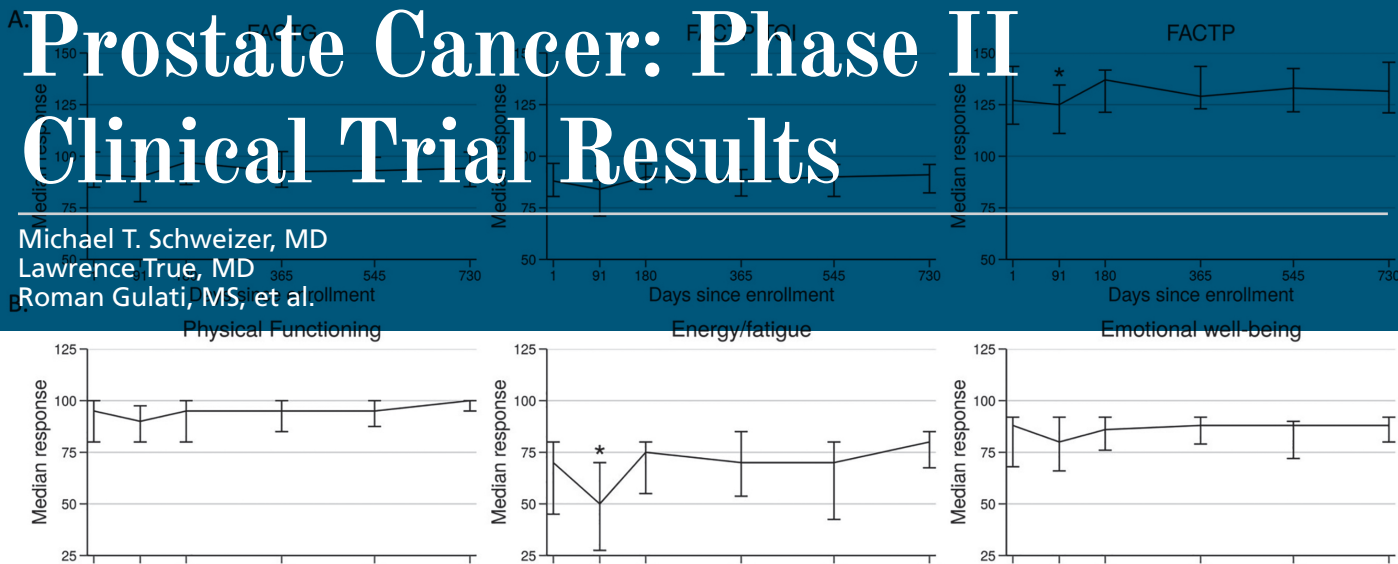




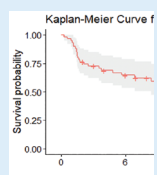
THE OFFICIAL NEWSMAGAZINE OF THE AMERICAN UROLOGICAL ASSOCIATION

## Pathological Effects of Apalutamide in Lower-risk Prostate Cancer: Phase II Clinical Trial Results

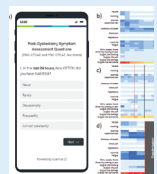
Michael T. Schweizer, MD  
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Roman Gulati, MS, et al.



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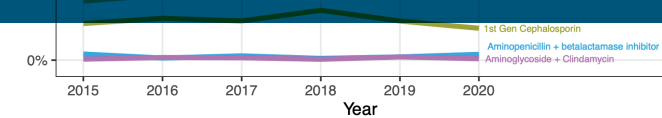
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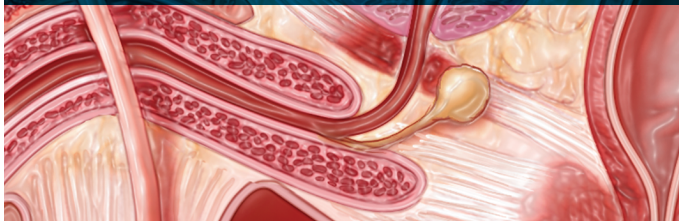
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Aaron Brant, MD  
Adam Calaway, MD, MPH  
Douglas Scherr, MD  
Jonathan E. Shoag, MD, PhD



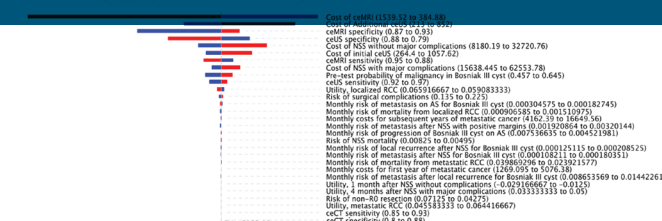
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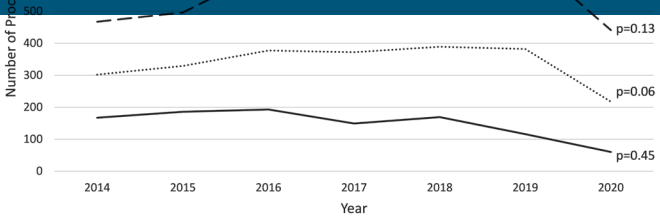
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## Have You Read?

### Craig Niederberger, MD, FACS

College of Medicine and College of Engineering,  
University of Illinois at Chicago

**Zhu A, Andino J, Daignault-Newton S, Chopra Z, Sarma A, Dupree JM. What is a normal testosterone level for young men? Rethinking the 300 ng/dL cutoff for testosterone deficiency in men 20-44 years old. *J Urol.* 2022;208(6):1295-1302.**

*Special thanks to Drs Grace Chen and Samuel Ohlander at the University of Illinois at Chicago.*

Does it make sense to use the same value for testosterone deficiency across men of all ages? The current AUA Guidelines threshold of 300 ng/dL is based on studies of men over the age of 45 in whom testosterone deficiency and its symptoms more commonly manifest. However, testosterone levels clearly decline with age, meaning younger men who experience pathological symptoms of low testosterone but have testosterone levels just above a simple number for normal may be underdiagnosed. These authors from the University of Michigan convincingly argue that by tailoring the testosterone threshold to more accurately reflect the range of values seen in younger men, we may better serve a significantly overlooked portion of the male population.

In this study, the testosterone levels of over 1,000 healthy men from ages 20 to 44 years were collected and analyzed. This population was further stratified into cohorts at 5-year intervals. Testosterone predictably declined with age, with the optimal threshold for the 20- to 24-year-old cohort being 409 ng/dL and that for the 40- to 44-year-old cohort being 350 ng/dL. It is notable that even the lowest testosterone value collected in this population was at least 50 ng/dL above the current AUA number. It's

**“It's time for practices using a straight 300 ng/dL threshold to adjust their diagnostic criteria to better reflect age-specific changes in testosterone, with careful consideration given to the fertility desires of those reproductive-age men who merit treatment.”**

time for practices using a straight 300 ng/dL threshold to adjust their diagnostic criteria to better reflect age-specific changes in testosterone, with careful consideration given to the fertility desires of those reproductive-age men who merit treatment.

**Hall MK, Thiel J, Dunmire B, et al. First series using ultrasonic propulsion and burst wave lithotripsy to treat ureteral stones. *J Urol.* 2022;208(5):1075-1082.**

*Special thanks to Drs Graham Hale and Daniel Garvey at the University of Illinois at Chicago.*

It's no secret that urologists love new technology, especially when it promises to be less invasive and easier to use. Portable burst wave lithotripsy and ultrasonic propulsion to treat urinary calculi augurs just that. This study asked whether the system can be used in awake and unanesthetized patients in the

emergency department or in an office setting.

The authors reported the efficacy and safety of using a 10-minute burst wave lithotripsy and ultrasonic propulsion treatment cycle in 29 awake and unanesthetized patients. They observed stone displacement in 66% of patients, including 2 that were repositioned into the bladder. By 2-week follow-up, they achieved a distal ureteral stone clearance rate of 86% with a mean size of 4.8 mm in an average of 3.9 days. Stone fragmentation was confirmed in 38% of patients, although this may be underestimated. All subjects tolerated the procedure well, and adverse events were mild and self-resolved within 24 hours, including gross hematuria in 24% and skin redness in 17%.

Our future may well portend a portable ultrasound-based platform to treat ureteral stones at initial presentation without anesthesia. Excluding obvious ultrasound limitations, this modality would represent a welcome addition to stone treatment paradigms. There are those who would caution urologists to embrace this modality or risk losing it to other specialties, but I'd put my bets on the warm place new technology rests in our hearts.

**Gomez-Garberi M, Sarrio-Sanz P, Martinez-Cayuelas L, et al. Genitourinary lesions due to monkeypox. *Eur Urol.* 2022;82(6):625-630.**

*Special thanks to Drs Ashraf Selim and Daniel Garvey at the University of Illinois at Chicago.*

Just when there's light at the end of the tunnel of COVID-19, along comes a disease caused by the monkeypox virus. First reported in humans in 1970, it is endemic in certain parts of Africa. But it has recently spread well beyond with

→ Continued on page 3

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## HAVE YOU READ?

→ Continued from page 2

31,000 cases reported in nonendemic locales just since May 2022. This review charted the course of 14 males with the disease who had no known travel to endemic countries.

All patients presented with cutaneous or mucosal involvement with papules, vesicles, or pustules which evolved into scabs, taking as long as weeks to appear. Penile lymphedema and inguinal lymph-

adenopathy may also be present. In almost half the patients, the initial symptoms were related to the pubic and scrotal areas, alerting urologists to include monkeypox in the differential diagnosis of sexually transmitted diseases, and monkeypox infection coexisted with other sexually transmitted diseases in 43%. The incubation period for monkeypox is between about

4 and 17 days, and case contacts should be isolated for 21 days. Regarding transmission, two-thirds of the patients were males having sex with men, 15% from heterosexual intercourse, and a similar number having no sexual contact in the weeks before symptom onset.

The diagnosis is made by a polymerase chain reaction test from swabs of dermal lesions or the rec-

tum if the skin is unaffected. Treatment is mainly symptomatic and with antibiotics if bacterial superinfection is found. Surgery may be required to drain collections of pus. As a large number of cases have been reported worldwide in the last few months, urologists should be on the lookout for monkeypox to diagnose, treat, and prevent its spread. ■

## SPECIALTY/SECTION MEETINGS

## Southeastern Section of the AUA: 2023 Annual Meeting and Section Update

S. Duke Herrell, MD, FACS

SESAUA President, 2022-2023

Vanderbilt University Medical Center, Nashville, Tennessee

We are excited to invite any interested members of the AUA to join us at the 87th Southeastern Section of the AUA (SESAUA) Annual Meeting March 15-18, 2023 at the Ritz-Carlton Amelia Island. The meeting is designed to provide a fantastic educational experience for attendees in a beautiful and relaxing setting. The Ritz-Carlton Amelia Island has recently undergone a spectacular renovation and is stunning. This is a great time to bring the family and spend time recharging on a professional and personal level. We have elected to keep activities and events on-site, as the hotel has exceptional food and entertainment options.

During this past year, I have been honored to serve as SESAUA President. I was able to attend many of our member society meetings and enjoy time and great hospitality in the states in the section, Puerto Rico, and internationally with our colleagues in Panama. It was a unique opportunity to share enthusiasm for the Southeastern Section and to learn more about the state and other societies that make up our section and the important roles they play in our professional lives.



From my perspective, the amazing quality of the SESAUA shines through in these meetings and the SESAUA meetings I have attended over the past 20+ years. I have been struck by the quality of the lectures, presented research, specialty panels, and specialty socioeconomic discussions at each meeting. In addition, the shared bond and honor of caring for our patients and representing our specialty is exemplified at each meeting and by the members of the SESAUA. The SESAUA takes an active role in education for both trainees and practitioners, as well as providing yearly ongoing financial support to humanitarian and volunteerism efforts by residents and members of the section. The SESAUA is also honored to provide opportunities and support to SESAUA urologists who want to serve all of our patients as well as help in the global issues in urological disease. Over

the past years we have created ongoing financial support for international volunteerism activities by SESAUA members through IVU and other humanitarian programs. In addition, we are continuing to sponsor research aimed at addressing some of the urological health issues affecting the underserved patients within our section.

Dr Chad Ritenour (SESAUA Secretary) and Dr David Thiel (Chair of the Science and Education Committee) are putting together another exciting and informative SESAUA scientific program with renowned experts covering all areas of urology. Some highlights this year include invited speakers and lectures: Mohammad Allaf—Presidential Lecture: What Have Our Patients Taught Us About Kidney Cancer in the Last 20 Years?; Gary Lemack—Ballenger Memorial Lecture: When Neurologic Conditions Get in the Way of the Bladder; Michael Maniaci—Ambrose Reed Lecture: Hospital Care at Home—New Models; and Mathew Sorensen—State-of-the-Art Lecture: Is There Value in Making Your Patient “Stone Free”? We will be welcoming a number of additional expert speakers and panels that will address topics of timely importance to all urologists in the AUA across

a variety of clinical and socioeconomic topics.

We continue to support our SESAUA resident attendees with stipends to attend the SESAUA Annual Meeting with a focus on research presentations, participation, and foundational opportunities to create new leaders and members for the society in the future. Fun activities such as the annual resident Quiz Bowl, pyelogram hour, and resident debates will be followed by a variety of social activities at the meeting.

Many thanks to the AUA, SESAUA Executive Committee, and the SESAUA Board of Directors for their help and support in making my presidential year and time on the SESAUA Executive Committee such a rewarding experience. I had the honor and opportunity to work with many of our past and future leaders and have developed many close and ongoing friendships during this time. Special thanks to Dr Steve Petrou and Pam Petrou for serving as our local arrangements couple for the meeting in Amelia Island. Lastly, our section owes continued thanks to WJ Weiser and Associates for their tireless work and planning with attention to detail to keep the SESAUA the largest and a leading premier section of the AUA. ■

## JU INSIGHT

# Pathological Effects of Apalutamide in Lower-risk Prostate Cancer: Phase II Clinical Trial Results

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Schweizer MT, True L, Gulati R, et al. Pathological effects

of apalutamide in lower-risk prostate cancer: results from a phase II clinical trial. *J Urol.* 2023;209(2):354-363.

## Study Need and Importance

Active surveillance (AS) is a strategy aimed at mitigating the overtreatment of lower-risk prostate cancer. AS has been shown to be safe, and this approach allows many patients to avoid surgery or radiation therapy; however, conversion to local treatment still occurs in approximately 20%-50% of patients. As such, medical approaches to decrease attrition from AS are appealing. To that end, we conducted a clinical trial to assess the pathological effects of 3 months of apalutamide in men followed on AS.

## What We Found

Twenty-three patients enrolled and 22 had repeat biopsy after 90 days of apalutamide. Overall, 59% of study subjects had no residual cancer on post-treatment

“Overall, 59% of study subjects had no residual cancer on post-treatment biopsy, with a median time to first positive biopsy of 364 days (see Figure).”

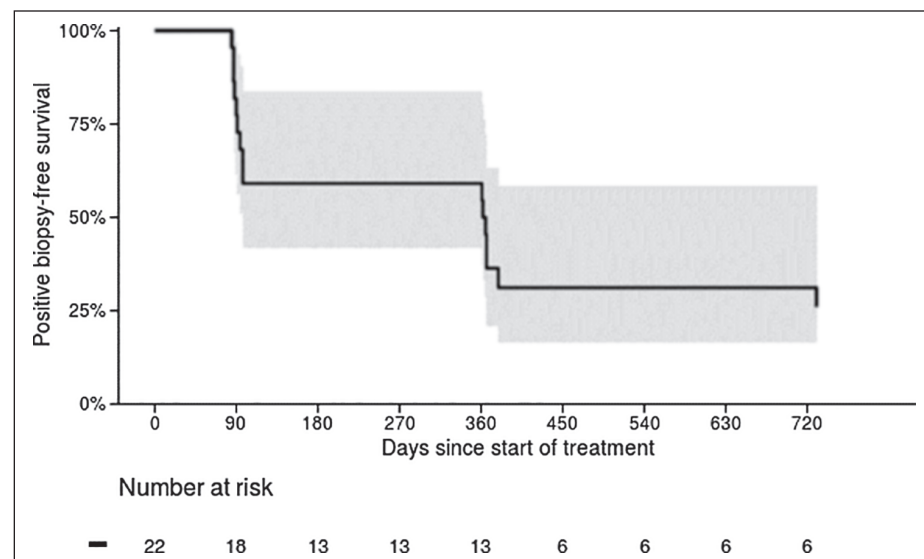


Figure. Positive biopsy-free survival with 95% confidence limits (shaded gray areas).

biopsy, with a median time to first positive biopsy of 364 days (see Figure). The impact of apalutamide on quality of life was minimal and transient. Decipher, a genomic risk classifier, revealed that those with higher baseline genomic risk were more likely to have a negative biopsy post-treatment.

## Limitations

This study was designed to evaluate for preliminary evidence that apalutamide was effective in men enrolled in AS. While we acknowledge that a negative biopsy is not a validated proxy for long-term outcomes, this was felt to be a reasonable endpoint given that the majority of AS programs only recommend local therapy following pathological reclassification. We also acknowledge that the small sample size of this study was a limitation.

“Short course apalutamide was associated with a high negative biopsy rate in men enrolled in AS.”

## Interpretation for Patient Care

Short course apalutamide was associated with a high negative biopsy rate in men enrolled in AS. Notably, the observed pathological effects were similar to those reported in a separate study testing long course (ie, 12 months) of enzalutamide in a similar patient population. Importantly, the impact on quality of life was minimal and transient. Based on these results, follow-up studies appear justified. ■

## JU INSIGHT

# National Adherence to Guidelines for Antimicrobial Prophylaxis for Patients Undergoing Radical Cystectomy

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Prunty M, Rhodes S, Rivero M-J, et al. National adherence to guidelines for antimicrobial prophylaxis for patients undergoing radical cystectomy. *J Urol*. 2023;209(2):329-336.

## Study Need and Importance

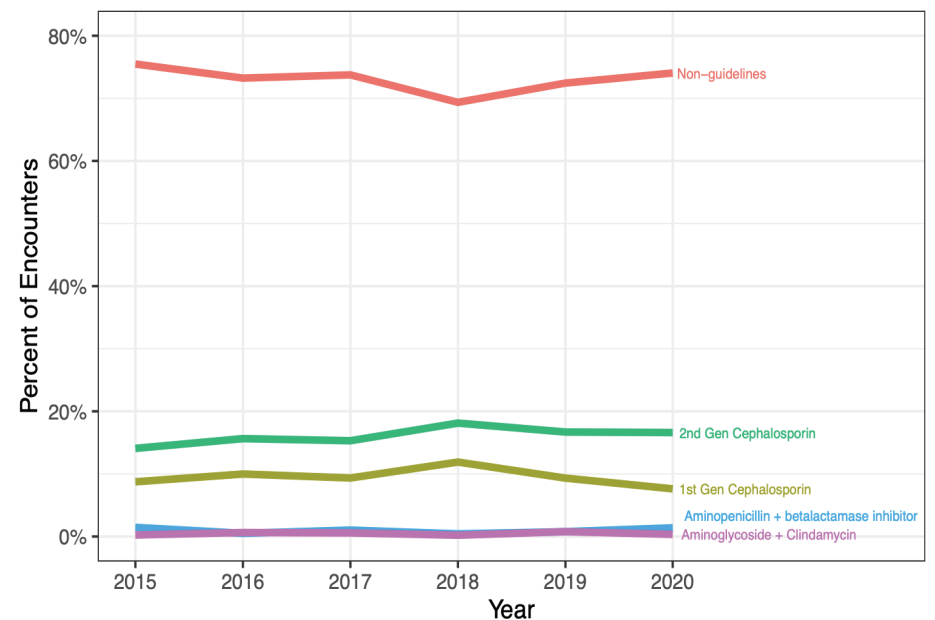
The American Urological Association

recommends antimicrobial prophylaxis to prevent infectious complications in patients undergoing radical cystectomy with ileal conduit for bladder cancer. Here, we evaluate adherence to antimicrobial prophylaxis guidelines from 2015-2020 using a large national database. In addition, we evaluated the association between antimicrobial use and postoperative infection during the index admission after cystectomy.

## What We Found

Among 6,708 patients undergoing cystectomy with ileal conduit, only 28% were given prophylaxis according to AUA guidelines; 1.8% of patients received an antifungal and 37% received extended duration prophylaxis beyond postoperative day 1 (see Figure). Patients who received guideline-based prophylaxis were less likely to be diagnosed with a urinary tract infection, pyelonephritis, bacterial infection, or pneumonia. After adjusting for age, race, insurance, hospital, and provider characteristics, nonguideline antibiotic prophylaxis was associated with increased odds of infectious events.

“Patients who received guideline-based prophylaxis were less likely to be diagnosed with a urinary tract infection, pyelonephritis, bacterial infection, or pneumonia.”



**Figure.** Trends in all antibiotic use over time for radical cystectomy with ileal conduit based on antibiotic class. Over time, 1st and 2nd generation (Gen) cephalosporins are consistently the most commonly administered antibiotics.

## Limitations

This retrospective study uses the Premier Healthcare Database, therefore selection and measurement biases exist. The database queries are limited to conditions and medications coded for billing purposes and are subject to coding errors and misclassification. We are unable to capture data on preoperative urine cultures or oral antibiotics administered on an outpatient basis to determine the reason for deviating from guidelines.

## Interpretation for Patient Care

Most patients do not receive guideline-recommended antibiotic prophylaxis when undergoing radical cystectomy with conduit, largely because patients receive antibiotics longer than the guidelines recommended. We found that guideline-based

“Most patients do not receive guideline-recommended antibiotic prophylaxis when undergoing radical cystectomy with conduit, largely because patients receive antibiotics longer than the guidelines recommended.”

prophylaxis was associated with a 25% decrease in the odds of infectious complications. These data support the current AUA guidelines and suggest the need for outreach to improve guideline adherence. ■

## JU INSIGHT

# Cystatin C Is Sensitive in Kidney Dysfunction Detection in Nonweight-bearing Patients

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Werneburg GT, Hettel D, Jeong S, Nemunaitis G, Taliercio JJ, Wood HM. Estimated glomerular filtration rate using cystatin C is a more sensitive marker for kidney dysfunction in nonweight-bearing individuals. *J Urol.* 2023;209(2):391-398.

## Study Need and Importance

Serum creatinine is the most used endogenous biomarker for calculating renal function. Creatinine has been primarily validated in the ambulatory (weight-bearing) population. Creatinine levels are altered by muscle mass, and whether creatinine accurately estimates renal function in those with low muscle mass, such as the nonweight-bearing (NWB) population, is unclear. Those who are NWB also are commonly afflicted with neurogenic lower urinary tract dysfunction. These individuals may be at risk of upper tract deterioration, and often require renal function surveillance. We sought to compare renal function by estimated glomerular filtration

rate (eGFR) calculated using creatinine vs cystatin C, which is a muscle-independent renal function biomarker.

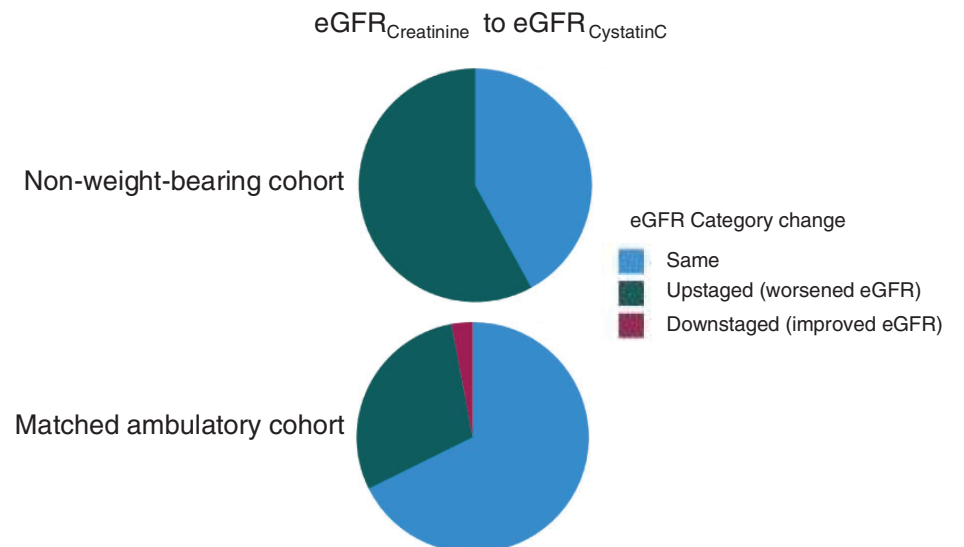
## What We Found

eGFR was significantly lower when calculated using cystatin C relative to creatinine, and the differences were greater in the NWB population than in a matched ambulatory control group. Fifty-eight percent of the NWB group with evidence of renal dysfunction on imaging or urinalysis was reclassified into a lower eGFR category (corresponding to higher chronic kidney disease stage) when using cystatin C relative to creatinine (see Figure).

## Limitations

Limitations of the current study are its retrospective nature and

“Fifty-eight percent of the NWB group with evidence of renal dysfunction on imaging or urinalysis was reclassified into a lower eGFR category (corresponding to higher chronic kidney disease stage) when using cystatin C relative to creatinine (see Figure).”



**Figure.** Creatinine vs cystatin C equation performance for nonweight-bearing patients (top) and matched controls (bottom) with radiographic or urinalysis evidence of kidney dysfunction. Pie charts indicate proportions of patients in whom estimated glomerular filtration rate (eGFR) stage changed or remained the same based on comparison of indicated equations used for calculation, as indicated on the left of the Figure. “Upstaged” (teal) refers to patients who were reclassified into a category of lower eGFR (poorer estimated renal function), “Downstaged” (red) refers to patients who were reclassified into a category of higher eGFR (improved estimated renal function), and “Same” (blue) refers to individuals in whom the classification did not change. eGFR stages reflected those of chronic kidney disease stages:  $>90$  mL/min/1.73 m<sup>2</sup>, 60-89 mL/min/1.73 m<sup>2</sup>, 30-59 mL/min/1.73 m<sup>2</sup>, 15-29 mL/min/1.73 m<sup>2</sup>,  $<15$  mL/min/1.73 m<sup>2</sup>.

the lack of comparison to inulin clearance or other gold standard glomerular filtration rate measure. The use of International Classification of Diseases codes as a proxy for NWB status is also a limitation, as some codes are heterogeneous and may be associated with variable weight-bearing status. Other low muscle mass populations, such as those with cachexia or amputations, were not included in this study, and the generalizability to these populations warrants future investigation.

## Interpretation for Patient Care

Cystatin C was more sensitive for the detection of kidney dysfunction in NWB individuals. Identifying kidney dysfunction in such individuals earlier may lead to more rapid nephrological referral, expedite urological interventions to avoid further kidney damage, avoid nephrotoxic studies (eg, iodinated contrast) and medications (eg, antibiotics), and help with pharmaceutical dosing. ■

“Cystatin C was more sensitive for the detection of kidney dysfunction in NWB individuals.”

Identifying kidney dysfunction in such individuals earlier may lead to more rapid nephrological referral, expedite urological interventions to avoid further kidney damage, avoid nephrotoxic studies (eg, iodinated contrast) and medications (eg, antibiotics), and help with pharmaceutical dosing. ■

## UPJ INSIGHT

# Cost-effectiveness of Ultrasound for Diagnosis and Surveillance of Complex Cystic Renal Lesions

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Oh A, Bhardwaj L, Cacciamani G, Desai MM, Duddalwar VA. Cost-effectiveness of contrast-enhanced ultrasound for diagnosis and active surveillance of complex cystic renal lesions. *Urol Pract.* 2023;10(1):10-19.

## Study Needs and Importance

Cystic renal masses are extremely common incidental findings on imaging. A significant proportion of these remain indeterminate and in appropriate clinical circumstances may be managed by active surveillance. Recent literature suggests that even these complex cysts are often indolent and slow growing. Precise stratification of these renal cysts is critical for active surveillance as misdiagnosis can lead to underdiagnosis or overtreatment with potential for harm to the patient and improper financial resource distribution and utilization.

“When compared to CT and MRI, ceUS resulted in the greatest quality-adjusted life years.”

tion. The aim of this study was to determine the cost-effectiveness of contrast-enhanced ultrasound (ceUS), a promising imaging modality for the active surveillance of complex renal masses compared to CT and MRI.

## What We Found

Our analysis found that ceUS is a cost-effective imaging modality for active surveillance of complex renal masses in 60-year-old patients. When compared to CT and MRI, ceUS resulted in the greatest number of quality-adjusted life years. We considered multiple scenarios where the rates of active surveillance varied from 10%–100% and found that ceUS became more cost-effective as the rates increased (see Table).

## Limitations

Due to the nature of cost-effectiveness analyses, simplifications and estimations from the medical literature are made to model complex clinical scenarios. For our analyses, we assumed

Table. Base-case Analysis for 60-Year-old Patient—Bosniak III

	Strategy	Total cost, \$	QALYs	ICERs
10% Active surveillance	ceCT	14,394.00	7.9141	—
	ceUS	14,647.06	7.9436	8,596.91
	ceMRI	15,072.11	7.8953	Dominated
20% Active surveillance	ceCT	13,988.96	7.8651	—
	ceUS	14,234.95	7.8941	8,491.19
	ceMRI	14,632.95	7.8286	Dominated
50% Active surveillance	ceCT	12,734.68	7.7099	—
	ceUS	12,959.54	7.7370	8,304.19
	ceMRI	13,268.73	7.6188	Dominated
100% Active surveillance	ceCT	10,818.87	7.4537	—
	ceUS	11,009.96	7.4782	7,784.41
	ceMRI	11,159.57	7.2732	Dominated

Abbreviations: ceCT, contrast-enhanced computed tomography; ceMRI, contrast-enhanced magnetic resonance imaging; ceUS, contrast-enhanced ultrasound; ICER, incremental cost-effectiveness ratio; QALY, quality-adjusted life year.

the sensitivities and specificities of each imaging modality would be constant despite repeat imaging surveilling of renal masses over time. We assumed the cancer growth kinetics for someone with multiple false-negative results was the same as someone who had one false-negative result. For model simplicity, we assumed that patients who were in metastatic states of cancer were incurable.

## Interpretation for Patient Care

From our results, we believe

“From our results, we believe ceUS can be a viable option for the active surveillance of complex renal masses, especially cystic masses.”

ceUS can be a viable option for the active surveillance of complex renal masses, especially cystic masses. ■

## JU INSIGHT

# Radioisotope-guided Lymphadenectomy for Pelvic Lymph Node Staging in Patients With Intermediate- and High-risk Prostate Cancer (The Prospective SENTINELLE Study)

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**Lannes F, Baboudjian M, Ruffion A, et al. Radioisotope-guided lymphadenectomy for pelvic lymph node staging in**

**patients with intermediate- and high-risk prostate cancer (the prospective SENTINELLE study). *J Urol.* 2023; 209(2):364-373.**

## Study Need and Importance

Two recent randomized controlled trials failed to show any oncological benefits of extended pelvic lymph node dissection (ePLND) over limited pelvic lymph node dissection in patients undergoing radical prostatectomy for prostate cancer (PCa). The perioperative morbidity of pelvic lymph node dissection significantly correlates with the extent of the dissection. The sentinel lymph node biopsy (SLNB) method has been validated to facilitate the detection of occult metastasis in clinically node-negative areas. Early retrospective reports suggest that as a diagnostic tool, SLNB in PCa is almost equivalent to ePLND, with the possibility to detect metastatic nodes located outside the standard ePLND template with less morbidity.

## What We Found

Sensitivity of SLNB method

**“The perioperative morbidity of pelvic lymph node dissection significantly correlates with the extent of the dissection.”**

**Table.** Case Description of 22/162 Men With Lymph Node Metastases

No.	No. of +SLNs	Ratio +SLNs/all +LNs
1	1	1/1
2	1	1/1
3	1	1/1
4	1	1/1
5	1	1/1
6	1	1/1
7	2	2/2
8	1	1/1
9	3	3/3
10	1	1/1
11	2	2/7
12	1	1/1
13	1	1/1
14	3	3/3
15	1	1/1
16	1	1/5
17	1	1/1
18	4	4/6
19	0	0/1
20	1	1/3
21	1	1/1
22	2	2/2

Abbreviations: LN, lymph node; SLN, sentinel lymph node.

to detect lymph node metastases was 0.954, which is much higher than other preoperative staging methods reported such as CT scan, magnetic resonance imaging, prostate-specific membrane antigen positron emission tomography/CT or the 2019 Gandaglia nomo-

**“More than 99% of patients were correctly staged compared to the standard ePLND, with only 1 false-negative case recorded (see Table).”**

gram. More than 99% of patients were correctly staged compared to the standard ePLND, with only 1 false-negative case recorded (see Table). The SLNB method was well tolerated and no complications were reported due to tracer injection or intraoperative use of the gamma probe.

## Limitations

Our clinical trial was not designed to evaluate the long-term oncological outcomes of the SLNB method. Second, there were few pN+ patients in our cohort. Finally, due to the unavailability of a dedicated gamma probe for minimally invasive surgery and the gradual adoption of robotic surgery during the study, we faced difficulties regarding patient inclusion.

## Interpretation for Patient Care

SLNB is an effective method for lymph node staging and has the potential to avoid a significant number of ePLNDs in patients with intermediate- or high-risk localized PCa. ■



## UPJ INSIGHT

# Patterns of Surgical Management of Male Stress Urinary Incontinence: Data From AUA Quality Registry

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**Dani H, Meeks W, Weiss C, Fang R, Cohen AJ. Patterns of surgical management of male stress urinary incontinence: data from the AUA quality registry. *Urol Pract.* 2023;10(1):66-73.**

## Study Need and Importance

Surgical treatment for male stress urinary incontinence (SUI) is underutilized. Prior studies have reported that urethral bulking was the most commonly performed, despite lack of high-quality data supporting its use. There is a need for a contemporary analysis of male SUI practice patterns.

## What We Found

Most patients with male SUI do not receive surgical intervention, and rates of intervention dropped further during the COVID-19 pandemic. Artificial urinary sphincter (AUS) was the most commonly performed procedure for male SUI, followed by urethral sling and then urethral bulking; there

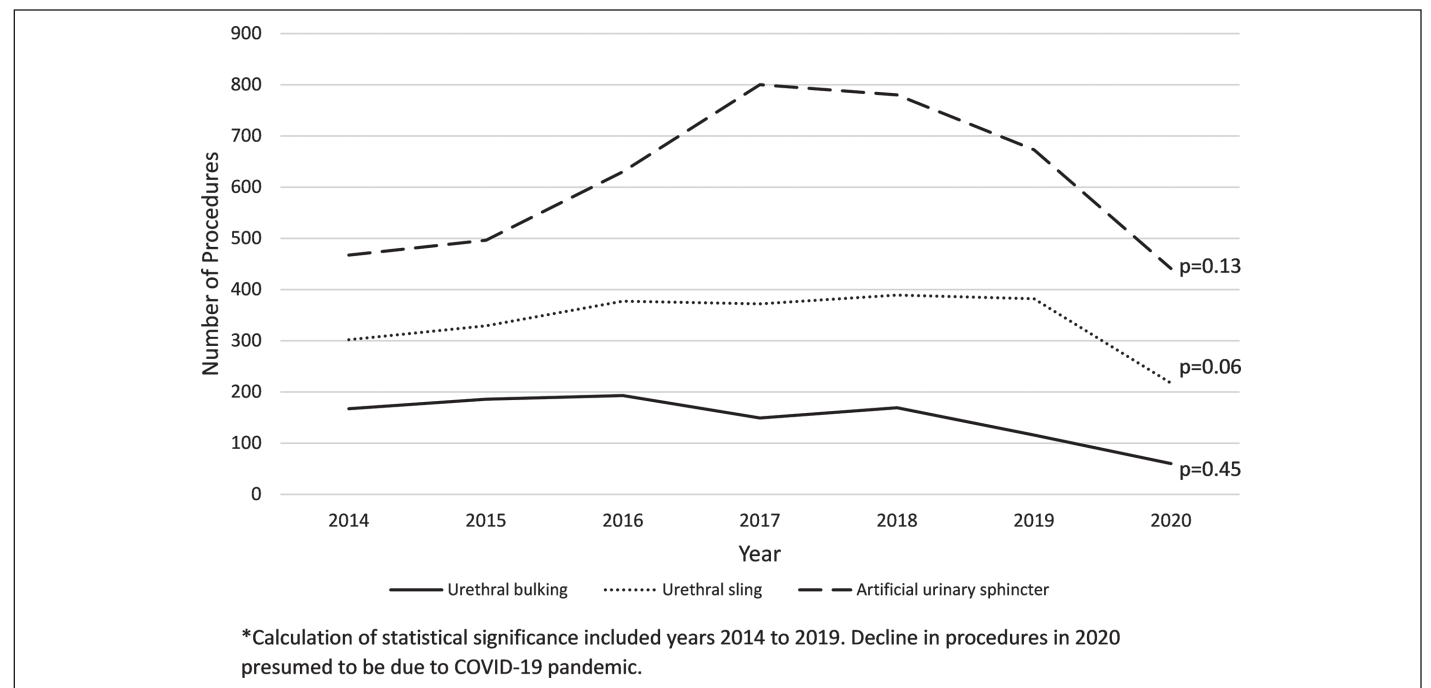


Figure. Trends in stress urinary incontinence procedures from 2014 to 2020.

was no significant change in the volume of each procedure during the study period of 2014 to 2020 (see Figure). A large proportion

**“Patients with a history of radical prostatectomy, urethroplasty, or care at an academic center were more likely to undergo an open surgical procedure (eg, AUS or sling) rather than urethral bulking.”**

of the total urethral bulking was performed by a disproportionately small number of practices. Patients with a history of radical prostatectomy, urethroplasty, or care at an academic center were more likely to undergo an open surgical procedure (eg, AUS or sling) rather than urethral bulking.

## Limitations

The AUA Quality (AQUA) registry does not have granular data available regarding baseline symptoms, efficacy outcomes, and indications for repeat surgery. Furthermore, it is challenging to identify patients who may have received additional surgical treatment for male SUI either prior to entry into an AQUA practice or after departure from an AQUA practice.

**“It is encouraging that utilization of urethral bulking is now lower than that of urethral sling or AUS.”**

## Interpretation for Patient Care

It is encouraging that utilization of urethral bulking is now lower than that of urethral sling or AUS. Data from the AQUA registry can help identify practices and patients more likely to use urethral bulking, thus facilitating further improvement towards evidence-based and guideline-adherent care. ■

## UPJ INSIGHT

# Specialist Care, Metabolic Testing, and Testing Completeness in Veterans With Urinary Stone Disease

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University of Michigan, Ann Arbor

Vahakn Shahinian, MD, MS

University of Michigan, Ann Arbor

**Hsi RS, Valicevic AN, Patel SR, et al. Specialist care, metabolic testing, and testing completeness among U.S. veterans with urinary stone disease. *Urol Pract.* 2023; 10(1):48-57.**

## Study Need and Importance

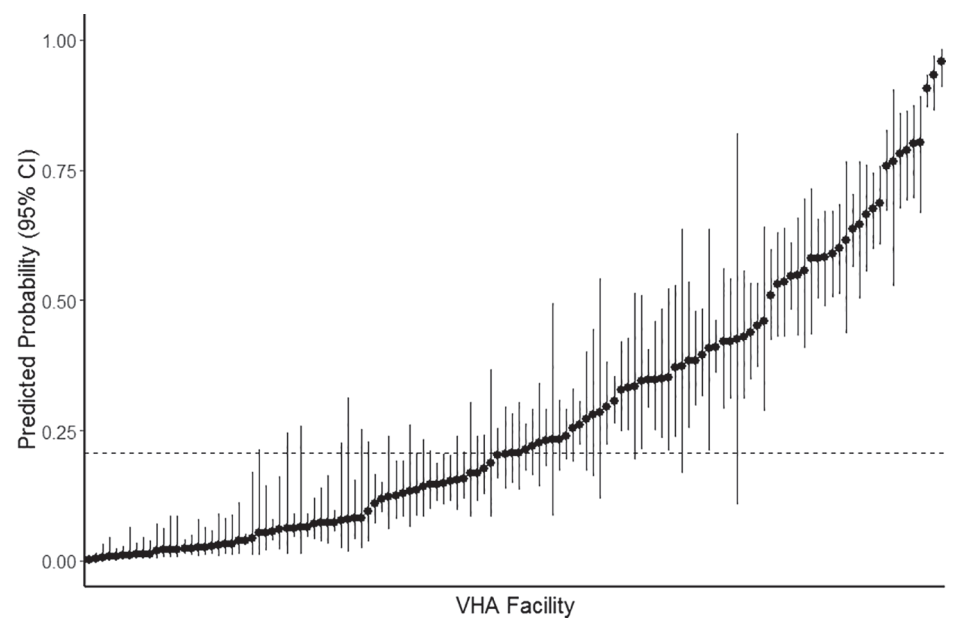
Under contemporary practice guidelines for urinary stone disease (USD) prevention, 24-hour urine testing plays an important role in the management strategy to reduce future recurrence episodes. However, several recent observational studies have reported no differences in rates of recurrent stone events between patients with and without 24-hour testing. While it is possible that clinicians may have difficulty interpreting 24-hour urine results, a plausible explanation is that these studies assumed patients received testing for all components of the 24-hour urine as outlined by clinical guidelines. Therefore, we conducted an

observational study of adults with USD with data from the Veterans Health Administration (VHA) to examine whether testing and testing completeness were associated with facility-level variation in the evaluation for USD prevention.

## What We Found

In this study of U.S. veterans who used the VHA for their USD from 2012 to 2019, we found that 24-hour urine testing rates occurred in approximately 1 in 12 individuals, similar to the testing rate previously reported for those with employer-based insurance. Rates of testing within the VHA declined 2 percentage points over the study interval, despite the introduction of clinical guidelines during it. Additionally, among those receiving 24-hour urine testing, approximately half had complete testing, and this figure increased from approximately 40% in 2012 to 60% in 2019. Finally, we observed that facility level variation significantly contributes to the observed variation independent of patient characteristics (see Figure). Where veterans with USD receive their care strongly influences whether 24-hour urine testing is performed and whether

“Where veterans with USD receive their care strongly influences whether 24-hour urine testing is performed and whether testing includes a full panel of urinary analytes.”



**Figure.** Caterpillar plot of model adjusted predicted probability of complete 24-hour urine testing by Veterans Health Administration (VHA) facility. CI indicates confidence interval. Median predicted probability 0.21.

er testing includes a full panel of urinary analytes.

## Limitations

Administrative data are susceptible to omitted variable bias and misclassification bias. Due to the observational study design, we lack information on granular details that may shed more information on which provider and facility factors relate to when testing is performed and testing completeness. These data are limited to care provided within the Veterans Administration, so care provided (eg, 24-hour urine tests) outside of the Veterans Administration would not be captured.

## Interpretation for Patient Care

Individual facilities contribute a substantial degree to the observed variation in 24-hour urine testing and testing completeness. When 24-hour urine components cannot be ordered together as a panel, providers may need to order each component individually, which can be burden-

“With the widespread use of electronic health records and order entry, panel-based testing can be developed at the facility level, as suggested by our observation of some facilities with very high rates of testing completion.”

some and time intensive. With the widespread use of electronic health records and order entry, panel-based testing can be developed at the facility level, as suggested by our observation of some facilities with very high rates of testing completion. Reducing facility level variation in testing completeness may improve USD preventive care. ■

## JU INSIGHT

# Bladder Outlet Obstruction in Women With Chronic Urinary Symptoms and History of Urethral Sling

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**Ross J, Avvakoumova L, Yassein A, et al. Prevalence and predictors of bladder outlet obstruction in women with chronic urinary symptoms and a history of urethral sling surgery. *J Urol*. 2023;209(2):384-390.**

## Study Need and Importance

Bladder outlet obstruction is a

recognized complication of urethral sling surgery for females with stress urinary incontinence. For women with acute de novo urinary symptoms with/without retention following sling placement, urgent sling revision is often indicated; however, the prevalence of obstruction in women with chronic urinary symptoms and a history of urethral sling surgery is unknown. Furthermore, clinical predictors of obstruction and appropriate workup and management of these patients remain poorly defined.

## What We Found

A retrospective chart review was performed on 105 women with chronic urinary symptoms following urethral sling surgery (median age 61 years, median time since sling surgery 5 years). The prevalence of urodynamic obstruction within this cohort was 60% (63/105). A tight palpable suburethral band and increased post-void residual were significantly associated with increased odds of urodynamic obstruction (see Table). For patients undergoing sling revision surgery for obstruction, the cumulative incidence of improvement in stor-

**Table.** Logistic Regression Models for Clinical Predictors of Urodynamic/Fluoroscopic Bladder Outlet Obstruction

Predictor	Odds ratio (95% CI)	P value
Time since surgery	0.96 (0.86, 1.07)	.4
LUTS		
Mixed symptoms	Reference	
Storage symptoms	0.37 (0.09, 1.56)	.2
Voiding symptoms	1.48 (0.14, 16.2)	.5
Tight suburethral band	6.84 (1.30, 36.1)	.02
Increased PVR by 50 mL	1.35 (1.06, 1.72)	.02

Abbreviations: CI, confidence interval; LUTS, lower urinary tract symptoms; PVR, post-void residual.

age and voiding symptoms at 6 months was 43% and 87%, respectively. The probability of being incontinence-free and free from redo sling surgery was 56% and 75% at 30 months post-revision, respectively.

## Limitations

The study is a single-centered, nonrandomized, and retrospective review with a small sample size. Female bladder outlet obstruction remains poorly defined in the literature and results may vary if a different definition is used. Physical exam findings may be subject to inter-provider variability. No standardized questionnaires were used

to assess patients' symptoms.

## Interpretation for Patient Care

Females with chronic urinary symptoms and a history of urethral sling surgery have a high prevalence of bladder outlet obstruction and should undergo thorough history, physical exam, and urodynamics to rule out obstruction. Sling revision may relieve obstruction; however, patients should be monitored for persistent storage symptoms and recurrent incontinence and counseled on the potential need for redo incontinence surgery. ■

## JU INSIGHT

# Mobile Postoperative Symptom Intervention Tool and Biometric Monitoring After Radical Cystectomy: Pilot Study Evaluating Feasibility, Usability, and Potential Utility

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## MOBILE POSTOPERATIVE SYMPTOM INTERVENTION TOOL

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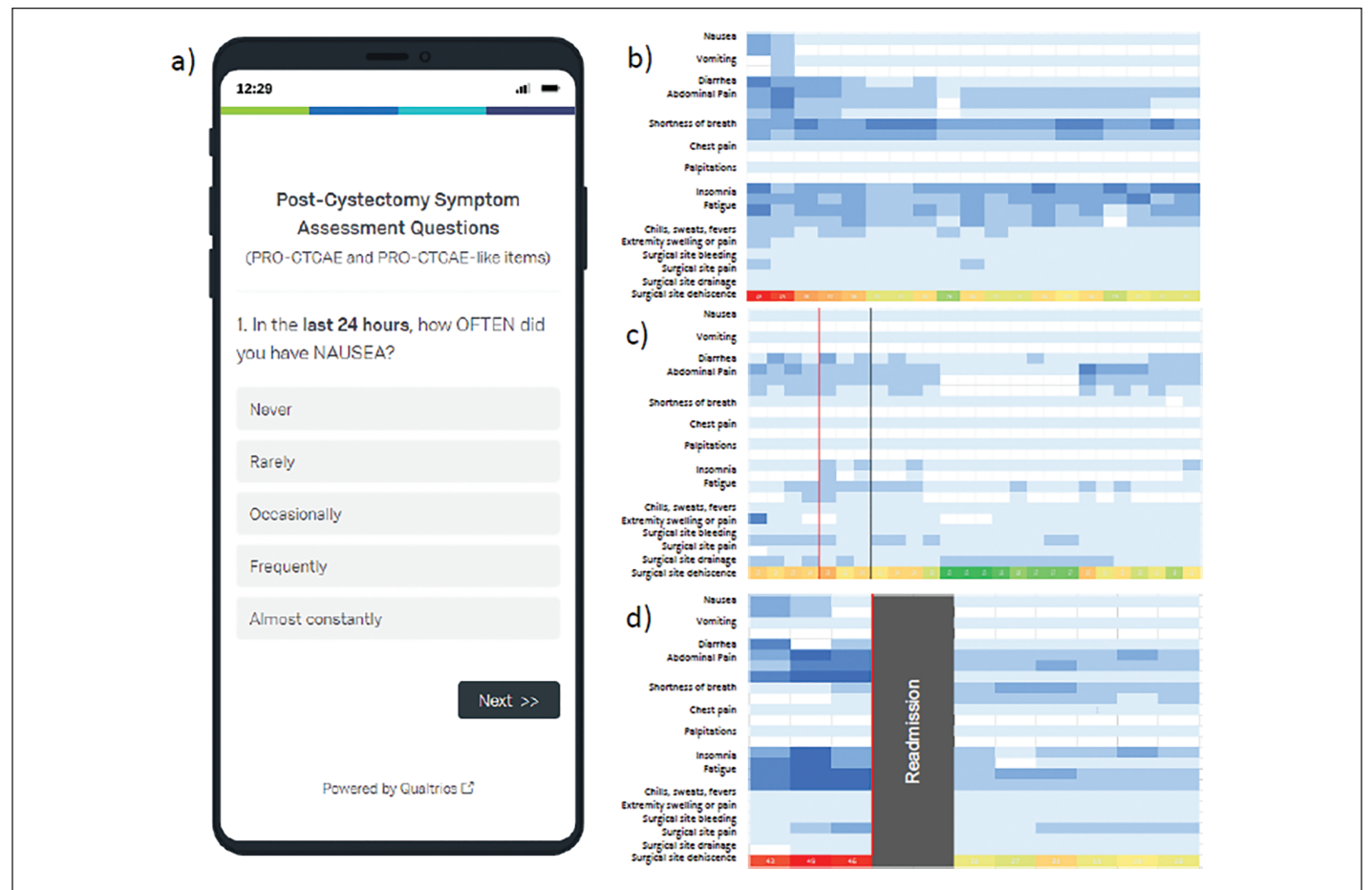
Huelster HL, Zemp L, Turner K, et al. Mobile postoperative symptom intervention tool and biometric monitoring after radical cystectomy: pilot study evaluating feasibility, usability, and potential utility. *J Urol.* 2023;209(2):410-421.

## Study Need and Importance

Despite advances in surgical techniques and perioperative recovery pathways, persistently high complication and hospital readmission rates after cystectomy underscore a high-yield opportunity for intervention during postsurgical recovery. Mobile health applications offer an appealing and increasingly accessible platform for structured patient-reported symptom monitoring and incorporation of patient-generated health data captured by wearable devices. However, data supporting this technology's integration into clinical and postoperative care are extremely limited.

## What We Found

Here we describe the development of a mobile application-based postoperative symptom intervention tool for patients recovering from major abdominal surgery. A prospective pilot cohort of bladder cancer patients undergoing cystectomy was asked to complete a daily symptom questionnaire and wear a biometric monitoring watch for 30 days after hospital discharge. Participants found the mobile platform and patient-reported symptom application easy to navigate with high compliance (78%) with daily survey completion. Exploratory analysis correlating symptom response profiles and biometrics with postoperative clinical events suggested identifiable trends may signal developing complications (see Figure).



**Figure.** A, Patient-facing mobile postoperative symptom intervention tool (POSIT). Data visualization of daily POSIT profiles in absence of complication (B), presence of unplanned health care encounter (red line) and complication (black line; C), and presence of complication requiring readmission (gray bar; D). PRO-CTCAE indicates Patient-Reported Outcomes version of the Common Terminology Criteria for Adverse Events.

**“Participants found the mobile platform and patient-reported symptom application easy to navigate with high compliance (78%) with daily survey completion.”**

### Limitations

The modest pilot size of 15 patients limits quantitative correlation of clinical outcomes with symptoms scores and biometric phenotypes. Additionally, symptom and

biometric data were retrospectively correlated with adverse clinical events. Larger-scale data collection with real-time evaluation of symptom scores and biometric variables and provider response to this information will be necessary to identify signals for clinically important outcomes that may benefit from additional evaluation or intervention.

### Interpretation for Patient Care

Smartphone and wearable technology can be used to capture patient-reported symptoms and biometric data after major surgery, such as radical cystectomy for bladder cancer. Symptom scores and patient-generated health data may signal developing complications

**“Symptom scores and patient-generated health data may signal developing complications and help clinicians identify postsurgical patients who may benefit from intervention.”**

and help clinicians identify postsurgical patients who may benefit from intervention. ■

## JU INSIGHT

# Preoperative Circulating 11-Oxygenated Androgens and Metastasis-free Survival in Prostate Cancer

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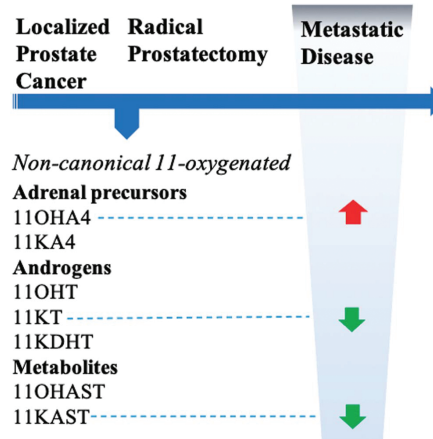
CHU de Québec-Université Laval, Canada  
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**Dahmani C, Caron P, Simonyan D, et al. Preoperative circulating 11-oxygenated androgens are**

**associated with metastasis-free survival in localized prostate cancer. *J Urol.* 2023;209(2):337-346.**

## Study Need and Importance

Prostate cancer relies primarily on circulating and intracellular biotransformation of circulating androgens for growth and progression. The circulating steroidome contains testicular and adrenal androgen precursors such as dehydroepiandrosterone available for intracrine androgen biosynthesis by cancer cells. The adrenal gland also produces noncanonical 11-oxygenated androgens such as the most abundant 11 $\beta$ -OH-androstenedione that is converted by enzymes expressed locally in prostate cancer cells and other tissues into highly potent androgen receptor ligands. These include the full agonists 11-ketodihydrotestosterone and 11-ketotestosterone, and the partial agonist 11 $\beta$ -hydroxydihydrotestosterone. We therefore studied the prognostic impact of these novel 11-oxygenated androgens in men with localized prostate cancer.



**Figure.** Preoperative circulating 11-oxygenated androgens predict metastatic disease in localized prostate cancer. 11KA4 indicates 11-ketoandrostenedione; 11KAST, 11-ketoandrosterone; 11KDHT, 11-ketodihydrotestosterone; 11KT, 11-ketotestosterone; 11OHA4, 11 $\beta$ -hydroxyandrostenedione; 11OHAST, 11 $\beta$ -hydroxyandrosterone; 11OHT, 11 $\beta$ -hydroxytestosterone.

## What We Found

We studied 7 adrenal 11-oxygenated precursors, potent 11-oxygenated androgens and their metabolites, and tested their relationship with clinical outcomes in the prospective PROCURE cohort composed of 1,783 men with newly diagnosed localized prostate cancer all undergoing radical prostatectomy (see Figure). We found that higher preoperative

levels of the adrenal androgen precursor 11 $\beta$ -OH-androstenedione were associated with progressive disease, whereas the predominant bioactive 11-ketotestosterone and its metabolite 11-ketoandrosterone were associated with better metastasis-free survival. Furthermore, levels of 11-oxygenated androgens did not correlate with canonical circulating androgen receptor ligands such as testosterone and dihydrotestosterone.

## Limitations

Limitations are related to the number of metastatic events, which remain limited despite the cohort size and significant follow-up of nearly 94 months.

## Interpretation for Patient Care

In men undergoing prostatectomy for localized disease, preoperative circulating 11-oxygenated androgen levels were associated with metastasis-free survival, a clinically relevant disease landmark associated with overall survival. Our findings may thus ultimately help personalized hormonal strategies for these patients. ■

## JU INSIGHT

# Adverse Events and Quality of Life After Electroporation for Ablation of Localized Prostate Cancer

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**de la Rosette J, Dominguez-Escrig J, Zhang K, et al. Multicenter,**

**randomized, single-blind, 2-arm intervention study evaluating the adverse events and quality of life after irreversible electroporation for the ablation of localized low-intermediate risk prostate cancer. *J Urol.* 2023;209(2):347-353.**

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## ADVERSE EVENTS AND QUALITY OF LIFE AFTER ELECTROPORATION

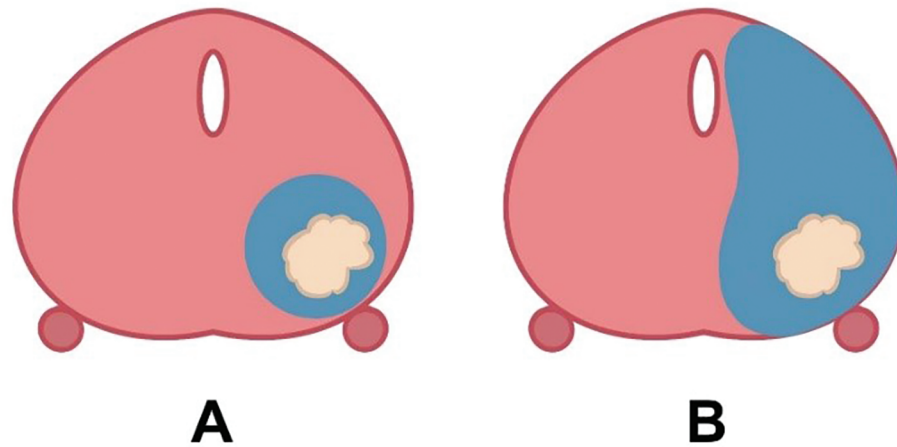
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## Study Need and Importance

The major complications of current prostate cancer treatments are incontinence, erectile dysfunction, bleeding, and bowel injury. Focal therapy has emerged which might reduce harms whilst retaining beneficial oncologic control. This study was designed to evaluate the effect of focal vs extended irreversible electroporation (IRE) on side effects, patient-reported quality of life, and early oncologic control for localized low-intermediate risk prostate cancer patients (see Figure)

## What We Found

In this randomized multicenter clinical trial, IRE showed a good safety profile and could achieve good urinary and sexual function outcomes in men with localized low-intermediate risk prostate cancer. Rates of adverse events



**Figure.** The different electroporation zones of the prostate. A, Focal ablation of a lesion. B, Extended ablation of a lesion.

and urinary function outcomes were similar between the focal ablation and extended ablation groups. In the first 3-6 months, focal ablation showed superior erectile function outcomes when compared to extended ablation therapy. From 6 months onward, there was no statistical difference in the sexual function between the 2 groups. IRE could also achieve encouraging oncologic

control, and there was no significant difference between focal and extended ablation.

## Limitations

The long-term oncologic data (eg, metastasis-free survival, overall and cancer-specific mortality) were lacking, and the treatment options of the biopsy-positive patients were limited.

“Focal and extended IRE ablation had similar safety profile, urinary function, and oncologic outcomes in men with localized low-intermediate risk prostate cancer.”

## Interpretation for Patient Care

Focal and extended IRE ablation had similar safety profile, urinary function, and oncologic outcomes in men with localized low-intermediate risk prostate cancer. IRE technique can provide acceptable oncologic outcomes while preserving quality of life, and may be considered for localized low-intermediate risk prostate cancer patients. ■

## JU INSIGHT

## AUA-recommended Antibiotic Prophylaxis for Primary Penile Implantation Results in a Higher, Not Lower, Risk for Postoperative Infection: A Multicenter Analysis

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## AUA-RECOMMENDED ANTIBIOTIC PROPHYLAXIS

→ Continued from page 14

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Barham DW, Pyrgidis N, Gross MS, et al. AUA-recommended antibiotic prophylaxis for primary penile implantation results in a higher, not lower, risk for postoperative infection: a multicenter analysis. *J Urol.* 2023;209(2):399-409.

## Study Need and Importance

In 2008 the AUA published a Best Practice Statement on Urologic Surgery Antibiotic Prophylaxis that recommended an aminoglycoside and vancomycin or a first-/second-generation cephalosporin for penile prosthesis placement. This recommendation was based on orthopedic and general surgery literature due to a lack of high-level urological evidence. The combination of vancomycin and gentamicin has since become the most commonly used regimen for inflatable penile prosthesis (IPP) prophylaxis, as noted in a number of subsequent studies. Recent research has questioned the efficacy of these suggested regimens in high-risk patients. We sought to evaluate

“The addition of an antifungal to the antibacterial regimen decreased the risk of infection by 92%.”

the efficacy of the most commonly used AUA-recommended regimen among all patients undergoing primary IPP placement.

## What We Found

In a large multicenter study, we found vancomycin plus gentamicin was associated with an increased risk of implant infection in multivariable analysis (HR: 2.7, 95%CI: 1.4 to 5.4,  $P = .004$ ; part A of Figure) compared to all other regimens. The addition of an antifungal to the antibacterial regimen decreased the risk of infection by 92%. In a subgroup analysis, there was no statistically significant

“Tailoring antimicrobial prophylaxis to local infection trends and antibiogram data may be the most effective and data driven option for IPP infection prevention.”

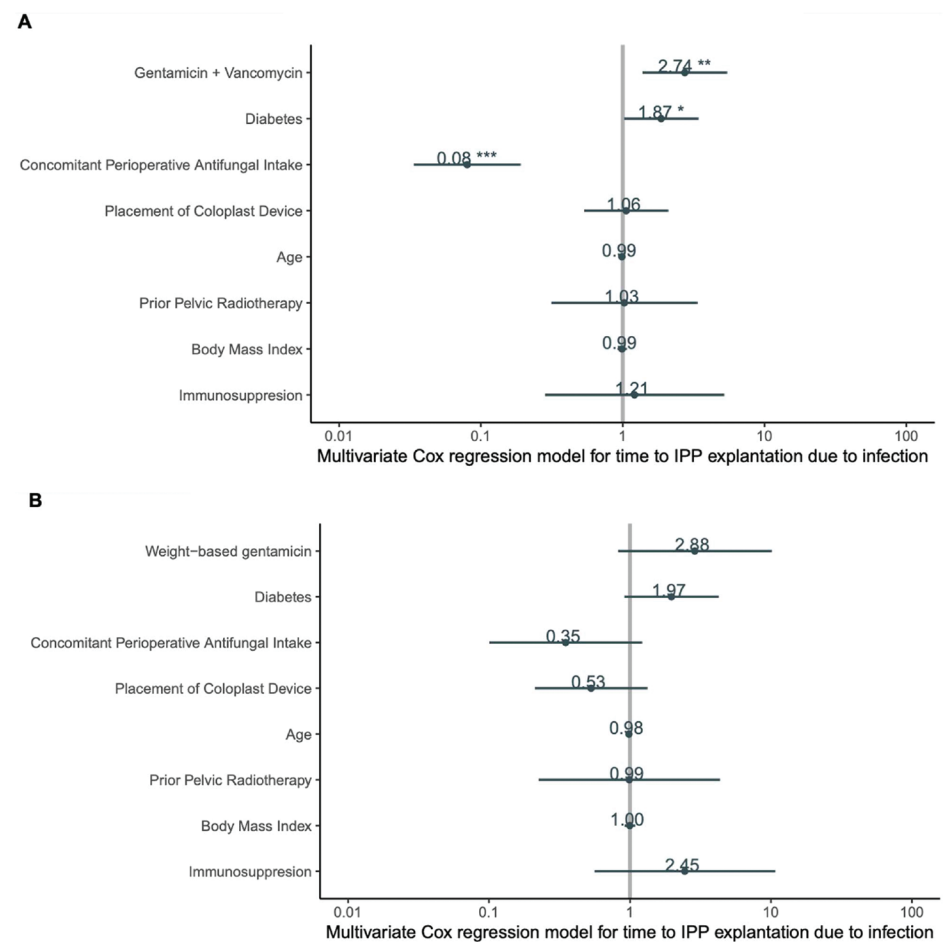


Figure. A, All patients undergoing primary inflatable penile prosthesis (IPP) placement. B, Patients receiving gentamicin as part of antibiotic prophylaxis. All asterisks indicate statistically significant findings.

difference between weight-based and low-dose (80 mg) gentamicin dosing (part B of Figure).

## Limitations

The main limitations of this study are its retrospective nature and inherent selection bias. A large portion of patients who received vancomycin plus gentamicin also received an antifungal, which may bias the hazards ratio. Additionally, we were not able to account for

other infection reduction strategies.

## Interpretation for Patient Care

Our findings provide a strong rationale for the addition of an antifungal to antibacterial coverage in all men undergoing IPP placement. Tailoring antimicrobial prophylaxis to local infection trends and antibiogram data may be the most effective and data driven option for IPP infection prevention. ■

## UPJ INSIGHT

# Prescribing Differences Between Urologists and Medical Oncologists in Advanced Prostate Cancer

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Demus T, Getzenberg RH, Nieder AM. Understanding prescribing differences between urologists and medical oncologists in the management of advanced prostate cancer. *Urol Pract.* 2023;10(1):89-98.

## Study Need and Importance

U.S. practitioners treating advanced prostate cancer patients are increasingly prescribing secondary hormonal agents in the nonmetastatic and metastatic hormone sensitive disease states. In this study, we aimed to better understand evolving urological practice by comparing prescribing patterns of urologists to medical oncologists as well as looking at regional variations in prescriptions of 2 of the hormonal agents, enzalutamide and abiraterone.

## What We Found

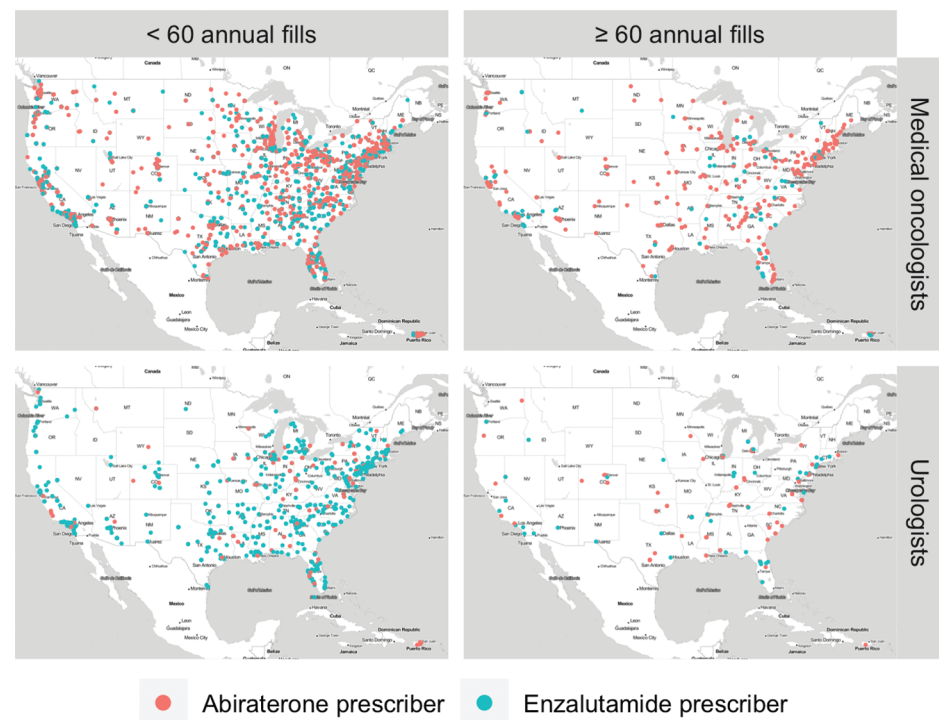
In 2017 and 2019 (before and after broadened Food and Drug Administration approved indications), urologists were more likely to prescribe enzalutamide over abi-

“Despite guidelines recommending either agent, urologists are more likely to prescribe enzalutamide to metastatic castration resistant prostate cancer patients.”

raterone compared to medical oncologists (OR 3.38, CI 2.84-4.02,  $P < .001$  and OR 4.91, CI 4.22-5.74,  $P < .001$ , respectively). In 2019, urologists and medical oncologists practicing in the Southeast and Pacific West were more likely to prescribe enzalutamide; however, this pattern was not observed in 2017. Urologists prescribing enzalutamide and abiraterone at a higher volume ( $\geq 60$  prescriptions of either drug) favored prescriptions of abiraterone, as demonstrated in the Figure. The proportion of abiraterone prescribed as generic was 37.9% and 62.5% for urologists and medical oncologists, respectively.

## Limitations

The study used a provider-level



**Figure.** Geospatial model split by specialty and volume of prescriptions of secondary hormonal drugs in 2019. Abiraterone prescriber (abiraterone prescriptions > enzalutamide prescriptions). Enzalutamide prescriber (opposite).

Medicare Part D data set and could not capture whether abiraterone and enzalutamide were prescribed concurrently or if one was prescribed because the patient had progressed on or had significant side effects on the other, which may have influenced prescribing decisions.

## Interpretation for Patient Care

Despite guidelines recommending either agent, urologists are

more likely to prescribe enzalutamide to metastatic castration resistant prostate cancer patients. There are regional variations in prostate cancer management with relatively more nonmetastatic castration resistant patients receiving an antiandrogen in the Southeast and Pacific West. Urologists should be cognizant of generic versions of secondary hormonal drugs as well as newer agents as they become commercially available. ■