing male to female transition. This is despite higher total serum testosterone levels for shorter amounts of time. These findings confirm the imperative recommendation to patients that semen be cryopreserved prior to hormonal treatment if any thoughts on future fertility are present.

MP3-02

Primary Closure and Early Genital Skin Reconstruction in Fournier's Gangrene

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Introduction and Objective: Radical debridement is the mainstay of management of genital soft tissue necrotizing fasciitis (Fournier's Gangrene "FG"). A common practice for wound management after debridement is to either allow wound healing by secondary intention or delayed reconstruction. Those management strategies require long-term wound care which can be cumbersome for patients. The aim of this study is to evaluate the safety and feasibility of the early reconstruction after debridement.

Methods: We retrospectively identified patients who underwent debridement of FG at our institution from January 2012 to June 2022. Patients were divided into two groups according to wound management strategy. Baseline demographic and clinical data and outcomes were compared between the two groups.

Results: We identified 106 patients who underwent radical debridement of FG. Early genital wound reconstruction was performed in 42 (39.6%) patients (10.4% primary closure during initial debridement, 29.2% early closure after multiple debridement). A total of 64 (60.4%) patient were managed with long-term wound care. Only 7 patients (6.6%) underwent delayed reconstruction, while 57 (53.8%) were managed only with wound care and the wound was allowed to heal with secondary intention. Baseline data was similar between the two groups, including age, medical comorbidities, clinical picture, and laboratory results at presentation. There was no difference between the two groups regarding ICU admission, hospital stay, mortality rate, number of debridement performed and 30-day readmission rate (Table 1).

Conclusions: Our study suggests that early reconstruction of genital wound after radical debridement of FG is feasible and safe and did not negatively affect the clinical outcomes. Further studies are needed to evaluate differences in financial, physical, and psychological burdens between the two management strategies.

Table 1: Baseline data, clinical presentation and outcome data in early closure group versus delayed wound management group.

	Group 1 (Early Reconstruction)	Group 2 (Delayed Wound Management)	P value
Number	42 (39.6%)	64 (60.4%)	
Wound management	• Primary closure: 11 (10.4%) • Same admission closure: 31 (29.2%)	• Secondary intention: 57 (53.8%) • Delayed reconstruction: 7 (6.6%)	
Age *mean(SD)*	53.9 (14)	54.3 (13.3)	0.65
Diabetes mellites	26 (61.9%)	42 (65.6%)	0.69
HTN	30 (71.4%)	46 (71.9%)	0.96
Fever at presentation	8 (19%)	15 (23.4%)	0.59
Hypotension at presentation	10 (23.8%)	17 (26.6%)	0.75
Blood glucose at presentation *median(range)*	183 (57-761)	199 (66-821)	0.56
WBC at presentation *mean(SD)*	15.5 (7.1)	19.4 (8.1)	0.12
WBC after debridement *mean(SD)*	15.2 (6.9)	17.4 (9.2)	0.2
Time until normal WBC (days)	3 (0-15)	2 (0-31)	0.97
ICU admission	15 (35.7%)	34 (53.1%)	0.07
Number of debridements *median (range)*	2 (1-5)	1 (1-7)	0.055
Mortality during admission	0	3 (4.7%)	0.07
Antibiotic duration	18 (6-43)	17 (6-84)	0.36
Hospital stay	10.5 (3-29)	11 (2-49)	1
30-day readmission	3 (7.3%)	7 (10.8%)	0.5
Follow up duration (months)	4 (0-97)	3 (0-62)	0.72

MP3-03

Cost Associated with Urologic Care After Iatrogenic Ureteral Injury

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Introduction and Objective: Iatrogenic ureteral injuries (IUIs) are a rare with incidence between 0.5-10% and delays in diagnosis can have significant long-term health consequences. Generally, IUIs are associated with high healthcare cost, and delayed injuries can increase that cost further. We sought to look specifically at costs associated with urologic care in IUIs.

Methods: All ureteral traumas from two affiliated centers were identified by ICD-10 coding for the diagnosis class of ureteral injuries from 2017-2022. Retrospective chart review was then performed on all identified patients for clinical outcomes and total charges. The total urologic charges including procedures, follow up, and therapy were used as a measure of cost.

Results: We identified 43 patients with IUIs. Most patients were women (37) and undergoing gynecologic surgery. Fifteen were managed with stent alone and 28 were managed with surgical repair (Table 1). There was no difference in the average number of visits (3.5 vs. 2.75, p=0.37), nor was there significant difference in cost ($3,746 vs. $5,738, p=0.17) in stent and operative repair, respectively. Total treatment time from injury to completion of follow-up visit was longer for those who underwent stent placement (305 days) versus surgical repair (116 days) (p=0.03). There were higher costs associated for those with delayed presentation who underwent stented ($6,672 vs. $1,872) (p=0.03), however there was no cost difference for those undergoing repair.

Conclusions: Ureteral injuries while uncommon, can have a significant financial impact on our healthcare system. Based on our study, operative repair gets patients to resolution faster without increase in cost.

	Stent only	Operative Repair	p-value	Immediate Intervention	Delayed Intervention	p-value
Total patients, n	15	28		29	14	
Male	1	5		5	1	
Female	14	23		24	13	
Surgical service						
Obstetrics and Gynecology	10	19		20	9	
Colorectal Surgery	2	2		2	2	
Surgical Oncology	3	4		5	2	
Vascular Surgery	0	1		1	0	
Transplant Surgery	0	1		1	0	
Urology	0	1		0	1	
Total visits , n	53	77		64	66	
Average visits	3.5	2.75	p=0.37	2.34	4.43	p=0.01
Average cost, Total	$3,746	$5,738	p=0.17	$4,525	$6,116	p=0.28
Average cost, Stent	$3,746	-		$1,872	$6,672	p=0.03
Average cost, Repair	-	$5,738		$5,754	$5,699	p=0.97
Time (days) from injury to treatment completion	305	116	p=0.03	164	225	p=0.49

MP3-04

Development and Validation of a Clinical Anterior Urethral Stricture Disease Staging System

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Introduction and Objective: Similar to TNM classification, using the LSE (Length, Urethral Segment, Etiology) Classification system for anterior urethral stricture disease (aUSD) we developed LSE clinical stages that infers disease location and predicts surgical treatment type and outcomes.

Methods: Using the Trauma and Urologic Reconstructive Network of Surgeon's database, a multivariable model was created that predicted surgical success (no secondary procedures) after single-stage curative (non-urethrostomy/meatotomy) anterior urethroplasty. Independent stricture factors included stricture length, location, and etiologies. The primary goal was to have increasing stage indirectly correlating with orthotopic single-stage (OSS) success: likelihood of a successful single-stage urethroplasty with an orthotopic meatus.

Results: The final staging system is shown in the Table. Stage 1 strictures involved the proximal bulbar urethra, Stage 2 the distal bulbar urethra and Stage 3 the penile urethra. Increasing length and/or urethral segment stricture overlap lead to progression within stage (A-C). Stage 4 involve any strictures secondary to radiation (4A), lichen sclerosus (4B) and hypospadias (4C). Stage 5 strictures overlap the bulbar, penile and fossa/meatus segments. Overall, increasing LSE stage correlated strongly with surgical subtype (p<0.001), single-stage functional success (p<0.001) and OSS (p<0.001).

Conclusions: The LSE staging system utilizes the LSE classification system to provide a clinical tool. As the LSE stage increases, aUSD "cure" rates decrease and need for ancillary, multi-stage procedures increase as depicted by OSS outcome.

Table 1: Length, Urethral Segment, Etiology Staging System with Surgical Subtypes and Functional/OSS Success Rates

LSE Stage		n	LSE Staging Criteria***			Surgical Subtype		Functional Success (%)*	Orthotopic Single-Stage Success (%)**
			Location	Length	Etiology	Anastomotic % (n)	2-stage/ Urethrostomy % (n)		
1	1A	585	S1a	L1	1, 2, 3a, 3b	88.4 %	1.7%	95.1%	93.5%
	1B	586		L2		22.9 %	2.4%	90.7%	88.6%
2	2A	69	S1b	L1		75.4 %	5.8%	92.3%	87.0%
	2B	218		L2		5.5 %	7.8 %	85.1%	78.4%
3	3A	213	S2b	L1, L2		7.5 %	27.2%	89.0%	64.8%
			S2d						
	3B	151	S2a	L1, L2		5.3%	21.9%	78.0%	60.9%
			S2c						
4	4A	57	Any	L1, L2	3c	40.4%	15.8%	81.2%	68.4%
	4B	99	Location		4/6	9.1%	39.4%	80.0%	48.5%
	4C	147			5	3.4%	57.8%	88.7%	37.4%
5		284	S3	L2, L3	Any Etiology	0.7%	46.5%	84.2%	45.1%
					p-value	<0.001	<0.001	<0.001	<0.001

*** Functional Success =** Single-stage anterior urethroplasty without need for secondary procedure
**** Orthotopic Single-Stage Success =** Likelihood that a given anterior urethral stricture, upon presentation, will be repaired with a successful single-stage urethroplasty with orthotopic meatus without the need for a secondary and/or multi-stage procedure
***** (L):** L1 = <2cm; L2 = 2-7 cm; L3 = >7 cm
(S): S1a = proximal bulb; S1b = distal bulb; S2a = bulbar/penile; S2b = penile only; S2c = penile/fossa; S2d = fossa only; S3 = bulb/penile/fossa
(E): E1 = external trauma; E2 = idiopathic; E3a = internal trauma; E3b = urethroplasty failure; E3c = radiation; E5 = hypospadias; E4/6 = inflammatory/lichen sclerosis

MP3-05

A Simplified Approach to the Short, Female Urethral Stricture: Non-Transecting Anastomotic Urethroplasty

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Introduction and Objective: American Urological Association Guidelines are not available for the management of female urethral strictures. When urethroplasty is considered, a substitution approach is typically considered. For short, bulbar male urethral strictures, anastomotic urethroplasty is the preferred method of repair. In men, non-transecting approaches to short, bulbar strictures are increasingly used with durable outcomes; however, they have not been described in women. In this short case series, a procedural description is provided along with the outcome of two women who underwent non-transecting anastomotic urethroplasty.

Methods: A retrospective review was performed of female patients undergoing urethroplasty for urethral stricture between November 2020 and April 2021. Collected data include presenting complaint, urologic history and procedures, pertinent imaging, method of reconstruction, and symptoms post op.

Results: Two patients were identified. Both were referred for urethral stricture due to a history of urinary retention, with neither receiving prior reconstructive surgery. Etiology of stricture disease was idiopathic. On cystoscopy, one patient had an estimated 1 cm, 5 French stricture located 1.5 cm proximal to the meatus, and the other had near urethral obliteration in the mid urethra with no identifiable lumen. Both patients required suprapubic catheter diversion with a minimum of 4 weeks urethral rest. At two years of follow up, both patients have not experienced retention, and have not required repeat endoscopic stricture management.

Conclusions: We describe a technically simple alternative to substitution urethroplasty in patients with short urethral strictures. Patients are spared the morbidity and complications associated with buccal mucosal grafts by using this approach. It should be noted that these patients had strictures that were sufficiently short to accommodate this approach and it may not be as effective in the case of longer strictures. Due to the limited number of female urethroplasty procedures performed, a multi-institutional evaluation of this procedure is recommended.

MP3-07

Assessment of a Modified Multimodal Analgesia Protocol in Inflatable Penile Prosthesis Patients

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Introduction and Objective: The recent widespread adoption of multimodal analgesia (MMA) protocols in inflatable penile prosthesis (IPP) implantation has resulted in a substantial reduction in postoperative opioid consumption and improvement in pain scores. However, it is difficult to discern the specific benefit of each individual analgesic due to simultaneous administration. This study sought to evaluate the contributing role of gabapentin in a multimodal analgesia regimen in patients undergoing IPP placement.

Methods: We conducted a retrospective chart review of patients who underwent insertion of a three-piece IPP at a single institution from 2017 to 2022. Patients received a MMA regimen consisting of perioperative administration of acetaminophen, meloxicam, and gabapentin with intraoperative pudendal and dorsal penile anesthetic injections. A modified MMA protocol was instituted in December 2021, including all above mentioned analgesic agents except for gabapentin. Primary outcomes included post-operative pain scores (visual analog scale) and total narcotic usage (morphine milligram equivalents) during hospitalization.

Results: A total of 342 patients met inclusion criteria, including 317 patients who received gabapentin and 25 patients who did not. The groups did not differ with respect to demographics, body mass index and medical co-morbidities. Median operative time was 107 and 93 minutes in the with and without gabapentin cohorts, respectively, and 9% and 20% of patients had prior IPP requiring repeat procedure. Patients who did not receive gabapentin had a lower median post-operative VAS pain score (2 v. 5, p 0.001). Patients who did not receive gabapentin also had lower total narcotic usage (2 v. 19 MME, p <0.001).

Conclusions: It is crucial to assess the necessity of pain regimen components to reduce potential for medication-related adverse events. This data suggests that a multimodal pain regimen without gabapentin provides effective pain control in patients undergoing penile prosthesis placement.

MP3-06

Cross-Sectional Analysis of Educational Materials for Erectile Dysfunction Treatment on TikTok

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Introduction and Objective: Erectile dysfunction (ED) is widely prevalent and has a multitude of management options poorly accessed by patients. Furthermore, ED is the most common men's health topic searched online. The growth of social media, particularly TikTok, in disseminating medical advice offers great potential yet significant risks. This study evaluates the quality, accuracy, engagement, and actionability of TikTok content discussing ED treatment to define trends and areas for improvement surrounding healthcare in social media.

Methods: 3 reviewers independently analyzed 50 consecutive ED treatment videos on TikTok. Variables of interest were author characteristics, engagement, accuracy, quality, comprehensibility, and actionability. Validated PEMAT and DISCERN screening tools were used for quantitative scoring. Accuracy was evaluated using American Urological Association guidelines. Videos were stratified into healthcare and non-healthcare cohorts. Non-Gaussian continuous, Gaussian continuous, and categorical variables were compared using the unpaired Mann Whitney test, two-tailed t-test with Welch's correction, and chi square test, respectively.

Results: In total, 26 healthcare and 24 non-healthcare videos were included (Table 1). Videos presented a range of treatments including behavioral, supplement, dietary, pharmacology, and medical, though treatment category largely differed between healthcare and non-healthcare authors (p<0.001). Healthcare-authored videos received higher accuracy and comprehension scores, although they saw poorer user engagement including likes and bookmarks (all p<0.001). Notably, healthcare-authored videos had poor actionability scores. Inaccurate videos had higher engagement (p=0.008).

Conclusions: Our findings indicate that despite the availability of high-quality ED treatment resources created by healthcare professionals on TikTok, engagement and actionability remain alarmingly low. There is substantial, readily accessible misinformation produced by non-healthcare entities. Modernized medical education paradigms, communications research, and awareness may optimize the use of social media for public health messaging to ultimately improve outcomes.

Table 1. Video Quality for Healthcare versus Non-Healthcare Authors

	Healthcare	Non-Healthcare	*p*=
PEMAT Understandability (Mean, SD)	0.8990, 0.0976	0.6373, 0.224	**<0.001**
PEMAT Actionability (Mean, SD)	0.6496, 0.3453	0.6424, 0.3478	0.788
DISCERN (Mean, SD)	3.886, 0.6475	1.777, 0.4520	**<0.001**
Video Accuracy	25/26 (96.2%)	3/24 (12.5%)	**<0.001**

MP3-08

Mechanical Irrigation with Irrisept Effectively Reduces Bacterial Biofilm on Inflatable Penile Prosthesis Surfaces

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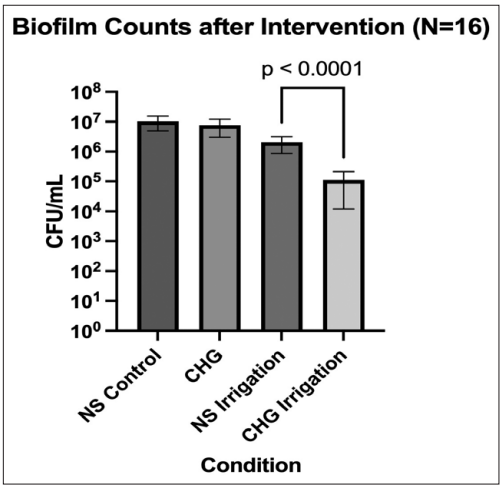
Thomas Jefferson University Hospital, Sidney Kimmel Medical College, Philadelphia, PA, USA

Introduction and Objective: Inflatable penile prostheses (IPP) often have bacterial biofilm colonization on their surface, which may contribute to clinical infections. Current attempts to decrease bacterial colonization include using antiseptic and mechanical irrigations. We aim to elucidate the efficacy of a chlorhexidine gluconate (CHG) irrigation system (Irrisept) on biofilm reduction on IPP surfaces.

Methods: Sterile 8mm diameter IPP pieces (Coloplast, Minneapolis, MN) were incubated for biofilm formation with 1 X 10^5 colony forming units (CFU)/mL of methicillin-sensitive Staphylococcus aureus ATCC25923 for 48 hours under static conditions. Samples were rinsed with PBS and split into four groups: normal saline (NS) submersion (1 min) CHG submersion (1 min), CHG irrigation, and NS irrigation. CHG was used at a concentration of 0.05% in sterile water (Irrimax, Lawrenceville, GA). Biofilms were extracted and then colony counts were obtained by plating onto 3M PetriFilms. All conditions included 16 replicates each. Mann-Whitney U test's were performed to compare outcomes, $p<0.05$ considered significant.

Results: Average bacterial counts with 95% CI's are plotted in Figure 1. NS control resulted in an average biofilm count of 1.0E7 CFU/mL. Mechanical irrigation with CHG was the most efficacious and led to a significant ~3 log reduction in surface biofilm compared to NS control (1.1E5, $p<0.01$). Incubation with CHG alone led to a small nonsignificant decrease in counts (7.6E6, $p=0.2$). Mechanical irrigation with NS led to a ~1 log reduction in biofilm counts (5.5E5, $p<0.01$).

Conclusions: Mechanical irrigation with CHG led the greatest reduction in surface biofilm, as irrigation was CHG appeared to perform better than irrigation with NS alone, supporting the growing use of low concentration antimicrobial irrigation regimens in revision surgery. Further studies are needed to understand these clinical implications.



MP3-09

Prophylactic Dipping of Inflatable Penile Prosthesis Material in Irrisept or Antibiotic Inhibits Surface Biofilm Formation

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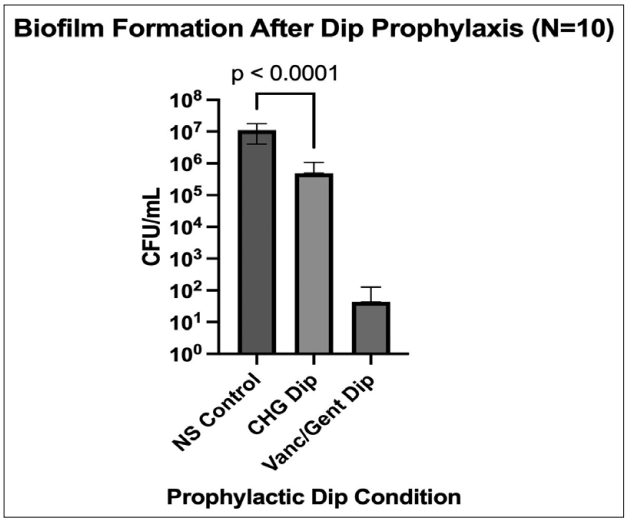
Thomas Jefferson University Hospital, Sidney Kimmel Medical College, Philadelphia, PA, USA

Introduction and Objective: Biofilm formation on inflatable penile prosthesis (IPP) surfaces may contribute to clinical infection. Certain implants have coatings which can bind antimicrobials. The impact of this practice on inhibiting biofilm formation is not well understood. We aim to elucidate the efficacy of prophylactic dipping with chlorhexidine gluconate (CHG) and antibiotics vancomycin and gentamycin (VG) on biofilm formation inhibition.

Methods: Sterile 8mm diameter IPP pieces (Coloplast, Minneapolis, MN) were incubated for 3 minutes in either normal saline (NS), 0.05% CHG in sterile water (Irrimax, Lawrenceville, GA), or solution of 2mg/mL vancomycin and 160µg/mL gentamycin. Pieces were then rinsed in PBS and then incubated for biofilm formation with 1 X 10^5 colony forming units (CFU)/mL of methicillin-sensitive Staphylococcus aureus ATCC25923 for 48 hours. Samples were then rinsed with PBS and biofilm was removed using by shaking in 0.3% Tween-20. Colony counts were obtained by plating onto 3M PetriFilms. Assay performed with 10 replicates. Mann-Whitney-U-test's were performed to compare outcomes, $p<0.05$ considered statistically significant.

Results: Average bacterial counts and 95% confidence intervals are plotted in Figure 1. NS control resulted in an average biofilm count of 1.1E7 colony forming units per milliliter (CFU/mL). Pre-dipping implant in 0.05% CHG appeared to inhibit biofilm formation with a nearly ~2 log decrease (4.9E5 CFU/mL, $p<0.01$). Pre-dipping implant in VG also appeared to inhibit biofilm formation with a ~5 log decrease in counts (3.7E1 CFU/mL, $p<0.01$).

Conclusions: This study represents the first in vitro assay to investigate the role of prophylactic IPP dipping in biofilm formation. Here, we show pre-dipping IPP material in both CHG and VG lead to a decrease in biofilm formation. Further studies should further investigate the clinical implication of these findings.



MP3-10

Prevalence of Cognitive Disease and Manual Dexterity Disorders Among Men with Artificial Urinary Sphincter: A SEER Medicare Analysis

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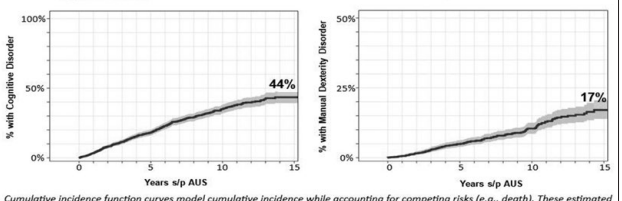
Introduction and Objective: Cognitive ability and manual dexterity sufficient to operate an artificial urinary sphincter (AUS) are critical for device function and safety. We aimed to define the prevalence of cognitive and/or dexterity disorders among men after AUS. We secondarily aimed to assess for association between these disorders and post-implant complications.

Methods: This is a retrospective cohort study using the SEER Medicare linked database (2000-2018). We included men ≥66 years diagnosed with prostate cancer between 2001-2015 who subsequently underwent AUS (AMS 800) placement. We excluded patients with <1-year continuous fee-for-service Medicare enrollment or cognitive and/or manual dexterity disorder diagnoses prior to AUS implant. Subsequent cognitive/dexterity disorders and implant-related complications were queried using appropriate ICD9/10 and/or CPT codes. Associations between cognitive/dexterity disorders and post-implant complications were assessed using extended Cox proportional-hazards modeling. Secondary analysis focused on severe complications (device revision/removal, Fournier's gangrene, urethral erosion).

Results: 1,560 men who underwent AUS met inclusion criteria. Mean age was 73.8(±4.3) years and mean follow-up was 4.2(±3.2) years. Overall, 398(25.5%) and 131(8.4%) patients developed subsequent cognitive and manual dexterity disorders, respectively (Figure). In total, 871(55.6%) patients had a post-implant complication, including 525(33.6%) device removals at mean 3.1(±3.2) years. Cox proportional-hazard modeling found cognitive disease with/without manual dexterity disorder resulted in increased hazard of any, but not severe complication (Table).

Conclusions: A significant proportion of patients develop cognitive and/or manual dexterity disorders following AUS. These data support the need for close longitudinal follow-up and monitoring after implant; however, data is encouraging that severe complication rates are similar to those without cognitive/dexterity disorders.

Figure. Cumulative Incidence Function Curves for Cognitive & Manual Dexterity Disorders



Cumulative incidence function curves model cumulative incidence while accounting for competing risks (e.g., death). These estimated incidences are thus higher than raw percentages noted from overall data.

Table. Cox proportional-hazards modeling for complications following AUS

	Any Complications	
	Hazard Ratio (95% CI)	**Adjusted Hazard Ratio (95% CI)**
Cognitive Disorder	1.52 (1.19,1.94)*	1.48 (1.16,1.90)*
Manual Dexterity Disorder	1.48 (0.95,2.33)	1.43 (0.91,2.25)
Both	1.52 (1.21,1.92)*	1.48 (1.16,1.87)*
	Severe Complications	
Cognitive Disorder	1.09(0.81,1.47)	1.06 (0.78,1.46)
Manual Dexterity Disorder	0.63(0.29,1.34)	0.64 (0.30,1.36)
Both	1.04(0.78,1.40)	1.01 (0.75,1.37)

*Hazard Ratios (HR) are based on Cox proportional-hazards model with time varying covariates. Adjusted HRs are based on multivariate logistic regression adjusted for age at AUS placement, year of AUS placement, Fee for Service coverage rate, SEER region, and Charlson comorbidity categories. *, p<0.05*

MP3-11

The Relationship between Hypogonadism and Implant Outcomes

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Introduction and Objective: It is thought that androgens may play a role in urethral and penile tissue health. In this context, we sought to understand what impact hypogonadism may have on artificial urinary sphincter (AUS) and inflatable penile prosthesis (IPP) outcomes. We hypothesize that patients with hypogonadism are at increased risk of reinterventions, complications, and infections.

Methods: We queried the TriNetX Global Database in March 2023 for patients receiving an AUS or IPP. We defined patients as having hypogonadism if they received testosterone replacement therapy (TRT), and/or had the diagnosis of hypogonadism all within 3 months before or after surgery. We compared hypogonadal patients against normal testosterone patients for lifetime reintervention, complication, and infection rates. We also compared hypogonadal patients on TRT against hypogonadal patients not on TRT.

Results: Hypogonadal patients had higher rates of reintervention (30.2% vs. 24.0%, p=0.07) and complication (35.2% vs. 26.1%, p=0.01) with similar infection rates (8.8% vs. 6.7%, p=0.29) for AUS. For IPP, hypogonadal showed similar reintervention rates (14.1% vs. 12.7%, p=0.15) and higher rates of complication (21.6% vs. 18.7%, p=0.01) and infection (6.4% vs. 4.8%, p=0.01). Patients with hypogonadism on TRT showed not statistically significant higher rates of reintervention (36.8% vs. 24.6%, p=0.19; 15.2% vs. 13.3%, p=0.41), complication (47.4% vs. 31.1%, p=0.10; 23.0% vs. 21.4%, p=0.56), and infection (26.3% vs. 16.4%, p=0.23; 6.8% vs. 5.7%, p=0.48) for both AUS and IPP, respectively.

Conclusions: Hypogonadal patients have more reinterventions, complications, and infections following urologic implant surgery, to varying levels of significance. TRT may not be completely protective to improve tissue health but with many limitations that should be explored in further research.

Comparison	N	Reinterventions % Risk Ratio, p	Complications % Risk Ratio, p	Infections % Risk Ratio, p
Artificial Urinary Sphincter				
Hypogonadism	160	30.2	35.2	8.8
No Hypogonadism	4751	24.0	26.1	6.7
		1.3, 0.07	1.4, 0.01	1.3, 0.29
Hypogonadism on TRT	38	36.8	47.4	26.3
Hypogonadism off TRT	61	24.6	31.1	16.4
		1.5, 0.19	1.5, 0.10	1.6, 0.23
Inflatable Penile Prosthesis				
Hypogonadism	1339	14.1	21.6	6.4
No Hypogonadism	9964	12.7	18.7	4.8
		1.1, 0.15	1.2, 0.01	1.3, 0.01
Hypogonadism on TRT	419	15.2	23.0	6.8
Hypogonadism off TRT	491	13.3	21.4	5.7
		1.1, 0.41	1.1, 0.56	1.2, 0.48

Table 1. The Relationship between Hypogonadism and Artificial Urinary Sphincter and Inflatable Penile Prosthesis Reintervention, Complications, and Infections

Moderated Poster Session 3: Reconstruction, Sexual Dysfunction, Andrology

MP3-12 – video

Side-to-Side Ureteropyelostomy for Repair of Ureteropelvic Junction Obstruction
Z. Wu, R. Mori
Geisinger Medical Center, Danville, PA, USA

MP3-13 – video

Transcorporal Artificial Urinary Sphincter (AUS) Technique and Expanded Indications
E. Hays[1], E. Choudhury[2], N. Shaw[1], K. Venkatesan[1]
[1]MedStar Washington Hospital Center, Washington, DC, USA; [2]Georgetown University School of Medicine, Washington, DC, USA

MP3-14 – video

Nephroptosis: Robotic Assisted "Stitch and Cinch" Technique for Nephropexy
J. Pryor, F. Maffucci, D. Strauss, E. Nagoda, D. Eun
Temple University, Philadelphia, PA, USA

MP3-15 – video

Non-Surgical Lysis of Clitoral Adhesions: Technique and Review of the Literature
J. Marantidis[1], M. Meyers[2], J. Romanello[3], E. Nico[4], R. Sussman[1], R. Rubin[1]
[1]MedStar Georgetown University Hospital, Washington, DC, USA; [2]Chicago Medical School at Rosalind Franklin University of Medicine and Science, North Chicago, IL, USA; [3]Rush Medical College at Rush University, Chicago, IL, USA; [4]University of Illinois College of Medicine at Chicago, Chicago, IL, USA

MP4-01

Variations in Urinary Microbiota in Astronauts after a Short Duration Space Mission to the International Space Station

P. Chung[1], J. Leong[1], H. Baris[2], C. Phillips[3], E. Chisari[1], J. Nickel[4], J. Parvizi[1], B. Boursi[2]
[1]Thomas Jefferson University, Philadelphia, PA, USA; [2]Sheba Medical Center, Sheba, Israel; [3]Texas Tech University, Lubbock, TX, USA; [4]Queen's University, Kingston, ON, Canada

Introduction and Objective: Space travel exposes crew to substantial stressors, which may potentially alter their microbiome. It is important to understand whether the urinary microbiota is altered to protect the health and safety of travelers and professional astronauts. We hypothesize that urinary microbiota is altered during a short-duration space flight to the International Space Station (ISS).

Methods: IRB approval was obtained to collect urine samples from four crew members on a short-duration space flight to the ISS. One crew member provided urine samples onboard the ISS (O+2, 4, 6, 8 days) using a urine collection kit (UCK) designed for low gravity environments. This crew member also provided paired mid-stream and UCK collected urine samples for direct comparison of collection method prelaunch (L-13, L-7, L-1) and upon return to Earth (R+0, R<=3). Three additional crew provided prelaunch and return mid-stream urines samples only. Urine was sent for 16s next-generation sequencing (MicroGenDX, Lubbock, TX, USA).

Results: Bacterial load and species richness did not vary by urine collection method (p=0.42 and p=0.63) or time of collection (before or after mission) (p=0.93 and 0.53). Differences in microbiota composition varied by time of collection (p=0.04, F=2.79, d.f.=3,7), but not collection method (p=0.22). Significant differences in microbial composition among preflight, orbital, and return samples were detected with PERMANOVA (p=0.001, F=3.16, d.f.=2,9, R2=0.47). Post-hoc testing revealed that preflight and orbital samples notably differed (p=0.06), orbital and return samples significantly differed (p = 0.03), and preflight and return samples did not significantly differ (p=0.2). Temporal effects on urinary microbiota composition were also evaluated and identified similar results with bacterial load (p=0.02) and the product of load and richness (p=0.03) being statistically significant, while species richness resulting not significant (p>0.05).

Conclusions: Space travel alters urinary microbiota. Further studies with larger cohorts and longer duration voyages are needed to better understand the impact of space travel.

MP4-02

Earlier Intervention in Patients with Acute Urinary Retention is Associated with Successful Outcomes When Treated with the Prostatic Urethral Lift (PUL)

T. Mueller
Jefferson New Jersey, Stratford, NJ, USA

Introduction and Objective: AUR represents a challenging subset of patients with BPH-LUTS who require rapid restoration of voiding. PUL has demonstrated safety and efficacy in AUR patients. Here, we examine patient and procedural characteristics that may influence treatment success in AUR patients who underwent PUL.

Methods: A logistical regression model evaluated factors which may predict success following PUL (i.e., catheter- and surgery-free at 12 months). Subjects examined were AUR patients in the PULSAR study (n=51) and retention patients in the real-world registry (RWRr; n=388). Covariates included age, prostate volume, markers of BPH disease severity (IPSS, IPSS QoL, Qmax, PSA, PVR), medical history (duration of catheterization), and procedural details (implants placed, procedure time, voiding efficiency). Results are reported as odds ratio point estimates.

Results: At 12 months post-PUL, 73% of PULSAR subjects were catheter- and surgery-free; success in these patients was associated with higher perioperative voiding efficiency. The catheter-free rate (80%) in RWRr was slightly higher (80%); variables that influenced success in RWRr patients were age <70 years at procedure, lower baseline PSA, lower baseline PVR, and shorter pre-procedural catheter duration. Logistic regression for the combined PULSAR and RWRr retention groups found success was associated with procedural age <70 yr and higher voiding efficiency. No significant associations were found with stepwise multivariate regression analysis (Table).

Conclusions: Advanced age, higher baseline PSA and PVR, and longer pre-procedural catheter duration drive suboptimal outcomes in AUR patients treated with PUL. Voiding efficiencies in the perioperative period following PUL may also help to ascertain long-term response after treatment. These factors may inform new selection criteria, potentially providing more men in AUR with earlier access to safe and effective BPH surgery.

Table 1. Univariate patient and procedural characteristics predictive of resolution of retention following PUL

Covariate	Responder Mean	Failure Mean	Odds Ratio	P-value
PULSAR				
Voiding efficiency	54	29	1.02	<0.05
RWR Retention (RWRr)				
Age <70	69.5	72.3	1.78	<0.05
PSA	3.1	5.8	1.06	0.05
PVR	228.9	504.4	1.00	<0.01
Pre-procedure catheter (days)	43.5	204.2	1.00	<0.01
Combined (PULSAR & RWRr)				
Age <70	69.7	72.7	2.04	<0.01
Voiding efficiency	59.0	32.0	1.02	0.02
Pre-procedure catheter (days)	53.2	198.7	1.00	<0.01

MP4-03

Patient Characteristics and Dynamic Variables Predictive of Clinically Meaningful Quality of Life and Sexual Function Improvements in a Pooled Analysis of the Prostatic Urethral Lift (PUL)

G. Eure[1], P. Chin[2], D. Rukstalis[3], S. Gange[4]
[1]Urology of Virginia, Virginia Beach, VA, USA; [2]South Coast Urology, Wollongong, Australia; [3]Carilion Clinic, Roanoke, VA, USA; [4]Summit Urology Group, Salt Lake City, UT, USA

Introduction and Objective: Rapid recovery, durable relief from LUTS, and preservation of sexual function are hallmarks of PUL. This analysis examines the relationship between baseline patient variables and post-procedural quality of life in men treated with PUL.

Methods: A logistical regression model was generated using controlled study PUL patients: L.I.F.T. (RCT, PUL vs. sham, n= 140), Crossover (crossover of L.I.F.T. sham subjects, n=51), BPH6 (RCT; PUL vs. TURP, n=44), LOCAL (single-arm, PUL under local anesthesia in office, n=51), and MedLift (single-arm, subjects with OML, n=45). Quality of life at 12 months following PUL was assessed using two proxies: (1) Quality of Life Due to Urinary Symptoms question (QoL) improvement from baseline to achieve a 0, 1 or 2 from baseline; (2) in sexually active patients, MCID improvement in IIEF.

Results: Definition #1 (QoL response) was met by 66% of PUL patients (191/296). Success was predicted by better/lower baseline total IPSS, lower scores on frequency (Q2), intermittency (Q3), urgency (Q4), and being UTI-free. For dynamic variables, success was associated with improvements in IPSS total score, BPHII, improvements in erectile function assessments (erection maintenance and completion domains), and quicker return to preoperative activity. 42% of PUL patients who were sexually active met definition #2 following treatment. Response was predicted by better baseline erectile function and improvements in IPSS, BPHII, and MSHQ-EjD (bother and function) (Table 1).

Conclusions: Better QoL scores are associated with symptom/sexual function improvements and more rapid recovery post-PUL; quality of life outcomes are affected by earlier intervention in the BPH disease continuum. The likelihood of achieving meaningful change in sexually active patients is predicted by treatment with PUL prior to progression to severe erectile dysfunction.

Table 1. Univariate baseline and dynamic variables predictive of meaningful QoL and erectile function improvement through 12 months post-PUL

Covariate	Responder Mean	Failure Mean	Odds Ratio (OR)	OR p-value
Baseline Characteristics – QoL				
Medical history of UTI	No	Yes	2.22	0.04
IPSS - total score	22.05	24.04	1.06	<0.01
IPSS - frequency (Q2)	3.56	3.85	1.23	0.03
IPSS - intermittency (Q3)	2.82	3.39	1.28	0.04
IPSS - urgency (Q4)	3.14	3.53	1.22	<0.01
Dynamic Variables – QoL	**Change Mean Responder**	**Change Mean Failure**	**Odds Ratio (OR)**	**OR p-value**
IPSS – total score	14.08	5.59	1.25	<0.01
BPHII	5.63	2.29	1.44	<0.01
SHIM – maintain erection (Q3)	-0.04	0.25	1.35	0.01
SHIM – completion (Q4)	-0.12	0.17	1.35	<0.01
Return to pre-op activity level	8.65	6.58	1.04	0.04
Baseline Characteristics – IIEF				
SHIM total score	15.03	10.09	1.18	<0.01
Dynamic Variables – IIEF	**Change Mean Responder**	**Change Mean Failure**	**Odds Ratio (OR)**	**OR p-value**
IPSS - total score	12.25	8.39	1.08	0.01
IPSS – incomplete emptying (Q1)	2.43	1.57	1.41	0.01
IPSS – frequency (Q2)	1.78	0.93	1.47	0.01
IPSS – intermittency (Q3)	1.90	1.16	1.38	0.03
BPHII	5.00	3.39	1.20	0.01
MSHQ - EjD	-2.90	-1.73	1.19	0.04
MSHQ – Bother	1.78	0.54	1.61	<0.01

MP4-04

Prostatic Urethral Lift Efficacy in Patients with Prior Benign Prostate Hypertrophy Treatment and Radiation Therapy

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Introduction and Objective: Lower urinary tract symptoms (LUTs) caused by benign prostatic hyperplasia (BPH) is a frequent urologic complaint. Prostatic urethral lift (PUL) has shown to be an effective minimally invasive treatment. There is paucity of data with salvage PUL. This study's aim is to determine the effect of PUL in patients with previously treated BPH or radiation therapy.

Methods: A retrospective review performed on 444 patients between 6/2016 to 5/2022 of a single surgeon's PUL experience. Patients were subgrouped into those with previous transurethral resection of prostate (TURP), transurethral needle ablation (TUNA), PUL, or radiation therapy. The previously treated groups were then compared to those undergoing primary PUL. Patient demographics, international prostate symptom score (IPSS) and quality of life (QOL) were assessed through 24 months. A T-test was performed at follow up intervals between the primary PUL group and the previous treated group.

Results: A total of 444 patients were retrospectively reviewed. 8 had previous PUL (1.8%), 12 TUNA (2.7%), 15 TURP (3.3%) and 14 previous radiation (3.1%). The previous urolift group was older (80.9 years) with larger prostates (69.9 grams). The previous TURP group had the largest PVR at 276.1ml. The decrease in IPSS was seen in all groups.

Conclusions: Efficacy of PUL has not been well studied in patients with previous prostatic treatments. We show that repeated PUL in patients that had previous PUL, TUNA, TURP, or radiation can be effective.

Figure. Change in IPSS and QOL Through 24 Months

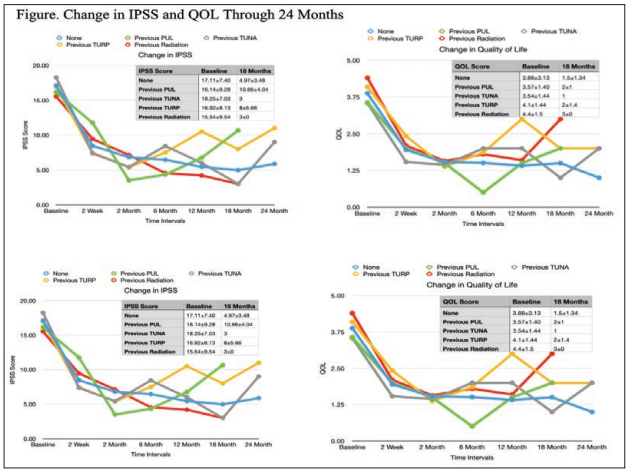

Table. Patient Demographics, IPSS, and QOL

Previous Prostate Treatment Demographic Table

Variables mean(SD)	None N=395	Previous PUL N=8	Previous TUNA N=12	Pervious TURP N=15	Previous Radiation N=14	P-Value
Age	69(9.63)	80.875(10.79)	71.67(10.39)	76.47(8.3)	74.64(9.21)	**<0.001**
Number of implant	6.04(0.89)	6.5(0.53)	5.75(0.75)	5.07(1.21)	5.23(1.3)	**<0.001**
Prostate Volume	55.14(27.4)	69.93(30.72)	33.32(12.08)	57.56(23.04)	52.02(32.41)	0.06
Pre-PVR	121.64(230.55)	162.875(264.97)	152.3(186.96)	276.1(321.37)	223.25(248.99)	0.176
IPSS						
Follow up in months median±mean	6±5.58	15±11.42	6±6.92	6±6.86	6±8.5	
Baseline	17.11(7.4)	16.14(9.28)	18.25(7.03)	16.92(8.13)	15.54(9.5)	0.9
2 Week	8.46(5.23)	11.75(5.06)	7.36(5.35)	7.46(7.18)	9.45(8.78)	
2 Month	6.82(4.85)	3.5(2.65)	5.44(3.8)	5.38(2.6)	7.13(4.32)	
6 Month	6.45(4.77)	4.33(1.53)	8.43(5.6)	7.5(5.07)	4.54(4.08)	
12 Month	5.44(4.16)	6.75(2.99)	6(5.66)	10.5(4.43)	4.2(2.68)	
18 Month	4.97(3.5)	10.66(4.04)	3	8(5.66)	3(0)	
24 Month	5.86(4.7)		9	11		
QOL						
Follow up in months median±mean	2±5.4	15±11.42	6±6.92	6±6.86	6±8.08	
Baseline	3.88(3.13)	3.57(1.40)	3.54(1.44)	4.1(1.44)	4.4(1.5)	0.95
2 Week	1.95(1.52)	2(1.4)	1.54(1.51)	2.42(1.56)	2.1(1.8)	
2 Month	1.53(1.32)	1.5(1.29)	1.44(1.33)	1.375(0.92)	1.57(1.5)	
6 Month	1.51(1.25)	0.5(0.71)	2(1.53)	1.86(1.07)	1.8(2.04)	
12 Month	1.41(1.3)	1.5(0.58)	2(1.4)	3(1.4)	1.6(1.5)	
18 Month	1.5(1.34)	2(1)	1	2(1.4)	3(0)	
24 Month	1(0.89)		2	2		

MP4-05

Cost Analysis for Starting a HoLEP Program

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Introduction and Objective: To start a successful holmium laser enucleation of the prostate (HoLEP) program, it is important to understand the financial implications. This paper aims to provide a financial blueprint for starting a new HoLEP program by highlighting the actual costs incurred in the process, as well as the profit margins seen, and case volumes required to realize a profit.

Methods: A new HoLEP program was recently initiated at a teaching hospital in North Philadelphia, with the first procedure performed in October 2021. Financial information, including operative costs, disposables' costs, and insurance reimbursement payments, were tracked for each case. Capital purchases for the new equipment to perform HoLEP was also obtained. A total of 71 HoLEP procedures were performed between October 2021 and June 2022. Data from the first 25 procedures was used to create a graph depicting the capital costs, profit margin per case, and anticipated number of cases required to begin realizing a profit. An additional graph was created to compare the costs associated with disposables used in HoLEP versus TURP.

Results: Initial costs were incurred for obtaining a Wolf PIRANHA enucleation morcellator, two Wolf nephroscopes, and a Thermedx irrigation system, which amounted to $100,369.64 in total. The average cost of disposables used in each HoLEP procedure was $1320.79. Reimbursement amounts were dependent on payer, with an average gross of $4864.74 per case (including Medicaid). The average profit margin per case was $960.69, when considering all insurance payers and accounting for costs of operating room (OR) utilization and disposables. The anticipated number of procedures required to break even is 105 cases.

Conclusions: We have demonstrated at our institution that a return on investment can be seen after approximately 105 HoLEP cases. This primarily depends on three factors: OR efficiency, payer mix, and case volume, all of which can be optimized for improved returns.

MP4-06

The Use of 1.9mm Trilogy Lithotripter Versus MOSES Holmium Laser in Mini-Percutaneous Nephrolithotomy

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Introduction and Objective: Mini-percutaneous nephrolithotomy (mPCNL) allows for the treatment of urolithiasis through smaller tracts ranging from 14-23Fr. This translates to use of a narrower working channel. The ability to maintain adequate irrigation is limited by the size of the lithotripter, thus holmium lasers have been used during mPCNL. We compare treatment efficacy of the 1.9mm Trilogy lithotripter to the MOSES holmium laser during mPCNL.

Methods: We performed a prospective analysis of mPCNL cases with the 1.9mm Trilogy lithotripter from 2021 through 2022 and compared outcomes to cases performed with the MOSES holmium laser from 2019 through 2021. The Storz 12Fr nephroscope with the 16.5/17.5Fr Storz access sheath was used in all cases. Patient and peri-operative data was prospectively collected. Stone volume was measured as the dominant single plane size. Treatment efficiency was calculated as stone size (mm)/treatment time (s). Descriptive statistics were used for data analysis with statistical significance held at $p<0.05$.

Results: On analysis, 70 patients treated with the 1.9mm Trilogy lithotripter were compared to 253 treated with the MOSES holmium laser during mPCNL. Patient demographics and outcomes data are depicted in Table 1. Patients undergoing mPCNL with the 1.9mm Trilogy lithotripter had larger stone sizes (26.2mm vs. 20.6mm, $p<0.01$) and a superior efficiency (1.15 vs. 0.61, $p<0.01$). Post-operative observation time was longer for patients treated with the lithotripter (83.1min vs. 73.5min, $p<0.01$).

Conclusions: The 1.9mm Trilogy lithotripter is an efficient alternative to laser-based modalities for stone treatment during mPCNL, allowing for the treatment of larger stones with a higher treatment efficiency rate. However, overall treatment times were comparable between the two modalities. Both remain effective options for treating significant stone burdens through smaller tracts compared to standard PCNL.

Table 1. Outcomes of mPCNL: Trilogy 1.9mm Lithotripter Versus the MOSES Holmium Laser

	Trilogy 1.9	MOSES	*p* -value
n	70	253	
Age	53.2	55.3	0.14
BMI	30.3	29.9	0.67
ASA	2.2	2.3	0.34
Hypertension	32 (54.3%)	139 (54.9%)	0.92
Diabetes	11 (15.7%)	62 (24.8%)	0.11
Pre-operative Creatinine	1.06	0.99	0.12
Stone Burden (mm)	26.2	20.6	<0.01
STS Distance (cm)	10.1	10.4	0.39
Hounsefield Units	837.4	889.8	0.55
PACU Time (min)	83.1	73.5	<0.01
No Planned Second Look	0	7 (2.8%)	0.15
EBL (mL)	40.1	26.7	0.01
Treatment Time (s)	576	760	0.08
Treatment efficiency (mm/s)	1.15	0.61	<0.01

MP4-07

Single Center Experience with Aquablation

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Introduction and Objective: While Aquablation is becoming more widely used, little data exists on the implementation of the procedure in non-protocolized patients. This data is important in deciding how Aquablation fits within the repertoire of techniques available for managing benign prostatic hyperplasia (BPH). We describe our experience with Aquablation, including the evolution of surgical technique, patient outcomes and complications.

Methods: An independent, non-funded, retrospective review of patients who underwent Aquablation between May 1, 2021, and June 1, 2022 was performed. Patients were selected at the surgeon's discretion. Patient demographics, pre-operative, intra-operative, and post-operative information was collected.

Results: Aquablation was completed in 55 patients with an average prostate size of 103g (45 to 313g). Electrocautery was used in 100% of cases. The average operative time was 74 minutes. Patients were followed for an average of 165 days (11-585 days). Outcomes are shown in Table 1. Complications occurred in 8 patients (15%). 3 patients required a blood transfusion, 1 patient required return to the operating room, and 1 patient required a stay in the intensive care unit.

Conclusions: Aquablation was used to treat BPH in 55 patients over 13 months, with significant reduction in PRV and improvement in I-PSS scores. Operative times were similar to that of transurethral resection of the prostate (TURP) or holmium laser enucleation of the prostate (HoLEP), but longer than previously reported operative times of Aquablation. Major complications were related to bleeding despite electrocautery use in all cases. As Aquablation becomes more widely used, there may be overlap of patients who are candidates for TURP, HoLEP and Aquablation, and further data is needed to assess which patients would be best suited for each procedure.

Table 1: Aquablation Outcomes (N=53)

	Pre-Operative	Post-Operative	p-value
PVR	278 ± 281 (0-1500)	65 ± 83 (0-333)	< 0.01
IPSS	20 ± 8 (3-33)	8 ± 7 (1-31)	< 0.01
On Alpha-Blocker	52 (93)	10 (19)	< 0.01
On Alpha Reductase Inhibitor	32 (57)	3 (6)	< 0.01
Catheter Dependent	16 (29)	2 (4)	< 0.01

Values are presented as mean +/- standard deviation (range) or number (%).

MP4-08

Wrap it When you Revise it? Device Infections and the Use of Tyrx Pouch in Sacral Neuromodulation

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Introduction and Objective: Sacral neuromodulation is a commonly performed procedure for various conditions. Infection rates typically range as high as 10 percent and often require operative explant with resultant increased cost and morbidity. Antibiotic impregnated pouches have been utilized in cardiovascular procedures with benefit of decreasing infectious complications. Tyrx is an antibiotic pouch utilizing minocycline and rifampin. The objective of this study is to investigate the utility of Tyrx for sacral neuromodulation cases.

Methods: We retrospectively analyzed our most recent 150 sacral neuromodulation cases. Patients were divided into 2 groups: those receiving a Tyrx pouch and those who did not. Additional variables of interest included: post-operative infection of implant site, diagnosis of diabetes, weight, and revision case or virgin implant.

Results: 150 cases were identified ranging from March 2017 to July 2022. Demographic data is provided in Table 1. Groups were similar in terms of body habitus. The group receiving a Tyrx pouch was noted to be older with a higher percentage of female patients. 65 patients received a Tyrx pouch and 85 did not. There were 5 post-operative infections for an overall infection rate of 3.3%. No infections occurred in the Tyrx pouch cohort (0%) versus 5 (5.9%) in the non-Tyrx pouch cohort (p=0.04). Of the infections, 4 occurred in revision cases (8%) and 1 in a virgin implant (1%) (p=0.02). No difference was noted in infection rate with regard to a diagnosis of diabetes or body habitus.

Conclusions: The use of Tyrx pouch in sacral neuromodulation is associated with a decreased rate of infectious complications. Revision cases are significantly more likely to have infectious complications.

MP4-09

Differences in Advanced Therapeutic Modalities for Overactive Bladder or Urgency Urinary Incontinence in the US by Race

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Introduction and Objective: Significant disparities exist in the diagnosis & treatment of overactive bladder (OAB). Our objective was thus to analyze if race influences prescription of advance therapies for urgency urinary incontinence (UUI) or OAB.

Methods: The TriNetX Diamond network was queried to identify adult females with a diagnosis of UUI or OAB, excluding those with stress incontinence or mixed incontinence. Propensity-score matching was conducted for several covariates. Treatments were categorized according to AUA guidelines: 1st line therapies included biofeedback training or physical therapy; 2nd line included oxybutynin, darifenacin, solifenacin, tolterodine, fesoterodine, trospium chloride, or mirabegron; 3rd line included percutaneous tibial nerve stimulation, sacral neuromodulation, or OnabotulinumtoxinA injection in 1, 3, or 5 years from diagnosis.

Results: We identified 1,534,042 adult females with OAB or UUI; 437,213 identified as white & 57,443 identified as black. The number of individuals receiving treatment & advancement in treatment over the years are listed in Table 1. 57,443 Black females were then compared to an equivalent number of propensity-score matched White females. Significant difference was observed in advanced treatment prescriptions between race at 1-, 3-, 5- years, and any point thereafter from diagnosis (Table 2).

Conclusions: Though initial 1st line treatment prescription is similar by race; our results demonstrate a significantly lower rate of prescription of 2nd or 3rd line therapies for Black individuals. These results highlight the need for further research to understand these differences.

Table 1: Number of White (W) and Black (B) Individuals Prescribed Treatment Lines Over 1-, 3-, and 5- Years

Treatment Line		
1st Line	**1st and 2nd Line**	**1st, 2nd, and 3rd Line**
Total W: 437,401. Total B: 57,458		
1 year: W: 22,324 B: 3,106		
	1 year: W: 6,873 B: 833	
		1 year: W: 227 B: 14
		3 years: W: 329 B: 29
		5 years: W: 352 B: 32
	3 years: W: 7,860 B: 975	
		3 years: W: 400 B: 34
		5 years: W: 429 B: 38
	5 years: W: 8,098 B: 1,003	
		5 years: W: 445 B: 42
3 years: W: 43,472 B: 5,966		
	3 years: W: 16,647 B: 2,033	
		3 years: W: 867 B: 87
		5 years: W: 957 B: 100
	5 years: W: 17,387 B: 2,128	
		5 years: W: 1,020 B: 110
5 years: W: 56,911 B: 7,748		
	5 years: W: 23,493 B: 2,902	
		5 years: W: 1,423 B: 147

Table 2: Propensity-Score Matched Comparison of White (W) and Black (B) Indiv Prescribed Treatment Lines After Diagnosis, with OR [95% CI]

	Treatment Line		
	1st Line	**2nd Line**	**3rd Line**
1 Year After	W: 2,868 (4.99%) B: 2,964 (5.16%) 1.04 [0.98 – 1.09]	W: 14,327 (24.94%) B: 12,639 (22.00%) **0.85 [0.83 – 0.87]**	W: 1,205 (2.10%) B: 772 (1.34%) **0.64 [0.58 – 0.70]**
3 Year After	W: 5,652 (9.84%) B: 5,858 (10.20%) **1.04 [1.00 – 1.08]**	W: 17,875 (31.12%) B: 16,025 (27.90%) **0.86 [0.84 – 0.89]**	W: 1,647 (2.87%) B: 1,089 (1.90%) **0.66 [0.61 – 0.71]**
5 Year After	W: 7,376 (12.84%) B: 7,645 (13.31%) **1.04 [1.01 – 1.08]**	W: 19,140 (33.32%) B: 17,306 (30.13%) **0.86 [0.84 – 0.89]**	W: 1,801 (3.14%) B: 1,235 (2.15%) **0.68 [0.63 – 0.73]**
Any Point After	W: 8,363 (14.56%) B: 8,712 (15.17%) **1.05 [1.02 – 1.08]**	W: 19,773 (34.42%) B: 17,991 (31.32%) **0.87 [0.85 – 0.89]**	W: 1,897 (3.30%) B: 1,325 (2.31%) **0.69 [0.64 – 0.74]**

MP4-10

Comparison of Perioperative Adverse Events Following Suburethral Sling Placement using Synthetic Mesh, Autologous Rectus Fascia, and Autologous Fascia Lata in a National Surgical Registry

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Introduction and Objective: Stress urinary incontinence is prevalent among adult women and midurethral slings (MUS) are commonly used as treatment. Our primary objective was to identify 30-day perioperative adverse events following sling placement with synthetic mesh, autologous rectus fascia, and autologous fascia lata and to compare independent risk of adverse events by sling type. Secondary objectives were to describe adverse events and independent factors associated with events.

Methods: A retrospective cohort study was conducted using the National Surgical Quality Improvement Program (NSQIP) database from 2008-2021 using CPT codes for MUS as inclusion criteria. We conducted two analyses: a comparison of patients who underwent synthetic sling versus autologous fascial sling placement, and a comparison of patients who underwent rectus versus fascia lata harvest sites among those who received autologous fascial slings. The incidence of composite 30-day perioperative adverse events was compared.

Results: A total of 41,533 patients were included. Of the total, 99.4% received synthetic mesh slings and 0.6% autologous fascial slings with 66% utilizing rectus fascia and 34% rectus lata. Fascia lata had a higher risk of composite complications compared to rectus fascia. Operative characteristics, admission characteristics, and individual and composite complications for each sling type are in Table 1. Multivariable logistic regression models for risk of 30-day perioperative adverse events are in Table 2.

Conclusions: Sling surgeries using autologous fascia were independently associated with a 3.6-fold increase in odds of 30-day perioperative adverse events compared to slings surgeries involving synthetic mesh in 41,533 patients who underwent suburethral sling placement.

Table 1. Operative and admission characteristics, and individual and composite adverse events by sling type.

	Synthetic mesh (*n* = 41,292)	Autologous rectus fascia (*n* = 160)	Autologous fascia lata (*n* = 81)	*p*-value (synthetic vs autologous)	*p*-value (rectus vs fascia lata)
Operative characteristics					
Total operation time, mins	37.0 (24.0-74.0)	105.0 (83.0-127.5)	99.0 (85.0-121.0)	<0.01	0.45
Unplanned reoperation	406 (1%)	4 (3%)	3 (4%)	<0.01	0.69
Admission characteristics					
Length of total hospital stay, days	0.0 (0.0-1.0)	1.0 (0.5-1.0)	1.0 (1.0-1.0)	<0.01	0.73
Any readmission	495 (1%)	4 (3%)	4 (5%)	<0.01	0.44
Individual peri-operative adverse events					
Wound disruption	38 (<1%)	0 (0%)	0 (0%)	1.00	-
Unplanned intubation	17 (<1%)	0 (0%)	0 (0%)	1.00	-
On ventilator greater than 48 hours	5 (<1%)	0 (0%)	0 (0%)	1.00	-
Pulmonary embolism	18 (<1%)	1 (1%)	0 (0%)	0.10	1.00
Progressive renal insufficiency	8 (<1%)	0 (0%)	0 (0%)	1.00	-
Acute renal failure	3 (<1%)	0 (0%)	0 (0%)	1.00	-
Cardiac arrest requiring CPR	8 (<1%)	0 (0%)	0 (0%)	1.00	-
Myocardial infarction	15 (<1%)	0 (0%)	1 (1%)	0.09	0.34
Stroke/CVA with neurologic deficit	9 (<1%)	0 (0%)	0 (0%)	1.00	-
DVT/thrombophlebitis requiring therapy	16 (<1%)	2 (1%)	0 (0%)	0.01	0.55
Blood transfusion	119 (<1%)	1 (1%)	1 (1%)	0.12	1.00
Urinary Tract Infection	1,501 (4%)	8 (5%)	12 (15%)	<0.01	<0.01
Sepsis	42 (<1%)	0 (0%)	3 (4%)	<0.01	0.04
Septic Shock	9 (<1%)	0 (0%)	0 (0%)	1.00	-
Surgical Site Infection					
Superficial Incisional SSI	214 (1%)	6 (4%)	4 (5%)	<0.01	0.66
Deep Incisional SSI	30 (<1%)	0 (0%)	1 (1%)	0.17	0.34
Organ/Space SSI	102 (<1%)	0 (0%)	1 (1%)	0.45	0.34
Pneumonia	32 (<1%)	0 (0%)	0 (0%)	1.00	-
Total peri-operative adverse events					
Composite adverse events	2,542 (6%)	20 (12%)	19 (23%)	<0.01	0.03
Composite adverse events, excluding UTIs	1,196 (3%)	13 (8%)	12 (15%)	<0.01	0.12

Data are presented as median (Q1-Q3) and count (percentage). Abbreviations: CPR, cardiopulmonary resuscitation; CVA, cerebrovascular accident; DVT, deep venous thrombosis; SSI, surgical site infection; UTI, urinary tract infection

MP4-11

Management of Post-Operative Urinary Incontinence After Gender-Affirming Phalloplasty: Navigating Through Uncharted Territory

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Introduction and Objective: Phalloplasty with vaginectomy is an increasingly common gender-affirming procedure. Although the associated urologic complications have been well documented, there have been limited investigations specifically on management of post-operative urinary incontinence (UI) (1-3).

Methods: We offer a review of current literature on incontinence after phalloplasty and present the key steps and decision-making process in managing significant stress-predominant UI after phalloplasty and vaginectomy.

Results: A 30-year-old transgender male initially underwent a radial forearm free flap phalloplasty with concomitant vaginectomy, followed by a first-stage Johansen urethroplasty. Post-urethroplasty, he developed new, significant, stress-predominant mixed UI. Video urodynamics demonstrated large volume stress UI with an abdominal leak point pressure of 0. Cystogram showed an open bladder neck at rest (Figure 1). His UI was suspected to be due to lack of anterior vaginal wall support with subsequent 'dropping' of the bladder neck and proximal urethra. Initial UI management included urethral bulking agents with polyacrylamide gel and subsequent urethropexy with only transient symptom relief. After careful consideration, he underwent a pubovaginal sling via a perineal approach with autologous rectus fascia without complication. Current literature on the development and management of UI after phalloplasty is scarce with only two prior studies identified (2,3). Hoebeke et al and Zhang et al reported rates of UI ranging from 50-59%. However, unlike our patient, both studies reported only mild UI or post void dribbling, related to lack of neourethra musculature, which did not warrant further intervention.

Conclusions: Despite the absence of a vaginal cavity, a pubovaginal sling can be performed in transgender males for stress UI. This case highlights the need for further research in this growing, complex, patient population with altered anatomy and significant disparities to care.

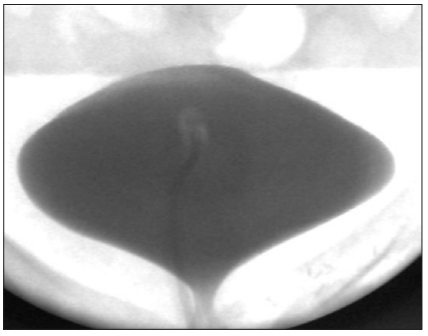

Table 2. Factors associated with perioperative adverse events on multivariable regression analysis.

	OR (95% CI)	aOR (95% CI)
Composite adverse events		
Suburethral Sling Type		
Synthetic Mesh	Ref	Ref
Autologous Fascia	2.94 (2.08-4.15)	3.63 (2.56-5.15)
Autologous Rectus Fascia	2.18 (1.36-3.49)	2.74 (1.71-4.41)
Autologous Fascia Lata	4.67 (2.79-7.82)	5.53 (3.29-9.30)
ASA Class		
1	Ref	Ref
2	1.30 (1.14-1.49)	1.29 (1.12-1.48)
3+	1.76 (1.52-2.04)	1.80 (1.55-2.08)
Surgeon Specialty		
Urology	Ref	Ref
Obstetrics/Gynecology	1.45 (1.33-1.59)	1.54 (1.40-1.68)
Other	1.45 (0.98-2.14)	1.49 (1.01-2.21)
Composite adverse events, excluding UTIs		
Suburethral Sling Type		
Synthetic Mesh	Ref	Ref
Autologous Fascia	3.88 (2.55-5.89)	4.63 (3.02-7.09)
Autologous Rectus Fascia	2.96 (1.67-5.24)	3.60 (2.02-6.41)
Autologous Fascia Lata	5.83 (3.15-10.79)	6.71 (3.61-12.49)

Abbreviations: ASA Class, American Society of Anesthesiologists Class; UTI, urinary tract infection; Ref, reference; OR, odds ratio; aOR, adjusted odds ratio

MP4-12 – video

Transperineal Pudendal Nerve Block: A Safe and Effective Alternative to the Transvaginal Nerve Block in Women

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MP4-13

Urinary Incontinence in Women: Pilot Study of Novel Online Comprehensive Pelvic Floor Therapy and Behavioral Program

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Introduction and Objective: Urinary incontinence (UI) is common in women and has a vast impact on quality of life (QOL), financial health, and work disability. Robust evidence demonstrates the efficacy and minimal risk of comprehensive conservative therapy (pelvic floor muscle training (PFMT), behavioral and dietary modification) in the treatment of mixed UI (MUI). However, numerous barriers impede access to this care, including limited availability of specialized therapists, financial barriers (co-pays), and scheduling obstacles. To address these barriers, we developed a novel online UI program (oPFP) (PFMT, behavioral and dietary modification).

Methods: We performed a prospective study assessing continence and QOL outcomes in women with MUI treated with oPFP between 05/2019 and 11/2022. Patients with prior history of anti-incontinence surgery or >1 prior pharmacotherapy trial were excluded. Outcomes were assessed at baseline and following completion of the 2-month program using the validated ICIQ-FLUTS, UPS, IIQ-7 questionnaires, and 24-hour bladder diary. Data were analyzed using linear or Poisson mixed models to allow for missing data and account for paired data.

Results: 28 women (mean age 60±14.8 years, parity 2±1.2) were enrolled with 9 lost to follow-up. Comprehensive outcomes are shown in Table 1. Following oPFP, participants showed significantly improved SUI domain scores (2.71±0.23 vs. 1.63±0.27, p<0.001), IIQ-7 sum scores (5.16±0.88 vs. 3.07±0.70, p=0.038), and daily incontinence episodes (2.96±0.60 vs. 1.06±0.29, p<0.001). Mean patient-reported improvement was 5.4±2.5 (10-point Likert scale). Of respondents, 89% reported program satisfaction, ease of use, and would recommend the program to others.

Conclusions: oPFP results in significant improvements to a variety of UI and QOL measures. Our program provides an important UI treatment option and gives women greater access to effective conservative therapy.

Table 1. PFMT and PFE Outcomes

Characteristic	Baseline[1]	2-month Follow-up[1]	p-value[2]
Questionnaire Outcomes			
SUI domain (ICIQ)	2.71±0.23, n=28	1.63±0.27, n=19	<0.001
UUI domain (ICIQ)	0.66±0.14, n=28	0.23±0.20, n=19	0.084
Urge domain (UPS)	2.43±0.20, n=28	1.89±0.19, n=19	
IIQ sum score (IIQ-7)	5.16±0.88, n=28	3.07±0.70, n=19	0.038
Patient Reported Outcomes			
Patient-reported Improvement (y/n)		18 (95%), n=19	
Patient-reported Satisfaction (y/n)		17 (89%), n=19	
Patient-reported Ease (y/n)		18 (100%), n=18	
Patient-reported Recommend (y/n)		19 (100%), n=19	
Bladder Diary			
Daily incontinence episodes (n)	2.96±0.60, n=19	1.06±0.29, n=16	<0.001
Daily pad use (n)	1.29±0.38, n=19	0.76±0.26, n=16	0.094
Daily caffeinated beverages (n)	1.06±0.26, n=16	1.00±0.26, n=15	0.864

[1] For continuous variables: predicted mean±SE, number of non-missing observations. For categorical variables: n (% of non-missing observations), number of non-missing observations. Urgency was not analyzed statistically so is presented as unadjusted mean±SE

[2]SUI, IIQ-7: Linear mixed effects models. UUI and Bladder Diary variables: Poisson mixed effects models

MP4-14

Comparison Of In-Person Versus Online Comprehensive Pelvic Floor Therapy Program Following Prostatectomy

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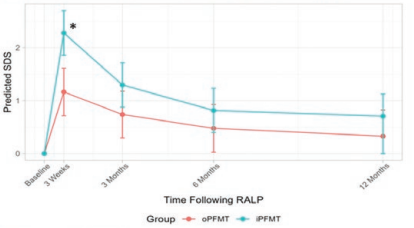
Introduction and Objective: Our previously-reported experience demonstrated that in-person, FMPRS-directed pelvic floor muscle training (PFMT) is associated with improved continence at 6- and 12-months following RALP as compared to unsupervised PFMT/education (PFE). Because in-person pelvic care is often inaccessible to patients, we developed a comprehensive online program providing long-term PFMT/PFE. We performed a retrospective comparison of continence/QOL outcomes following RALP (iPFMT (Supervised, in-person PFMT/PFE) versus oPFMT (comprehensive online PMFT/PFE)).

Methods: oPFMT comprises a 12-month program with progressive exercises (quick flick/sustained, counterbracing/knack skills), comprehensive dietary/behavioral technique education. Incontinence (ICIQ-MLUTS) and QOL (IIQ-7) outcomes are assessed at 3-week, 3-/6-/12-month timepoints. We performed analysis of iPFMT versus oPFMT in patients with minimum 6-month follow-up. Primary outcomes included ICIQ-MLUTS SUI domain score (SDS) and SUI cure (SDS=0). Mixed effects linear regression was used to model SDS over time. Daily pads and IIQ-7 score were analyzed with mixed effects Poisson regression.

Results: Analysis included 39 men (20 iPFMT; 19 oPFMT). At 3-/6-/12-month follow-up, there were no significant differences in mean SDS between oPFMT and iPFMT (3-month p=0.071; 6-month p=0.279; 12-month p=0.252) (Figure 1). Patient-reported outcomes are shown in Table 1. oPFMT cohort showed a similar PPD and SUI cure as compared with iPFMT at all timepoints. IIQ-7 was also similar at 3-months, but significantly lower in oPFMT compared to iPFMT at 6- and 12-months follow-up.

Conclusions: Our novel oPFMT program yields significant improvements to PPI and QOL. These outcomes are similar to those observed with in-person treatment and may provide an option to significantly improve access to care for men undergoing RALP.

Figure 1. ICIQ-MLUTS SUI Domain Score (SDS) Outcomes



*: significant differences between groups
Predicted mean stress and 95% CI was calculated using the marginal estimates from the linear mixed effects model for stress adjusting for propensity score weights.
Predicted mean stress ± SE was different between oPFMT and iPFMT groups at 3 weeks (1.16±0.23 vs 2.28±0.21, p<0.001), but not at other time points (3-months p=0.071; 6-months p=0.279, 12-months p=0.252).

Table 1. Patient-reported Outcomes

Time	oPFMT Predicted (Mean±SE)	iPFMT Predicted (Mean±SE)	Predicted Difference	p-value
ICIQ SUI Domain Score			**iPFMT - oPFMT diff±SE**	
3-week	1.16±0.23	2.28±0.21	1.11±0.31	<0.001
3-month	0.74±0.22	1.30±0.21	0.56±0.31	0.071
6-month	0.48±0.23	0.81±0.21	0.34±0.31	0.279
12-month	0.33±0.25	0.71±0.21	0.38±0.33	0.252
Daily Pad Use			**Percent decrease for oPFMT vs iPFMT**	
3-week	1.95±0.43	2.22±0.48	12% ± 26%	0.671
3-month	0.55±0.15	0.90±0.22	39% ± 22%	0.180
6-month	0.27±0.10	0.44±0.13	39% ± 28%	0.279
12-month	0.11±0.06	0.21±0.08	47% ± 36%	0.342
IIQ-7 Sum Score			**Percent decrease for oPFMT vs iPFMT**	
3-week	1.83±0.79	3.64±1.59	50% ± 30%	0.255
3-month	0.54±0.25	1.17±0.52	54% ± 30%	0.226
6-month	0.50±0.24	2.14±0.94	77% ± 15%	0.023
12-month	0.43±0.22	1.86±0.83	77% ± 16%	0.030

MP4-15

Pilot Pelvic Floor Therapy Program for the Treatment of Female Urinary Incontinence in Belize

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Introduction and Objective: Urinary incontinence (UI) is highly prevalent in low- and middle-income countries (LMIC). Concurrently, the availability of surgical or conservative UI treatments in LMIC is limited.

Methods: We conducted a prospective feasibility study of women in Belize with UI treated with pelvic floor physical therapy (PFPT) and education (PFE). Patients were recruited as part of short-term visiting surgical trips overseen by the non-governmental organization Global Surgical Expedition (11/2021-1/2023). Enrolled patients received individual PFPT/PFE over 2 days, consisting of biofeedback-enhanced PFMT in addition to behavioral, dietary, and general pelvic education. Patient then completed a daily 6-month home regimen including 7 PFMT exercises (total 70 repetitions) comprising endurance and quick flick exercises. Patients also performed comprehensive dietary and behavioral modification activities. Comprehensive outcomes were assessed at baseline and 6-months, including validated symptom (ICIQ-FLUTS) and quality of life (QOL)(IIQ-7) questionnaires, strength testing (PERFECT score, perineometry), and items assessing PFPT comprehension and subjective improvement.

Results: Twenty-eight patients were enrolled with four lost to in-person follow-up. However, the study team contacted two patients lost to follow-up, who completed assessment by phone. Mean patient age, BMI, and parity were 50.0 (±10.0) years, 33.2 (±5.8), and 2.8 (±1.5). Provider assessment demonstrated baseline patient comprehension of basic, endurance, and quick flick pelvic floor contractions in 28 (100%), 24 (86%), and 24 (86%) patients, respectively. At 6-month follow-up, significant improvements were seen across validated questionnaire and strength measurement assessments (Table 1). Median patient-reported improvement level was 7.0 on a 10-point Likert scale.

Conclusions: Belizean women demonstrate good understanding of PFMT/PFE. Patients in our study also demonstrated significant improvements across a variety of subjective incontinence and QOL outcomes, as well as objective strength testing.

Table 1. PFMT and PFE Outcomes

Characteristic	Baseline[1]	6-month Follow-up[1]	p-value[2]
Questionnaire Outcomes			
SUI domain (ICIQ)	2.0 (1.3, 3.0)	0.5 (0.0, 2.0)	0.009
UUI domain (ICIQ)	2.0 (1.0, 2.0)	0.0 (0.0, 1.8)	0.007
Urge domain (ICIQ)	2.0 (1.0, 2.0)	1.0 (0.0, 1.8)	0.003
Nocturia domain (ICIQ)	3.0 (2.0, 3.8)	2.0 (1.3, 3.0)	0.026
IIQ sum score	7.5 (2.0, 11.8)	0.0 (0.0, 8.2)	0.017
Patient Reported Outcomes			
Patient-reported Improvement		7.0 (5.0, 8.0)	
Patient-reported Understanding		26 (100%)	
Patient-reported Helpful		26 (100%)	
PERFECT Outcomes	2.0 (2.0, 2.2)	4.0 (3.0, 4.0)	<0.001
Endurance (s)	2.0 (2.0, 4.2)	4.0 (3.0, 6.0)	0.014
Repetitions (n)	3.0 (2.0, 4.0)	4.0 (3.0, 5.2)	0.086
Fast (n)	8.0 (5.0, 10.0)	16.0 (10.5, 27.0)	0.002
Perineography Max Change[3]			
Fast Max Change (mEq)	-2.1 (-4.7, 0.6)	-1.5 (-3.9, 0.0)	0.6
Endurance Max Change (mEq)	-7.4 (-12.4, -2.3)	-5.2 (-11.1, -1.9)	0.5

[1] Median (IQR); n (%)
[2] Wilcoxon signed rank test with continuity correction; Wilcoxon signed rank exact test
[3] Mean max work – mean max resting

MP4-16

Functional Near Infrared Spectroscopy (fNIRS) Reveals Different Patterns of Neuroexcitation for Women With and Without Overactive Bladder During Natural Filling

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Introduction and Objective: Functional near infrared spectroscopy (fNIRS) is a non-invasive technique used to quantify prefrontal cortical oxyhemoglobin (O2Hb) concentration, or neuroexcitation, during bladder filling and voiding. The objective was to compare prefrontal cortical O2Hb levels during natural filling in female participants with and without overactive bladder (OAB).

Methods: Female participants with OAB were compared to controls without urinary urgency. Participants underwent continuous recording of prefrontal cortical O2Hb using fNIRS during a validated oral hydration protocol. Simultaneous recordings of real-time sensation (0-100%) and "first desire" to void were completed. A period of "elevated urgency" was defined as the time from "first desire" to 100% sensation. Channels were sub-analyzed by cortical regions: right (9), left (9), and middle (6).

Results: Nineteen participants completed the study, including 9 with OAB and 10 without. The OAB group was older and had a higher BMI. The rate of change of O2Hb concentration during the elevated urgency time period was significantly different between groups in all cortical regions (OAB 57.0± 22.2% vs. controls 89.6± 11.5%, p=<0.001). The overall change in O2Hb concentration from 0 to 100% sensation was significantly lower in the OAB group in all prefrontal cortical regions (OAB -0.02±0.86 vs. control 1.32±0.35, p<0.001) as well as in 16/24 individual channels.

Conclusions: This study demonstrates that fNIRS cortical excitation during a period of elevated urgency is consistently lower in women with OAB as compared to controls. With additional research, fNIRS has the potential to detect unique neuroexcitation patterns in OAB patients. More importantly, although limited, this data supports the hypotheses that the prefrontal cortex plays an inhibitory role in voiding function and that there may be a lack of inhibitory control in women with OAB.

MP4-17

Pilot Voided Volume Validation Study of Sound-Based Smartphone Applications

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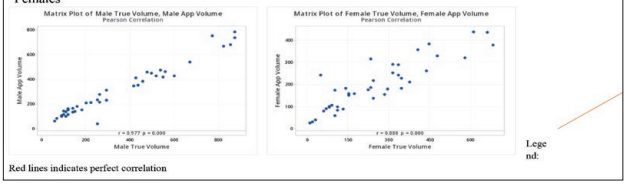
Introduction and Objective: Few devices help patients with urination disorders track voided volumes. Smartphone apps can convert the sound generated by urine hitting toilet bowl water to a voided volume. The objective of our study was to test the accuracy of two sound-based smartphone apps.

Methods: Seven male and four female volunteers participated. Male and female volunteers used the ProudP and Healthy Bladder-Voiding Diary mobile apps, respectively, to measure sound-based voided volume (SVV). The difference between pre- and post-void weight was calculated and converted to mL to be the true-voided volume (TVV) using a high-resolution scale. A Pearson correlation coefficient and paired t-test were completed.

Results: Eighty-two voids were recorded (42M/40F). Median male participant age was 25.9. Male SVV ranged from 42-790 mL and TVV ranged from 61-880 mL. Mean difference was 39 mL (95% CI, 18-59 mL). SVV and TVV comparison revealed a strong correlation ($r = 0.977$, $p < 0.0001$). Median female participant age was 25.0. Female SVV ranged from 28-440 mL and TVV ranged from 10-682 mL. Mean difference was 53 mL (95% CI, 22-84 mL). Equivalence testing indicated a p-value of 0.330. SVV and TVV comparison revealed a correlation ($r = 0.888$, $p < 0.0001$).

Conclusions: The male and female app have a strong correlation to true void volume (male > female app) and can be used by patients to track voided volume at home. The male app accurately measures voided volume within 60 mL from the TVV; however, the female app is less accurate. These apps have the potential to allow patients to track urinary voided volume using their mobile phone. Continued work is needed to improve artificial intelligence to improve accuracy.

Figure 1: Comparison of True Voided Volume with Sound-Based Voided Volume for Males and Females



Red lines indicates perfect correlation

Table 1. VHL Patients' Demographics, Phenotypes, and Genotypes

Demographics	All VHL Patients (n=139)	PP VHL Patients (n=112)	NPP VHL Patients (n=27)	p-Value
Sex				
Male	56.1%	55.4%	59.3%	0.44
Female	43.9%	44.6%	40.7%	0.44
Race				
White	90.6%	99.1%	88.9%	0.48
African American	1.4%	0.9%	3.7%	0.35
American Indian	0.7%	0.9%	0.0%	0.81
Multiracial	3.6%	3.6%	3.7%	0.67
Unknown	3.6%	3.6%	3.7%	0.67
Other Tumors				
Hemangioblastoma	61.2%	55.4%	85.2%	<0.01
Endolymphatic Sac Tumor	5.8%	3.6%	14.8%	0.05
Retinal Angiomas	42.4%	38.4%	59.3%	0.04
Pancreatic Tumor (Cystic)	38.1%	28.6%	77.8%	<0.01
Pancreatic Tumor (Solid)	30.2%	31.3%	25.9%	0.39
Renal Tumor (Cystic)	51.1%	44.6%	77.8%	<0.01
Renal Tumor (Solid)	45.3%	38.4%	74.1%	<0.01
Mutation Type				
Missense	80.6%	85.7%	59.3%	<0.01
Partial Deletion	10.1%	8.0%	18.5%	0.11
Nonsense	2.9%	1.8%	7.4%	0.17
Frameshift	2.2%	0.9%	7.4%	0.10
Splice Acceptor	1.4%	0.9%	3.7%	0.35
Splice Donor	2.2%	1.8%	3.7%	0.48
Polymorphism	0.7%	0.9%	0.0%	0.81

The percentage of the patients displaying each demographic, phenotypic, and genotypic trait is shown. Statistical comparisons are between the PP VHL patients and the NPP VHL patients. VHL, von Hippel-Lindau, n, number, PP, pheochromocytoma-predominant, NPP, non-pheochromocytoma-predominant. P-values were calculated using a two-sided Fisher's Exact Test.

MP5-01

Characterization of the Pheochromocytoma-Predominant Subgroup of Von-Hippel Lindau Disease

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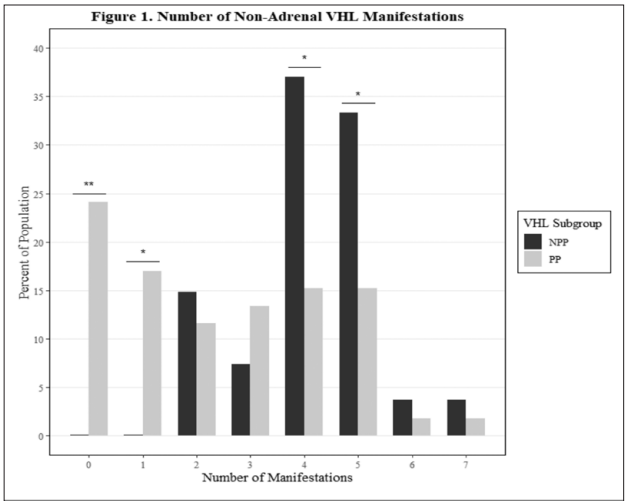
Introduction and Objective: Von Hippel-Lindau (VHL) disease is a heterogenous hereditary tumor syndrome affecting multiple organs. A subset of VHL patients present predominantly with pheochromocytomas. We developed a novel classification system to define pheochromocytoma-predominant (PP) VHL disease.

Methods: VHL patients who underwent adrenalectomy with pathology-proven pheochromocytoma at our institution were included. We defined PP VHL a priori as patients with one or more of the following traits: early onset [age at first pheochromocytoma below the cohort's median age (28.2 years)], family history of pheochromocytomas, multiple pheochromocytomas, and ectopic pheochromocytoma(s). PP VHL was compared to non-PP (NPP) VHL for differences in genotype and phenotype.

Results: One-hundred thirty-nine VHL patients (56.1% male, 90.6% white) were examined. Preliminary analysis showed that three characteristics (early onset, family history, and multiple pheochromocytomas) correlated with each other. Ectopic pheochromocytoma(s) did not correlate with two factors, so it was excluded from the definition of PP VHL. One-hundred twelve (80.6%) of our patients met the final definition. PP VHL patients had significantly different phenotypes and genotypes than NPP VHL patients (Table 1). PP VHL patients were less likely to have most additional tumor types, including renal cell carcinoma (RCC) ($p<0.01$) and more likely to have missense mutations ($p<0.01$). Furthermore, PP VHL patients were most likely to have 0 or 1 extra-adrenal tumors while NPP VHL patients were most likely to have 4 or 5 (Figure 1).

Conclusions: PP VHL patients are phenotypically distinct from their NPP counterparts and are significantly less likely to have more than one other VHL manifestation, including RCC.

Figure 1. Number of Non-Adrenal VHL Manifestations



Comparison of the proportions of patients with PP VHL (n=112) and NPP VHL (n=27) with various numbers of tumor types. VHL = von Hippel-Lindau, PP = pheochromocytoma predominant, NPP = non-pheochromocytoma predominant. P-values were calculated using a two-sided Fisher's Exact Test. ** p<0.01, * p<0.05

MP5-02

Active Surveillance versus Primary Intervention for Clinical T1a Kidney Tumors: Thirteen-Year Experience of the DISSRM Prospective Comparative Study

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Introduction and Objective: Active surveillance (AS) is an alternative to primary intervention (PI) in the management of small renal masses (SRMs; clinical stage T1a). However, AS remains underutilized due to the lack of strong, prospective data. We herein report mature outcomes after a thirteen-year experience with the Delayed Intervention and Surveillance for Small Renal Masses (DISSRM) Registry.

Methods: The DISSRM Registry has prospectively enrolled patients between 2009 to 2022. In this multi-institutional comparative study, all patients with SRM in the registry chose to either undergo AS or PI. Primary outcomes were cancer-specific survival (CSS) and overall survival (OS); secondary outcomes were progression-free survival (PFS) and recurrence-free survival (RFS). Outcomes were evaluated using Kaplan-Meier survival analysis and log-rank test.

Results: A total of 958 patients were enrolled, 581 (60.65%) chose AS, and 377 (39.35%) chose PI. Ultimately, 88 of 581 AS patients (15.15%) crossed over to delayed intervention (DI). The median follow-up time for the registry was 4.73 years (IQR 2.13-7.18), with 406 patients (42.38%) followed for ≥5 years. There was no difference in CSS between AS and PI (P=0.43). However, AS patients demonstrated worse OS compared to those who underwent PI (P<0.01). In the AS cohort, PFS was 84.3% at 3 years, 78.2% at 6 years, 77.3% at 9 years. RFS was not different between PI and DI (P=0.24).

Conclusions: AS is not inferior to PI for carefully selected patients with SRM suspicious for renal cell carcinoma. The difference in OS between AS and PI is mostly attributable to the increased risk of death from competing causes among AS patients. A priori definitions of progression, including growth rate, should be reconsidered given high rates of progression with few adverse oncologic outcomes.

MP5-04

Characterizing Patient Symptoms and Quality of Recovery after TURBT: Preliminary Results from a Multicenter Prospective Cohort Study

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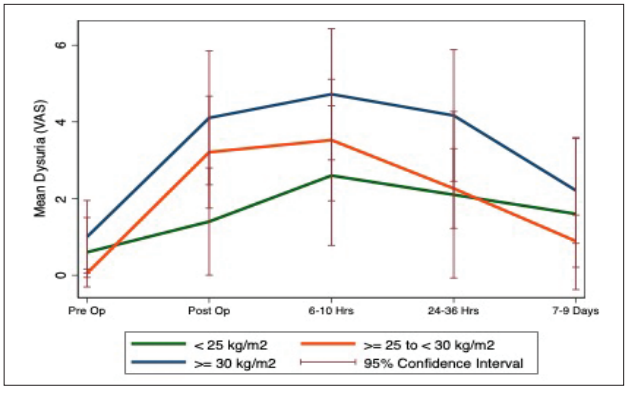
Introduction and Objective: Transurethral resection of a bladder tumor (TURBT) is often described as a "well-tolerated" and "incision-free" operation to diagnosis and treat bladder cancer. We sought to characterize patient symptoms and quality of recovery associated with present-day TURBT.

Methods: A multicenter prospective cohort study of patients undergoing TURBT was performed from January 2023 to April 2023. Primary study outcomes included postoperative dysuria, penile or vaginal pain, suprapubic pain, urinary urgency, and frequency. Pain scores were measured using a visual analog scale (VAS, 0 to 10), while urinary urgency and frequency were quantified using a validated survey. Descriptive statistics were used to examine the relationship between outcomes and patient and procedural characteristics.

Results: Sixty-nine patients with a median age of 72 years (interquartile range 66 to 77) and 2 (IQR: 1 to 3) prior TURBTs have enrolled to-date. Dysuria, penile or vaginal pain, and suprapubic pain rated > 5 on VAS was reported in 47.8%, 43.5%, and 21.7% of patients, respectively. Body mass index (30.3 vs. 27.6 kg/m2, p=0.04) was significantly greater in patients experiencing > 5 dysuria (Figure 1). A greater proportion of patients with diabetes experienced > 5 suprapubic pain (33.3% vs. 11.1%, p=0.04). "Very strong" or "strong" urinary urgency and frequency occurred in 36.2% and 26.1% of patients, respectively. A substantial proportion of patients experienced constipation (30.4%), lack of sleep (17.4%), an urgent clinic or ED visit (10.1%) and unplanned admission (7.2%).

Conclusions: The degree of distress and discomfort experienced by some patients after TURBT is underappreciated. To embrace a model of survivorship in bladder cancer care, symptom reduction and quality of recovery after TURBT must be optimized.



MP5-03

PBRM1: A Predictor of Response to Immunotherapy in Recurrent and Advanced Renal Cell Carcinoma

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Introduction and Objective: Recurrent and primary advanced renal cell carcinoma (RCC) are common targets of immunotherapy. Based on the CARMENA trial, targeted therapy has moved to the forefront of advanced disease, serving as a litmus test prior to cytoreductive nephrectomy. Delineation of tumor microenvironment by whole genome sequencing can inform targeted therapy and serve as a prognosticator based on tumor biology. We seek to correlate commonly mutated genes with response to immunotherapy for prognostication and identification of therapeutic targets.

Methods: We analyzed patients with recurrent or primary advanced RCC who underwent Caris sequencing at WVU from June 2017-June 2022. Caris exome sequencing was used to detect DNA alterations in the most commonly mutated genes in RCC (VHL, PBRM1, SETD2, BAP1, TSC1, TSC2, MET, FLCN, FH, MSI, TMB, LOH) in pathologic specimens. We reviewed patient demographics, history, surgical/immunotherapeutic/radiotherapeutic intervention, imaging, recurrence at follow up. Specific mutations were linked to recurrence/persistence of disease, which were surrogates for response to therapy. Chi-squared and student's T-tests were utilized.

Results: 87 patients underwent treatment for recurrent/advanced RCC at WVU during the study period. 11 patients had recurrent disease, while 76 had locally advanced/metastatic disease at diagnosis. Median age was 61 years (range 19-84). 52% of patients were living at the time of analysis. Only PBRM1 was predictive of lack of complete response during the treatment period (p=0.026). 33 PBRM1-mutated patients were included, with no difference in age between complete responders (60.7) and incomplete responders (61.7), 97% clear cell histology, 66.6% of complete responders receiving immunotherapy, and 20% of patients presenting with recurrent disease.

Conclusions: PBRM1, a tumor suppressor involved in nucleosome position, predicts resistance to modern targeted therapies, rendering fewer patients disease-free during our study period. This was not observed with any other commonly mutated genes in RCC. This prognostic indicator may serve as a novel therapeutic target when identified.

MP5-05

Bladder Recurrence in Patients with Endoscopically Treated Upper Tract Urothelial Carcinoma

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Introduction and Objective: Treating Upper Tract Urothelial Carcinoma "UTUC" with endoscopic techniques has increased over time in part due to its ability to preserve renal function. However, little is known about the recurrence risk of bladder cancer with the utilization of endoscopic management for UTUC. We used a large database of endoscopic UTUC treatments to predict factors associated with bladder recurrence.

Methods: With previous IRB approval, we created a multi-centric database of 11 institutions looking at outcomes and characteristics of patients who underwent endoscopic treatment for UTUC. We did a descriptive analysis as well as a multivariate logistic regression analysis to analyze predictors of UTUC and bladder recurrence among this population of patients.

Results: The study includes 724 total endoscopic treatments of UTUC, from 472 individual patients. The mean age of patients was 73.7 years old, 65% were men, average Charlson score was 5.8, and 63% smoked tobacco. 56% of the patients had a history of bladder cancer, with 31% being high grade and 14% had a history of intracavitary treatment for bladder cancer. At the time of the endoscopic treatment for UTUC, 27% of patients had concurrent bladder cancer. 37% had bladder recurrence following endoscopic management of UTUC with a mean interval of 13.2 months, with 44 % of the bladder recurrence being high grade. Multivariate logistic regression analysis found that the only associated factor for bladder recurrence was if the patient had concurrent bladder cancer at the time of UTUC endoscopic treatment (OR = 4.9, 95% CI [1.5, 15.9], p = 0.0092).

Conclusions: Over one-third of patients undergoing endoscopic management of UTUC had a bladder recurrence. Concurrent bladder cancer at the time of the UTUC endoscopic treatment was the only associated factor for the development of a bladder recurrence.

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Age: 87
Sex: Male
BMI: 28
Robotic/Open Surgery: Robotic
Diversion Type: Ileal Conduit
Race: Black
Ethnicity (Hispanic/Latino): Non-Hispanic
Inpatient/Outpatient: Inpatient
Transfer Status: Admitted from Home
Diabetes: No
Smoking Status: Yes
Dyspnea: No
Functional Status: Independent
COPD: Yes
Ascites: No
CHF: No
Hypertension: No
Renal Failure: No
Dialysis: No
Steroid Use: No
Weight Loss: No
Bleeding Disorder: No
Pre-Op Transfusion: No
Sepsis: No
GFR Value: 70
Emergency Case: Yes
ASA Classification: 1
Op Time: 500 min

Risk of any complication: 50.42%
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Figure 2. Demo of Interactive Calculator for Complication Risk. User inputs various patient characteristics and probability of any complication listed at the bottom as a percentage.

MP5-06

Development of a Novel Risk Calculator for Radical Cystectomy Outcomes using Machine Learning

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Introduction and Objective: Existing clinical risk calculators for radical cystectomy (RC) have poorly predicted postoperative complications. We aimed to build a risk calculator using machine learning to predict complication rates and other outcomes based on clinical characteristics of patients undergoing RC.

Methods: Patients who had RC with curative intent for bladder cancer between 2006-2018 were identified in the National Surgical Quality Improvement Database. Patient demographics, comorbidities, operative characteristics, diversion type (continent versus incontinent), surgical approach (open versus minimally invasive) were used as predictors. Outcomes included risk of any complication, infectious complication, readmission and mortality within 30 days. Logistic regression, random forest, and support vector machine algorithms were used to build predictive models. Models were optimized with area under the ROC curve (AUROC) and average precision (AP).

Results: We included 10,964 patients who had RC for bladder cancer. Random forest classifiers outperformed other models for predicting risk of any complication (AUROC = 0.662; AP = 0.66) (Figure 1), infectious complication (AUROC = 0.612; AP = 0.20), and mortality (AUROC = 0.603; AP = 0.03). The logistic regression model best predicted readmissions (AUROC = 0.577; AP = 0.26). Top predictors of complication risk included operation time, glomerular filtration rate, and surgical approach. Infectious complication was best predicted by body mass index and operative time. Mortality was best predicted by age.

Conclusions: Machine learning-based risk calculators were more effective in predicting morbidity and mortality after RC compared to standard logistic regression algorithms. Machine learning algorithms therefore demonstrate greater predictive potential when given a wide range of clinical characteristics.

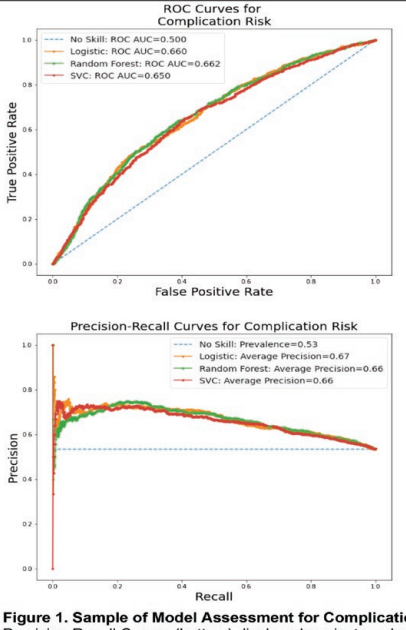

Figure 1. Sample of Model Assessment for Complication Risk. ROC (top) and Precision-Recall Curves (bottom) displayed against random chance predictions (blue line) with AUROC and AP listed.

MP5-07

Assessment of Pre-operative Hand Grip Strength as a Reliable Predictor of Post-operative Complications After Cystectomy

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Introduction and Objective: Post-cystectomy complication rates are seen in up to 58.5% of patients. The RAZOR trial used hand grip strength (HGS) to predict post-operative radical cystectomy complications, however, it did not stratify using age-standardized predicted values. This study implements a sex and age standardized predicted value for pre-operative HGS as a metric to risk stratify post-cystectomy patients.

Methods: Retrospective data on patients receiving radical cystectomy from September 2020 to December 2022 was collected. Cohorts were defined by pre-operative HGS below or above the lower limit of a validated age-sex standardized HGS value. Primary outcomes include difference in re-admittance and complications between cohorts. Comparison testing was performed using student's t-test and chi-squared.

Results: 87 patients were included in the study. Baseline characteristics were largely similar between cohorts. More patients were re-admitted after 30 days in the below lower limit (43.3%) group relative to the above lower limit group (15.8%; p=0.007). Additionally, more patients were re-admitted after 90 days in the below lower limit group (60.5%) compared to the above lower limit group (23.7%; p=0.008). Post-op HGS was significantly different between groups (p < .001). Two patients died after 90 days in the below lower limit group with no patients dying in the above lower limit group. There was no difference in complications, including failure to thrive, pyelonephritis, fever, or metabolic acidosis, between cohorts.

Conclusions: This study demonstrated a greater rate of re-admittance in patients who did not meet the lower limit of a pre-operative validated age-sex standardized HGS value. Pre-operative HGS may be a simple and effective way to risk stratify these patients in the future, providing more careful monitoring to those at increased risk for re-admittance.

Table 1. Patient Demographics and Characteristics

	Combined Groups (n=87)	Pre-op HGS Above Lower Limit (n=38)	Pre-op HGS Below Lower Limit (n=44)	p-value
Age at Surgery, median (IQR)	69 (62- 75)	68 (60-75)	70 (64.5- 75)	0.09
Gender				0.82
Male	70	31	35	
Female	17	7	9	
Charleston Comorbidity Index, median (IQR)	5 (4- 6)	5 (3- 6)	5 (4- 6)	0.69
BMI, median (IQR)	26 (23.8- 30.0)	26.1 (24.1- 30.0)	25.8 (23- 30.1)	0.9
Current or Former Smoker	56	22	29	0.46
Neoadjuvant Therapy, n (%)	36 (44.4%)	15 (40.5%)	20 (48.8%)	0.47
Pre-op HGS (lbs), median (IQR)	77.25 (59-92.5)	93.25 (87.5- 97.5)	62.75 (48.75- 75.5)	**<0.001**
Post-op HGS (lbs), median (IQR)	73.75 (55.5- 87)	84 (75-97.5)	62.5 (44.5- 71.5)	**<0.001**
Surgery Type, n (%)				0.72
Radical Cystectomy	71 (81.6%)	32 (84.2%)	34 (77.3%)	
Radical Cystoprostatectomy	13 (15.0%)	5 (13.2%)	8 (18.2%)	
Anterior Pelvic Exenteration	3 (3.4%)	1 (2.6%)	2 (4.6%)	
pT Stage (highest of TURBT and RC)				0.24
T1 or below	18 (22.2%)	9	9	
T2	34 (42.0%)	18	15	
T3 or above	29 (35.8%)	9	18	
Length of Stay, median (IQR)	6 (5- 7)	5 (5- 7)	6.5 (5- 8)	0.52
ERAS Protocol, n (%)	58 (66.7%)	28 (73.7%)	30 (68.2%)	0.73
Complications, n (%)				
Pyelonephritis	4 (4.6%)	2 (5.3%)	2 (4.6%)	0.88
Fever	8 (9.2%)	2 (5.3%)	5 (11.4%)	0.32
Diarrhea	20 (23.0%)	9 (23.7%)	10 (22.7%)	0.92
Constipation	17 (19.5%)	8 (21%)	7 (15.9%)	0.55
Failure to Thrive	15 (17.2%)	4 (10.5%)	8 (18.2%)	0.33
Metabolic Acidosis	9 (10.3%)	3 (7.9%)	6 (13.6%)	0.41
Pain	41 (47.1%)	19 (50%)	20 (45.5%)	0.68
Re-Admitted after 90 days	35 (40.2%)	9 (23.7%)	23 (60.5%)	**0.008**
Re-Admitted after 30 days	27 (31.0%)	6 (15.8%)	19 (43.2%)	**0.007**
Deceased after 90 days	2 (2.3%)	0 (0%)	2 (4.6%)	0.18
Deceased after 30 days	1 (1.2%)	0 (0%)	1 (2.3%)	0.35

BMI, body mass index; HGS, hand grip strength; TURBT, transurethral resection of bladder tumor; RC, radical cystectomy; ERAS, enhanced recovery after surgery

MP5-08

The Impact of Neoadjuvant Chemotherapy for Bladder Cancer on Radical Cystectomy

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Introduction and Objective: Although neoadjuvant chemotherapy (NAC) offers modest survival benefit with radical cystectomy (RC), its toxicity may impact preoperative frailty and perioperative outcomes. We investigated the impact of NAC on RC safety.

Methods: RC reported to National Surgical Quality Improvement Program (NSQIP) Cystectomy-Targeted file from 2019-2020 were identified. Demographics, comorbidities, operative parameters, and 30-day complications were collected. Minor, major, and urologic complications were included, as well as readmission, reoperation, and mortality. Patient frailty was evaluated using the NSQIP frailty index (mFI-5), a validated 5-item score including diabetes, functional status, COPD, CHF, and HTN. NAC+RC vs. RC alone (RCA) cohorts were compared via two-tailed chi square, t-tests, and multivariable logistic regression (MVA).

Results: 4,482 patients were included, of whom 1889 (42%) received NAC. NAC patients were commonly younger (66.9y vs. 70.4y, p<0.001), of White race, and functionally independent, while having decreased ASA class, comorbidities, and frailty (0.8 vs. 0.9, p<0.001). NAC patients received more robotic cystectomies (23% vs. 19%, p=0.0003) and continent diversions, had shorter length of stay (7.1 vs. 7.8 days, p<0.001), and more commonly had pT0 tumors (18.4% vs. 5.9%, p<0.001). On MVA, NAC patients had increased minor complications, particularly bleeding requiring transfusion [OR 1.8; 95% CI 1.6-2.1; p<0.001]. There was no difference in major complications between NAC and RCA, although NAC was associated with sepsis [OR 1.4; 95% CI 1.1-1.8; p=0.003]. There was no difference in 30-day reoperation, readmission, or mortality.

Conclusions: In the largest study to date, we found that NAC for RC is typically given to younger, healthier patients. It is not associated with major complications or mortality, although it may confer risk of bleeding and sepsis, potentially attributable to immunosuppression.

Table. Multivariate Logistic Regression including factors significant on univariate analysis (demographics, surgical approach, diversion type, comorbidities, ASA class, and functional status). Odds ratios (OR) are presented as NAC compared to RCA.

	Odds Ratio (95% CI)	*p*-value
Pneumonia	0.64 (0.41 – 0.98)	.040
Bleeding Requiring Transfusion	1.80 (1.56 – 2.08)	<0.0001
Cardiac Arrest	0.63 (0.28 – 1.43)	0.27
Sepsis	1.45 (1.15 – 1.84)	0.0017
30-day Mortality	0.90 (0.53 – 1.54)	0.71
Lymphocele	1.36 (1.05 – 1.78)	0.021
Prolonged NGT Use	0.92 (0.78 – 1.10)	0.37
Ureteral Fistula	1.59 (1.15 – 2.20)	0.0050

MP5-09

Availability of Urologists and Primary Care Providers and Stage of Diagnosis for Urinary Bladder Cancer: A Geospatial Analysis

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Introduction and Objective: The urology workforce shortage, particularly in rural areas, may contribute to delayed diagnosis of bladder cancer and advanced disease at presentation. We evaluate the association between density of primary care providers (PCPs) and urologists with stage of bladder cancer at diagnosis, and estimate how this may vary by urban/rural status.

Methods: We used 2010-2016 Pennsylvania Cancer Registry (PCR) data to identify bladder cancer patients (ICD-O-3 C67). Our primary outcome was diagnosis at locoregional (vs distant) stage of bladder cancer based on the 2000 SEER Summary Stage definition. Our primary independent variables were the county-level density of PCPs and urologists based on population in the patient's county of residence at diagnosis. We used univariate and multivariate logistic regression to examine associations between physician density and stage at diagnosis. In sensitivity analyses, we separately estimated each logistic regression by metro status to determine the effect of urban/rural status.

Results: We identified 11,771 patients with bladder cancer; 10,671 (90.1%) were diagnosed at the locoregional stage. Patients with locoregional stage were more likely to be older, male, non-Hispanic White, and privately insured. [JM1] Considered alone, neither PCP nor urologist density was statistically associated with stage at presentation. When both PCP and urologist density were considered in the regression, PCP density was associated with significantly higher odds of locoregional stage of diagnosis (odds ratio of 1.05 [95% CI: 1.02 to 1.08] when including year fixed effects) while urologist density was associated with significantly lower odds of locoregional stage of diagnosis (odds ratio of 0.65 [95% CI: 0.48 to 0.89] when including year fixed effects). These trends remain consistent (though not statistically significant) when evaluated by category of rurality.[LE2]

Conclusions: Access to primary care, not urology care, facilitates early diagnosis of bladder cancer. These findings may inform the planning of patient and PCP outreach and education programs[SJE1].

MP5-10

Infectious Complication After Radical Cystectomy: Timing and Outcomes

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Introduction and Objective: Radical cystectomy (RC) with urinary diversion is the primary treatment option for muscle invasive bladder cancer (MIBC). Postoperative infection has been shown to increase admission to ICU, increase length of hospital stay, increased readmission and double the mortality rate. We aim to add to the literature of the characteristics, timing, and predilection of infection after RC.

Methods: This retrospective study focused on radical cystectomy cases in the NSQIP data set for bladder cancer. Patients with missing data or had multiple infections were excluded. The patients were then subgrouped to surgical site infection (SSI), wound disruption, UTI, and sepsis (sepsis and septic shock).

Results: Among the 3955 patients, the rate of SSI, UTI, wound disruption, sepsis/septic shock was 11.9%, 8.1%, 2.1%, and 10.0% (Table). The average days from operation until infectious complications were 15.1 days for organ space SSI, 14.57 days for deep SSI, 14.2 days for superficial SSI, 14.9 days for UTI, 12.2 days for wound disruption, and 13.8 days for sepsis (figure). Multivariable analysis for all infections identified diabetes as an independent variable associated with SSI (p=0.003), UTI (p=0.039), and sepsis/septic shock (p<0.001). Prior pelvic radiation was associated with SSI (p=0.001) and sepsis/septic shock (p=0.012). Furthermore, all infectious etiologies were associated with readmission on multivariable regression.

Conclusions: Infection after radical cystectomy can be a serious complication. We identified that the timing of wound disruption to occur earliest while organ space SSI was identified late. Diabetes was associated with all the infectious complications while prior radiation was associated with SSI and sepsis.

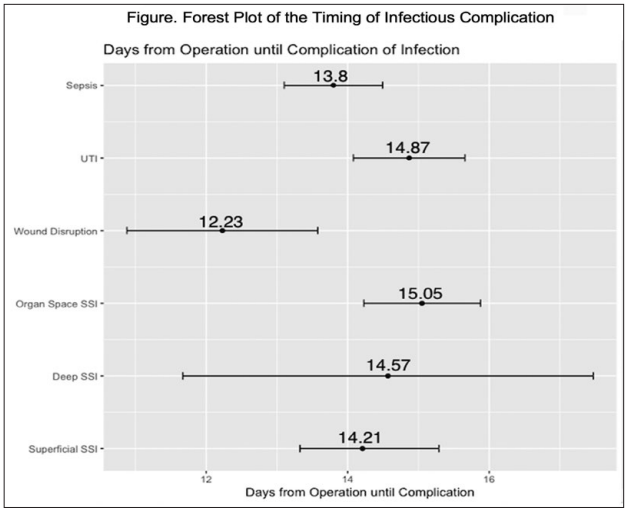

Table. Patient Demographics and Outcomes Variables

Cofactor	Total Cohort		Surgical Site Infection		P Value	Urinary Tract Infection		P Value	Wound Disruption		P Value	Sepsis or Septic Shock		P Value
Total No. (%)	3955	100%	269	7%		320	8%		83	2%		396	10%	
Patient Demographics														
Mean Yrs. Age (Range)	68.96	*(22-90)*	68.3	*(22-90)*	0.383	68.3	*(22-90)*	0.383	69.48	*(34-90)*	0.621	69.28	*(34-90)*	0.488
Male Gender (%)	3034	76.71%	120	44.61%	0.24	120	44.61%	0.24	71	85.54%	0.073	314	79.29%	0.223
Non-Caucasian Race (%)	1054	26.65%	36	13.38%	1	41	15.24%	**0.015**	26	31.33%	**0.033**	71	17.93%	0.103
Current Smoker (%)	840	21.24%	41	15.24%	**0.015**	94	34.94%	**0.001**	40	48.19%	0.925	71	17.93%	0.103
Prior Pelvic Surgery (%)	1950	49.30%	94	34.94%	**0.001**	20	7.43%	0.103	8	9.64%	0.879	208	52.53%	0.194
Prior Pelvic Radiation (%)	339	8.57%	20	7.43%	0.103	57	21.19%	0.373	35	42.17%	0.448	49	12.37%	**0.006**
Chemotherapy Within 90 Days (%)	1486	37.57%	57	21.19%	0.373	19	7.06%	**0.045**	9	10.84%	0.088	169	42.68%	**0.031**
Operative Approach (MIS)	738	18.66%	19	7.06%	**0.045**	139	51.67%	**0**	69	83.13%	**0.019**	71	17.93%	0.745
Operative Approach (Open - Planned)	2807	70.97%	139	51.67%	**0**	1	0.37%	0.834	1	1.20%	1	281	70.96%	1
Operative Approach (Unplanned Conversion to Open)	28	0.71%	1	0.37%	0.834	15	5.58%	**<0.001**	3	3.61%	0.553	1	0.25%	0.41
Diabetes Mellitus (%)	226	5.71%	15	5.58%	**<0.001**	0	0.00%	1	3	3.61%	**0.002**	46	11.62%	**<0.001**
Congestive Heart Failure (%)	21	0.53%	0	0.00%	1	54	20.07%	0.773	22	8.18%	0.951	3	0.76%	0.772
Outcome Variables:														
Mean Length of Stay (Days) (Range)	7.42	*(0-67)*	8.52	*(2-29)*	**<0.001**	8.09	*(1-55)*	0.087	10.86	*(2-29)*	**<0.001**	135	42.19%	**<0.001**
Post-Operative Sepsis (%)	295	7.46%	20	7.43%	**<0.001**	20	7.43%	**<0.001**	16	5.95%	**<0.001**	10.08	*(1-37)*	**<0.001**
Unplanned Readmission (%)	829	20.96%	59	21.93%	**<0.001**	59	21.93%	**<0.001**	40	14.87%	**<0.001**	255	79.69%	**<0.001**
Unplanned Re-Operation (%)	197	4.98%	13	4.83%	**<0.001**	13	4.83%	0.34	61	22.68%	**<0.001**	88	27.50%	**<0.001**

MP5-11

Interactive Home Monitoring and Care Coordination for Patients Receiving Urinary Diversion

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Introduction and Objective: Interactive home monitoring and Care Coordination (IHMCC) is a comprehensive program designed to monitor post-surgical needs. IHMCC collects and sends vitals to the EMR and combats barriers to healthcare by functioning as an adjunct to clinical follow up with patient advocacy. We assess outcomes of patients receiving urinary diversion, a procedure with high risk of morbidity, who are enrolled in IHMCC and compare to a control group.

Methods: Retrospective data was evaluated on patients receiving urinary diversion from September 2020 to January 2023. Primary outcomes are 90- and 30- day re-admissions, discharge location, and mortality. Cohorts defined by IHMCC status and comparison testing performed using chi-squared, Fisher's exact, and student's t-test. Multivariate analysis was performed on the combined cohorts to identify risk factors associated with our outcomes.

Results: There were largely no differences in baseline characteristics of our 133 patients (Table 1). More patients from the IHMCC cohort were on enhanced recovery after surgery (ERAS) protocol (p<0.001). IHMCC and control group had 27.3% and 35.8% patients with 30 day re-admission, respectively. 94% of IHMCC patients versus 81% of control were discharged to home (p=0.021). Multivariate analysis showed IHMCC to be a predictor for being discharged to home (OR=3.73) and ERAS to be a protective against 90- (OR=0.33) and 30-day (OR=0.34) readmission. The IHMCC and control group respectively had 1 and 3 deceased patients 90 days following surgery.

Conclusions: With similar patient characteristics, IHMCC is associated with increased discharge to home, minimizing patient cost and emotional distress. This novel method of continuity of care is appealing in the potential to safely discharge highly comorbid patients to their homes and decrease re-admission rates.

Table 1. Patient Demographics and Characteristics

	Interactive Home Monitoring (n=66)	Control Group (n=67)	p-value
Age at Diagnosis, years	68.5 (62- 75)	67 (58- 73)	0.06
Gender, n (%)			0.24
Male	53	48	
Female	13	19	
CCI, median (IQR)	5 (4- 6)	4 (3- 5)	0.06
BMI, median (IQR)	25.9 (23.5- 30.0)	28.1 (23.9 - 32.3)	0.06
Current or Previous Smoker, n (%)	39 (59.1%)	45 (67.2%)	0.34
Neoadjuvant Therapy, n (%)	26 (39.4%)	30 (44.8%)	0.26
Surgery Type			**0.006**
Radical Cystectomy	63 (95.5%)	53 (79.1%)	
Supratrigonal Cystectomy	0 (0%)	6 (9.0%)	
Palliative Conduit	3 (4.5%)	8 (11.9%)	
pT Stage (highest of TURBT and RC)			0.35
T1 or below	12 (18.2%)	16 (2.4%)	
T2	27 (40.9%)	23 (3.4%)	
T3 or above	22 (33.3%)	14 (20.9%)	
Diversion			0.26
Ileal Conduit	63 (95.5%)	59 (88.1%)	
Neobladder	3 (4.5%)	7 (10.4%)	
Indiana Pouch	0	1 (1.5%)	
ERAS Protocol	47 (71.2%)	25 (37.9%)	**<0.001**
Adjuvant Therapy			
Chemo	8 (12.1%)	4 (6.0%)	0.23
Immuno	7 (10.6%)	3 (4.5%)	0.07
Radiation	3 (4.5%)	4 (6.0%)	0.97
Re-Admitted after 90 days?	24 (36.4%)	29 (43.3%)	0.42
Re-Admitted after 30 days?	18 (27.3%)	24 (35.8%)	0.29
Deceased after 90 days?	1 (1.5%)	3 (4.5%)	0.62
Deceased after 30 days?	1 (1.5%)	1 (1.5%)	-
Discharge Location			**0.021**
Home	62 (93.9%)	54 (80.6%)	
SNF/Assisted-living/Long-term Hospital	4 (6.1%)	13 (19.4%)	

Data presented as n(%) or median (IQR), as appropriate; BMI, body mass index; TURBT, transurethral resection of bladder tumor; RC, radical cystectomy; SNF, skilled nursing facility

MP5-12

Functional and Oncologic Outcomes of Prostate-Capsule Sparing Radical Cystectomy: A Systematic Review and Meta-Analysis

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Introduction and Objective: Radical cystoprostatectomy (RC) offers a substantial chance at a durable cure for many patients with localized bladder cancer. Despite the success of this treatment, many men who undergo orthotopic neobladder substitution develop significant erectile dysfunction and urinary symptoms including both daytime and nighttime incontinence. Prostate-capsule sparing radical cystectomy (PCS-RC) has been described in the literature as a surgical technique to improve patients' functional outcomes without sacrificing oncologic outcomes in appropriately selected patients.

Methods: We performed a systematic review and meta-analysis of all papers published on PCS-RC published after 2000. We included retrospective or prospective studies that included greater than 25 patients and compared PCS-RC to nerve-sparing or conventional RC. Studies where the entire prostate was spared (including transition zone) were excluded. Comparative studies were analyzed assessing the rates of daytime continence, nighttime continence, and satisfactory erectile function in those undergoing PSC-RC compared to those undergoing conventional RC.

Results: Our data indicated high rates of both daytime (%) and nighttime continence (%) in patients undergoing PCS-RC. Satisfactory erectile function was similarly high. In comparative studies, meta-analysis results showed improved daytime continence (OR: 1.35; 95% CI 0.98-1.85), nighttime continence (OR: 1.85; 95% CI 1.13-3.03), and erectile function (OR 5.67; 95% CI 1.16-27.62) in those undergoing PCS-RC when compared to conventional RC. Bladder cancer margin positivity and recurrence rates were similar to those reported in the literature. While several studies utilized different prostate cancer screening techniques, rates of prostate cancer were low (Incidence 0.04; 95% CI: 0.02-0.06) in most cohorts, and oncologic outcomes were similar to conventional RC.

Conclusions: PCS-RC is associated with improved functional outcomes when compared to more conventional RC techniques. Further work is needed to standardize optimal prostate cancer screening prior to surgery in this cohort, but data suggests low rates of prostate cancer with similar oncologic outcomes when compared to RC.

MP5-13

Rates of Ovarian Cancer after Radical Cystectomy for Bladder Cancer

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Introduction and Objective: AUA guidelines for radical cystectomy (RC) in women recommend removing adjacent reproductive organs including ovaries to reduce subsequent ovarian cancer (OC) risk. However, the most common histologic type of OC is now thought to originate from the fallopian tubes and many organizations now recommend bilateral salpingectomy (BS) for OC risk reduction at the time of abdominal surgery. In the setting of ongoing debate regarding oophorectomy with RC, rates of OC in a female population undergoing RC for bladder cancer need to be defined.

Methods: A retrospective cohort study was conducted via TriNetX after IRB approval. Baseline demographic and clinical data were compared among patients undergoing RC and RC with concurrent bilateral salpingo-oophorectomy (BSO). Logistic regression analysis was used to establish associations between surgery performed and downstream comorbid diseases.

Results: 1,133 patients underwent RC; 3 RC+BS, and 150 RC+BSO. At baseline, groups did not differ in age, race, ethnicity, or oncologic family or personal history; significant differences were noted in BMI, HTN, HLD, and overweight/obesity. Among those with RC, 1.8% developed ovarian/peritoneal cancer. No significant differences were noted in development of adverse effects between RC and RC+BSO groups (Table 1). No significant difference in all-cause mortality observed between RC and RC+BSO groups (HR = 0.997 [0.827 – 1.203], log-rank p=0.979).

Conclusions: Our study shows 1.8% of females undergoing RC for bladder cancer develop OC. This is consistent with lifetime OC risk in general population. Current performance of BS in lieu of BSO at RC is less than 1[RS1] [PA2] %. Whether BS can replace BSO for ovarian cancer risk reduction at the time of RC in patients with no known or suspected genetic risk for OC warrants further study.

Table 1: Logistical-Regression Adjusted Development Rates of Various Adverse Effects After Radical Cystectomy

	RC only (1133)	RC + BSO (150)	Adjusted P-Value
Dementia	20 (1.8%)	0 (0.0%)	
Cognitive Impairment	10 (0.9%)	0 (0.0%)	
Parkinsons	9 (0.8%)	0 (0.0%)	
Osteoporosis	123 (10.9%)	10 (6.7%)	0.166
Ischemic Heart Disease	233 (20.6%)	25 (16.7%)	0.781
Myocardial Infarction	47 (4.1%)	4 (2.7%)	0.785
Stroke	65 (5.7%)	4 (2.7%)	0.799
DVT	139 (12.3%)	16 (10.7%)	0.846
PE	66 (5.8%)	7 (4.7%)	0.631
Genital Prolapse	53 (4.7%)	8 (5.3%)	0.807
Sexual Dysfunction	1 (0.1%)	0 (0.0%)	
Affective Mood Disorders	265 (23.4%)	21 (14.0%)	0.134

*Logistic regression to adjust for length of time in database, rates of HTN, HLD, and overweight/obesity.

MP5-14

Socioeconomic Disparities in Treatment and Outcomes for Node Positive Bladder Cancer

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Introduction and Objective: Node-positive (N+) bladder cancer (BCa) patients are underrepresented in the literature, with many failing to distinguish them from those with MIBC (T2-T4N0M0). However, 5-year relative survival rates for N+ BCa is 31.2% compared to 66.7% for N0 patients. This study aims to examine socioeconomic factors predicting receipt of neoadjuvant chemotherapy (NAC), adjuvant chemotherapy (AC) or both in N+ radical cystectomy (RC) patients.

Methods: NCDB was queried from 2004-2019 for analysis of 9,463 patients with N+ BCa (T1-4N1-3M0) who underwent RC. The primary endpoints were OS and treatment predictors. Logistic regression was performed to determine insurance impact on treatment when controlling for Charleson-Deyo Comorbidity Classification (CDCC), age, clinical stage, gender, diagnosis year, facility type, median income percentile, and race. Cox proportional hazards model assessed treatment impact on OS.

Results: Logistic regression demonstrated that those privately insured were more likely to receive NAC (OR=4.198(95%CI:2.578-6.837),p<0.001), AC (OR=1.746(95%CI:1.305-2.337),p<0.001), and NAC+AC (OR=3.087 (95%CI:1.491-6.391),p=0.002) compared to uninsured. Medicare patients were more likely to receive NAC (OR:3.827(95%CI:2.322-6.308),p<0.001), AC (OR=1.777(95%CI:1.324-2.384), p<0.001), and NAC+AC (OR=3.201(95%CI:1.504-6.814),p=0.003). Medicaid patients had increased odds of receiving NAC (OR:1.986(95%CI:1.152-3.423),p<0.014), but not AC or NAC+AC. In Cox regression, NAC (HR=0.393(95%CI:0.357-0.432),p<0.001), AC (HR=0.552(95%CI:0.521-0.585),p<0.001), and NAC+AC (HR=0.352(95%CI:0.296-0.418),p<0.001) improved OS.

Conclusions: Insurance status impacts treatment received by N+ BCa patients, ultimately affecting OS. We demonstrate that uninsured and Medicaid individuals are at a higher risk of not receiving treatment, with level 1 evidence showing improved OS with chemotherapy. This highlights the importance of addressing disparities in healthcare access. Further research and policy interventions are needed to ensure BCa patients have equal access to appropriate treatment options.

	Radical Cystectomy & Chemo Treatment Type				
	No Chemo N=3477 (34.74%)	Neoadjuvant N=1272 (13.44%)	Adjuvant N=4347 (45.97%)	Neoadjuvant & Adjuvant N=367 (3.88%)	P-value
Median Age	72	64	67	62	<0.001
	Count	Count	Count	Count	
Sex					
Male	2323 (66.81%)	932 (73.27%)	3128 (89.96%)	262 (71.39%)	
Female	1154 (33.19%)	340 (26.73%)	1219 (35.06%)	105 (28.61%)	<0.001
Race					
White	2977 (85.62%)	1151 (90.49%)	3794 (87.28%)	332 (90.46%)	
Black	401 (11.53%)	84 (6.60%)	395 (9.09%)	25 (6.81%)	
Other	99 (2.85%)	37 (2.91%)	158 (3.63%)	10 (2.72%)	<0.001
Hispanic Origin					
Not Hispanic	3318 (95.43%)	1211 (95.20%)	4180 (96.16%)	356 (97.00%)	
Hispanic	159 (4.57%)	61 (4.80%)	167 (3.84%)	11 (3.00%)	0.175
Facility Type					
Community Center Program	246 (7.13%)	41 (3.29%)	287 (6.67%)	16 (4.43%)	
Comprehensive Community Cancer Program	1267 (36.71%)	318 (25.48%)	1501 (34.88%)	88 (24.38%)	
Academic/Research Program	1343 (38.92%)	712 (57.05%)	1722 (40.02%)	202 (55.96%)	
Integrated Network Cancer Program	595 (17.24%)	177 (14.18%)	793 (18.43%)	55 (15.24%)	<0.001
Insurance Type					
Uninsured	123 (3.65%)	30 (2.44%)	150 (3.57%)	13 (3.64%)	
Private Insurance	640 (18.99%)	500 (40.65%)	1220 (29.03%)	146 (40.90%)	
Medicaid	227 (6.74%)	95 (7.72%)	335 (7.97%)	28 (7.84%)	<0.001
Medicare	2380 (70.62%)	605 (49.19%)	2498 (59.43%)	170 (47.62%)	
Median Household Income					
<$38,000	458 (14.92%)	101 (9.33%)	453 (11.99%)	29 (9.67%)	
$38,000-$47,999	574 (18.70%)	194 (17.93%)	658 (17.41%)	58 (19.33%)	
$48,000-$62,999	873 (28.44%)	294 (27.17%)	1111 (29.40%)	82 (27.33%)	
>$63,000	1165 (37.95%)	493 (45.56%)	1557 (41.20%)	131 (43.67%)	<0.001
Charlson-Deyo-Score					
0	2258 (64.94%)	963 (75.71%)	3055 (70.28%)	270 (73.57%)	
1	687 (19.76%)	218 (17.14%)	816 (18.77%)	65 (17.71%)	
2	329 (9.46%)	65 (5.11%)	291 (6.69%)	18 (4.90%)	
>3	203 (5.84%)	26 (2.04%)	185 (4.26%)	14 (3.81%)	<0.001
Clinical T Stage					
1	424 (12.19%)	80 (6.29%)	391 (8.99%)	26 (7.08%)	
2	1322 (38.02%)	646 (50.79%)	2096 (48.22%)	198 (53.95%)	
3	751 (21.60%)	303 (23.82%)	894 (20.57%)	79 (21.53%)	
4	980 (28.19%)	243 (19.10%)	966 (22.22%)	64 (17.44%)	<0.001

MP5-15

Paraganglioma of the Bladder: NCDB Analysis of Treatment Modalities & Survival Outcomes

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Introduction and Objective: Bladder paragangliomas have been primarily reported through case studies, necessitating a more comprehensive understanding of optimal management. This is the first National Cancer Database (NCDB) study evaluating various treatment modalities' impact on overall survival (OS). We aim to identify variables influencing care management and clinical outcomes in this rare bladder tumor.

Methods: We conducted a retrospective cohort analysis of 73 patients with paraganglioma of the bladder (41 males, 32 females) using the NCDB from 2004 to 2019. The primary endpoint was OS. Kaplan-Meier analysis compared OS among patients receiving radical cystectomy (RC), partial cystectomy (PC), TURBT, and those without surgery. Cox proportional hazards model assessed the impact of Charleson-Deyo comorbidity classification (CDCC), age, and various treatment types: cystectomy, TURBT, adjuvant chemotherapy (AC), adjuvant radiation (AR), and adjuvant chemoradiation on OS.

Results: Insurance and procedure were associated (p=0.030). More Medicare patients received TURBT and privately insured patients underwent PC. Significant differences emerged in time from diagnosis to surgery between TURBT and the PC and RC groups (mean days=20.2 vs. 41.1 and 42.8; p=0.000). Procedure type was associated with postoperative inpatient days (p<0.001), with RC patients inpatient longest (median days=6). Non-surgical patients exhibited the worst OS, with a median survival of 28.5 months (p=0.005). The Cox model revealed cystectomy (PC+RC) (HR 0.14 (95%CI:0.03-0.67), p=0.014) and TURBT (HR 0.10 (95%CI:0.02-0.48), p=0.004) improved OS while AC (HR 7.42 (95%CI:1.60-35.0), p=0.011), AR (HR 10.1 (95%CI:1.06-95.9), p=0.045) and CDCC≥3 (HR 49.2 (95%CI:4.50-539.0), p=0.001) portended worse OS.

Conclusions: Our findings suggest that insurance type influences treatment choices, TURBT offers quicker care intervention, and surgery improves OS. Understanding these factors aids in optimizing treatment strategies and underscores the need for study replication with a larger cohort.

	Vital Status		
Demographics	Dead	Alive	p-value
Median Age at Diagnosis	57	51	0.159
Sex			0.444
Male	10 (45.5%)	26 (56.5%)	
Female	12 (54.5%)	20 (43.5%)	
Facility Type			0.456
Community Cancer Program	2 (10%)	4 (10%)	
Comprehensive Community Cancer Program	6 (30%)	6 (15%)	
Academic/Research	8 (40%)	24 (60%)	
Integrated Network Cancer Program	4 (20%)	6 (15%)	
Insurance Type			0.281
Not Insured	0 (0%)	2 (4.3%)	
Private Insurance	13 (59.1%)	31 (67.4%)	
Medicaid	1 (4.5%)	4 (8.7%)	
Medicare	8 (36.4%)	7 (15.2%)	
Insurance Status Unknown	0 (0%)	2 (4.3%)	
Charlson-Deyo Score			0.025
0	11 (50%)	37 (80.4%)	
1	6 (27.3%)	7 (15.2%)	
2	4 (18.2%)	2 (4.3%)	
>=3	1 (4.5%)	0 (0.0%)	
Partial Cystectomy			0.789
No	15 (68.2%)	29 (63%)	
Yes	7 (31.8%)	17 (37%)	
Radical Cystectomy			0.765
No	17 (77.3%)	34 (73.9%)	
Yes	5 (22.7%)	12 (26.1%)	
TURBT			0.536
No	16 (72.7%)	30 (65.2%)	
Yes	6 (27.3%)	16 (34.8%)	
Adjuvant Chemo			0.052
No	17 (77.3%)	43 (93.5%)	
Yes	5 (22.7%)	3 (6.5%)	
Adjuvant Radiation			0.17
No	19 (86.4%)	44 (95.7%)	
Yes	3 (13.6%)	2 (4.3%)	
Adjuvant Chemoradiation			0.194
No	20 (90.9%)	45 (97.8%)	
Yes	2 (9.1%)	1 (2.2%)	

MP5-16

First Results From SunRISe-1 in Patients With Bacillus Calmette-Guerin Unresponsive High-Risk Non–Muscle-Invasive Bladder Cancer Receiving TAR-200 in Combination With Cetrelimab, TAR-200, or Cetrelimab Alone

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Introduction and Objective: Treatment options are limited for high-risk non–muscle-invasive bladder cancer (HR-NMIBC) unresponsive to BCG. TAR-200 is a drug-delivery system providing sustained release of gemcitabine into the bladder. The phase 2, randomized, open-label SunRISe-1 study (NCT04640623) is evaluating efficacy and safety of TAR-200 + anti-PD-1 cetrelimab (Cohort 1 [C1]), TAR-200 alone (C2), or cetrelimab alone (C3) in patients with BCG-unresponsive HR-NMIBC who are ineligible for/decline radical cystectomy. Here we report preliminary results from C2 and C3.

Methods: Eligible patients were ≥18 y with ECOG performance status 0-2, histologically confirmed carcinoma in situ ± papillary disease (T1, high-grade Ta), and completed BCG ≤12 months prior. TAR-200 was dosed Q3W through Week 24, then Q12W until Week 96. Cetrelimab was dosed through Week 78. Primary end point: complete response (CR) rate. Secondary end points: duration of response (DOR), safety, and tolerability.

Results: As of May 2022, 13 patients each in C2 and C3 (median 71.5 years [range 51-88]) received treatment. Efficacy-evaluable set: 8 patients each in C2 and C3. Centrally confirmed CR by urine cytology and/or biopsy was 88% (95% CI 47-100) in C2 and 38% (9-76) in C3. Median CR DOR for C2 and C3 was not reached (median follow-up 13.6 and 12.0 weeks, respectively). At data cutoff, 7 patients in C2 remained CR, with 3 ongoing responses ≥6 months (range 7.7-9.4 months). 11 patients (85%) in C2 and 8 (62%) in C3 had treatment-emergent adverse events (TEAEs); most were Gr 1-2. Common TEAEs were pollakiuria (39%), micturition urgency (39%), and noninfective cystitis (39%) in C2; fatigue (23%) and lipase increased (23%) in C3. 1 patient (8%) in C2 and 2 (15%) in C3 had treatment-related Gr ≥3 TEAEs. 1 serious TEAE (myocarditis) occurred in C3.

Conclusions: Preliminary results show promising CR rate and safety profile with TAR-200 monotherapy.

MP5-17

Dicycloplatin: Use of a Novel Platinum Analog in Treatment of Urothelial Carcinoma in Nude Mice

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Introduction and Objective: Platinum-based chemotherapies are an important component of standard-of-care regimens for high grade and recurrent low grade urothelial carcinoma (UC) of the bladder. These nephrotoxic drugs are often dose-limiting. Cisplatin and carboplatin are most commonly used. However, dicycloplatin (DCP) has better solubility and stability, giving the possibility of providing an oral platinum option. Our lab previously demonstrated concentration- and time-dependent efficacy of DCP in multiple bladder cancer cell lines and comparable efficacy to cisplatin, carboplatin, and oxaliplatin. Here, we describe our underway animal assays for efficacy of DCP in injection and oral formulations.

Methods: The below were approved by the WVU IRB and IACUC. We utilize HTB9, a grade II tumorigenic cell line of UC in nude mice. Athymic nude mice are inoculated with 10^7 HTB9 cells (tumorigenic within 21 days of injection). Three experiments are underway: 1) Inoculation on day zero and injection with either saline twice weekly for three weeks, 100 mg/kg DCP twice weekly for three weeks, 100 mg/kg DCP weekly for three weeks, or 100 mg/kg DCP on day one post-tumor inoculation 2) Inoculation on day zero with access to drinking water ad lib, or ad lib access to drinking water and oral gavage of 0.5 mg/kg, 2 mg/kg, or 5 mg/kg DCP daily 3) Assessment of combined oral and subcutaneous DCP based on the above. Tumor size, mouse weight, and water consumption are observed to assess efficacy and side effect profile and bladders/kidneys will be assessed histologically to analyze microscopic response and toxicity.

Results: The above described animal assays are currently underway.

Conclusions: The above will delineate the efficacy of DCP in vitro, as we have demonstrated its in vivo efficacy in multiple UC cell lines. This will inform administration (dosing and route) as we move forward to phase I clinical trial. Final data is anticipated August 2023.

MP6-01

A Single Center's Changing Trends in the Management and Outcomes of Primary Closure of Classic Bladder Exstrophy: An Evolving Landscape

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Introduction and Objective: Classic bladder exstrophy (CBE) is a rare malformation where several factors can affect the timing of its management. The aim of this study was to investigate trends in treatment for CBE over the past twenty years at the author's institution, an exstrophy center with a large referral population.

Methods: An institutional database of 1415 exstrophy-epispadias complex patients was retrospectively reviewed for CBE patients with primary closure between 2000 and 2019. Osteotomy use, age at closure, and outcome of closures were reviewed.

Results: A total of 278 primary closures were identified, with 100 occurring at author's hospital (AH) and 178 at outside hospitals (OSH) (Table 1). Osteotomies were performed in 54% of cases at AH and 52.8% of cases at OSH. Osteotomy use increased over 20 years from 48.6% in 00's to 62.1% in 10's (p=0.046). The total success rate at AH was 96% and 62.9% at OSH (p<0.001). The median age at primary closure at AH increased from 5 days (00's) to 20 days (10's), compared to the OSH which increased from 2 days (00's) to 3 days (10's). Nominal logistic regression suggests the location of bladder closure and use of pelvic osteotomy were significantly associated with successful closure (AH vs OSH, OR=14.5, 95% CI 4.95-42.24) (OR=1.86, 95% CI 1.02-3.41). Age at closure did not significantly relate to success.

Conclusions: Closure of CBE may be delayed for several reasons including insurance difficulties, transfer to another hospital, desire for second opinions, or surgeon preference. Delaying primary closure of bladder exstrophy does not appear to increase the failure rate and gives families time to adjust lifestyle, arrange travel, and seek care at centers of excellence.

Table 1. Patient Demographics.

(*Abbreviations: AH, Authors' Hospital; OSH, Outside Hospital*)

Variable, n (%)		
Total		278
Sex, n (%)		
	Males	191 (68.7%)
	Females	87 (31.3%)
Closure Date		
	Decade 1 (2000-2009)	183 (65.8%)
	Decade 2 (2010-2019)	95 (34.2%)
Location of Closure		
	AH	100 (36.0%)
	OSH	178 (64.0%)

MP6-02

A Single-Institutional Experience with Prenatal Diagnosis of Cloacal Exstrophy: Room for Improvement

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Introduction and Objective: A single institutional study characterizes the rate of prenatal diagnosis of cloacal exstrophy (CE) and examines its role on successful primary closures.

Methods: An institutional database of 1485 exstrophy-epispadias patients was reviewed retrospectively for CE patients with confirmed presence/absence of prenatal diagnostics, primary exstrophy closure since 2000, institution of closure, and at least 1 year of follow up following closure.

Results: The cohort included 56 domestic patients and 9 international patients. Overall, 78.6% (n=44) of domestic patients were prenatally diagnosed while 21.4% (n=12) were diagnosed postnatally. A positive trend was observed in the rate of prenatal diagnosis across the study period, 56.3%, 84.2%, 88.9% respectively (p=0.025). Confirmatory fMRI was obtained in 40.9% (n=18) of prenatally diagnosed cases. Patients diagnosed prenatally were found to be more likely to undergo treatment at exstrophy centers of excellence (72.1% v 33.3%, p=0.020). Prenatal diagnosis was not predictive of increased rate of successful primary closure (75.6% vs. 75.0%; p=1.00; OR: 1.03, 95% CI: 0.23 – 4.58). Primary closures undertaken at exstrophy centers of excellence were significantly more likely to be successful compared to outside hospitals (90.9% v 50.0%, p=0.002).

Conclusions: The rate of prenatal diagnosis of CE in patients referred for management to a high-volume exstrophy center is improving. Despite this improvement, patients continue to be missed in the prenatal period. While prenatal diagnosis offers the ideal opportunity to educate, counsel, and prepare expectant families, patients diagnosed at birth are not disadvantaged in their ability to receive a successful primary closure. Further research should investigate the benefit of patient referral to high-volume exstrophy centers of care to ensure optimal care and outcomes.

Table 1. Domestic patient demographics and primary management of prenatally or postnatally diagnosed cloacal exstrophy

	Total	Prenatal	Postnatal	P-value
N	56	44 (79%)	12 (21%)	
Male	39 (70%)	30 (77%)	9 (23%)	
Prenatal Ultrasound Screening				
Normal	6 (11%)	~	6 (50%)	
Abnormal	47 (84%)	44 (100%)	3 (25%)	
No prenatal ultrasound	3 (5%)	~	3 (25%)	
Institution of Birth				
Author's Institution	15 (27%)	15 (34%)	~	
OSH	41 (73%)	29 (66%)	12 (100%)	0.024
Primary Closure				
Successful Closure	40 (75%)	31 (76%)	9 (75%)	1.000
Median age, days (IQR)	517 (74 - 703)	555 (350 - 747)	71 (9 - 642)	0.083
Osteotomy	46 (87%)	37 (90%)	9 (75%)	0.183
Institution of Care				
A-BE-C Center of Excellence	36 (65%)	32 (74%)	4 (33%)	0.015
Author's Institution	33 (60%)	30 (70%)	3 (25%)	0.008
OSH	19 (35%)	11 (26%)	8 (67%)	0.015

MP6-03

Long-Term Management of Problems in Cloacal Exstrophy: A Single-Institution Review

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Introduction and Objective: Cloacal exstrophy (CE) is the most severe malformation of the exstrophy-epispadias complex. Patients with CE require substantial medical and surgical efforts to address structural and functional problems of neurologic, gastrointestinal, and genitourinary systems. Yet, long-term data regarding clinical outcomes of this aging population remains limited. This study uniquely aims to discuss long-term problems in a single major institution with a high volume of CE patients.

Methods: A prospectively maintained database was reviewed for CE patients with >10 years of follow-up. Urinary, renal, gastrointestinal, orthopedic, psychosocial, and independence attributes were evaluated.

Results: Out of 149 CE patients followed, there were 63 patients who met inclusion. Median age was 20.9 years [10.2-59.3]. Thirty-seven (58.7%) were >18 years. Twenty-one (33.3%) were born female and 39 (61.9%) born male, 14 of whom were gender converted at birth. Gender identity was self-reported 26 males, 36 females, and 1 non-binary. There were two deaths, one cancer and another associated with ESRD. Two females conceived naturally, and two patients adopted. Catheterizable channels were the most common method of voiding (45/63, 71.4%). Of those, 88.9% (40/45) were continent. Forty-six patients (73.0%) had no CKD while 4 (6.3%) progressed to renal replacement therapy (RRT). Gastrointestinal diversion was managed by colostomy (37/63, 58.7%) and ileostomy (17/63, 27.0%). Most patients underwent osteotomy (47/63, 74.6%). Thirty-eight percent (24/63) required a wheelchair. Psychosocial diagnoses included 19/63 (30.2%) patients with anxiety and/or depression and 17/63 (27.0%) patients with chronic pain. Out of the 52 patients who were evaluated by physical therapy, 46 (88.5%) were independent. Two patients (3.2%) had cognitive delay.

Conclusions: Improvements in intensive care, gastrointestinal, orthopedic, and urologic management have resulted in survival rates approaching 100%. Yet CE children face long-term problems requiring collaborative efforts across multi-disciplinary fields. Description of these challenges is the first step in improving these outcomes.

MP6-04

Bladder Exstrophy Epispadias Complex Related Litigation: A Legal Database Review

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Introduction and Objective: To characterize bladder exstrophy-epispadias related malpractice litigation in the United States (US).

Methods: Two legal databases (Nexis Uni, WestLaw) were reviewed for state and federal cases using the terms "bladder exstrophy," "cloacal exstrophy," "epispadias," in combination with "medical malpractice," or "negligence," or "medical error," or "complication," or "malpractice," or "tort." Databases were queried between 1948 to 2022 and reviewed for medical and legal details.

Results: Our search yielded 16 unique legal cases with 6 fitting established criteria for analysis. Urology and pediatric urologist were named in 50% of cases. Suits named community medical systems in half of cases. Cause for lawsuit included negligence in surgical performance (50%), primary closure of exstrophy (33%), and post-operative care (50%). Settlement agreement was reached in one case (17%). Outcomes favored the physician in 60% of trials. Lawsuits alleging negligent surgical performance and/or post-operative care exclusively named urologists with outcomes favoring the surgeon in 66% of cases. The settlement payment (n=1) was $500,000 and monetary damages (n=1) equated to $1.3 million.

Conclusions: Malpractice litigation related to BEEC treatment is rare. In trial, outcomes most favor the medical provider. Cases that resulted in financial liability successfully alleged avoidable negligence resulting in irreversible physical damage. The authors recommend families with BEEC seek board-certified pediatric urologists experienced in treating this complex and/or Bladder Exstrophy Centers of Excellence. Further, we recommend surgeons treating BEEC properly educate patients and families on the severity of this major birth defect including its lifelong implications and need for surgical revisions.

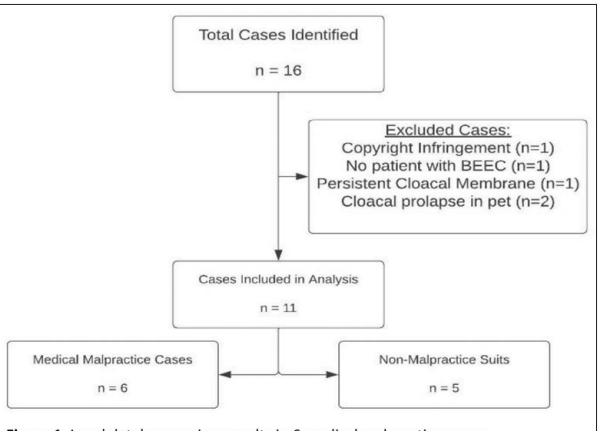

Figure 1. Legal database review results in 6 medical malpractice cases.

Table 1. Exstrophy related malpractice lawsuit characteristics.

Variable	No (n=6)	%
Court type		
State*	5	83
Federal	1	17
Court Level		
Trial	2	33
Appellate	3	50
Supreme	1	17
AUA Region		
Southeastern	3	60
Southcentral	1	20
New England	1	20
Lawsuit Reported Reason		
Surgical Performance	3	50
Surgical Performance, Primary Closure	2	33
Post-operative care	3	50
Informed consent	1	17
Prenatal diagnosis	1	17
Deliberate Indifference	1	17
Negligent prescription	1	17
Age at lawsuit, BEEC Patient		
Minor (<18 yr.)	4	67
Adult	1	17
Not reported	1	17
Physician Specialty		
Pediatric Urology	1	17
Urology	2	33
Obstetrics & Gynecology	1	17
Internal Medicine	1	17
Radiology	1	17
Medical System Named		
Academic	2	33
Community	3	50
Dept of Corrections	1	17
Treated BE Center of Excellence		
Yes	1	17
No	5	83
Reported Complications		
BEEC causation	1	17
Hospital-acquired infection	1	17
Delay of treatment	1	17
Pain and suffering	1	17
Partial Penile Necrosis	1	17
Unspecified injuries and damages	1	17
Trial outcome		
Favors Physician	3	50
Against Physician	2	33
Other	1	17
Settlement	1	17
Amount awarded	$500,000	
Indemnity		
Located	1	17
Amount awarded	$1,300,000	

* State courts include Puerto Rico

MP6-05

Factors and Outcomes Associated With Reoperative Ureteroneocystectomy for Vesicoureteral Reflux

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Introduction and Objective: Vesicoureteral reflux (VUR) is characterized by a deficiency at the ureterovesical junction (UVJ) leading to backflow of urine up one or both ureters. Open ureteroneocystostomy (UNC) is the gold standard for VUR. Alternatively, endoscopic subureteric injection (SI) of a bulking agent into the detrusor muscle beneath the ureteral orifice can be performed to support the UVJ. VUR reoperations may be more difficult than primary operation due to UVJ fibrosis. The objective of this study is to identify predictive factors and outcomes of patients receiving UNC following failed previous VUR reoperation compared with patients receiving primary UNC.

Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) Pediatric 2020 data was retrospectively analyzed for pediatric patients undergoing UNC for VUR. Patients were divided into 4 groups: No previous reflux procedure, previous UNC, previous SI, and previous UNC and SI. Demographics, preoperative characteristics, and post-op outcomes were analyzed. Univariate and multivariate analyses were performed.

Results: Among 1,495 patients receiving UNC, 89.4% had no previous reflux procedures, 5.6% had previous UNC, 4.3% had previous SI, and 0.8% had previous UNC and SI. Differences in demographics, preoperative characteristics, and post-op outcomes are highlighted in Table 1. On multivariate analysis, repeat anti-reflux procedure is associated with increased age (p<0.001), non-Caucasian race (p=0.01) and total operation time (p=0.002) (Table 2).

Conclusions: Although length of stay, developmental delay, structural CNS abnormality, and ASA classifications were initially thought to be related to previous reflux procedure, we find that on multivariate analysis that these were confounding factors.

Table 1. Patient demographics and preoperative considerations, categorized by previous reflux procedure

	Total Cohort		*No Previous Reflux Procedure*		*Previous Reimplant*		*Previous Subureteric Injection*		*Both*		*P value*
	n = 1495		n = 1336 (89.4%)		n = 83 (5.6%)		n = 64 (4.3%)		n = 12 (0.8%)		
Patient Demographics:											
Mean Age (Days) (SD)	1,666	(1,208)	1,590	(1,151)	2,013	(1,269)	2,549	(1,558)	2,959	(1,815)	**<0.001**
Male Gender (%)	446	(29.8%)	393	(29.4%)	38	(45.8%)	10	(15.6%)	5	(41.7%)	**<0.001**
Non-Caucasian Race (%)	304	(20.3%)	256	(19.2%)	22	(26.5%)	24	(37.5%)	2	(16.7%)	**0.003**
Hispanic Ethnicity (%)	201	(13.4%)	182	(13.6%)	9	(10.8%)	10	(15.6%)	0	(0.0%)	0.555
Inpatient (%)	1010	(67.6%)	891	(66.7%)	57	(68.7%)	53	(82.8%)	9	(75.0%)	**0.045**
Height (In.) (SD)	40.2	(8.9)	39.7	(8.7)	42.6	(9.0)	45.8	(9.8)	46.7	(11.0)	**<0.001**
Weight (lbs.) (SD)	42.0	(24.3)	40.9	(23.6)	46.1	(24.6)	54.9	(30.0)	63.7	(38.5)	**<0.001**
VUR Disease:											
VCUG Disease Severity 1 (%)	40	(2.7%)	39	(2.9%)	1	(1.2%)	0	(0.0%)	0	(0.0%)	0.603
VCUG Disease Severity 2/3 (%)	446	(29.8%)	396	(29.6%)	17	(20.5%)	31	(48.4%)	2	(16.7%)	**0.002**
VCUG Disease Severity 4/5 (%)	887	(59.3%)	807	(60.4%)	47	(56.6%)	26	(40.6%)	7	(58.3%)	**0.017**
Comorbid Conditions:											
Esophageal/GI Disease (%)	81	(5.4%)	60	(4.5%)	14	(16.9%)	5	(7.8%)	2	(16.7%)	**<0.001**
Impaired Cognitive Status (%)	100	(6.7%)	79	(5.9%)	9	(10.8%)	9	(14.1%)	3	(25.0%)	**0.002**
Structural CNS Abnormality (%)	65	(4.3%)	51	(3.8%)	7	(8.4%)	7	(10.9%)	0	(0.0%)	**0.015**
Nutritional Support (%)	30	(2.0%)	17	(1.3%)	9	(10.8%)	3	(4.7%)	1	(8.3%)	**<0.001**
ASA Classification:											
Class 1 (%)	250	(16.7%)	228	(17.1%)	8	(9.6%)	13	(20.3%)	1	(8.3%)	0.235
Class 2 (%)	1060	(70.9%)	958	(71.7%)	54	(65.1%)	41	(64.1%)	7	(58.3%)	0.214
Class 3 (%)	177	(11.8%)	143	(10.7%)	20	(24.1%)	10	(15.6%)	4	(33.3%)	**<0.001**
Class 4 (%)	6	(0.4%)	5	(0.4%)	1	(1.2%)	0	(0.0%)	0	(0.0%)	0.491
Operative Approach:											
Laparoscopic/MIS (%)	189	(12.6%)	169	(12.6%)	14	(16.9%)	5	(7.8%)	1	(8.3%)	0.425
Open Only or N/A (%)	1175	(78.6%)	1055	(79.0%)	59	(71.1%)	52	(81.3%)	9	(75.0%)	0.345
Laparoscopic/MIS/Open (%)	131	(8.8%)	112	(8.4%)	10	(12.0%)	7	(10.9%)	2	(16.7%)	0.286
Outcome Variables:											
Mean Operation Time (Minutes) (SD)	166.5	(74.3)	162.3	(68.7)	218.0	(108.3)	188.5	(96.8)	159.6	(104.0)	**<0.001**
Mean Length of Stay (Days) (SD)	1.9	(2.2)	1.8	(1.9)	2.4	(2.3)	2.8	(4.7)	2.4	(3.0)	**<0.001**
Anesthesia Start to Surgery Start (Minutes) (SD)	35.0	(15.2)	34.6	(14.2)	39.1	(18.6)	39.4	(24.5)	29.9	(21.6)	**0.003**
Readmission (%)	75	(5.0%)	59	(4.4%)	9	(10.8%)	5	(7.8%)	2	(16.7%)	**0.009**
Unplanned Reoperation (%)	23	(1.5%)	18	(1.3%)	0	(0.0%)	4	(6.3%)	1	(8.3%)	**0.008**
Unplanned Urinary Catheter (Intermittent or Indwelling) (%)	45	(3.0%)	37	(2.8%)	4	(4.8%)	2.00	(3.1%)	2.00	(16.7%)	**0.048**
Preoperative/Intraoperative Urine Culture:											
Yes, No Bacterial Growth (%)	791	(52.9%)	719	(53.8%)	40	(48.2%)	28	(43.8%)	4	(33.3%)	0.158
Yes, Bacterial Growth, Not UTI (%)	111	(7.4%)	96	(7.2%)	10	(12.0%)	5	(7.8%)	0	(0.0%)	0.344
Yes, Bacterial Growth, UTI (%)	76	(5.1%)	66	(4.9%)	2	(2.4%)	4	(6.3%)	4	(33.3%)	**0.005**

P-values represent chi-square analysis for all categorical variables and one-way ANOVA for all continuous variables. VUR: Vesicoureteral Reflux, VCUG: Voiding Cystourethrogram, GI: Gastrointestinal, CNS: Central Nervous System, ASA: American Society of Anesthesiologists, MIS: Minimally Invasive Surgery, UTI: Urinary Tract Infection

Table 2. Univariate and multivariate analysis of factors associated with previous reflux procedure

	Univariate Analysis		**Multivariate Analysis**	
	OR (95% CI)	**P value**	**OR (95% CI)**	**P value**
Age	1.00 (1.00-1.00)	**<0.001**	1.00 (1.00-1.00)	**<0.001**
Male Gender	1.20 (0.84-1.67)	0.308	1.13 (0.72-1.73)	0.594
Non-Caucasian Race	1.82 (1.26-2.61)	**0.001**	1.82 (1.16-2.82)	**0.010**
Length of Stay	1.11 (1.04-1.18)	**0.001**	1.00 (0.92-1.08)	0.974
Total Operation Time	1.01 (1.00-1.01)	**<0.001**	1.00 (1.00-1.01)	**0.002**
Esophageal/Gastric/Intestinal Disease	3.24 (1.87-5.40)	**<0.001**	1.68 (0.74-3.61)	0.210
Developmental Delay/Impaired Cognitive Status	2.42 (1.42-3.97)	**0.001**	1.50 (0.69-3.10)	0.298
Structural CNS Abnormality	2.43 (1.27-4.39)	**0.005**	1.09 (0.70-2.66)	0.856
Unplanned urinary catheter	1.86 (0.79-3.87)	0.120	1.80 (0.70-4.09)	0.208
ASA Classification:		**0.003**		0.456
Class 1	Referent		Referent	
Class 2	1.10 (0.69-1.83)	0.689	1.43 (0.81-2.72)	0.242
Class 3	2.46 (1.39-4.43)	**0.002**	1.66 (0.76-3.72)	0.207
VUR Disease:		0.090		0.078
VCUG Disease Severity 1 (%)	Referent		Referent	
VCUG Disease Severity 2/3 (%)	4.92 (1.03-88.3)	0.119	5.87 (1.19-107)	0.088
VCUG Disease Severity 4/5 (%)	3.87 (0.82-69.1)	0.185	4.87 (1.00-87.9)	0.125
Preoperative/Intraoperative Urine Culture		0.237		0.287
No Bacterial Growth	Referent		Referent	
Bacterial Growth, Not UTI	1.56 (0.83-2.76)	0.145	1.29 (0.60-2.57)	0.484
Bacterial Growth, UTI	1.51 (0.71-2.95)	0.252	1.24 (0.48-2.79)	0.633

CNS: Central Nervous System, ASA: American Society of Anesthesiologists, VUR: Vesicoureteral Reflux, VCUG: Voiding Cystourethrogram, UTI: Urinary Tract Infection

MP6-06

Racial Predilection for Outcomes After Ureteroneocystostomy for Vesicoureteral Reflux

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Introduction and Objective: Vesicoureteral reflux is a common congenital abnormality characterized by retrograde flow of urine from the bladder into ureters. Prior publications have examined associations between patient characteristics, UNC technique, and post-operative outcomes. However, the impact of race on UNC and outcomes remains unexplored. Our goal is to determine if racial disparity exists for patients undergoing UNC for VUR.

Methods: 2020 National Surgical Quality Improvement Program pediatric data was analyzed. 1344 patients were subgrouped into White, Black/African American, or Asian. ANOVA analysis was performed to identify baseline differences between the three groups. Univariate and multivariate analysis of race performed on unplanned procedures related to anti-reflux procedure, postoperative emergency department visits, readmission, length of stay, and total operation time.

Results: No differences in unplanned reoperation between the different racial groups on multivariate analysis despite significance observed in univariate analysis. Similarly, there was no difference in postoperative ED visits between the groups. Black/African American race is associated with a higher risk of readmission following UNC on multivariate analysis (p=0.029). The Black/African American group also had significantly longer LOS, when compared with white race (p<0.001). Total operative time was longer in the Black/African American group (p = 0.008), while Asian group was associated with a shorter operative time (p = 0.032) in respect to White.

Conclusions: Black/African American patients who underwent UNC had longer operative time, higher readmission rates, and longer LOS, compared to White group. Asian group had shorter operation time and no differences in unplanned reoperation, postoperative ED visits, and LOS compared to the White group.

Table 1. Preoperative and Postoperative Characteristics for Various Racial Groups

	Total Cohort		Group A		Group B Black or African American		Group C		
			White				Asian		
	n = 1448		n = 1344		n = 63		n = 41		
Patient Demographics									
Mean Age in Days (SD)	1,660.78	(1266)	1,660.26	(1249)	1727.3	(1654)	1573.6	(1134)	P = 0.330
Male Gender (N)	462	(31.9%)	416	(31.0%)	32	(50.8%)	14	(34.1%)	**P < 0.001**
Hispanic Ethnicity (N)	161	(11.1%)	158	(11.8%)	3	(4.8%)	0	(0.0%)	**P < 0.001**
Inpatient (%)	990	(68.4%)	908	(67.6%)	48	(76.2%)	34	(82.9%)	P = 0.089
Height in inches (SD)	39.52	(9)	39.53	(9)	39.31	(11)	40.68	(9)	**P < 0.001**
Weight in lbs. (SD)	41.79	(25)	41.66	(25)	43.46	(32)	43.70	(26)	P = 0.913
Comorbid Conditions / Past Medical History:									
VCUG Grade 1 (%)	31	(2.1%)	30	(2.2%)	1	(1.6%)	0	(0.0%)	P = 0.594
VCUG Grade 2/3 (%)	393	(27.1%)	371	(27.6%)	10	(15.9%)	10	(24.4%)	P = 0.303
VCUG Grade 4/5 (%)	745	(51.5%)	698	(51.9%)	27	(42.9%)	20	(48.8%)	P = 0.349
History of Asthma (%)	28	(1.9%)	26	(1.9%)	2	(3.2%)	0	(0.0%)	**P = 0.517**
Bronchopulmonary Dysplasia / Chronic Lung Disease (%)	14	(1.0%)	12	(0.9%)	2	(3.2%)	0	(0.0%)	P = 0.159
Structural Pulmonary / Airway Abnormalities (%)	31	(2.1%)	27	(2.0%)	4	(6.3%)	0	(0.0%)	**P = 0.042**
Esophageal / Gastric / Intestinal Disease (%)	76	(5.2%)	65	(4.8%)	8	(12.7%)	3	(7.3%)	**P = 0.020**
Cardiac Risk Factors (minor) (%)	46	(3.2%)	39	(2.9%)	5	(7.9%)	2	(4.9%)	P = 0.069
Cardiac Risk Factors (major) (%)	37	(2.6%)	31	(2.3%)	4	(6.3%)	2	(4.9%)	P = 0.088
Cardiac Risk Factors (severe) (%)	4	(0.3%)	4	(0.3%)	0	(0.0%)	0	(0.0%)	P = 0.856
Developmental Delay / Impaired Cognitive Status (%)	101	(7.0%)	92	(6.8%)	6	(9.5%)	3	(7.3%)	P = 0.714
Structural CNS Abnormality (%)	66	(4.6%)	55	(4.1%)	7	(11.1%)	4	(9.8%)	**P = 0.009**
Ostomy (%)	73	(5.0%)	62	(4.6%)	9	(14.3%)	2	(4.9%)	**P = 0.003**
Preoperative Considerations:									
Operative Approach (Lap/MIS) (%)	192	(13.3%)	176	(13.1%)	8	(12.7%)	8	(19.5%)	P = 0.486
Operative Approach (Open) (%)	1120	(77.3%)	1037	(77.2%)	52	(82.5%)	31	(75.6%)	P = 0.586
Operative Approach (Lap/MIS/Open) (%)	136	(9.4%)	131	(9.7%)	3	(4.8%)	2	(4.9%)	P = 0.251
Nutritional Support (%)	27	(1.9%)	22	(1.6%)	5	(7.9%)	0	(0.0%)	**P = 0.001**
Hematologic Disorder (%)	31	(2.1%)	22	(1.6%)	6	(9.5%)	3	(7.3%)	**P < 0.001**
Pre/Intraoperative Urine Culture – No bacterial growth (%)	684	(47.2%)	642	(47.8%)	21	(33.3%)	21	(51.2%)	P = 0.071
Pre/Intraoperative Urine Culture – Bacterial growth, no UTI (%)	104	(7.2%)	95	(7.1%)	7	(11.1%)	2	(4.9%)	P = 0.404
Pre/Intraoperative Urine Culture - Bacterial growth, UTI (%)	58	(4.0%)	53	(3.9%)	4	(6.3%)	1	(2.4%)	P = 0.556
Ureteral Stent/Catheter (%)	613	(42.3%)	570	(42.4%)	29	(46.0%)	14	(34.1%)	**P = 0.014**
ASA Classification:									
ASA Class 1 (%)	242	(16.7%)	225	(16.7%)	7	(11.1%)	10	(24.4%)	P = 0.206
ASA Class 2 (%)	1037	(71.6%)	965	(71.8%)	43	(68.3%)	29	(70.7%)	P = 0.823
ASA Class 3 (%)	162	(11.2%)	147	(10.9%)	13	(20.6%)	2	(4.9%)	**P = 0.025**
ASA Class 4 (%)	6	(0.4%)	6	(0.4%)	0	(0.0%)	0	(0.0%)	P = 0.792
Operative Time:									
Mean Total Operation Time in Minutes (SD)	167.42	(74.82)	166.55	(73.69)	201.37	(92.39)	149.61	(67.16)	**P < 0.001**
Length of Hospital Stay:									
Mean Length of Total Hospital Stay in Days (SD)	1.78	(1.78)	1.72	(1.53)	3.07	(4.52)	1.78	(1.62)	**P = 0.022**
Mean Days from Operation to Discharge in Days (SD)	1.72	(1.47)	1.68	(1.40)	2.59	(2.41)	1.78	(1.62)	**P < 0.001**
Postoperative Outcomes:									
Postoperative Urinary Tract Infection (%)	51	(3.5%)	46	(3.4%)	5	(7.9%)	0	(0.0%)	P = 0.339
Postoperative Sepsis (%)	9	(0.6%)	7	(0.5%)	2	(3.2%)	0	(0.0%)	P = 0.411
Readmission (%)	71	(4.9%)	63	(4.7%)	8	(12.7%)	0	(0.0%)	**P = 0.031**
Unplanned Reoperation (%)	26	(1.8%)	23	(1.7%)	3	(4.8%)	0	(0.0%)	P = 0.731
Postoperative Emergency Department Visits* (%)	137	(9.5%)	126	(9.4%)	7	(11.1%)	4	(9.8%)	**P = 0.047**
Unplanned Procedure Related to Anti-reflux Procedure* (%)	28	(1.9%)	23	(1.7%)	4	(6.3%)	1	(2.4%)	**P < 0.001**
Unplanned Intermittent or Indwelling Urinary Catheter* (%)	215	(14.8%)	186	(14.0%)	18	(28.6%)	9	(22.0%)	**P < 0.001**

P Values represent chi-square analysis for all categorical variables and one-way analysis of variance (ANOVA) for all continuous variables. VCUG: Voiding Cystourethrogram, CNS: Central Nervous System, Lap: Laparoscopic, MIS: Minimally Invasive Surgery, UTI: Urinary Tract Infection, ASA: American Society of Anesthesiologists *Occurring 0 – 30 Days After VUR Procedure

Table 2. Univariate and Multivariate Analysis Predicting Racial Differences on Unplanned Procedures, Postoperative Emergency Department Visits, Readmission, Length of Stay, and Total Operation Time

	Univariate Analysis		Multivariate Analysis	
	OR/β (95% CI)	P value	OR/β (95% CI)	P value
Unplanned Procedure Related to Anti-reflux Procedure (0-30 days postoperatively)		0.106		0.323
White	Referent		Referent	
Black or African American	3.89 (1.12-10.5)	**0.015**	2.69 (0.70-7.98)	0.103
Asian	1.44 (0.08-7.08)	0.726	1.36 (0.07-6.91)	0.767
Postoperative Emergency Department (ED) Visits (0-30 days postoperatively)		0.902		0.974
White	Referent		Referent	
Black or African American	1.21 (0.89-2.54)	0.646	1.07 (0.43-2.28)	0.874
Asian	1.05 (0.31-2.66)	0.934	1.10 (0.32-2.82)	0.860
Readmission		**0.006**		**0.014**
White	Referent		Referent	
Black or African American	2.96 (1.26-6.15)	**0.007**	2.47 (1.02-5.31)	**0.029**
Asian	0		0	
Length of Stay (Days)		**<0.001**		**<0.001**
White	Referent		Referent	
Black or African American	1.3 (0.89-1.80)	**<0.001**	1.20 (0.72-1.60)	**<0.001**
Asian	0.05 (-0.50-0.61)	0.849	0.17 (-0.02-0.36)	0.833
Total Operation Time (Minutes)		**<0.001**		**0.002**
White	Referent		Referent	
Black or African American	35 (16-54)	**<0.001**	25 (6.50-44)	**0.008**
Asian	-23 (-46-0.20)	0.052	-25 (-47- -2.1)	**0.032**

Multivariate model controlled for gender, ASA classification, esophageal disease, history of asthma, ostomy, structural CNS abnormalities, and structural pulmonary abnormalities.

MP6-07

Risk Factors for Emergency Department Visits Following Ureteral Reimplant in the Pediatric Population

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Introduction and Objective: Ureteroneocystostomy (UNC) is considered the standard of treatment for vesicoureteral reflux (VUR). Prior studies have yet to explore predisposing factors that are associated with post operative emergency department (ED) visits. The objective of this study is to identify predictive factors of patients post-UNC discharge that predict subsequent unplanned ED visits.

Methods: The patients were divided into 2 groups: ED visits within 0-30 days following an anti-reflux procedure and no ED visits after an anti-reflux procedure. Basic statistics was performed for categorical variables, and Pearson chi-square tests were performed. An adjusted analysis was performed with significant variables to predict the factors associated with postoperative ED visits after ureteroneocystostomy.

Results: A total of 1495 were included in the cohort and 11.0% of the cohort had ED visits after discharge. Patients returning to ED postoperatively were more likely to have been of Hispanic ethnicity, have increased structural pulmonary abnormalities, gastrointestinal diseases, ostomy presence, or born prematurely (Table 1). Additionally, patients were more likely to have had a longer mean operative time, surgical site infection, post operative UTI or sepsis, prior readmission, renal insufficiency, unplanned re-operation, blood transfusion, and unplanned urinary catheter placement. Univariate and multivariate analysis showed postoperative UTI (p<0.001), superficial surgical site infection (p=0.022), unplanned procedure (p<0.001), unplanned urinary catheter (p<0.001), and 35-36 weeks gestation (p=0.004) as independent risk factors for postoperative ED visits (Table 2).

Conclusions: Post operative ED visits are feared complications after ureteroneocystostomy. We show that UTI, infection, unplanned re-operation, unplanned urinary catheter, and prematurity can lead to more postoperative ED visits.

Table 1. Patient Demographics and Comorbidities for Patients with Postoperative Emergency Department Visit Following Ureteroneocystostomy

	Total Cohort		Postoperative ED Visit		No Postoperative ED Visit		
	n = 1495		n = 164 (11.0%)		n = 1331 (89.0%)		
Patient Demographics:							
Mean Age (Days) (SD)	1666	(1208)	1605.3	(1207)	1673.3	(1196)	P = 0.4974
Male Gender (N)	446	(29.8%)	55	(33.5%)	391	(29.4%)	P = 0.2720
Non-Caucasian Race (N)	304	(20.3%)	38	(23.1%)	266	(20.0%)	P = 0.3070
Hispanic Ethnicity (N)	201	(13.4%)	23	(14.0%)	178	(13.4%)	**P = 0.0309**
Inpatient (N)	1030	(67.6%)	120	(73.2%)	890	(66.9%)	P = 0.1038
Mean Height (in) (SD)	40.2	(8.5)	39.3	(10.1)	40.3	(34.6)	P = 0.4041
Mean Weight (lbs) (SD)	42.0	(24.3)	39.3	(22.1)	42.2	(24.5)	P = 0.0656
Comorbid Conditions / Past Medical History:							
Ventilator Dependent (N)	2	(0.1%)	1	(0.6%)	1	(0.1%)	P = 0.0773
History of Asthma (N)	25	(1.7%)	5	(3.0%)	20	(1.5%)	P = 0.1453
Bronchopulmonary Dysplasia / Chronic Lung Disease (N)	14	(0.9%)	3	(1.8%)	11	(0.8%)	P = 0.3085
Oxygen Support (N)	10	(0.7%)	2	(1.2%)	8	(0.6%)	P = 0.3104
Tracheostomy (N)	3	(0.1%)	0	(0.0%)	3	(0.2%)	P = 0.6105
Structural Pulmonary / Airway Abnormalities (N)	32	(2.1%)	7	(4.3%)	25	(1.9%)	**P = 0.0461**
Esophageal / Gastric / Intestinal Disease (N)	81	(5.4%)	15	(9.1%)	66	(5.0%)	**P = 0.0054**
History of Cardiac Surgery (N)	30	(2.0%)	3	(1.8%)	27	(2.0%)	P = 0.8637
Developmental Delay / Impaired Cognitive Status (N)	100	(6.7%)	15	(9.1%)	85	(6.4%)	P = 0.1820
Seizure Disorder (N)	17	(1.1%)	3	(1.8%)	14	(1.1%)	P = 0.3758
Cerebral Palsy (N)	6	(0.4%)	2	(1.2%)	4	(0.3%)	P = 0.0701
Structural CNS Abnormality (N)	65	(4.3%)	9	(5.5%)	56	(4.2%)	P = 0.4482
Neuromuscular Disorder (N)	35	(2.3%)	7	(4.3%)	28	(2.1%)	P = 0.0838
Ostomy (N)	71	(4.7%)	13	(7.9%)	58	(4.4%)	**P = 0.0427**
Congenital Malformation (N)	1144	(76.5%)	130	(79.3%)	1014	(76.2%)	P = 0.4228
Childhood Malignancy (N)	4	(0.3%)	0	(0.0%)	4	(0.3%)	P = 0.7811
Steroid Use (Within 30 Days) (N)	6	(0.4%)	2	(1.2%)	4	(0.3%)	P = 0.0791
Nutritional Support (N)	30	(2.0%)	5	(3.0%)	25	(1.9%)	P = 0.3133
Hematologic Disorder (N)	33	(2.2%)	3	(1.8%)	30	(2.3%)	P = 0.7270

P Value represents tests for significant variation from chi-square analysis of categorical variables and t-tests and Welch tests for continuous factors. Significant p values in bold.
CNS = Central Nervous System

Table 2. Univariate and Multivariate Analysis of Factors Leading to Postoperative Emergency Department Visits

	Univariate Analysis		Multivariate Analysis	
	OR (95% CI)	P value	OR (95% CI)	P value
Hispanic Ethnicity	1.06 (0.65-1.66)	0.818	1.21 (0.71-1.96)	0.470
Structural Pulmonary Abnormalities	2.33 (0.92-5.20	0.052	2.87 (0.97-7.59)	0.056
Esophageal/Gastric/Intestinal Disease	1.93 (1.04-3.38)	**0.028**	1.13 (0.46-2.52)	0.786
Ostomy	1.89 (0.97-3.42)	**0.046**	0.94 (0.37-2.20)	0.894
Postoperative Outcomes:				
Postoperative Urinary Tract Infection	8.52 (4.69-15.4)	**<0.001**	6.39 (3.10-12.9)	**<0.001**
Postoperative Sepsis	16.81 (4.39-80.3)	**<0.001**	3.54 (0.45-34.5)	0.231
Superficial Incisional Surgical Site Infection	12.38 (2.04-94.5)	**0.006**	12.3 (1.50-107)	**0.022**
Organ Space Surgical Site Infection	16.42 (1.56-355)	**0.023**	1.55 (0.06-56.9)	0.790
Progressive Renal Insufficiency	5.47 (0.72-33.2)	0.064	0.97 (0.06-9.92)	0.978
Blood Transfusion	8.20 (0.98-68.8)	**0.036**	2.23 (0.11-50.4)	0.606
Unplanned Procedure Related to Anti-reflux Procedure	14.6 (7.37-29.8)	**<0.001**	5.26 (2.07-13.2)	**<0.001**
Unplanned Urinary Catheter (Intermittent or Indwelling)	17.7 (9.47-15.1)	**<0.001**	8.52 (3.88-18.8)	**<0.001**
Cardiac Risk Factors		0.153		0.131
None		Referent		Referent
Minor	2.34 (1.08-4.63)	**0.021**	1.46 (0.55-3.45)	0.417
Major	1.08 (0.37-2.54)	0.876	0.27 (0.06-1.00)	0.072
Prematurity		**0.003**		**0.028**
Full-term		Referent		Referent
25-30 Completed Weeks Gestation	0.63 (0.03-3.18)	0.660	0.31 (0.08-1.94)	0.301
31-34 Completed Weeks Gestation	1.61 (0.60-3.65)	0.292	1.14 (0.34-3.08)	0.811
35-36 Completed Weeks Gestation	3.07 (1.70-5.30)	**<0.001**	2.63 (1.33-4.93)	**0.004**

MP6-08

Parental Perception of Contrast Enhanced Voiding Ultrasonography Urodynamics vs. Fluoroscopic Urodynamics

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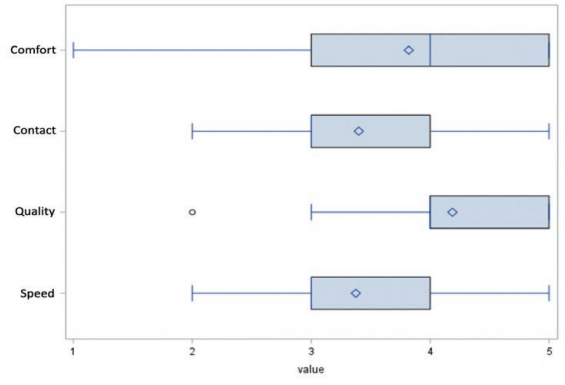
Introduction and Objective: Contrast enhanced voiding ultrasonography (CeVUS) has not been reported to be used during urodynamics (UDS). We reported on its feasibility and aimed to understand how parents perceived their child's experience of undergoing CeVUS during UDS compared to fluoroscopic (fluoro) UDS.

Methods: Children who underwent both fluoro UDS and CeVUS UDS were recruited. Parents completed a questionnaire to evaluate their experience with both studies. Demographics including gender, age at study, and sedation use were collected to account for differences in perception. Statistical analysis was performed.

Results: 47 patients were included: 28 girls, 19 boys. The mean age at fluoro UDS was significantly lower than age at CeVUS (3.1 vs 8.4 years, p<0.0001). No patients required sedation for either study.
47 parents (100%) were satisfied with their CeVUS experience; 42 parents (89%) preferred CeVUS, 3 (6%) preferred fluoro UDS. Parents perceived CeVUS to be more comfortable (69%) and produce better results (66%) than fluoro UDS. Contact with child and speed were felt to be similar between the 2 studies (Fig 1). 22 parents (47%) specifically noted no radiation as the reason why they preferred CeVUS over fluoro.
Those who preferred fluoro UDS underwent CeVUS UDS at an older age than those who preferred CeVUS UDS (15.0 vs. 8.3 years, p=0.03). The age at fluoro UDS was similar for the 2 preference groups (4.8 years [fluoro pref] vs. 3.1 years [CeVUS pref], p=0.35).

Conclusions: The majority of parents preferred CeVUS over fluoro UDS. CeVUS was perceived to be more comfortable and provide better results. Many parents highlighted no radiation as a factor in preference of CeVUS over fluoro. Older age at time of CeVUS UDS may have influenced fluoro UDS preference.

Figure 1: Likert scale metrics comparing fluoroscopic UDS to ceVUS UDS



Key:
Comfort: 1- Very uncomfortable compared to fluoro UDS, 2- Uncomfortable compared to fluoro UDS, 3- Same as fluoro UDS, 4- Comfortable compared to fluoro UDS, 5- Very comfortable compared to fluoro UDS
Contact: 1- No contact with my child compared to fluoro UDS, 2- Less contact with my child compared to fluoro UDS, 3- Equal contact with my child, 4- More contact with my child compared to fluoro UDS 5- Significant contact with my child compared to fluoro UDS
Quality: 1- Poor quality results compared to fluoro UDS, 2- Lesser quality results compared to fluoro UDS, 3- Same as fluoro UDS, 4- Better quality results compared to fluoro UDS, 5- Great results compared to fluoro UDS
Speed: 1- Very slow compared to fluoro UDS, 2- Slower compared to fluoro UDS, 3- Same as fluoro UDS, 4- faster compared to fluoro UDS, 5- Very fast compared to fluoro UDS

MP6-09

Perioperative Opioids Prescribing after Pediatric Urology Procedures is Associated With Persistent Opioid Use Disorder - A Large Claims Database Analysis

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Introduction and Objective: Despite increased cognizance of the detrimental effects of opioid exposure, opioids continue to be prescribed by pediatric surgeons for a variety of inpatient and outpatient procedures. This study aimed to assess the risk of persistent opioid use associated with various pediatric urologic procedures.

Methods: The TriNetX LLC Diamond Network was queried for patients aged 13 to 21 years who underwent six urologic procedures (pyeloplasty, hypospadias repair, inguinal hernia repair, inguinal orchiopexy, hydrocelectomy, or circumcision) and created cohorts of patients who were or were not prescribed postoperative opioids. Propensity matched scoring was performed for age, race/ethnicity, psychiatric diagnoses, and preoperative pain diagnoses. The primary outcome was new persistent opioid use, defined as new opioid use 3-9 months after index procedure without another surgery requiring anesthesia during the post-operative timeframe.

Results: Overall, we identified 32,789 patients of whom 66.0% received a perioperative opioid prescription. After propensity score matching, 18, 416 patients were included: 197 for pyeloplasty, 469 for hypospadias repair, 1,818 for inguinal hernia repair, 2,664 for inguinal orchiectomy, 534 for hydrocelectomy, and 3,526 for circumcision. Overall, 0.41% of patients who did not receive perioperative opioids developed new persistent opioid use, whereas 1.69% of patients who received perioperative opioids developed new persistent opioid use (p<0.05). Patients who received perioperative opioids had statistically higher odds of developing new persistent opioid use after hypospadias repair (Risk Ratio (RR): 17.0; 95% Confidence Interval (CI): 2.27-127.2), inguinal orchiectomy (RR: 3.46; 95% CI: 1.87-6.4), inguinal hernia repair (RR: 2.18; 95% CI: 1.07-4.44), and circumcision (RR: 4.83; 95% CI: 2.60-8.98). There was no significant risk of developing new persistent opioid use with prescription of perioperative opioids following pyeloplasty or hydrocelectomy.

Conclusions: We found that the use of perioperative opioids in several pediatric urological procedures is associated with a significant risk of developing new persistent opioid use.

MP6-10

Contralateral Descended Testicle in the Setting of Testicular Nubbin: To Pex It or Not, That is The Question

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Introduction and Objective: Testicular nubbins (TN) or vanishing testicles (VT) occur as a result of perinatal vascular accident. There is no consensus on the need for contralateral orchiopexy (CLO) when TNs are encountered during surgical exploration for undescended testicles (UDT). However, there is lifetime risk for testicular torsion in a solitary normally descended testicle, which makes CLO a reasonable approach in this setting if it has minimum risk of complications. We reviewed our experience of TN/VT to determine the risk of injury/complications when performing CLO.

Methods: All pediatric patients < 18 years who underwent surgical exploration for UDT with a finding of TNs /VT were identified and surgical outcomes were recorded. We compared the rate of complications in patients who underwent CLO at time of surgical exploration with those patients who only underwent exploratory surgery.

Results: There were 589 patients who underwent orchiopexy between February 2013 and December 2021. A total of 54 patients were identified as having TN/VT and were included in this analysis. The median age at time of exploration was 16 months (IQR 9-32.5), and median follow-up was 2 months (IQR 1-3). CLO at the time of surgical exploration was performed in 38/54 (70.4%) patients (group1), while 16/54 (29.6%) patients (group 2) underwent surgical exploration only. There were no cases of contralateral testicular atrophy or hematoma noted during follow-up for group 1. However, there were 2/16 (12.5%) surgical site infections in group 2 compared with 2/38 (5.3%) in group 1 (p=0.36). There were no intraoperative complications among the entire cohort.

Conclusions: Contralateral orchiopexy at the time of surgical exploration in the setting of testicular nubbin/vanishing testicle is a safe procedure. This procedure may be considered by pediatric urologists to eliminate the risk of future torsion in the remaining solitary testicle.

MP6-11

The Elusive Testes: Are Urologists Missing Palpable Testes on Physical Exam?

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Introduction and Objective: Undescended testis (UDT) is a common congenital anomaly found in up to 45% of preterm births and up to 4.6% of full-term male neonates. Laparoscopic abdominal orchidopexy is recommended for non-palpable testes. When diagnostic laparoscopy reveals no intraabdominal testis, the optimal approach is unclear. We hypothesize that groin or scrotal exploration performed in this setting will find viable testis tissue or viable parenchyma that justifies proceeding with an inguinal or scrotal exploration in all cases.

Methods: We retrospectively reviewed pediatric patients with UDT that underwent a laparoscopic surgery from February 2015 to October 2021. Approaches were categorized as diagnostic laparoscopy, laparoscopic one- or two-stage Fowler Stephens orchiopexy, and simple laparoscopic orchiopexy. Data on demographics, co-morbidities, intraoperative findings and technique, and postoperative outcomes were collected and analyzed using the statistical software STATA.

Results: Our cohort included 235 patients with non-palpable testis (Figure 1). 61 boys (26%) underwent diagnostic laparoscopy showing vas and vessels exiting through the internal ring, and groin exploration found 24 (39%) viable testes leading to an inguinal orchiopexy, 4 (6.5%) scrotal orchiopexies and 26 (42.6%) testicular nubbins leading to orchiectomy. Of those who had an orchiectomy, 15 (57.7%) underwent contralateral septopexy which appeared to be related to surgeon preference.

Conclusions: When diagnostic laparoscopic exploration for UDT found no abdominal testis, open inguinal exploration found viable testis in the majority of cases. When a testicular nubbin was found and removed, 16.7% had viable testicular parenchyma raising the theoretical possibility of future malignancy. This study suggests that visualization of spermatic cord structures exiting the internal ring at time of laparoscopy should prompt inguinal exploration, followed by orchiopexy for viable testis and orchiectomy of nubbins.

Figure 1. Total cohort non-palpable testes and surgical approaches. Our study focuses on Diagnostic Laparoscopy.

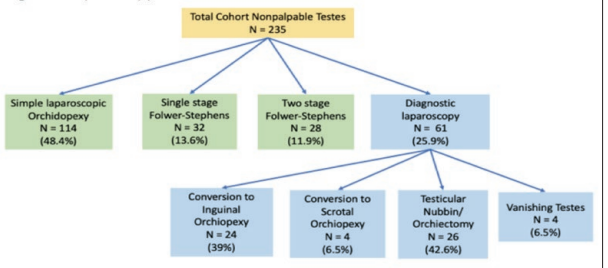

Table 1. Non palpable testes, Diagnostic laparoscopy	Diagnostic Lap N = 61
Conversion to inguinal orchiopexy	24 (39.3%)
Conversion to scrotal orchiopexy	4 (22.9%)
Testicular nubbin	26 (42.6%)
Vanishing testes	4 (4.9%)
Ectopic testes	2 (3.3%)
Contralateral septopexy	35 (57.3%)
Follow up, (median IQR) months	8.3 (4.4-19.1)

MP6-12

Effect of Initial Management Strategy for Ureterocele on the Timing of Eventual Major Reconstructive Surgery: A Survival Analysis

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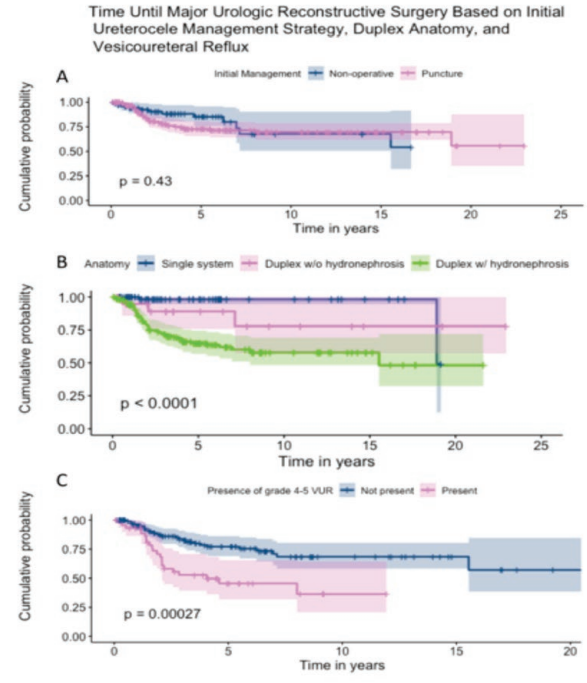
Introduction and Objective: While many pediatric patients with ureteroceles will ultimately need reconstructive surgery regardless of management strategy, we hypothesized that ureteroceles initially managed non-operatively would not require reconstruction sooner than those undergoing incision. We present updated follow up from our pediatric ureterocele cohort investigating the effects of age at presentation, sex, comorbidities, ectopic insertion, duplex system, and baseline primary ipsilateral vesicoureteral reflux (VUR) on timing of reconstructive surgery.

Methods: Patients with ureteroceles treated with initial puncture or non-operatively from 2010-2020 were included in this single-institution retrospective study. Patients with absent ipsilateral kidney were excluded. Demographics and ureterocele characteristics were compared using the Kruskal-Wallis test for continuous variables and Fisher exact or Pearson Chi-square for categorical variables. Kaplan-Meier survival curves were generated to estimate the cumulative incidence of major reconstructive surgery from birth until most recent follow up, and groups compared with a log rank test. Cox regression was performed to assess effects of individual clinical variables on timing of surgery.

Results: Of 242 ureteroceles in 228 patients, 95 (39%) were male, 116 (48%) had at least one comorbidity, 77 (44%) had primary ipsilateral VUR, 164 (68%) had a duplex system, 32 (17%) had an ectopic ureterocele, 170 (70%) were managed with puncture, and 72 (30%) were managed nonoperatively. More patients in the puncture group underwent major urologic reconstructive surgery (24% vs. 17%, P = 0.23), with no significance found between time to reconstruction for non-operative management and puncture (Figure 1A). Cox regression predicted earlier intervention for patients with duplex systems with hydronephrosis and high-grade reflux (Figures B & C).

Conclusions: Ureteroceles initially managed non-operatively do not appear to require major urologic reconstructive surgery sooner than those undergoing initial puncture

Figure 1



Kaplan-Meier curves are pictured above with P-values from the log-rank test. Major reconstructive surgery included ipsilateral heminephrectomy, ureteroureterostomy, ureteral reimplant with or without bladder neck reconstruction, ureterocele excision, and nephroureterectomy.

MP6-13

Tailored Treatment of Childhood Renal Tumors Using Artificial Intelligence to Predict Tumor Response to Preoperative Chemotherapy

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Introduction and Objective: Childhood renal tumors (CRT) don't respond similarly to preoperative chemotherapy (PC). We sought to create a computer-aided prediction system to help identify tumors that are less likely to respond to PC based on pre-therapy contrast-enhanced CT (CECT).

Methods: A tertiary center database was reviewed for children <18 years diagnosed with Wilms' tumor and received PC between 2000-2021. Patients were excluded if pre- and post-PC CECT could not be retrieved. According to the Response Evaluation Criteria in Solid Tumors, >30% tumor size reduction was considered a favorable response. To create the prediction model, the following steps were followed: tumor delineation in the three contrast phases; extraction of shape, texture and functionality-based features; integration (fusion) of the features extracted and selection of the prediction model with the highest diagnostic performance. K-fold cross-validation allowed all data parts to be presented in the training and testing phases.

Results: A total of 63 tumors with a mean patient age of 4.31±2.82 years were used to train and test the prediction model. Patients were treated with 6-8 weeks of vincristine/actinomycin-D combination. Favorable response to PC was observed in 46 (75.4%) tumors. Among other machine learning classifiers, support vector machine had the best diagnostic performance with 95.24% overall accuracy, 95.65% sensitivity of and 94.12% specificity.

Conclusions: Based on pre-therapy CECT, computer-aided prediction systems can help identify CRT that are less likely to respond to PC with excellent accuracy. These tumors can be offered upfront surgery, and subsequently avoid PC disadvantages and individualize treatment plans.

MP6-14– video

Robotic Pyeloplasty in Malrotated Kidneys in a Pediatric Patients

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MP6-15– video

Lymphatic Sparing Laparoscopic Varicocelectomy in Pediatric Patients Using Indocyanine Green (ICG) And Immunofluorescence Imaging: A Case Series

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