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for their support in publishing the following abstracts from the Mid-Atlantic section of the AUA 2017 Annual Meeting
Impact of USPSTF Recommendations on Prostate Biopsy Characteristics and Disease Presentation at a Tertiary-care Medical Center
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Introduction: In 2012, the USPSTF made recommendations against using PSA-based screening for prostate cancer. We evaluated early consequences of decreased PSA screening on prostate biopsy characteristics and presentation of prostate cancer.

Materials & Methods: A single tertiary-care institution, multi-surgeon, prospectively maintained database was queried for patients undergoing prostate biopsy from October 2005 - September 2016. Patient demographics, biopsy characteristics, and extent of disease were reported. Patient cohorts before and after USPSTF recommendations were compared using two-sample t-test, Chi-square, and Wilcoxon Rank Sum tests with significance at p < 0.05.

Results: 2,000 patients were analyzed, including 1,440 patients before and 560 patients after USPSTF recommendations were published. Following the recommendations, patients had a higher pre-biopsy PSA (5.90 vs. 6.70, p < 0.001). Overall, 817 (40.9%) patients had prostate cancer detected at biopsy with an increase from 37.0% before to 50.9% after (p < 0.001). Biopsies detected less low risk Gleason ≤ 6 prostate cancer (47.4% vs. 41.1%), more intermediate risk Gleason 7 cancer (30.9% vs. 39.7%), with comparable findings of high risk Gleason ≥ 8 cancer (21.7% vs. 19.2%), p = 0.042. Additionally, greater percent core involvement (p < 0.001) was seen. At time of diagnosis, extraprostatic cancer extension identified by pelvic imaging increased from 12.6% to 16.9%, p = 0.039, with a trend towards lymph node positivity (1.1% vs. 2.2%, p = 0.078). Of those with metastatic disease, bony involvement occurred more often (1.7% vs. 3.2%, p = 0.041). (Table)

Conclusions: After 2012 USPSTF guidelines, patients presented with higher PSA with prostate cancer detected more frequently. More adverse, pathologic prostate cancer features were found on biopsy with extent of disease implicating locally advanced or metastatic disease. Consideration towards these findings should be used in counselling patients about the importance of prostate cancer screening.

Utility of Emergently Placed IR Nephrostomy Tube Tracts for Percutaneous Nephrolithotomy
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Introduction: Percutaneous nephrolithotomy (PCNL) is the gold standard for treating stones ≥ 2 cm. Debate persists regarding optimal percutaneous (PC) nephrostomy tube (NT) access, interventional radiology (IR) versus urologists, for PCNL. In acute settings, the goal of PC access is urinary drainage, most often accomplished through IR. How often NT tracts established for these indications are appropriate for subsequent PC stone removal is not well described. We aimed to determine the usability rate of emergent NT tracts previously obtained by IR for PCNL.

Materials & Methods: A prospective cohort of men (2005-July 2016) with clinically localized VLR, LR, and FIR (1-2 cores of Gleason 3+4, PSA < 20 ng/ml) prostate cancer undergoing radical nephrostomy tube tract establishment for these indications were included. Rates of adverse pathologic features (Gleason ≥ 4+3, ≥ pT3b) were compared between groups. The FIR cohort was stratified by pre-operative disease characteristics to identify factors protective of adverse pathology. Log-binomial and logistic regression were utilized where appropriate.

Results: A total of 1,264 VLR, 4849 LR, and 608 FIR patients met inclusion criteria. Rate of adverse pathology was significantly higher for FIR (150/608; 24.7%) compared to LR (6.8%; RR4 50 (95%CI 3.73-5.43, p < 0.001)) and VLR (4.7%, RRS 14 (95%CI 3.84-6.89, p < 0.001) men. Gleason grade groups at surgical pathology are shown in the Figure. Restriction of FIR men to additional criteria did not significantly impact results. There were no preoperative clinical or pathologic criteria which could identify a subgroup of the FIR population with rates of adverse pathology comparable to the VLR and LR cohorts.

Conclusions: Nearly 25% of men with low volume, Gleason 3+4 prostate cancer on biopsy are found to harbor adverse surgical pathology. These data do not support the presence of a “favorable” subgroup within the intermediate-risk population. Men with Gleason 3+4 disease should be informed as to the avoidable risk associated with use of AS.

Evaluation of Oral Inositol Hexaphosphate (IP6) As a Treatment for Bladder Cancer
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Introduction: Inositol Hexaphosphate (IP6) is a naturally occurring carbohydrate found in food sources high in fiber content. We have previously demonstrated the in vitro anti-tumor effects of IP6 against bladder cancer and based on these results we evaluated orally administered IP6 in an in vivo mouse bladder cancer model.

Materials & Methods: Seventy-five female athymic nude mice were randomized to 5 groups (15/group). Mice received 1 x 10⁷ UM-UC-6 bladder cancer cells on the right thigh. Animals then received the following oral treatments ad libitum: Saline, Oral IP6 1.0%, Oral IP6 2.0%, Oral IP6 3.0% and Oral IP6 4.0%. All animals in the outlined experiment were checked 3 times a week for the tumor incidence and growth. Tumor volume is expressed as Means ± Standard Deviation. Statistical Significance was determined by ANOVA.

Results: All doses of Oral IP6 significantly reduced tumor volume compared to the Saline Control at day 33 (P < 0.001). There was no dose response observed, as there was no difference among the IP6 groups in tumor volume at day 33. ANOVA of tumor volume showed significant (P < 0.001) reductions in tumor volume at days 16, 20, 23, 26, 28, 30 and 33. When compared to control, there was a 25% reduction in tumor volume exhibited by the 1% IP6, 32.5% by the IP6 2%, 25.0% by the IP6 3% and 29.5% by the IP6 4%.

Conclusions: This represents the first report of the significant effects of oral IP6 in a mouse bladder cancer model. The results presented herein warrants further investigation leading to the initiation of Phase II clinical trials to evaluate the safety and clinical utility of this agent.
A Cause for Alarm or Encouragement? Surprising Trend of Organ Utilization in a Geographically Isolated Transplant Center after the New Kidney Allocation System

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Introduction: On December 4, 2014, a new kidney allocation system (KAS) was implemented changing how kidneys are allocated for transplantation. This also eliminated a previous agreement with the United Network of Organ Sharing (UNOS) allowing our center to qualify as an Alternative Local Unit (ALU) which allowed greater access to kidney transplants from our center. There is an impression that the quantity and quality of kidneys being transplanted was far inferior when compared to those during the ALU.

Materials & Methods: We performed a retrospective chart review of deceased donor renal transplants done at our institution from January 1, 2013 to December 1, 2014 (pre-KAS) and from December 2, 2014 to December 31, 2016.

Results: We noted a statistically significant increase in the number allotrofts imported from outside of state, increased in cold ischemia time, higher level of Plasma Reactive Antibodies (PRA), higher rate of rejections with high infectious risk status, higher Estimated Post Transplant Survival (EPTS) score. We also noted worse short term outcomes defined by the number of acute rejection episodes and 30 day re-transplantations (Table 1).

Conclusions: The new allocation system results in a dramatic shift in the quality and quantity of deceased donor transplants performed at our institution. Due to being a small, geographically isolated program that serves a large socio-economically depressed population, these changes may have significant impact on our patients and the viability of our program.

Multi-Specialty Algorithm Reduces Emergency Department CT Use Without Increasing Urological Ambulatory CT Use

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Introduction: Applying guidelines to the management of acute renal colic in the Emergency Department (ED) represents a unique challenge that requires collaborative effort to incorporate multi-specialty recommendations. We sought to better incorporate guidelines in the management of acute renal colic in the ED through ED resident education and initiation of algorithms. After implementation, overall computed tomography (CT) use in the ED decreased by 13% (p < 0.05). Our hypothesis was that a decrease in CT use would be associated with an increase in ED ultrasound (US) use and an increase in ambulatory CT use.

Materials & Methods: We conducted a before and after study following introduction of the algorithm (Figure 1). A retrospective chart review was completed of patients diagnosed with nephrolithiasis in the ED at a single academic institution. Patients given a urology referral from the ED were tracked for compliance with follow-up and ambulatory imaging.

Results: In the post-intervention group, 35% of the patients received a CT in the ED, compared to 30% post-intervention. After intervention, ED radiology renal US increased by 30% (p < 0.05). Ambulatory CT use was 5% and 4% respectively.

Conclusions: US is the emerging imaging modality in the ED leading to concern of increased urological ambulatory CT. However, our results show that with the implementation of an algorithm, ambulatory CT use did not change despite increased ED US use. Multi-specialty teams must track downstream implications of practice changes.
Using Raman spectroscopy has the potential to improve the cost and efficacy of bladder cancer detection. Individuals within a central zone of overlap undergo repeat sampling, yielding red dots. These are formed from computational reduction of Raman spectral molecular spectral "signatures" are then used to differentiate bladder cancer from other GU diseases (mean age 64.96, range 36-91). Figure 2 shows how further analysis of RMU samples with known bladder cancer or other urinary tract disorders. Samples were then analyzed using the Raman Molecular Urinalysis technology. Results: A total of 3801 patients met criteria. Patients in the RAL cohort had the largest number of lymph nodes removed (p < 0.001) and increasing lymphadenectomy improved CSS (HR 0.94, p < 0.001) in all groups. RAL had the highest in-hospital cost (median $63,186, p < 0.001) despite having the shortest length of stay (mean 4.2 days, p < 0.001). Both 30- and 90-day re-admission rates did not differ. Time to intravesical recurrence was similar (p=0.35) in a subset of 3211 patients with no previous bladder tumors. Relative to open, there was no difference in OS or CSS for the laparoscopic (p = 0.09) or RAL (p = 0.74) cohorts. Conclusions: RAL surgery resulted in the shortest hospital stay but highest in-hospital cost compared to open or laparoscopic surgery. Although greater lymphadenectomy was performed in RAL, there were no differences in OS or CSS between groups. Therefore, we conclude that oncologic control is similar regardless of technique used for surgery in UTUC.

Raman Molecular Urinalysis: A Novel Bladder Cancer Screening Technology

Introduction: Bladder cancer is one of the most expensive cancers to treat in the United States, so there is a clear need for screening tools to reduce costs and improve the accuracy of detection. A newly developed analytical/computational urine screening technology based on Raman spectroscopy called Raman Molecular Urinalysis (RMU) is able to improve bladder cancer detection.

Materials & Methods: Urine samples were collected from 35 healthy volunteers and from 27 patients with known bladder cancer or other urinary tract disorders. Samples were then analyzed using the Raman Molecular Urinalysis technology.

Results: In combination with multivariate statistics, Raman spectroscopy is able to detect patterns generated by hundreds of molecules in the urine metabolome. The multi-molecular spectral "signatures" are then used to differentiate bladder cancer from other lesions. Figure 1 demonstrates the differences in the RMU sentinel clusters of the 35 healthy individuals (blue dots). These are formed from computational reduction of Raman spectral peaks. Patients with urinary tract diseases, including bladder cancer are represented by red dots. Individuals within a central zone of overlap undergo repeat sampling, yielding additional dots on the graph. We then studied urine specimens from 27 patients with known GU diseases (mean age 64.96, range 36-91). Figure 2 shows how further analysis of RMU data differentiates sentinel clusters of low- and high-grade bladder cancer (n = 3 and 10 patients, respectively), prostatic carcinoma (n = 4), and non-neoplastic genitourinary tract diseases (n = 7) including retention, benign prostatic hyperplasia, and stricture disease.

Conclusions: While further testing and validation is needed, Raman Molecular Urinalysis using Raman spectroscopy has the potential to improve the cost and efficacy of bladder cancer detection, screening and follow-up by accurately detecting bladder cancer.

Enhanced Recovery After Surgery Pathway for Open Radical Cystectomy with Urinary Diversion: A Single-Institution Retrospective Analysis of Post-Operative Outcomes

Introduction: Enhanced recovery after surgery (ERAS) protocols based on principles of goal directed fluid resuscitation, multimodality pain control, early mobilization, and early enteral nutrition have been widely implemented in colorectal surgery with subsequent decrease in rates of ileus and length of stay (LOS). Data on ERAS in setting of cystectomy and urinary intestinal diversion (C&D) is limited, though a recent meta-analysis of 13 studies demonstrated that LOS, return of bowel function and postoperative complication rate were generally improved with standardized protocols. We report on outcomes following implementation of ERAS at a single academic institution.

Materials & Methods: We performed a retrospective chart review of patients undergoing C&D at a single academic center in the 9 months preceding (Pre-ERAS) and 6 months following (ERAS) implementation of an ERAS protocol. We assessed the impact of standardized perioperative management on time to flatus, rate of postoperative ileus, LOS, 30-day and 90-day re-admission rates.

Results: Compared to the Pre-ERAS group, the ERAS cohort had a shorter LOS (6d vs. 8d, p = 0.034). No significant differences were found between two cohorts with respect to time to flatus (p = 0.97), rate of postoperative ileus (32.0% vs. 28.6%, p = 0.814), 30-d readmission rate (30.6% vs. 31.4%, p = 1.000), and readmission beyond 31 days (25.0% vs. 44.4%, p = 0.071). Multivariable logistic analysis controlled for demographics, morbidities, and surgical outcomes showed that ERAS was associated with early discharge by postoperative day 5 (OR = 18.9, 95%CI = 2.2-160.9). Rate of postoperative ileus was not significant on multivariable analysis (OR = 0.36, 95%CI = 0.10-1.26).

Conclusions: The implementation of a standardized ERAS protocol for patients undergoing C&D led to a decrease in LOS without significant increase in readmission rates. Further adaptation of the pathway may lead to improved outcomes.
Moderated Poster Session 1: Bladder & Testis Cancer; Workforce
P1-P13

Racial Disparity In Bladder Cancer Treatment And Survival Outcomes
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1Charleston Area Medical Center, Charleston, WV; 2University of Pittsburgh, Pittsburgh, PA

Introduction: Black patients are at greater risk of death from bladder cancer than white patients. Potential explanations for this disparity include differences in treatment patterns. We investigated the association between race and treatment patterns in bladder cancer patients.

Materials & Methods: Using the Surveillance, Epidemiology, and End Results (SEER) Medicare data set, we identified 5160 patients initially diagnosed with non-metastatic muscle invasive bladder cancer between 2004-2011. We fit a multivariable logistic regression model to assess the relationship between race and treatment patterns, adjusting for differences in patient characteristics. Survival was assessed by multivariate Cox regression model.

Results: Of the 5160 patients, 2004 (39%) received a radical cystectomy while 3156 (61%) received some alternative bladder sparing intervention. Black patients were significantly less likely to receive a cystectomy with an odds ratio of 0.54 (p-value < 0.001) when compared to white patients. No difference in peroperative chemotherapy utilization was observed based upon race. Similar rates of alternative bladder sparing therapy were also observed. Overall mortality was observed to be worse among black patients, but no difference was noted in bladder cancer specific mortality.

Conclusions: Our findings demonstrated a racial disparity in the probability of receiving a radical cystectomy for the management of non-metastatic muscle invasive bladder cancer. Black patients were found to be less likely to receiving a cystectomy than other racial groups. This disparity appears to contribute to the overall survival disparity observed between black and white patients with bladder cancer.

Lymph Node Dissection During Radical Cystectomy Following Prior Radiation Therapy: Results From The SEER Database
Mahur Maruf, Abhinur Sidhana, Stephanie Purnell, Amit Jain, Dordaneh Sugano, Brian Calio, Sam Brancato, Piyush Agarwal, National Cancer Institute, National Institutes of Health, Bethesda, MD

Introduction: Population studies of patients undergoing radical cystectomy (RC) for bladder cancer (BC) suggest that a more extended lymph node dissection (LND) increases survival. However, information regarding LNDs of patients undergoing RC, with a history of radiation therapy for BC is largely unknown. We aim to define the lymph node yield (LNY) in patients undergoing RC for BC following radiation therapy using the surveillance epidemiology and end results (SEER) database.

Materials & Methods: Data was collected using SEER 18 registries from 1988-2012 to identify patients undergoing RC for BC. Cases undergoing RC with no radiation prior to RC were defined as being radiation naïve patients. Cases undergoing RC following radiation for bladder cancer were defined as being irradiated patients. LND status during RC and LNY during RC was obtained and analyzed. Multivariate Cox regression models were used to analyze overall survival.

Results: In total, 27,451 patients were identified, of which, 27,362 (99.7%) were radiation naïve and 89 (0.3%) had prior radiation therapy for BC. The average LNY in radiation naïve patients (15.3 SD [13.5]) was slightly higher than the LNY in patients with prior radiation (12.3 SD [9.2], p = 0.057). On Cox regression analysis, prior radiation was not an independent predictor of overall mortality (HR = 1.3, 95% CI [0.98-1.7], p = 0.076). Conversely, a LNY ≥ 10 nodes during RC independently was associated with a lower overall mortality (HR = 0.77, 95% CI [0.74-0.80], p < 0.001).

Conclusions: The LNYs of radiation naïve patients, and those with a history of radiation, were not statistically different; however, there is a small number of irradiated patients. A history of prior radiation was not associated with mortality. Irrespective of prior radiation, a LNY ≥ 10 nodes was independently associated with increased overall survival. Further investigation will be required to elucidate the patient and provider characteristics that contribute to the similar LNYs.

Evaluating the Accuracy of MRI in Bladder Cancer Staging
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Introduction: In bladder cancer (BCa), primary tumor staging is currently based on the pathologic depth of tumor invasion seen on the specimen obtained during transurethral resection (TURBT). Clinical staging also takes into account findings from abdominal/pelvic imaging and bimanual examination. Due to multiple factors, pathology from TURBT is prone to under-staging. Moreover, TURBT is morbid and can delay the time to definitive treatment. MRI provides excellent soft tissue detail and is used in staging other urologic malignancies. In this study, we sought to determine the diagnostic accuracy of pelvic MRI in determining primary tumor stage in patients with BCa.

Materials & Methods: Using an IRB-approved institutional database, we retrospectively identified 150 patients who underwent radical cystectomy for BCa from 2010-2017. We then identified 22 patients who underwent a staging pelvic MRI just prior to surgery. Sensitivity / specificity analysis was performed to assess the performance of MRI in predicting primary tumor stage, using the final cystectomy pathology as the gold standard.

Results: Median age was 69 years and 35% of patients received neoadjuvant chemotherapy. Demographics and staging data is shown in Table 1. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of MRI in predicting muscle invasion or beyond (T2 or greater) was 84%, 90%, 83%, and 75%. The sensitivity, specificity, PPV, and NPV of MRI in predicting pT3a were 60%, 90%, 90%, and 71%.

Conclusions: Pelvic MRI is an accurate tool that can be used to predict primary tumor stage in patients with BCa, particularly in those with locally advanced tumors. More studies are needed to determine whether pelvic MRI could supplant TURBT in primary tumor staging.

Lymph Node Dissection During Radical Cystectomy: Results From The SEER Database
Mahur Maruf, Abhinur Sidhana, Stephanie Purnell, Amit Jain, Dordaneh Sugano, Brian Calio, Sam Brancato, Piyush Agarwal
National Cancer Institute, National Institutes of Health, Bethesda, MD

Introduction: Population studies of patients undergoing radical cystectomy (RC) for bladder cancer (BC) suggest that a more extended lymph node dissection (LND) increases survival. However, information regarding LNDs of patients undergoing RC, with a history of radiation therapy for BC is largely unknown. We aim to define the lymph node yield (LNY) in patients undergoing RC for BC following radiation therapy using the surveillance epidemiology and end results (SEER) database.

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Conclusions: The LNYs of radiation naïve patients, and those with a history of radiation, were not statistically different; however, there is a small number of irradiated patients. A history of prior radiation was not associated with mortality. Irrespective of prior radiation, a LNY ≥ 10 nodes was independently associated with increased overall survival. Further investigation will be required to elucidate the patient and provider characteristics that contribute to the similar LNYs.

The Utility of the CxBladder Detect Urine Test: A Single Surgeon's Experience
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Introduction: The gross hematuria and microscopic hematuria workup has classically included obtaining a urine sample for cytological analysis. The American Urologic Association has recently given a class ‘C’ recommendation to this analysis. However, many urologists still utilize urine cytology as a supplementary tool in diagnosing bladder urothelial cell carcinoma (UCC). CxBladder Detect is a urine mRNA biomarker test that deciphers the probability of harboring bladder cancer. We sought to compare the utility of urine cytology test to that of the CxBladder Detect urine test in the hematuria workup.

Materials & Methods: A total of 84 patients seen by a single Urologist with microscopic and/or gross hematuria between 2015 to 2016 had urine samples sent for cytological analysis and CxBladder Detect biomarker analysis. These patients also underwent cystoscopies. The positive endpoint was a definitive pathological diagnosis of bladder UCC via bladder biopsy and/or transurethral resection of bladder tumor.

Results: One patient was noted to have a positive urine cytology test indicating presence of malignant cells (three total positive urine cytology tests). This patient was also found to have a pathological diagnosis of high grade bladder UCC (sensitivity = 30.0%, specificity = 100%, positive predictive value (PPV) = 100.0%, negative predictive value (NPV) = 94.5%). Seven patients had positive CxBladder Detect tests (a score greater than or equal to 2.23 indicating a high probability of urothelial carcinoma) and six of these patients had a pathologic diagnosis of bladder UCC with a total of ten ‘positive’ tests (sensitivity = 60.0%, specificity = 94.6%, PPV = 60.5%, NPV = 94.6%).

Conclusions: CxBladder Detect is a useful, non-invasive additive urine test that provides value to the hematuria work-up. This biomarker test trends towards a higher specificity and NPV as compared to the urine cytology test.
Preoperative Imaging Findings Predict Intraoperative Vascular Intervention and Perioperative Outcomes for Retroperitoneal Lymph Node Dissection
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Introduction: Retroperitoneal lymph node dissection (RPLND) remains critical to the multimodal treatment of germ cell tumors (GCT), often requiring extensive resection and vascular intervention. We aimed to identify preoperative imaging characteristics that are predictive of vascular intervention and perioperative outcomes for the purpose of preoperative planning and patient counseling.

Materials & Methods: From an institutional cohort of 339 men treated for GCT between 2013 and 2016, we retrospectively evaluated preoperative computed tomography imaging from 30 men who underwent RPLND. Retroperitoneal mass and great vessel characteristics were measured by blinded radiologists. Correcting for multiple comparisons, imaging parameters were compared with perioperative outcomes and need for vascular intervention.

Results: Of the 30 men, 73% were performed post-chemotherapy. We identified a mass circumferential involvement ≥ 150 degrees as the greatest predictor of vascular preoperative reorientation for both the aorta and inferior vena cava (IVC) (Table 2). IVC involvement ≥ 150 degrees significantly predicted a vascular surgery consult (56.3% vs. 0.2%, p < 0.01), and reconstruction (80% vs. 0%, p < 0.002). Aortic involvement ≥ 150 was associated with worse estimated blood loss (EBL) (3.2L vs. 0.64L, p < 0.042) and an ICU stay (Table 1). Number of masses, paracaval location, and largest mass were also radiographic predictors of worse perioperative outcomes (EBL OR time, and ICU stay) (Table 1).

Conclusions: Preoperative imaging characteristics prior to RPLND can be used to predict perioperative outcomes and the need for vascular intervention. We identified a circumferential cut-off of 150 degrees around the great vessels as the greatest predictor of vascular intervention.

Factors Predicting Overall Survival in Patients with Primary Adenocarcinoma of the Bladder: Insights from the Surveillance, Epidemiology, and End Results Database
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Introduction: Primary bladder adenocarcinoma (BA) is extremely rare and has dismal prognosis. This study analyzes the survival outcomes of different treatments for this disease.

Materials & Methods: Using the SEER 18 database (1973-2013), patients with BA were extracted. Those lacking treatment data and those with secondary BA were excluded. Descriptive statistics assessed disease characteristics. Kaplan-Meier (KM) analyses and log-rank tests assessed overall survival (OS) and cause-specific survival (CSS) across treatment groups. Multivariable Cox proportional hazard models were used to identify factors predictive of survival. Adjusted hazard ratios (HR), 95% confidence intervals, and p values are reported. Analyses performed using SPSS 24.0.

Results: 1524 patients of the 2263 identified met inclusion criteria. Overall, the mean age at diagnosis was 66.82 ± 14.7 years, and 64% of patients were male. 91% of patients were treated surgically: TURBT (647), partial cystectomy (n = 225), radical cystectomy (n = 196), complete cystectomy (n = 86), biopsy alone (n = 19), and unspecified surgery (n = 214). Median OS and CSS were 33 and 12 months, respectively. OS for localized, regional, and distant disease were 72, 34, and 5 months. Overall survival is depicted Figure 1. Factors predictive of survival are depicted in Figure 2.

Conclusions: Our study depicts OS using a population-based cancer registry. The overall median survival was poor. Those with regional disease are almost 5 times more likely to die from BA than those with localized. Patients who had partial cystectomy had a 62% reduction in risk of death compared to those who did not have treatment. Partial cystectomy is the best option for BA.
Moderated Poster Session 2: General Urology; Infertility
P14-P24

P12
Identifying Current Trends in the Urologic Oncology Workforce: Does Completion of Fellowship Significantly Change Future Practice?
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Introduction: ACCME-imposed duty-hour limits and focus on surgeon-specific outcomes have led to the perception that urologists-in-training receive less autonomy. Trainees increasingly seek adjacent subspecialty fellowships to further their education. We studied urologic oncology training, hypothesizing that fellowship-trained urologists (OF) perform more major oncology cases than their non-fellowship-trained peers (NF).

Materials & Methods: We identified all urologists with initial board certifications and re-certifications from the American Board of Urology between 2003 and 2017 using a de-identified data set. The outcome variable was major urologic oncology case volume. Exposure variables included fellowship status, city population and practice type. Data was analyzed using 2-sample t-test with significance defined at p < 0.05.

Results: 8,123 urologists met criteria for inclusion, of whom 338 were OF’s. There were significant positive associations between OF and large practice area population and academic practice (p < 0.001 for both) and negative associations with smaller population and private practice (p < 0.001 for both, Table 1). Furthermore, in more recent years, increasing percentage of OF’s practiced in academics and/or larger cities. OF’s performed more major cases in kidney, bladder, and prostate cancer across all certification time points compared to NF’s, and continued to perform these cases with high frequency across all certification times, (Figure 1).

Conclusions: OF’s perform significantly more major urologic oncology cases in all organ systems compared to NF’s, maintained over the course of their careers, and are significantly more likely to practice in an academic center and/or in a more populated area. This information is useful to urology residents considering a career in urologic oncology.

P13
Fellowship Training In Minimally Invasive Urologic Oncology Minimizes the Learning Curve Of Robotic-assisted Radical Prostatectomy
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Introduction: Robotic-assisted radical prostatectomy (RARP) has a prolonged learning curve, with some advocating that RARP be reserved for experienced surgeons at high volume centers. The newest generation of urologists has gained early exposure to robotic surgery through residency and fellowship, possibly shortening the learning curve. We present outcomes of the first 56 RARP performed by a single fellowship trained surgeon to determine if outcomes are comparable to national reported outcomes.

Materials & Methods: Perioperative and long-term functional outcomes were assessed using the Expanded Prostate Cancer Index- Clinical Practice (EPIC-CP) questionnaire. Linear and logistic models were used to assess association between numerical order of RARP and outcomes to determine any further learning curve affect.

Results: 56 men underwent RARP over 44 months with a median follow-up of 22.1 months. Median age was 63.3, median PSA 6.1, and median Gleason score was 3+4=7. 100% and 56 men underwent TURP (n = 20), OSP (n = 19) or RASP (n = 21) with mean prostate volumes of 131.7g, 161.2g and 173.6g, respectively. Mean blood loss in the TURP group (47 cc) was significantly lower than in the RASP (311 cc) and OSP (492 cc). Mean LZR was lowest in the TURP group (2.5 days) followed by RASP (3.9 days) and OSP (5.4 days), with the difference in the RASP and OSP groups reaching statistical significance. The percent of tissue resected in the OSP (78%) and RASP (70%) groups were comparable, however only 23% of tissue on average was resected in TURP group. PVRs were similar in the RASP and OSP groups and highest in the TURP group. Mean catheter duration was longest in the RASP group (13.5 days) compared to the TURP (6.4 days) and OSP (5.4 days) groups.

Conclusions: RASP has emerged as an alternative to OSP and TURP in men with very large prostate. As with other robotic procedures, the cost difference is not insignificant, although our data suggest a benefit of RASP over OSP in term of LOS, which influences overall cost considerably. Additionally, there was a trend toward less blood loss with RASP. Further data are needed to clarify the role of RASP in men with very large prostates.

P14
Defining The Role Of Robot-assisted Simple Prostatectomy in Men With Prostates ≥ 100g
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1Rowan SOM, Stratford, NJ; 2Delaware Valley Urology, Voorhees, NJ

Introduction: Robot-assisted simple prostatectomy (RASP) has emerged as an effective surgical alternative in the management of BPH-related lower urinary tract symptoms in men with very large prostates. We compared outcomes among men with prostate measuring ≥ 100g undergoing transurethral resection of prostate (TURP), open simple prostatectomy (OSP) or RASP.

Materials & Methods: We completed a retrospective chart review of patients with prostate measuring ≥ 100g undergoing RASP, OSP or TURP from June 2010 to June 2016. Blood loss, length of hospital stay (LOS), percentage of prostate tissue resected, catheter duration and post-void residual (PVR) were compared.

Results: 60 men underwent TURP (n = 20), OSP (n = 19) or RASP (n = 21) with mean prostate volumes of 131.7g, 161.2g and 173.6g, respectively. Mean blood loss in the TURP group (47 cc) was significantly lower than in the RASP (311 cc) and OSP (492 cc). Mean LZR was lowest in the TURP group (2.5 days) followed by RASP (3.9 days) and OSP (5.4 days), with the difference in the RASP and OSP groups reaching statistical significance. The percent of tissue resected in the OSP (78%) and RASP (70%) groups were comparable, however only 23% of tissue on average was resected in TURP group. PVRs were similar in the RASP and OSP groups and highest in the TURP group. Mean catheter duration was longest in the RASP group (13.5 days) compared to the TURP (6.4 days) and OSP (5.4 days) groups.

Conclusions: RASP has emerged as an alternative to OSP and TURP in men with very large prostates. As with other robotic procedures, the cost difference is not insignificant, although our data suggest a benefit of RASP over OSP in term of LOS, which influences overall cost considerably. Additionally, there was a trend toward less blood loss with RASP. Further data are needed to clarify the role of RASP in men with very large prostates.

P15
Intraoperative Tranexamic Acid Infusion During Open Simple Prostatectomy: A Retrospective Analysis
Jamaal C. Jackson, Andrea K. Balthazar, Andrew T. Tracey, Baruch M. Grob
Virginia Commonwealth University, Richmond, VA

Introduction: Tranexamic acid has been shown to reduce the need for perioperative blood transfusions across numerous surgical procedures, with recent literature supporting its use in urologic surgeries. The purpose of this study was to evaluate the efficacy of intraoperative tranexamic acid (TXA) in reducing the need for perioperative blood transfusions (PBT) for patients undergoing open simple prostatectomy for benign prostatic hyperplasia.

Materials & Methods: Beginning in August 2016 we initiated a change in clinical practice whereby all patients undergoing open simple prostatectomy (SP) were administered intraoperative intravenous TXA. We reviewed all patients undergoing open SP at our institution between August 2016 and March 2017 (n = 8). This cohort was then compared to the 15 consecutive patients who underwent open SP prior to implementation of TXA protocol. All operations were performed by a single surgeon using a suprapubic approach.

Results: There was no significant difference between the TXA and control group in terms of age (p = 0.259), BMI (p = 0.380), operative time (p = 0.718), pre-operative hemoglobin (p = 0.742), or prostate size on cross-sectional imaging (p = 0.38). Importantly, there was a significant decrease in rate of perioperative blood transfusion with 0 of 8 patients requiring PBT in the TXA group (0%) vs. 7 of 15 patients in the control group (46.7%). Furthermore, EBL was significantly lower in the TXA group (487.5 mL vs. 1257.1 mL, p = 0.009) and intraoperative fluids were significantly decreased (2886 mL vs. 3975 mL, p = 0.039). The POD 1 hemoglobin was not significantly different among groups (p = 0.188), nor was length of hospital stay (p = 0.746) or pathologic size of adenoma (p = 0.632). No perioperative DVT/PE were recorded in either the TXA or control group.

Conclusions: The use of intraoperative TXA during open simple prostatectomy was associated with a significant reduction in PBT, EBL, and intraoperative fluids. Though limited by a small cohort, the data supports the use of TXA in this setting.
Predictors of Active Surveillance at a Multidisciplinary Small Renal Mass Conference
Matthew B. Clements, Jennifer M. Lobo, Daniel Bitter, Sean W. Noona, Noah S. Schenkman, Tracey L. Krupski
University of Virginia, Charlottesville, VA

Introduction: Active surveillance (AS) is an option for small renal masses (SRMs), typically up to 4 cm. The physician threshold for recommending treatment of such masses may be higher depending on renal function, age, and comorbidities. Patient goals and values determine the treatment ultimately chosen after shared decision making. We reviewed all available cases discussed at our monthly multidisciplinary SRM conference to identify independent predictors of the SRM conference recommending AS for a patient.

Materials & Methods: Conference records were reviewed to identify patients discussed at the SRM conference and the treatment recommendation since its inception in April 2015 through January 2017. We queried a prospectively maintained database for demographic variables, imaging characteristics, and biopsy results. Patients discussed more than once were considered distinct SRM cases. Two non-standard cases and three cases with non-elevated mass > 7 cm were excluded. We modeled the odds of the conference recommending active surveillance using a generalized estimating equation with an exchangeable correlation structure to account for patients discussed multiple times.

Results: A total of 104 cases met criteria. On univariate analysis, Charlson Index and age (both p < 0.001) were greater in patients selected for AS. Our regression model showed that Charlson Index and male sex were significant predictors, adjusting for, age, mass diameter, GFR, and biopsy (Table 1). In a separate regression of age categorized by quartiles and adjusted for GFR and sex, those > 75 years had much greater odds of being recommended AS (OR 13.4, p < 0.001).

Conclusions: Charlson Index predicts a conference recommendation of active surveillance, while male sex decreases the odds of an AS recommendation. Those > 75 years were much more likely to be selected for AS.

Table 1: Predictors of a Small Renal Mass Conference Decision to Recommend Active Surveillance

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlson Comorbidity Score</td>
<td>1.49</td>
<td>0.21</td>
<td>7.04</td>
<td>0.0001</td>
</tr>
<tr>
<td>Male sex</td>
<td>1.33</td>
<td>0.42</td>
<td>3.12</td>
<td>0.002</td>
</tr>
<tr>
<td>GFR</td>
<td>0.99</td>
<td>0.01</td>
<td>45.4</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>0.01</td>
<td>0.00</td>
<td>48.0</td>
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</tbody>
</table>

For BPH is crucial. Even patients self-selected for PAE will consider physicians

Conclusions: Shared decision making in selecting individualized surgical treatment

**Table 1**

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<td>0.000</td>
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</tbody>
</table>

Physical Therapy for Orchialgia: Treatment Modalities
Matthew A. Nielsen1, Charles F. Crusam1, Erin Glace2, Courtney Anderson1, Jessica M. Delong1, Jeremy B. Tonkin1, Ramon Virasoro1, Kurt A. McCammon1
1EVMS, Norfolk, VA; 2Urology of Virginia, Virginia Beach, VA

Introduction: Chronic pelvic pain and orchialgia are challenging conditions to treat in urologic practice. Recent research and treatment programs have focused on musculoskeletal dysfunction as a major contributor to pelvic pain and orchialgia. Our objective was to assess the varying treatment modalities used in physical therapy for orchialgia.

Materials & Methods: A retrospective chart review was conducted on men who initially presented to our practice with orchialgia from January 2009 to June 2016 and referred to pelvic floor physical therapy. Each patient had a urologic assessment prior to physical therapy referral. Patients were evaluated and treated by our physical therapy team according to any presenting musculoskeletal impairments. Treatment included pelvic alignment exercises, therapeutic stretching/strengthening, manual therapy modalities, dry needling and biofeedback. Following treatment, a subjective global response measure was assessed based on patients’ self-reports of improvement in symptoms.

Results: A total of 392 patient charts met inclusion criteria for this retrospective study. Average age was 42.8 years with mean symptom longevity of 32.8 months. Pre-treatment average day pain was 4.5 (analogue scale 1-10); worst day pain was 7.6. 83.2% of patients indicated their testicular pain was better, 16.1% reported no change and 0.7% reported worsening of their pain at average follow up of 6.4 months. Percentage utilization of each treatment modality is shown in Table 1. Mean number to therapy sessions was 9.9 and mean duration of treatment was 4.3 months.

Conclusion: Physical therapy serves as a valid and effective treatment option for patients with orchialgia. Percentage utilization of varying treatment modalities suggests that a multi-modal approach to physical therapy for orchialgia should be used.

**Table 1**

<table>
<thead>
<tr>
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<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testicular pain better</td>
<td>0.01</td>
<td>0.00</td>
<td>48.0</td>
<td>0.000</td>
</tr>
<tr>
<td>Testicular pain no change</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Testicular pain worse</td>
<td>0.01</td>
<td>0.00</td>
<td>48.0</td>
<td>0.000</td>
</tr>
<tr>
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<td>0.71</td>
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<tr>
<td>Worsening of pain</td>
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<td>0.00</td>
<td>48.0</td>
<td>0.000</td>
</tr>
<tr>
<td>No change</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Improvement</td>
<td>0.01</td>
<td>0.00</td>
<td>48.0</td>
<td>0.000</td>
</tr>
</tbody>
</table>

References
Comparing Single Agent and Dual Agent Prophylaxis for Transrectal Ultrasound Guided Prostate Biopsy: A Multi-Center Analysis

Danilo A. Segall1, Noam D. Fine2, Zachary S. Feuer1, Hyezo Kwun1, Jerry C. Blaivas1, Noam D. Fine1, Zachary S. Feuer1, Hyezo Kwun1, Jerry C. Blaivas1, Noam D. Fine1, Zachary S. Feuer1, Hyezo Kwun1, Jerry C. Blaivas1
1SUNY Downstate College of Medicine, Brooklyn, NY; 2SUNY Downstate Medical Center, Department of Urology, Brooklyn, NY; 3Kings County Hospital Center, Division of Urology, Brooklyn, NY

Introduction: Transrectal ultrasound guided (TRUS) prostate biopsy (pbx) remains the gold standard for the diagnosis of prostate cancer (CaP). Appropriate prophylaxis is a significant concern as post-pbx infection and antibiotic resistance rates are rising. Our hypothesis was that the rates of post-pbx infection and sepsis between single-agent fluoroquinolone (FQ) therapy and dual agent antimicrobial therapy for prophylaxis are different.

Materials & Methods: We retrospectively evaluated the records of all consecutive men who underwent TRUS pbx between 2010 and 2014 in two separate institutions. The control institution’s (CI) patients received FQ prophylaxis starting one day prior to the pbx for three days and the experimental institution’s (EI) patients received three days of FQ with the addition of intramuscular (IM) ceftriaxone immediately preceding pbx. We reviewed patient visits to the emergency department within 30 days of pbx to evaluate for infections (positive urine or blood cultures) or sepsis (at least two of the four systemic inflammatory response syndrome (SIRS) criteria and a suspected source of infection).

Results: Of the 1,316 total patients who underwent TRUS pbx, 694 patients at the CI received a FQ and 580 patients at the EI received combination therapy. The rates of post-pbx infection were 1.0% at EI compared to 2.74% at CI (n = 6 and 19, respectively, p = 0.023). The rates of post-pbx sepsis were 0.0% at EI compared to 0.56% at CI (n = 0 and 4, respectively p = 0.045). The relative risk of acquiring infection with combination therapy compared to single therapy was 0.38 (p = 0.036) with a number needed to treat of 58.71.

Conclusion: Dual antimicrobial prophylaxis using IM ceftriaxone plus a FQ is more effective than FQ alone in preventing post-pbx infections and sepsis. Additionally, a NNT of 58.71 shows that there is clinical significance to adding dual antimicrobial prophylaxis in order to prevent infections.

The Utility of Diuresis Rates in Analyzing Bladder Diaries

Noam D. Fine1, Jeffrey P. Weiro2, Jerry C. Blaivas2, Hyezo Kwan2, Zahava Hirsch2
SUNY Downstate Medical Center, Brooklyn, NY

Introduction: Bladder diaries are important diagnostic tools for evaluating patients with lower urinary tract symptoms (LUTS). This study aimed to examine whether renal diuresis rate (DR) – defined as the volume of urine produced per unit time – has an impact on severity of day and night time frequency and urgency of micturition.

Materials & Methods: A retrospective analysis was performed on 202 diaries obtained from patients who presented with LUTS to ambulatory urology clinics. Each diary was recorded over 24 hours and included the subject’s bedtime and waking time, the time and volume of each void, and the urge perception score (UPS) associated with each void. Spearman’s rho (ρ) was calculated to analyze the relationship of DR to UPS and nocturia severity, as measured by the actual number of nightly voids (ANV). Correlations for the entire cohort and individual subjects were examined.

Results: In total, 126 unique patients were evaluated (110 men, 16 women, ages 35-87). The mean (± SD) DR, UPS, and ANV were 1.93 ± 2.62 ml/min, 2.10 ± 0.98, and 1.96 ± 1.51, respectively. For the entire cohort, there was a moderate correlation between nocturnal DR and ANV (ρ = 0.45, p < 0.005), and a weak correlation between diurnal DR and diurnal UPS (ρ = 0.22, p < 0.05). There was considerable variation in individual correlations and for 53 (36%) subjects there was a moderate to strong correlation between DR and UPS at all times, both diurnal and nocturnal (ρ = 0.3 or greater, p < 0.05).

Conclusion: DR can be used to identify a cohort of patients for whom influencing rate of urine production may benefit LUTS. Further, the findings of this study challenge our understanding of the sensory stimuli that trigger the urge to void and support the hypothesis that urgency is multifactorial, with DR being one determinant.

Pre-treatment Factors Predict Hormonal Response To Clomiphene Citrate Therapy

Jacqueline Zillioux1, Nathan Stark1, Raymond Costabile2, Parviz Kavoussi2, Ryan Smith1
1University of Virginia, Charlottesville, VA; 2Austin Fertility and Reproductive Medicine, Austin, TX

Introduction: Clomiphene Citrate (CC) is a common treatment for hypogonadal men who wish to preserve fertility. Predicting biochemical response to CC, however, is not well defined. We sought to determine which men are ideal candidates for CC through an analysis of pre-treatment patient characteristics and lab values.

Materials & Methods: A retrospective review was conducted of 151 hypogonadal patients treated with CC between 2010 and 2014. Pre-treatment factors included demographics and baseline luteinizing hormone (LH), follicle stimulating hormone (FSH), and total and testosterone (TT, T3). Testicular volume (TV) was recorded for 32 patients. Univariate analyses of these factors were performed to investigate their value in predicting response to CC. Non-responders were characterized as those with a post-treatment TT < 300 ng/dL or a decline in TT level. Receiver operator curves (ROC) for significant predictors were then applied.

Results: 115 patients had data sufficient for analysis. Mean age was 36 ± 6 years with treatment course averaging 4.2 ± 4.8 months. 88 patients were characterized as responders with a mean rise in TT of 369 ± 214 ng/dL. Univariate analysis, LH was a significant positive predictor of CC failure (OR 1.05, p = 0.03) (LH < 10.5), while larger testicular volume was associated with improved response (OR 0.63, p = 0.02) (TV ≤ 16.5). No other pre-treatment variables were significant predictors.

Conclusions: In this series, elevated pre-treatment LH was predictive of biochemical failure on CC, although ROC revealed it may not perform well as a predictive test. Testicular volume was a negative predictor of failure with good performance by ROC.

Predictors of Improvement in Semen Parameters in Men Treated with Clomiphene Citrate

Devang Sharma1, Jingzhou Wang1, Nathan Stark1, Parviz Kavoussi2, Raymond Costabile1, Ryan Smith1
1University of Virginia, Charlottesville, VA; 2Austin Fertility and Reproductive Medicine, Austin, TX

Introduction: Clomiphene Citrate (CC) is an off-label treatment for hypogonadal men who wish to preserve or improve fertility. CC has been shown to improve semen parameters in some men, but defined parameters for patient selection remain elusive. Identifying predictors of response would enhance shared decision making between clinicians and patients. We examined the relationship between demographic factors, pre-treatment laboratory values, and duration of CC therapy on changes in semen parameters in hypogonadal men receiving CC.

Materials & Methods: A retrospective chart review was conducted for 151 hypogonadal men treated with CC at two institutions from 2010 to 2014. Patient age, race, pre-treatment LH, FSH, estradiol, and total testosterone, pre-treatment testicular volume, and duration of CC therapy were examined. Patients were excluded if they lacked this data or pre-treatment semen analyses. Univariate analyses were conducted to evaluate the relationship between each aforementioned factor and changes in sperm motility, concentration, and semen volume.

Results: A total of 81 patients met criteria for analysis. Paired T-tests showed improved motility (P < 0.05), a trend toward improved sperm concentration (P = 0.059), and no change in seminal volume (P > 0.05) in men after treatment. Univariate analysis showed that none of the studied factors were predictive of change in semen parameters.

Conclusions: Patient age, race, pre-treatment LH, FSH, estradiol, and testosterone, pre-treatment testicular volume, and length of CC therapy were not predictive of changes in sperm motility and sperm concentration observed in our study sample. While CC remains a viable treatment for male infertility, the ideal patient for this therapy remains elusive. Larger studies may help clarify predictors of success.
Moderated Poster Session 3: Prostate Cancer

P24

Utilization of Sperm Cryopreservation Before and After Implementation of an Institutional Fertility Preservation Program
Devang Sharma1, Jessica Keim-Malpass1, Hannah S. Fitzhugh1, Michael G. Douvas1, Linda R. Duska2, Laura P. Smith3, Scott Farecell4, Ryan P. Smith2
1University of Virginia, Charlottesville, VA; 2Reproductive Medicine and Surgery Center of Virginia, Charlottesville, VA

Introduction: Fertility Preservation (FP) options are underutilized among reproductive-aged cancer patients considering cancer treatment. Formal programs may increase FP awareness and participation among clinicians and patients. We examined whether the implementation of a FP program increased sperm cryopreservation among reproductive-aged cancer patients at our institution.

Materials & Methods: A retrospective chart review was conducted for patients seen for FP from 2014-2016 at the University of Virginia. Data captured included number of consultations, patient demographics, cancer type, utilization of sperm cryopreservation, and reasons forForging cryopreservation. Consultations from 2014 served as a baseline prior to FP educational efforts in 2015, including inter-disciplinary lectures and Epic prompts. The primary outcome was the number of consultations seen annually thereafter. The secondary outcome was the number of men utilizing sperm cryopreservation.

Results: In 2014, 6 men were seen in consultation for FP with all 6 (100%) utilizing cryopreservation. Forty-two and 22 men were seen in consultation in 2015 and 2016, with 13 (93%) and 14 (64%) utilizing cryopreservation, respectively. The mean patient age was 26 years old. Cancers were hematologic (45%), genitourinary (26%), neurologic (12%), head/neck (7%), and other (10%). Reasons for forgoing cryopreservation included prior initiation of chemotherapy (44%), lack of interest (22%), physical inability to provide a sample (22%), and excessive stress (11%). Men forgoing cryopreservation did not report financial limitations as a deterrent.

Conclusions: The number of consultations per year for FP increased threefold after implementation of a FP program at our institution. The majority of men seen in consultation utilized cryopreservation. The most common reason for forgoing cryopreservation was exclusion due to prior initiation of chemotherapy. We conclude that our FP program increased awareness of and participation in sperm cryopreservation.

Education efforts should continue in order to optimize outreach and utilization, specifically focusing on the need to perform cryopreservation prior to chemotherapy.

P25

Prostate MRI-Fusion Biopsy Results In a Large Community Practice
Katherine Cole, Michael E. Franks, David Miller, Brad Bernier, Matt Bassignani, Thomas Henry, Nada Wood
Virginia Urology, Richmond, VA

Introduction: MRI-Fusion-guided biopsy (TBx) is increasingly utilized for detection of clinically relevant prostate cancer in academic settings. This study examines whether TBx demonstrates improved detection of relevant prostate cancers (PCa) compared to 12-core standard biopsy (StdBx) in community practice and includes active surveillance (AS) cohorts.

Materials & Methods: Prostate MRI and TBx experience of 400 patients over a 3-year period were reviewed. Outpatient MRI’s were assessed by radiologists specializing in prostate MRI. UniNav Fusion Biopsy System (Phillips, InVivo) was used. Outpatient biopsies were performed using standardized clinical pathways.

Results: Overall cancer detection rate was 73% (n = 400). Cancer detection rates were: TBx [61% (245/400)], GS ≥ 7 [61% (149/245)], and StdBx [57% (208/364)]; GS ≥ 7 [44% (92/208)]. Alone, TBx missed 46 tumors, StdBx missed 56 (Table 1). Transition/anterior TBx [61% (245/400)]; GS ≥ 7 [61% (149/245)], and StdBx [57% (208/364)]; GS ≥ 7 [44% (92/208)]; GS ≥ 7 (3+4), PI-RADS 3/4/5 were [9% (9/99)], [28% (37/131)], and StdBx [41% (55/135)]; GS ≥ 7 (3+4), PI-RADS 3/4/5 were [9% (9/99)], [28% (33/115)], and [53% (63/120)], respectively (Table 2). Of 45 patients with prior GS diagnosis by STDBx, TBx detected PCA in 83/126 (66%); with upgrading in 36/83 (43%). Of 47/83 (57%) without upgrading on TBx, 12 had tumor core volume > 50%, and 49/83 (59%) proceeded to definitive treatment.

Conclusions: TBx can be successfully integrated into a large, community-based urology practice. Data supports the value of TBx in detection of clinically relevant prostate cancers. Our current PI-RADS scoring/biopsy concordance rates compare to published results. Examination of AS cohort supports use of MRI/TBx platform.

P26

Underestimation of Prostate Cancer Risk Using the Prostate Cancer Prevention Trial Risk Calculator Using the Prostate Cancer Prevention Trial Risk Calculator

Erik Y. Che, Jeffrey L. Ellis, Fakhrai V. Ramsey, Daniel D. Eun, Michael J. Metro, Michel A. Pontari, Jack H. Mydlo, Adam C. Reese
Temple University, Philadelphia, PA

Introduction: The Prostate Cancer Prevention Trial risk calculator (PCPT-RC) is commonly employed to estimate prostate cancer risk and determine the need for prostate biopsy. Our objective was to assess the accuracy of the PCPT-RC in estimating cancer risk in our predominantly African American (AA) patient population.

Materials & Methods: Patients undergoing biopsy at our institution between July 2012 and November 2015 were included. The PCPT-RC 2.0 formula was used to determine the predicted risk of any and high-grade prostate cancer for each patient. Calibration plots were generated to compare PCPT-RC predicted risk vs. observed biopsy outcome stratified by race. The Hosmer-Lemeshow goodness of fit test was performed on each cohort, and the area under the receiver operating characteristic curve (AUC) was calculated for each outcome of interest.

Results: 616 patients met inclusion criteria, including 373 (60.5%) AA and 243 (39.4%) non-AA men. Positive prostate biopsies and high-grade cancers were more common in AA men (table 1). Calibration plots for the prediction of prostate cancer and high-grade prostate cancer, with the corresponding AUC and Hosmer-Lemeshow p-value for each outcome of interest, are shown in the figure. The observed prevalence of cancer exceeded the PCPT-RC predicted risk in men of all races.

Conclusions: In our patient population, the PCPT-RC underestimated the presence of prostate cancer and high-grade prostate cancer in men of all races. Further investigation is needed to determine whether this risk underestimation is observed in other patient populations, as these findings have significant implications when using the PCPT-RC to counsel patients.

P27

Hospitalization and Emergency Department (ED) Visits Following 2010-2000 Consecutive Prostate Needle Biopsies
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Penn State Milton S. Hershey Medical Center, Hershey, PA

Introduction: Transrectal ultrasound-guided prostate needle biopsy (TRUS-PNB) is essential for diagnosis of prostate cancer. Complications remain a valid patient concern. We reviewed a contemporary cohort of patients undergoing TRUS-PNB at a single institution to determine the incidence and predictors of complications requiring hospital admission or ED visits.

Materials & Methods: The charts of 2000 consecutive patients undergoing TRUS-PNB at a tertiary care academic medical center were reviewed. All patients received antibiotic prophylaxis. Indications, management, and outcomes for hospital admission and ED visits within 30 days of PNB were identified. Patients with diabetes or on anticoagulation were reviewed for association with complications.

Results: Fifty patients (2.5%) required ED visit or hospitalization within 30 days of TRUS-PNB. (Table 1) Twenty-four (1.2%) patients were admitted for urosepsis with eight (0.4%) requiring ICU level care. Patients with urosepsis had a mean hospitalization of 4 days and 75% (16 of 24) carried quinolone-resistant E. coli organisms. Thirteen patients (67%) presented with acute urinary retention requiring catheterization. Twelve patients (6%) presented with gross hematuria, half requiring bedside clot evacuation. Complications among 1,000 and 1,001-2,000 patients were comparable except for the number of Clavien grade IV complications, which were two and six respectively. Diabetes (p = 0.02) and anticoagulation (p = 0.066) were the only patient variables associated with ED visit or hospital admission on univariate analysis. (Table 2)

Conclusions: In this large series of TRUS-PNB, we observed a 2.5% rate of complications requiring hospital admission or ED visit. Patients with diabetes or on anticoagulation may be at higher risk for complications following TRUS-PNB.
**P28**

A Simple Povidone Iodine Gel Rectal Prep for TRUS Biopsy of the Prostate
Gary S. Falk
Northern Virginia Urology, MIA-GWU, Reston, VA

**Introduction:** Previous studies have strongly supported the use of a pre-TRUS biopsy bowel prep of povidone iodine (tropical, enteral or suppository) to reduce post TRUS biopsy infectious. Our retrospective study uses a commercially available 10% povidone iodine gel at the time of prostate biopsy as a lubricant and topical antiseptic. This study primarily assessed the incidence of post procedural infections requiring hospitalization or admission for treatment of sepsis.

**Materials & Methods:** A 3 year retrospective study of consecutive TRUS biopsy patients performed by 2 urologists in a community office and surgery center setting. A total of 410 patients underwent the procedure. Every patient received Cipro 500 mg p.o., 2 hours before the biopsy, 12 hours and 24 hours later for a total of 3 doses. ASC patients received 1 gm Ancef IV concurrently with their procedure as well. All patients had a DRE prostate using the 10% povidone iodine gel to palpate the prostate for abnormalities and “paint” the anterior rectal wall. This was followed by a generous application of the 10% povidone-iodine gel to the rectal transducer prior to anal insertion.

**Results:** A total of 410 consecutive patients over a 3 year period were studied, 287 patients performed in the office under local and 123 patient’s performed in the ASC under IV sedation. No patients were hospitalized for infectious complications requiring treatment, including sepsis, for an incidence of 0%.

**Conclusions:** By using an inexpensive, commercially available 10% povidone iodine gel at the time of TRUS biopsy we had no reported infections requiring hospitalization for 410 consecutive patients over a 3 year period. The 4 ounce bottle of 10% povidone iodine gel is approximately $1.59/bottle yielding 2 or 3 patient doses per bottle. Recommend a prospective study to further evaluate this simple approach for the reduction of post TRUS-prostate biopsy infectious complications.

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**P29**

Trends in Prostate Cancer Surgical Pathology and the Impact of Active Surveillance
Thomas Gerald, Allen Burke, Haas-Ching Kao, Inger Rosen, Shiv Srivastava, Jennifer Cullen, Isabell Sesterhenn
Walter Reed National Military Medical Center, Bethesda, MD; Joint Pathology Center, Silver Spring, MD, Center for Prostate Disease Research, Rockville, MD

**Introduction:** Active surveillance (AS) is an important management strategy for low risk (LR) prostate cancer (CaP). Oncologic outcomes have been encouraging, but a subset of patients demonstrates adverse pathology at radical prostatectomy (RP). This study describes temporal trends in adverse pathology at RP and evaluates the impact of AS on those trends.

**Materials & Methods:** This retrospective cohort study evaluated CaP patients undergoing RP from 1993-2015 at an equal access military institution. AS patients met NCCN LR criteria, were aged ≤75 years, and had RP > 6 months after CaP diagnosis with no other prior treatment. Whole mount prostatectomy specimens were examined using the 2014 ISUP Gleason grading. Adverse pathology (AP) was defined by Gleason upgrading (GU) from biopsy to RP, extra-prostatic extension (EPE), or seminal vesicle invasion (SVI). Rates of AP over time were evaluated with Wilcoxon Mann-Whitney test. Chi-square test was used to compare AP among AS and all other LR CaP patients from 2005-2015.

**Results:** There were 1,772 patients who underwent RP from 1995-2015. Trends in AP are shown in Figure 1. From 2005-2015, 426 LR patients underwent RP, of whom 43 (10%) met AS criteria. AS patients had a longer time to surgery (9.5 vs. 2.9 months, p < 0.01), and AS management increased from 2005-2015 (9.1% vs. 25.0%, p = 0.025). There were no significant differences in any AP parameter for those on AS versus all other LR CaP.

**Conclusions:** Patients managed on AS did not have an increased risk of AP when compared to those undergoing immediate RP. PSA screening practices and patient selection for surgery may better explain recent adverse trends.

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**P30**

Treatment Patterns and Variation in Care across Different Urology Practice Sites Treating Patients with Metastatic Castration-resistant Prostate Cancer
Michael Fabrizo, Mark DeGuenther, Bryan Mehlhaff, David A. Morris, Dana Jacoby, Adam C. Reese
Temple University Hospital, Philadelphia, PA

**Introduction:** Nationally recognized treatment guidelines have been established for the treatment of advanced prostate cancer patients, but little is known about guideline adherence and treatment sequencing. This study described treatment patterns and sequences across five community urology practices located in the United States.

**Materials & Methods:** Electronic medical records from five practices (located in MD, TN, AL, IL, OR) were used to identify adults diagnosed with metastatic castration-resistant prostate cancer (mCRPC) who were initiated on an mCRPC therapy (i.e., oral mCRPC therapies (abiraterone acetate plus prednisone and enzalutamide), sipuleucel-T, and radium-223) between 01/2014-09/2016. Treatment patterns were retrospectively evaluated from mCRPC diagnosis to the earliest between end of clinical activity, death, or data cutoff.

**Results:** A total of 540 mCRPC patients were included. The mean age was 75.8 years (range: 74.1-77.4) across practices and 36.5%, 17.8%, 14.8%, 13.1% of patients were treated in MD, TN, AL, IL, and OR practices, respectively. The majority of patients were initiated on sipuleucel-T (47.8%; range: 33.8%-66.0%) or oral mCRPC therapy (47.6%; range: 28.4%-73.8%). Moreover, radium-223 was the first mCRPC therapy for 4.8% of the population (range: 1.0%-12.7%). During the 6-month baseline period, in patients with reported tests, the mean PSA level was 27.7 ng/ml (range: 36.4-97.6), and the mean testosterone level was 15.9 g/dl (range: 14.9-17.8). The mean observation period was 290 days and observed treatment sequences varied across practices (Table).

**Conclusions:** This retrospective EMR study suggests that while there may be variations in baseline characteristics of mCRPC patients, and in administration of mCRPC therapies amongst large urology groups, there appears to be a learning curve in adopting the best treatment patterns for the administration of these pharmaceuticals.

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**P31**

Associations of Chronic Kidney Disease with Prostate Cancer Severity and Treatment
Temple University Hospital, Philadelphia, PA

**Introduction:** The association between chronic kidney disease and prostate cancer (CaP) risk and severity remains unclear. We studied associations of CKD severity with CaP risk, CaP treatment modality, and pathological outcomes for those receiving radical prostatectomy (RP).

**Materials & Methods:** Patients undergoing prostate biopsy between 2012-2015 were retrospectively identified from our institutional database. Associations between CKD stage and biopsy results were assessed. For patients with positive biopsies, treatment modality and clinicopathologic parameters were compared by CKD stage. For those that underwent RP, clinicopathologic factors and measures of disease risk were analyzed.

**Results:** For 645 men who underwent biopsy, CKD stage was not associated with the likelihood of positive biopsy, Gleason Score, PSA value, or number of positive biopsy cores (table 1). In CaP patients, advanced CKD stage was associated with higher use of radiation therapy as opposed to RP for 314 patients receiving mCRPC treatment. CKD patients trended toward higher pathological Gleason scores and CAPRA-S scores (table 2).

**Conclusions:** In men who underwent prostate biopsy, severity of CKD was not associated with the likelihood of positive biopsy or high -grade cancers. For men receiving RP, trends were observed towards more advanced tumors in patients with CKD. These trends may be attributed to selection bias. Men with severe CKD were less likely to undergo surgery, suggesting surgery may be reserved for CKD patients with advanced or aggressive disease.
Variation in Prostate Cancer Risk by County Population Density

David M. Strauss, Nathan Peffer, Martus Ge, Adam Reese
Temple University, Philadelphia, PA

Introduction: The association of population density with prostate cancer risk has not been studied as extensively as other characteristics like age, race, and family history. We aimed to evaluate the differences in prostate cancer between men residing in rural, suburban, metropolitan, and urban United States counties.

Materials & Methods: Using the Surveillance, Epidemiology, and End Results (SEER) 18 registries from 2010-2013, we identified patients with prostate adenocarcinoma. Population density was classified in order of decreasing density as urban, metropolitan, suburban, or rural. Demographic, socioeconomic, and disease-specific data were analyzed, and compared by population density.

Results: Of 162,876 total patients, 100,517 (61.8%) resided in urban counties, 44,749 (27.5%) in metropolitan counties, 9,995 (5.9%) in suburban counties, and 7,900 (4.9%) in rural counties. Rural patients were older, more often white, had lower incomes, and were less likely to have a high school education as compared to patients of other counties (Table 1). Patients in rural regions additionally showed the highest incidence of elevated PSA, advanced Gleason scores, advanced stage, and higher NCCN risk group (Table 2).

Conclusions: This analysis of the SEER database suggests that men from rural counties are diagnosed with more advanced and aggressive prostate cancer than the suburban, metropolitan, and urban counterparts. These rural areas may benefit from community outreach to increase prostate cancer awareness, and to promote the early detection and aggressive treatment of prostate malignancies.

Table 1. Multivariable Logistic Regression for NCCN Intermediate or High Risk Prostate Cancer

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<tr>
<th>Population Density</th>
<th>Odds Ratio (95% CI)</th>
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Table 2. Multivariable Logistic Regression for Gleason Grade Upgrading

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PSA Screening History and Prostate Cancer Aggressiveness

Thomas Gerald1, Allen Burke2, Huai-Ching Kuo3, Inger Rosner1, Shiv Srivastava2, Jennifer Cullen1, Isabell Sesterhenn2
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Introduction: Following the USPSTF recommendations against PSA screening for prostate cancer (CaP) in 2008 and 2012, PSA screening has decreased with concomitant increases in CaP aggressiveness and disease-specific outcomes. This analysis of the SEER database suggests that men from rural counties are diagnosed with more advanced and aggressive prostate cancer than the suburban, metropolitan, and urban counterparts. These rural areas may benefit from community outreach to increase prostate cancer awareness, and to promote the early detection and aggressive treatment of prostate malignancies.

Materials & Methods: This retrospective cohort study evaluated CaP patients undergoing radical prostatectomy (RP) from 1994-2014 at a single institution. Excluding the diagnostic PSA, screening history was categorized as: 6 PSA’s prior to CaP diagnosis (uppermost quartile), 1-5 (lower 3 quartiles), vs. no screening history. Whole-mount prostatectomy specimens were classified using 2014 ISUP Gleason grading system. Multivariable logistic regression (MLR) was used to examine NCCN risk strata (intermediate-high vs. low) and PSA, advanced Gleason scores, advanced stage, and higher NCCN risk group (Table 2).

Results: There were 1,742 eligible patients with a median follow-up and age at RP of 10.3 years and 71.1 years, respectively. Prior to CaP diagnosis, 42% and 19% of men had 1-5 and ≥ 6 PSA screenings, respectively.

Conclusions: An absence of PSA screening may lead to more aggressive disease at presentation and poorer clinical outcomes. PSA screening remains the most important aspect of CaP detection in this era. Further research in prognostic indicators may improve clinical decision-making.

Table 3. Multivariate Logistic Regression for Gleason Grade Upgrading

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Subharmonic Imaging: Pilot Study of a Novel Contrast-enhanced Ultrasound Modality for Prostate Biopsy

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Introduction: Subharmonic imaging (SHI) is a new imaging technique with microbubble ultrasound contrast with improved tissue suppression. We conducted a pilot study to optimize contrast enhanced subharmonic imaging of the prostate.

Materials & Methods: Five patients referred for prostate biopsy participated in this pilot study. Each patient was imaged with a transrectal 18L-9D system (GE Healthcare, Milwaukee, WI) that was modified to allow SHI. Ultrasound contrast was infused intravenously using Definity™ (Perflutren Lipid Microsphere, Lantheus Medical Imaging, Inc; N. Billerica, MA) diluted in 50 ml of saline. Images were obtained with transverse sweeps through the prostate using conventional gray scale, color Doppler, power Doppler, and conventional contrast harmonic imaging as well as SHI using 8 different pulse shapes. Flash replenishment imaging was evaluated with conventional contrast harmonic and SHI modes. Doppler flow and contrast enhancement were rated on a 5 point subjective scale for each prostate sextant.

Results: Contrast enhancement was observed with both harmonic and SHI techniques in all 5 subjects. There was extensive variation in subharmonic signal among the subharmonic waveform shapes. We identified an optimal subharmonic waveform shape and pulse power which provided improved contrast signal and tissue suppression. Contrast enhanced imaging demonstrated areas of focal contrast enhancement in 2/5 patients; areas of focal enhancement were better delineated with flash replenishment imaging. Biopsy cores obtained from these patients demonstrated high grade prostate cancer in biopsy cores targeted to areas of focal contrast enhancement.

Conclusions: This first in-vivo application of contrast enhanced SHI demonstrated contrast enhancement in 5/5 patients, with focal contrast enhancement corresponding to high grade prostate cancer in 2/5 patients. SHI provided improved contrast signal and tissue suppression relative to conventional harmonic imaging. SHI may allow improved detection of high grade prostate cancer based upon improved visibility of tumor vasculature.

Funding: S2R1CA202214-02 (EJH)
Impact of the Oncotype DX Genomic Prostate Score on Treatment Decision-Making in Men with Low/Intermediate Prostate Cancer
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Levin Katz School of Medicine at Temple University, Philadelphia, PA

Introduction: The Oncotype DX Genomic Prostate Score (GPS) test is a biopsy-based 17-gene assay that predicts adverse pathology in men with NCCN low and intermediate risk prostate cancer. Here we analyze the impact of the GPS test on treatment decision-making in men with prostate cancer considering active surveillance (AS).

Materials & Methods: We identified men with NCCN very low, low, and intermediate risk (Gleason score 3+4) prostate cancer evaluated by a single surgeon from 2013-2016. We further identified men in this group with GPS testing and analyzed how GPS results influenced selection of initial treatment modality.

Results: Of 175 men with NCCN very low, low, and intermediate risk prostate cancer, 62 (35.4%) had GPS testing. 100 men (57.1%) were initially planned on AS after receiving diagnostic biopsy results, with 62 of these men (62%) having GPS testing for further risk assessment. GPS results changed recommended treatment modality in 10 men (16.1%) initially planning to undergo AS, including 4 who underwent radical prostatectomy (RP) and 6 who received radiation therapy. Table 1 shows NCCN risk groups and GPS results with men stratified by whether GPS testing changed recommended treatment modality. Table 2 shows disease characteristics of the 4 men who underwent RP.

Conclusions: Results of the Oncotype Dx GPS test changed recommended treatment modality in 16% of men considering active surveillance, and were most likely to alter decision-making in men with intermediate risk disease. Further studies are needed to determine whether patients benefit from the changes in treatment strategy dictated by GPS results.

Adherence to Testing and Treatment Recommendations Under Active Surveillance
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Introduction: As active surveillance (AS) for prostate cancer has gained acceptance, multiple institutions have begun reporting patient outcomes. However, the success of AS is dependent on patient and physician adherence to recommended guidelines for monitoring and treatment. Thus, we report adherence rates for AS patients at our institution.

Materials & Methods: From 1995 to 2016, 1559 men were prospectively enrolled in our AS program. Patients were advised to undergo semiannual PSA and DRE examinations in addition to annual biopsies early in our experience. Curative intervention was generally recommended upon grade reclassification (GR), defined as Gleason score (GS) ≥ 7 (grade group [GG] ≥ 2) on surveillance biopsy. Adherence to follow-up testing and treatment recommendations was determined by calculating the relevant proportion of men at each follow-up year.

Results: The median follow-up time was 4.0 years, with 140 men (9.0%) followed for > 10 years. The median time between consecutive PSA tests was 6 months (IQR 5-8). The overall rates of semiannual and annual PSA testing were 59% and 88%, respectively. The median time between consecutive biopsies was 13 months (IQR 12-15). The overall biopsy testing rate was 63% but was lower among men who were older, had longer follow-up, had very low-risk disease, or had lower PSA density (all p < 0.05). The loss to follow-up and withdrawal rates were 1.4% and 2.6% per year, respectively. Curative intervention was performed in 73%, 82%, and 98% of men who upgraded to GG2, GG3, and GG4-5 respectively. Men who did not undergo intervention despite clinical indications were significantly older (78 vs. 71 years P < 0.05) than those who received intervention.

Conclusions: In order to understand the feasibility of AS and accurately interpret a program's outcomes, it is important to examine adherence to recommendations for follow-up testing and secondary intervention. We recommend that such metrics be included in future reports on AS outcomes.

Exploring the Obesity Paradox in Prostate Cancer: A Study of a Population of High-Risk African American Men
Samuel A. Gold1, Adam Z. Becker2, Andrew Tam1, Igor Inoyatov3, Zachary S. Feuer1, Daniel A. Segal1, Jeffrey P. Weiss1, Llewellyn M. Hyacinthe1, Brian K. McNiel4, Andrew G. Winters1
1SUNY Downstate College of Medicine, Brooklyn, NY; 2University of Rochester Medical Center, Department of Public Health Sciences, Division of Epidemiology, Rochester, NY; 3SUNY Downstate Medical Center Department of Urology, Brooklyn, NY

Introduction: The “Obesity Paradox” postulates that obesity plays a protective role in the progression among patients with malignancy including colorectal, kidney and prostate cancer (PCa). Since the PCa obesity paradox has not been studied in high-risk African American men, we aim to evaluate the association between obesity status and the severity of PCa at presentation and cancer progression in this population.

Materials & Methods: Demographic, clinical, and pathologic data were collected retrospectively from 470 men treated for PCa at two institutions between 2012-2015. Biologic analyses were used to compare patient demographic and clinical characteristics across three BMI categories (Normal weight, Overweight, and Obese). Two multivariable logistic regression models that accounted for potential confounders were used to test the association between BMI and risk of high-grade malignancy (defined as ≥7 Gleason score) and risk of metastasis.

Results: A total of 470 men met inclusion criteria: 165 (35%) and 102 (22%) were overweight and obese, respectively. Approximately 40% of patients developed metastatic disease during follow-up. Overweight and obese patients were less likely to present with high-grade PCa with 29% and 31% decreased odds, respectively, when compared to normal weight patients. Furthermore, overweight and obese patients were 48% and 59% less likely to develop metastases compared to normal weight patients while holding all demographic and treatment characteristics constant. Interestingly, having hypertension was also associated with decreased risk of high-grade PCa and development of metastases.

Conclusions: In this study, we found that obesity appears to provide a protective effect against the development of high-grade prostate cancer in African American men. In addition, our results suggest that obese African Americans with high-grade prostate cancer may experience an enhanced response to hormonal ablation when compared with normal weight patients. Further studies are required for validation and for understanding mechanistic underpinnings of this phenomenon.

Explanation and Prediction of Prolonged Length of Stay Following Robot Assisted Radical Prostatectomy
Marshall C. Strother, Kellie McWilliams, Ross Cockrell, David Lee
University of Pennsylvania, Philadelphia, PA

Introduction: The NSQIP database was used identify the causes for and preoperative diagnostic biopsy results, with 62 of these men (62%) having GPS testing for further risk assessment. GPS results changed recommended treatment modality in 10 men (16.1%) initially planning to undergo AS, including 4 who underwent radical prostatectomy (RP) and 6 who received radiation therapy. Table 1 shows NCCN risk groups and GPS results with men stratified by whether GPS testing changed recommended treatment modality. Table 2 shows disease characteristics of the 4 men who underwent RP.

Conclusions: In order to understand the feasibility of AS and accurately interpret a program's outcomes, it is important to examine adherence to recommendations for follow-up testing and secondary intervention. We recommend that such metrics be included in future reports on AS outcomes.
Comparison of Prostate Cancer Detection Rates Between MRI Fusion Targeted Biopsy versus Ipsilateral Targeted Hemi Biopsy and Extended Target Biopsy
Keith Kovaroukal1, Sarah A. Holzman1, Trevor Cecar1, Lambros Simantakos2, Gaurav Bandi1, Jonathan Hwang3, John Lynch3, Pranay Krishnan4, Michael C. Risk4, Sharad C. Mathur5, Yan Bandi1
1Andover Urology, Andover, MA; 2OPKO Health, Miami, FL; 3Department of Urology, University of Miami and Miami Veterans Affairs Medical Center, Miami, FL; 4Karmanos-Sinaia Medical Center and Durham Veterans Affairs Medical Center, Durham, NC; 5Duke Cancer Institute and Durham Veterans Affairs Medical Center, Durham, NC; 6Medical University of South Carolina and Ralph H. Johnson Veterans Affairs Medical Center, Charleston, SC; 7Department of Urology and Population Health, New York University and Manhattan Veterans Affairs Medical Center, New York, NY; 8University of California, Irvine and Veterans Affairs Long Beach Health System, Orange, CA; 9Department of Urology, University of Minnesota and Minneapolis Veterans Affairs Medical Center, Minneapolis, MN; 10Pathology and Laboratory Medicine Service, Kansas City Veterans Affairs Medical Center, Kansas City, KS; 11OPKO Diagnostics, Teterboro, MA; 12Baylor University School of Medicine and Southeast Louisiana Veterans Health Care Center, New Orleans, LA

Introduction: Advances in multiparametric magnetic resonance imaging (mpMRI) has led to increased MRI and ultrasound (US) fusion biopsies for prostate cancer. While targeted biopsies (TB) of MRI-identified lesions has been shown to identify clinically significant prostate cancer, the majority of centers still perform concurrent extended sextant 12 core biopsies (SB) due to concern of understaging with TB alone. We evaluated if modified targeted biopsy templates produced acceptable cancer detection rates while reducing the absolute number of biopsies performed.

Materials & Methods: We identified 111 MRI-US fusion biopsies with concurrent SB at our institution. MRI-studies were reviewed by a single urologist and radiologist. Patients with midline targets or targets extending from base to apex were excluded. We compared cancer detection rates between TB alone versus SB, ipsilateral hemi biopsy (IH, target plus ipsilateral six biopsies of hemiprostate) versus SB, and extended target biopsy (ETB, target plus four biopsies in affected and adjacent sextant) versus SB (Figure 1). For ETB, mid targets were ipsilateral hemi biopsy. Low, intermediate and high risk were defined as Gleason scores 6, 7, and 8 to 10 respectively.

Results: Using TB alone, 22.5% of cancers were missed or upgraded to higher risk. Of missed cancers, 6.3%, 9.9% and 0% were low, intermediate and high risk respectively. Detection rates improved with IH and ETB with 5.4% and 6.3% of missed cancers or upgrades respectively. No high risk tumors were missed with IH and ETB.

Conclusions: Extending targeted biopsy template to include the ipsilateral hemiprostate or adjacent sextant(s) improved detection rates compared to TB-alone. While further study is warranted, our results suggest fewer additional biopsies may be performed during fusion biopsy without missing significant disease.

Figure 1

Suprapubic Versus Urethral Drainage at the Time of Robotic-Assisted Radical Prostatectomy: Cumulative Analysis of Comparative Studies
Andrew T. Tracey, Ricardo Autoimo, Baruch M. Grob, Georgi Guruli, Lance Hampton
Virginia Commonwealth University, Richmond, VA

Introduction: Suprapubic catheterization as an alternative to standard urethral catheterization has been suggested to decrease postoperative pain in patients undergoing robotic-assisted radical prostatectomy (RALP). We performed a cumulative analysis of studies comparing these two types of urinary diversions in this setting.

Materials & Methods: Studies comparing urethral catheter (UC) versus suprapubic tube (SPT) at time of RALP were included in the meta-analysis following a systematic review of the literature. Baseline patient/disease characteristics, perioperative outcomes, postoperative pain, continence, catheter related issues, and complications were analyzed. Pooled odds ratios (ORs) and weighted mean differences (WMDs) with 95% confidence intervals (CIs) were calculated using fixed-effect or random-effect models.

Results: Eight studies (SRT; n=2) and seven studies (UC; n=7) were included in the analysis. There was no statistically significant difference between study groups in terms of age, prostate weight, baseline IPSS, preoperative Gleason score, or OR time. The UC-RALP group had higher BMI (WMD: 0.25 kg/m2; 95% CI: 0.13, 0.37, p = 0.001) and baseline PSA (WMD: 0.47 ng/ml; 95% CI: 0.23, 0.70, p < 0.001) compared to the SPT-RALP group. There was no statistically significant difference between the groups regarding cancer detection rates, TNM stage, and surgical complications.

Conclusions: Our results suggest that SPT-RALP offers similar outcomes when compared to standard UC-RALP, with the advantage of decreased postoperative pain. Rates of catheter-related issues was similar between the two approaches.

Updated Nomograms Predicting Biochemical Recurrence Following Radical Prostatectomy for Clinically-localized Prostate Cancer
Carling Cheung, Sasha Druskin, Marianna Zahrab, Elizabeth Humphreys, Alan Partin, Misop Han
Johns Hopkins Medical Institutions, Baltimore, MD

Introduction: Biochemical recurrence (BCR) following definitive treatment for prostate cancer (PCa) is a poor prognostic event. Using a large contemporary database of men undergoing radical prostatectomy (RP), we created nomograms tables incorporating multiple clinical and pathological factors to predict BCR in the pre- and post-operative settings. This study provides an update to our previously-published nomograms from 2003.

Materials & Methods: Between 2004 and 2016, 5799 men underwent RP at our institution for cT2c PCa. The effects of multiple covariates on freedom-from-BCR (PSA < 0.2 ng/mL) were examined using Cox proportional hazards regression modeling. One model was created using only pre-operative covariates (biopsy grade, clinical stage, and preoperative PSA); another was created using both pre- and post-operative covariates (pathological grade and stage, and pre-operative PSA). The results from the present study were compared to that of the 2003 study.

Results: In total, 385 patients (6.6%) developed BCR within a median follow-up period of 3 years (range 1-11). Freedom (%) from BCR at 5/10 years was 90/86. This is compared to the lower corresponding rates in the 2003 study: 84/72. Compared to the 2003 cohort, the present cohort had a higher percentage of patients with ≤ T2a disease (95% vs. 77%), PSA ≤ 10 ng/mL (92% vs. 79%), biopsy GS ≤ 6 (62% vs. 61%), and organ-confined disease at RP (76% vs. 50%). Nomogram tables predicting BCR at 3/5/7/10 years following RP were created for the pre- and post-operative risk models.

Conclusions: The nomograms presented in this study provide a simple method of predicting the risk of BCR at multiple time points following RP for clinically-localized PCa. These tables have been updated to reflect a contemporary patient cohort and PCA grading system. They may help physicians and patients make informed decisions regarding treatment.
**Moderated Poster Session 3: Prostate Cancer**

**P43**

**Short-Term Outcomes of Active Surveillance for Prostate Cancer in Minority Populations**

Jun H. Song, Benjamin Waldkott, Adam C. Reese

Levitt Katz School of Medicine at Temple University, Philadelphia, PA

**Introduction:** The safety and efficacy of active surveillance (AS) for managing low-risk prostate cancer (CaP) in minority patients has not been established. We describe outcomes for African American (AA) and Hispanic patients managed with AS at our institution.

**Materials & Methods:** We analyzed AA and Hispanic men with low-risk, intermediate-risk, or high-risk CaP managed with AS at our institution between 08/2013 and 08/2016. Patients were managed using standard protocols, with AS discontinuation and disease reclassification being noted in the Table. 16 men (15 AA and 1 Hispanic, 27.5% of cohort) underwent delayed treatment due to disease reclassification and delayed treatment with relatively short-term follow-up.

**Conclusions:** In minority patients managed with AS for CaP, we identified high rates of AS discontinuation and delayed treatment with relatively short-term follow-up. Further studies are needed to identify specific indications leading to such duplication. Adverse clinicopathologic features were associated with higher duplicate imaging rates.

**Results:** Of 68 patients enrolled in AS, 48 (70.6%) were AA and 10 (14.7%) were Hispanic. Median follow-up was 12.5 months. Patient demographic and disease characteristics, reasons for AS discontinuation, and pathological outcomes after delayed radical prostatectomy (RP) are shown in the Table. 16 men (15 AA and 1 Hispanic, 27.5% of cohort) underwent delayed treatment due to disease reclassification and delayed treatment with relatively short-term follow-up. Patient demographic and disease characteristics, reasons for AS discontinuation, and pathological outcomes after delayed radical prostatectomy (RP) are shown in the Table. 16 men (15 AA and 1 Hispanic, 27.5% of cohort) underwent delayed treatment due to disease reclassification and delayed treatment with relatively short-term follow-up.

**Conclusions:** In minority patients managed with AS for CaP, we identified high rates of disease reclassification and delayed treatment with relatively short-term follow-up. Further research is needed to confirm the safety of AS in these minority populations.

**P45**

**Temporal Trends of Upgrading from Biopsy to Radical Prostatectomy among Patients with Gleason Score 6 at Biopsy**

Rishaw Alam, Jeffrey J. Tosoian, Tamara L. Lottan, Ashley E. Ross

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**Introduction:** The management of prostate cancer has changed since the 1990s. We evaluated trends of upgrading among patients with Gleason score (GS) 6 at biopsy over time.

**Materials & Methods:** We analyzed 14499 patients with GS6 on biopsy undergoing radical prostatectomy (RP) at our institution between 1990 and 2016. Patients were categorized based on their outcome at RP: no grade change (biopsy GS6 to RP GS6), upgrade (biopsy GS6 to RP GS ≥ 3+4+7), or downgrade (biopsy GS6 to RP no cancer). Chi-square and interrupted time series analysis were used to evaluate trends, and multivariable Poisson regression was used to estimate risk ratios (RR).

**Results:** At RP, 10191 patients demonstrated no grade change, 3985 upgraded, and 293 downgraded. The proportion of patients who upgraded decreased through 2005 then increased thereafter (P < 0.001) [Figure]. However, this was fueled primarily by patients who demonstrated no grade change - the annual number of these patients increased through 2005 then decreased thereafter (P < 0.001). After adjusting for age, race, PSA, BMI, clinical stage, and pathological weight, there was an increased risk of upgrading after 2005 (RR 1.36, P < 0.001).

**Conclusions:** For patients with GS6 at biopsy, the trend of upgrading relative to no grade change at RP initially decreased then increased over time. Widespread use of PSA in the 1990s likely resulted in a surge of patients with clinically insignificant cancers who underwent surgery. With the gradual uptake of active surveillance and modifications to the Gleason grading system in 2005, a more selective approach is now being implemented to choose patients for surgery. Thus, patients who are likely to demonstrate more aggressive pathology at RP undergo surgery whereas those with a more favorable prognosis do not.

**P46**

**Artificial Urinary Sphincter Failure: Characterizing the Causes of Failures and Individual Device Component Survival**

Arnav Srivastava, Gregory Joice, Madeline Manka, Nikolai Sopko, Edward Wright

Johns Hopkins, Baltimore, MD

**Introduction:** Artificial urinary sphincters (AUS) effectively treat post-prostatectomy stress urinary incontinence. The American Medical Systems (AMS) 800 AUS contains 3 parts: the pump, urethral cuff, and pressure regulating balloon (PRB). Up to 50% of patients require surgical revision after initial placement and literature is heterogeneous regarding the leading causes of AUS failure and appropriate surgical correction. Our study aims to tabulate the causes of AUS failure requiring surgical revision and measure the differential survival of each component.

**Materials & Methods:** We retrospectively reviewed 168 patients receiving AUS placement by one surgeon from 2008 - 2016. All patients were presumed to have functioning components unless they presented for recurrent incontinence requiring explant/revision, the event of interest. Intraoperatively, the surgeon systematically evaluated the device for component failure as well as the urethra, for signs of erosion or atrophy. Kaplan Meier methods estimated survival of the cuff, pump, and PRB.

**Results:** All patients received an AMS 800 device with a 61-70 mL PRB filled with 27 c c of silicone contrast or saline. Median follow up was 2.7 years (IQR 1.1, 5.9) and 63 patients (37.5%) required AUS correction. The fraction of AUS failure and median time to event for each cause is detailed in Table 1. Figure 1 illustrates the survival of the cuff, pump, and PRB.

**Conclusions:** PRB malfunction, as opposed to urethral atrophy, is the most common cause of AUS failure in our cohort. This finding suggests that initial interrogation of the PRB may reduce surgical morbidity and costs for patients requiring AUS revision.

**P44**

**Use Of Duplicate Axial Imaging In Newly Diagnosed Prostate Cancer - Trends Across The Pennsylvania Urologic Regional Collaborative (PURC)**

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1Einstein Medical Center, Philadelphia, PA; 2Temple University, Philadelphia, PA; 3Thomas Jefferson University, Philadelphia, PA; 4HCF allo, Philadelphia, PA; 5Geisinger Health System, Danville, PA; 6Cooper University Hospital, Camden, NJ; 7Penn State Hershey Medical Center, Hershey, PA

**Introduction:** The NCCN prostate cancer (CaP) guidelines currently designate either CT or MRI as recommended staging modalities in appropriately selected patients. The necessity of MRI may provide additional benefits in surgical planning or risk-stratification for active surveillance. Potential exists for overuse, resulting in duplicate axial imaging in a given patient. We sought to analyze axial imaging utilization and to quantify the incidence of duplicate imaging in patients with newly diagnosed CaP across a regional collaborative.

**Materials & Methods:** PURC is a prospective regional collaborative comprised of nine academic and private urology practices in Southeastern Pennsylvania. Demographic and clinicopathologic data for patients with newly diagnosed CaP were abstracted. Duplicate axial imaging rates were examined using chi-square and Spearman’s correlation statistical analyses.

**Results:** Data from 2282 men with newly diagnosed CaP (May 2015-March 2017) were abstracted. Median age was 68 [IQR 60-73]. 66% were Caucasian and 26% African American. Median PSA was 6.1 [IQR 4.6-9.4] and NCCN risk category was very low, low, intermediate and high in 8%, 22%, 45% and 25%, respectively. Overall, 1219 men (54%) underwent axial imaging. MRI was utilized in 810 (35.5%) and CT in 320 (14.0%). Duplicate imaging was observed in 103 men, 8.4% of the patients with any axial imaging and 4.5% of the overall cohort. Men with duplicate imaging differed significantly in clinicopathologic characteristics (higher PSA, p = 0.033, higher CT stage, p = 0.03, higher Grade Group, p = 0.016, higher NCCN risk category, p < 0.001) but not demographic characteristics (age, race, family history of CaP, Charlson comorbidity score). 60% of providers utilized duplicate imaging, with wide variation by provider (0%-50%). No significant correlation was observed between provider’s patient volume and use of duplicate imaging (Spearman’s correlation = 0.19, n = 54, p = 0.18).

**Conclusions:** A non-trivial rate of duplicate axial imaging in men with newly diagnosed CaP, involving more than half of participating providers, was observed across PURC. Adverse clinicopathologic features were associated with higher duplicate imaging rates. Further studies are needed to assess specific indications leading to such duplication.

**P47**

**Utilization of Active Surveillance in Patients with Gleason Score 6 at Biopsy**

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**Introduction:** For patients with Gleason Score 6 at biopsy, the trend of upgrading relative to no grade change at RP initially decreased then increased over time. Widespread use of PSA in the 1990s likely resulted in a surge of patients with clinically insignificant cancers who underwent surgery. With the gradual uptake of active surveillance and modifications to the Gleason grading system in 2005, a more selective approach is now being implemented to choose patients for surgery. Thus, patients who are likely to demonstrate more aggressive pathology at RP undergo surgery whereas those with a more favorable prognosis do not.
Size of Artificial Urinary Sphincter Cuff Relative to Urethral Circumference and its Implications for Device Efficacy over Time
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Introduction: Selection of cuff size in artificial urinary sphincters (AUS) is based on the urethral circumference. It is accepted that overly large cuffs may provide insufficient coaptation and inappropriate small cuffs may cause urethral erosion or atrophy. However, implications of cuff size relative to urethral circumference are poorly understood. We conducted a survival analysis studying the difference between urethral circumference and cuff circumference (UCC = urethral circumference - cuff circumference) to better understand the implications of cuff selection.

Materials & Methods: 168 patients, identified by retrospective chart review, underwent AUS placement by one surgeon from 2008 - 2016. Patients requiring explant or revision had the event of interest. Urethral circumference, cuff size, and cause of AUS-failure were assessed intra-operatively during initial placement or revision. After stratifying patients into 3 UCC categories, 0.5 cm, > 1.5 cm, and > 2.5 cm, Kaplan Meier estimates and Cos proportional hazards models evaluated UCC as a predictor of all-cause AUS failure and urethral complication rates across UCC strata (Table 1, Figure 1).

Results: Median follow up was 2.7 years (IQR: 1.1, 5.9) and 36.9% (62/168) of patients assessed intra-operatively during initial placement or revision. After stratifying patients to better understand the implications of cuff selection.

Conclusions: Selection of cuff size in artificial urinary sphincters (AUS) is based on the urethral circumference. It is accepted that overly large cuffs may provide insufficient coaptation and inappropriate small cuffs may cause urethral erosion or atrophy. However, implications of cuff size relative to urethral circumference are poorly understood. We conducted a survival analysis studying the difference between urethral circumference and cuff circumference (UCC = urethral circumference - cuff circumference) to better understand the implications of cuff selection.

Fascia Lata Harvest Site Morbidity in Pelvic Organ Prolapse Surgery
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Introduction: There has been increasing concern regarding use of synthetic mesh for pelvic organ prolapse (POP) surgery in recent years. An alternative technique of anterior prolapse repair is using autologous fascia lata as a reinforcement. Although several studies have evaluated this surgery for POP outcomes, there is a sparsity of data regarding harvest site morbidity. This study examines autologous fascia lata harvest site morbidity in the context of POP surgery.

Materials & Methods: A retrospective review of all patients who underwent autologous fascia lata graft for POP surgery at a single institution by a single surgeon, from January 1, 2013 to December 31, 2015, was performed. Outcomes assessed include intraoperative and postoperative complications, pain and functional outcomes.

Results: Fourteen women (mean age 69 years, range 36-84) underwent fascia lata graft harvest for POP surgery during the study period. Mean follow up was 10.8 months. All surgeries involved transvaginal repair of anterior compartment prolapse (mean cystocele grade 3.6). There were no intraoperative complications during graft harvest. The early postoperative course was complicated by seroma in 14% (2/14) of patients, which resolved spontaneously. One patient developed a harvest site hematoma, which was treated by aspiration. There were no harvest site infections. 36% (5/14) of patients had ongoing harvest site pain at 3 weeks follow up; no pain was chronic beyond 3 months. There were no late complications identified beyond 3 months. No cases of muscle palpate at the harvest site, restricted range of motion or functional gait disturbance were noted.

Conclusions: Autologous fascia lata graft harvest in POP surgery was completed in all cases without intraoperative complication. Early harvest site complications were of low Clavien-Dindo grade (1 to 2). There were no late complications, no chronic pain, muscle palpate, restricted range of motion or gait disturbance.

Off-label Use Of Incobotulinumtoxin A (Xeomin) For Treatment Of Patients With Idiopathic OAB
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Introduction: Our aim was to assess the safety and efficacy profile of Incobotulinum toxin A (Xeomin) for treatment of patients with refractory overactive bladder (OAB) symptoms.

Materials & Methods: This was a retrospective review of all patients who underwent intradetrusor injections of Xeomin between the September 2013 to March 2017 for the treatment of idiopathic, refractory OAB. Pre- and post-procedure outcomes assessed included: symptoms of incontinence, urinary frequency, nocturia, post void residue (PVR) and complications. Statistics were calculated and assessed with a paired t-test with significance of p < 0.05.

Results: 22 patients (16 females, 6 males) with the diagnosis of refractory, idiopathic OAB were included in the study, receiving a total of 24 injections. The average age group in this cohort was 67.3. 100 units of Xeomin was used in 22 injections (91.7%) and 200 units in 2 injections (8.3%). Symptom resolution was noted in 21 (87.5%) of the treatments with greater than or equal to 50% decrease in symptoms. Frequency of voids (2.3 to 3.2 hrs, p = 0.002), nocturia episodes (3.4 to 2.4, p = 0.041) and pad usage (1.3 to 0.7, p = 0.011) were significantly improved after therapy. There was a slight increase in post injection PVR (mL). However, this was not significant (22.8 to 48.9, p = 0.092). Average follow-up was 10.2 weeks. Complications within 12 weeks of injection included, UTI (16.7%) and urinary retention in 1 patient (4.2%) that required intermittent self-catheterization.

Conclusions: Incobotulinumtoxin A appears to be safe and effective for the treatment of idiopathic OAB. Further studies comparing it to Onabotulinum toxin (Botox) are needed.

Postoperative Urinary Retention as a prognostic factor for longer-term Continence Outcomes after Urethral Bulking Agent Injection for Treatment of Female Stress Urinary Incontinence
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Introduction: Injection of Macroplastique urethral bulking agent is a minimally invasive treatment for female stress urinary incontinence (SUI). Although safe and effective, post-procedural urinary retention may occur and can be anxiety provoking for patients. The objective of this study was to assess the continence outcome of women who received Macroplastique injections for treatment of SUI complicated by post-procedural urinary retention.

Materials & Methods: A review of all women who received Macroplastique urethral bulking agent injections for treatment of SUI, from January 1, 2014 to October 1, 2016, at a single institution, was performed. Perservative complications (such as urinary retention) and continence outcomes were recorded. Outcomes of women who experienced post-procedure urinary retention were compared with outcomes of women who did not have post-procedural urinary retention. Statistical analyses included the Chi Square test.

Results: Thirty-two female patients (mean age 62, range 39-89 years) were identified as having received Macroplastique urethral bulking agent for treatment of SUI during the study period at our institution by four urologists. Mean duration of follow-up was 11 months. Overall, mean number of pads used per patient per day pre-procedure was 2.5 and post-procedure 1.3. 13% (4/32) of women experienced urinary retention after injection of the Macroplastique. All cases of de novo post-procedure urinary retention resolved spontaneously. At last follow-up, the rate of continence cure among patients who experienced post-procedure urinary retention was significantly higher than among patients who did not experience post-procedure urinary retention (75% (3/4) versus 21% (6/28), p < 0.05).

Conclusions: Macroplastique injections for treatment of female SUI was complicated by post-procedural urinary retention in 13% of patients. The longer term rate of continence cure was significantly better in patients who had post-procedure urinary retention compared with patients who had no post-procedure urinary retention (75% versus 21%, p < 0.05).
Characterization of Real-Time Sensation Patterns During the Filling Phase of Urodynamics
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Introduction: The objective of this study was to characterize patterns in sensation using a novel “sensation meter” during the filling phase of urodynamics.

Materials & Methods: Twenty-one patients with various types of voiding dysfunction were categorized based on pre-procedure ICIq-OAB surveys. Patients recorded real-time unprompted sensation on a 0 to 100% scale using a touch-screen “sensation meter” throughout the filling phase of urodynamics testing. Data were sampled at 5% increments of cystometric capacity, and percent capacity vs. sensation curves were generated (Fig 1A).

Results: Patients were divided into low urgency (ICIQ-OAB Sa = 0 to 1) and high urgency (ICIQ-OAB Sa = 2 to 3) groups. Normalized sensation-capacity curves for the two groups showed distinct trends (Fig 1A). The low urgency group was generally r-shaped with a greater increase in urgency before 50% capacity and then a rapid increase after 50% capacity (Fig 1A). The high urgency group was generally J-shaped with a slow increase in urgency before 50% capacity and then a greater increase after 50% capacity (Fig 1A). The average sensation at 50% capacity was greater for the low urgency group (Fig 1B, p = 0.05). normal life (4 women and 7 men) and 10 high (6 women and 4 men). Average age and bladder capacities for the two groups were not different (p = 0.05).

Conclusions: Analysis of continuous sensation data collected during urodynamics identified patients with r-shaped and J-shaped sensation-capacity curves which generally corresponded to patients with low and high urgency, respectively, based on standardized survey scores. The study demonstrates that real-time patient-reported sensation data collected during urodynamics has the potential to reveal characteristic bladder sensation patterns that could lead to sub-typing of patients for customized therapies.

Urethrolysis Improves Pelvic Pain after Sub-urethral Sling Placement: A Single Center Experience with Medium Term Follow-Up
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Introduction: Urethral/bulbourethral outlet obstruction and mesh erosion are recognized complications after sling placement for stress urinary incontinence (SUI). The recommended treatment is urethrolysis if symptomatic. However, there is limited information in the literature on treatment of the subjective symptoms of chronic pelvic pain and dyspareunia and their response after urethrolysis. We aimed to evaluate whether urethrolysis improved pelvic pain after sub-urethral sling placement. Secondary outcomes were the effect of age or body mass index (BMI) on persistent pain or if SUI recurred after urethrolysis.

Materials & Methods: We retrospectively reviewed all female patients who underwent urethrolysis at our institution from 2009 to 2015. Time-to-event analysis was performed. Perioperative continence and complication outcomes were assessed. Success was defined as at least 50% reduction in pads used per day. Student’s t test was used.

Results: Of 83 patients with transobturator sling and refractory or recurrent PPI were treated with injection of a urethral bulking agent for refractory and recurrent PPI at two multinational sites (Australia and United States) from May 1, 2011 through October 1, 2016. It was performed. Perioperative continence and complication outcomes were assessed. Success was defined as at least 50% reduction in pads used per day. Patient’s t test was used.

Results: All patients received an AMS 800 device with a 61-70 mL reservoir filled with 27 cc of isotonic contrast or saline. Median follow up was 2.7 years (IQR: 1.1, 5.4) with 59 patients (36.0%) required AUS correction; 53 patients (32.3%) had previous radiotherapy (including brachytherapy and radiation before prostatectomy), of which 29 (54.7%) had adverse radiation Figure 1 illustrates survival by any prior radiotherapy exposure. More specifically, Cox models demonstrated patients with adjuvant radiation history experienced worse AUS device survival (Table 1).

Conclusion: Post-prostatectomy patients with previous pelvic radiation - either adjuvant therapy or any radiation-experienced interior device survival relative to surgery monotherapy patients. Consequently, patients with previous pelvic radiation should be appropriately counseled regarding increased risks of post-operative complications and surgical revision.
Description of Patients Referred to a Subspecialty Urology Clinic with a Chief Complaint of Recurrent Urinary Tract Infections - Do They Truly have Recurrent Infections?
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Introduction: Many physicians refer patients with a diagnosis of recurrent urinary tract infection (rUTI) to surgical subspecialists for further evaluation. Because of the limited data on this patient population, we aimed to describe the demographics, symptomatology, exam findings and treatment strategies of patients referred to urology for rUTI. Additionally, we aimed to determine if these patients met criteria for the diagnosis of rUTI.

Materials & Methods: We retrospectively reviewed a prospectively collected database of patients referred to one urologic surgeon (MMC) for evaluation of rUTI from 8/1/2016-4/1/17. Women who were 18 years and older with a referral complaint of rUTI were included. Patients previously evaluated in the department of urology within the past 3 years as well as those with urogenital bladder were excluded. Recurrent UTI was defined as at least three symptomatic urinary infections in the 12 months prior to evaluation in urology. Descriptive statistics are presented as percentages, means (standard deviations) or medians (interquartile range).

Results: Fifty patients were identified with a mean age of 61 (21) years. The main symptom was dysuria. By history, approximately 50% of patients had at least one episode of asymptomatic bacteriuria. On exam, 25% of women had levator tension and 70% had vaginal atrophy. Approximately 50% of patients had upper tract imaging prior to their appointment, with none having an identifiable urologic source for their recurrent infections. Less than 25% of the patients referred had rUTI by definition. Other pathologies such as pelvic floor dysfunction (25%), asymptomatic bacteriuria (30%), and vaginal atrophy (over 50%) were determined as the source of the patient’s chief complaint.

Conclusions: Careful history and examination are imperative to evaluate patients with rUTI. Less than a quarter of patients meet the definition of rUTI. Frequently, symptoms may be related to other diagnoses such as levator tension or vaginal atrophy.

Use of the Asopa Technique for Urethral Stricture and Urethrocutaneous Fistula
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Introduction: To evaluate our experience using the dorsal inlay buccal mucosa graft urethroplasty technique described by Asopa for anterior urethral stricture disease. We also reviewed outcomes of this technique for extended indications, namely urethrocutaneous fistula.

Materials & Methods: We retrospectively reviewed our prospectively maintained, IRB-approved database of patients undergoing management of urethral stricture or fistula. As originally described, we employed the Asopa technique using a ventral sagittal urethrostomy approach to the dorsal urethra. The dorsal urethral plate is incised and an oral mucosal graft is inlaid to augment the urethral caliber, followed by closure of the ventral urethrostomy. We tabulated data including patient age, stricture length, location, and recurrence at last follow-up.

Results: Between March 2013 and December 2016, twenty-two patients underwent anterior urethroplasty using the Asopa technique. Stricture etiologies included iatrogenic and idiopathic causes, lichen sclerosus, and trauma. Seventeen strictures were penile, one was bulbar and four were mixed. Mean stricture length was 4.1 cm. Mean patient age was 47.5 years. Five of these patients underwent Asopa based repair of urethrocutaneous fistulae, two after extensive debridement (hifderatitis, Fourrier’s gangrene), and three after multiple failed urethroplasties. At mean follow-up of 19.3 months (range 4.2-49.4) we report an 82% (18/22) success rate using the Asopa technique. Three of the five patients (60%) with urethrocutaneous fistula had successful fistula closure with durable urethral patency. One fistula recurred, while the other had subsequent urethral stricture without fistula recurrence.

Conclusions: The Asopa technique is a good option for urethral stricture management and an important technique to have in the urethral reconstruction armamentarium. This is consistent with prior reports from high-volume centers. There are few, if any, reports on use of the Asopa technique for urethrocutaneous fistula. We found it can be employed with expectation of reasonably good outcomes both in fistula closure and urethral patency.

Using Local Resistance Rates to Improve Antibiotic Stewardship in the Treatment of Uncomplicated Cystitis
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Introduction: Acute uncomplicated cystitis is one of the most common indications for prescribing antimicrobials to otherwise healthy community dwelling women. Therefore, in the pursuit for good antibiotic stewardship, it is concerning that evidence suggests a wide range in prescribing habits among providers and discordance with IDSA guidelines. This problem persists in part because of the complexities of the IDSA guidelines, with local knowledge of antibiotic resistance rates being essential for concordance. The objective of this work was to evaluate whether a regional health system could improve antibiotic stewardship at its primary care sites using a treatment protocol based on IDSA guidelines for the treatment of uncomplicated cystitis in women. Said protocols would be developed using existing ED antibiotic data to determine local resistance rates.


Results: Our literature review yielded studies that indicated a discrepancy in antibiotic susceptibility between _E. coli_ cultured in women presenting with an uncomplicated cystitis compared to the ED antibiotic. Increased susceptibility to main line antibiotics including cefazolin, ciprofloxacin, Bactrim, ampicillin, Augmentin and nitrofurantoin were found in women with uncomplicated cystitis. Studies also showed increased provider compliance to treatment guidelines with the introduction of stewardship initiatives.

Conclusions: An electronic order set protocol could have a favorable impact on local antibiotic prescribing patterns; however, emergency department antibiotic data would not accurately reflect overall resistance rates in the community. Therefore, a pilot study should be conducted using active sampling data from primary care sites before an electronic order set is developed.

Multimodal Treatment of Genital Hidradenitis Suppurativa
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Introduction: We describe our multidisciplinary protocol for the treatment of severe hidradenitis suppurativa (HS), which includes: rheumatology monitored immunotherapy, medical management, wide surgical resection, wound care and surgical reconstruction. Our treatment protocol is based upon protocols recently described in the plastic surgery literature for non-genital HS.

Materials & Methods: The protocol for treatment includes perioperative medical management with antibiotics, finasteride, and immunotherapy (infliximab, adalimumab, or methotrexate). The multidisciplinary care team includes: rheumatology, wound care, and reconstructive urologic surgery. Over a one year period 2015-2016, four patients with severe HS were evaluated and treated. All were initially evaluated by rheumatology and started on initial medical management in anticipation of surgical resection. Surgical management includes wide local surgical resection, negative pressure dressing, delayed reconstruction and post-operative immunotherapy.

Results: 4 patients thus far have undergone our protocol. All were treated preoperatively with finasteride and antibiotics. Additionally, 3 of 4 were treated with pre-operative immunotherapy, and all four were treated post-operatively with immunotherapy. Post-operatively, there were no cases of recurrence requiring reresection in the genital region, graft rejection or patient dissatisfaction. All patients reported decreased pain levels post-operatively.

Conclusions: Genital HS is a debilitating and disfiguring disease. Utilizing a multimodal treatment plan with surgical, medical, and wound care is vital to successful treatment. Immunotherapy is a promising adjunct treatment for improved success in the management of severe HS.
**P59**

**Isolated Low Grade Renal Injuries: Do We Need To Monitor Them?**
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**Introduction:** Current AUA guidelines for low grade renal trauma advocate conservative management, but do not specify how closely patients should be monitored. Significant heterogeneity exists among practitioners with respect to the intensity of monitoring these patients. We reviewed patients with low grade renal injuries at our rural academic center, which are often transfers, and the need for interventions. Our hypothesis is that patients with isolated low-grade injuries may be monitored with low intensity protocols.

**Materials & Methods:** We retrospectively reviewed patients with renal injuries at our institution from 2009-2015, selecting those with grade 1-3 injuries. We separated these with isolated injuries, defined as those without other solid organ trauma (spleen, liver, CNS), and evaluated the need for interventions and/or blood transfusion related to their kidney injury.

**Results:** We identified 86 patients with low grade injuries, 43% of which were transferred from rural hospitals. Isolated renal injuries occurred in 44 patients, none of which required interventions related to their kidney injury. Patients with isolated injuries were much less likely to require blood transfusion than those with other solid organ injuries (p < 0.01). Only 4 patients with isolated renal injuries were transfused, and only 1 patient’s transfusion could be attributed to another etiology. Among all injuries, mean systolic blood pressure at follow-up was significantly lower than at presentation (0.91 versus 1.05 mg/dl, p < 0.01) and not significantly different in those with isolated injuries (p > 0.35). Mean systolic blood pressure did not significantly change from the injury to follow-up (p = 0.65).

**Conclusions:** At our rural academic center, low grade renal injuries were often transferred, never required interventions, rarely required blood transfusion, and showed no long term renal damage. Our data suggests that avoiding transfer and utilizing less stringent monitoring protocols for isolated low grade renal injuries has a low likelihood of compromising patient safety.

**P60**

**Leave the Mitomycin C At Home - Management of Recurrent Bladder Neck Contracture, Our Experience**
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**Introduction:** We evaluated our experience managing recurrent bladder neck contracture (BNC) We hypothesized that Mitomycin C is not necessary as first-line therapy to achieve durable bladder neck patency.

**Materials & Methods:** We retrospectively reviewed our records for patients treated for BNC. All patients underwent aggressive 4-quadrant radical bladder neck incision (BNI) with or without injection of triamcinolone or Mitomycin C (MMC) into incision sites. We reserved injection as 2nd line therapy after failed BNI, using MMC only after triamcinolone failure.

**Results:** Sixteen patients with BNC were identified, 2 lacked follow-up and were excluded. Eleven patients developed BNC after prostate cancer treatment (8 had radiation as part of their treatment), 1 after simple prostatectomy, and 2 after TURP. Mean patient age was 69 years (49-88). All 14 patients had failed initial intervention elsewhere (range 1-6 procedures). A total 23 procedures were performed, including 6 triamcinolone injections and 2 MMC injections. At mean follow-up 10 months (2-30), 8 of 14 (57%) patients remained patent after 1 procedure. Six patients required a second procedure, after which overall 15 (93%) remained patent. 1 patient failed multiple BNI requiring self-calibration to maintain patency. 7 patients underwent BNI without injection, with 57% success. Of 3 failures, 2 started with complete bladder neck obliteration. There was 80% success in BNI with triamcinolone injection (5/6), and 50% success in BNI with MMC injection (1/2). One of these patients had a complication of osteitis pubis.

**Conclusions:** BNI remains a successful option for BNC management, particularly when combined with triamcinolone injection. We are now incorporating triamcinolone into first-line treatment. Longer follow-up is needed. Contrary to current opinion, Mitomycin C does not appear necessary to achieve durable patency and given the risks, should only be a last resort.

**P61**

**Success Rates of Ventral Versus Dorsal Augmentation Bulbar Urethroplasty**
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**Introduction:** We compared outcomes of dorsal versus ventral augmentation urethroplasty for bulbar urethral stricture. We hypothesized there would be no significant difference in stricture recurrence rates, and sought to examine the impact of stricture length on success.

**Materials & Methods:** We retrospectively reviewed our prospectively maintained, IRB-approved database of patients undergoing management of urethral stricture. In isolated bulbar stricture, our algorithm dictates ventral augmentation in proximal bulbar stricture that have bulbospongiosus muscle coverage, and dorsal augmentation for more distal stricture where muscular coverage is unavailable. Data tabulated included patient age, stricture length, urethroplasty technique, and recurrence.

**Results:** From September 2012 to April 2017, sixty patients underwent augmentation urethroplasty for bulbar urethral stricture. All grafts were oral mucosa. Table 1 shows patient age, stricture length, and success rates. Overall success rate was 83% at mean follow-up of 26 months. Four patients (12%) with dorsal augmentation recurred; 6 (22%) with ventral augmentation recurred, with no statistically significant difference (p = 0.29). Mean stricture length in patients with recurrence (regardless of technique) was 4.9 cm, while mean length in successful patients was 3.05 cm. Stricture length had no statistically significant impact on success in bulbar urethroplasty.

**Conclusions:** Dorsal augmentation trended towards better success rates, but consistent with established literature, there was no significant difference in the primary outcomes between dorsal or ventral bulbular urethroplasty. Stricture length also had no obvious impact on success. The approach for bulbar urethroplasty can be chosen based on anatomic factors and surgeon preference.

**P62**

**Age On Urethroplasty Outcomes - Does It Matter?**
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**Introduction:** Urethroplasty is arguably the gold standard for management of urethral stricture disease. Increasing age, with associated co-morbidities, could potentially complicate the postoperative course. There is a paucity of data that examines the effect of age on urethroplasty outcomes, or whether advanced age should preclude patients from undergoing urethral reconstruction.

**Materials & Methods:** We retrospectively reviewed our IRB-approved, prospectively maintained urethroplasty database. Patients were divided into two groups; under age 65 (< 65) and age 65 and older (>65+). Outcomes include urethral stricture length, stricture location, length of operation, duration of hospitalization, complication rate, and stricture recurrence.

**Results:** A total of 165 urethroplasties were performed from 2012 to 2017. 132 in the < 65 group and 33 in the 65+ cohort. Mean stricture length was shorter for patients < 65 (5.5 cm) compared to those who were not (< 6.3 cm). Operating time, estimated blood loss, and length of hospitalization was equivalent in both groups. Clavien-Dindo grade III or greater complication rate was higher in the older (6.3%) compared to the younger cohort (3.7%), yet these were not statistically significant. In the older group, complications included a dislodged catheter and postoperative bleeding requiring surgical intervention. There were 27 total stricture recurrences (16%), the 65+ group had a recurrence rate of 23.5% versus 14.3% for < 65. Success rates recurred at a mean 4.9 months for younger and 10 months for older patients, with average follow up of 5.9 months.

**Conclusions:** Our series demonstrated that older patients tolerated surgery well, with similar outcomes and no significant difference in complications when compared to younger patients. Age alone should not preclude patient from urethral reconstruction, but should be incorporated into clinical decision making.
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The impact of Morbid Obesity on Urethroplasty Outcomes - The MedStar Washington Hospital Center Experience

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Introduction: Elevated body mass index (BMI) may contribute to surgical complexity, and the associated co-morbidities may increase complication rate. There is a paucity of literature examining BMI on urethroplasty outcomes. We sought to evaluate our experience with urethral reconstruction in morbidly obese patients.

Materials & Methods: We retrospecively reviewed our IRB-approved, prospectively maintained urethroplasty database. Patients were classified by BMI < 30 (non-obese), 30-40 (obese), and > 40 (morbidly obese). We compared data including stricture length, operative time, estimated blood loss, peri-operative complications, and stricture recurrence.

Results: 168 urethroplasties were performed from 2012 to 2017. Twelve patients had BMI greater than 40, 8 had bulbular stricture, 2 had penile stricture and 2 paraurethral stricture. One of these 12 patients (10%) had a complication of Clavien-Dindo class II or greater, compared to 13.2% and 17.1% of those in the non-obese and obese groups, respectively (Table 1). Complications in the non-morbidly obese group included UTI, bleeding, delayed healing, and DVT. The only complication in the morbidly obese group was a mortality from sudden cardiac death. Patients with BMI > 40 tended towards longer stricture length and greater average blood loss. Mean operative time was similar between groups. At mean follow-up of 9.8 months (2-22) no morbidly obese patient had stricture recurrence.

Conclusions: Morbid obesity does not preclude successful urethral reconstruction, but may convey increased risk for severe peri-operative complications. Our series demonstrated no large difference in recurrence rates between BMI categories, however the only complication in the morbidly obese group was more gravid. Further patient accrual and examination of outcomes are necessary. Although pre-operative evaluation and counseling are imperative when undertaking urethroplasty in this cohort.

P64
Patients’ Experiences with Extramammary Paget’s Disease: An Online Pilot Study

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Introduction: Extramammary Paget’s Disease (EMPD) is a rare and lethal malignancy with poorly described treatment methodologies and outcomes. We sought to illustrate the heterogeneous care delivered to EMPD patients by characterizing the clinical and pathological characteristics of an international EMPD patient support group treated across different treatment eras.

Materials & Methods: Institutional review board approval was obtained to develop and distribute a survey to patients from an international EMPD support group. The survey was developed to capture patient clinical and pathological details using Research Electronic Data Capture (REDCap) and was distributed between January 2017 and February 2017.

Results: Forty-two patients (76%) completed the survey. Prior to diagnosis, at a mean age of 64 years, patients most commonly developed rash, pruritus, or erythema in the genital and perianal regions. Patients presented to their primary care physician, gynecologist, or dermatologist and were treated with topical agents or benign diagnoses. After failing conservative treatments, patients underwent biopsy by a dermatologist or gynecologist and were diagnosed with EMPD on average 21 months after the onset of symptoms. Wide local and Mohs excisions were the most frequently administered treatments, with positive margins reported in 43% of patients. Fewer patients underwent non-invasive treatment with Imiquimod cream and radiation. In total 29% of patients developed regional recurrence and distant disease. The medical specialties involved, diagnostic evaluation performed, treatment received, and follow up conducted varied amongst patients. Delay in diagnosis and identifying providers familiar with EMPD were the most challenges reported by patients.

Conclusions: This study provides a novel view of the varied clinical and pathological details from patients who have been treated across varying institutions and medical specialties. We hope this study will educate providers and encourage the development of treatment recommendations to standardize patient care and improve outcomes.

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The Management of Recurrent Urethral Strictures after Failed Ureteral Reconstruction with Robotic Ureteroereplacement with Buccal Mucosa Graft

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Introduction: Surgical management of ureteral strictures after failed ureteral reconstruction is technically challenging due to scarring and altered anatomic planes. Although endourology and balloon dilation are acceptable first-line options for a recurrent stricture, failure of endoscopic treatment necessitates open ureteral reconstruction. We describe robotic ureteroereplacement with buccal mucosa graft for the management of recurrent ureteral strictures after failed ureteral reconstruction.

Materials & Methods: We retrospectively reviewed 9 patients who underwent robotic ureteroereplacement with buccal mucosa graft between September 2014 and January 2017. All patients had a recurrent proximal or middle ureteral stricture after a failed ureteral reconstruction that was refractory to endoscopic treatment. Ureterolysis was limited to the diseased segment of ureter. In cases of severe fibrosis, only the ventral aspect of the ureter was dissected and the dorsal aspect was left unmanipulated. The diseased ureteral segment was incised on the ventral surface, along the longitudinal axis. Buccal mucosa graft was onlayed onto the ventral ureterotomy and anastomosed to the ureter. The primary outcomes were clinical success, the absence of flank pain, and radiological success, the absence of obstruction on renal scan.

Results: The median length of recurrent stricture was 2.5 (range 2.4-16.5) centimeters. The median operative time was 226 (range 136-344) minutes and estimated blood loss was 100 (range 50-220) milliliters. The median length of stay was 1 (range 1-6) day. There were no complications related to the buccal mucosa graft harvest. At a median follow-up of 12 (range 3-22.5) months, 8/9 (88.9%) patients were clinically and radiologically successful.

Conclusions: Robotic ureteroereplacement with buccal mucosa graft is effective in managing recurrent ureteral strictures after failed ureteral reconstructions. The technique is particularly useful in the reoperative setting as it allows for a focussed dissection that obviates the need for an extended ureterolysis and minimizes disruption to the fragile ureteral blood supply.
Burden of Multiple Chronic Conditions Among Urologic Cancer Patients
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Introduction: Urologists are the front line for diagnosis and treatment of genitourinary malignancies. Little is known about multiple chronic condition (MCC) profiles in urologic cancers. Our objective was to describe age, MCC, profiles, and health system contact in urologic cancer patients.

Materials & Methods: Using health system electronic health records, we identified adult primary care patients and a subset with at least one urology encounter between 2001-2015. Agency for Healthcare Research and Quality Chronic Condition Indicator and Clinical Classifications Software tools were applied to International Classification of Diseases, Ninth Revision (ICD-9) codes to identify chronic conditions. MCC was defined as two or more chronic conditions. Urologic cancer patients were identified using ICD-9 codes for prostate, bladder, kidney, tests, and penile cancer. Inpatient and outpatient visits in the year prior to the most recent encounter were counted to document health system contact.

Results: We identified 357,100 primary care and 33,079 urology patients, of which 4032 had urologic cancer. Urologic cancer patients were older (71y) than primary care (46y) and had more median chronic conditions (7 vs. 4). Kidney and bladder cancer had the most median chronic conditions (8). Coronary artery disease and chronic kidney disease were more common in urologic cancer as compared to mental health conditions in primary care. Urologic cancer patients with MCC had the most health system contact. 32% had at least one hospitalization and 68% had >5 outpatient visits over a 1 year period.

Conclusions: Urologic cancer patients are older, more medically complex, and have frequent health system contact compared to primary care. This data may inform care redesign to reduce treatment burden and improve care coordination in urologic cancer.

The Comprehensive Complication Index (CCI) is Superior to the Clavien-Dindo Grading System in Predicting Length of Stay and Hospital Readmission Following Radical Nephrectomy
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Introduction: Approximately 20% of patients will experience a complication following radical nephrectomy (RN). The Comprehensive Complication Index (CCI) incorporates each post-operative complication on a continuous 0-100 scale to account for the cumulative effect of individual adverse events. This study compares clinical and perioperative factors with increasing CCI score versus major Clavien-Dindo (CD) complications in patients undergoing RN.

Materials & Methods: A retrospective review of our institutional kidney tumor database identified all patients who underwent radical nephrectomy for malignancy from 2001-2014. 30-day complications were reviewed and individual CCI scores and Clavien-Dindo classifications were determined. Logistic regression and Wilcoxon rank sum analyses examined the relationship between the CCI upper quartile (> 75th%) versus major CD events (grade III or higher) with perioperative variables, length of stay (LOS), and hospital readmission.

Results: 469 patients (287 men and 182 women) with a median age of 63 and BMI of 30 were included. Median LOS was 5 days (range, 1-47) and readmission within 30 days occurred in 42 patients (9%). Overall, 150 patients (32%) experienced a post-operative complication with 79 patients having a single complication and 71 patients with multiple complications. 32 patients (21%) had CD III or greater complications, and the median CCI for patients experiencing a complication was 21.75 (range, 8.7-100). Major CD complications were associated with intraoperative transfusion (OR 2.92, p = 0.011). However, the upper quartile of CCI (> 75th%) was associated with increasing median LOS (5.8 vs. 5.0 days, p = 0.006) and hospital readmission (OR 3.06, p = 0.005) after radical nephrectomy whereas major CD complications were not (LOS 7.0 vs. 6.0 days, p = 0.11; readmission OR 2.0, p = 0.109).

Conclusions: The CCI system accounts for the collective effect of post-operative complications compared to the traditional CD grading classification. This study highlights the association of increasing LOS and hospital readmission in patients with upper quartile of CCI versus major CD complications.

Determinants of Treatment in Patients with Stage IV Renal Cell Carcinoma
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Introduction: Despite significant advances in the detection and management of renal cell carcinoma (RCC), the treatment rate for elderly patients with advanced disease is less clear. This study aimed to determine treatment patterns for elderly patients with stage IV RCC and better determine clinical and disease characteristics associated with receiving no treatment.

Materials & Methods: A retrospective review from the SEER and Medicare data set included all patients over 65 years with stage IV RCC between 2007 and 2011. Surgery was identified using Medicare Part A and B claims, and use of systemic therapy was identified from Part A, B and D claims. Type of intervention was modeled using multinomial logistic regression. Landmark analyses were performed at 3 and 6 months to account for early death as a potential cause for no treatment.

Results: 949 patients over 65 years with stage IV RCC were included. 249 patients (26.2%) received surgery and 324 (34.1%) patients received systemic therapy within 6 months of diagnosis. Over half of patients (51.2%) had no evidence of receiving surgery or systemic therapy. Of the 618 patients who survived at least 3 months, 237 patients (38.3%) received no treatment within 3 months. Of the 447 patients who survived at least 6 months, 117 patients (26.6%) received no treatment within 6 months. Older patients and those with a higher Charlson Comorbidity Index had lower odds of being treated. These results were largely sustained in 3- and 6-month landmark analyses.

Conclusions: Over half of patients older than 65 years with stage IV RCC did not receive surgery or systemic therapy despite surviving at least 6 months from diagnosis. Increasing patient age and higher Charlson Comorbidity Index appear to be associated with this phenomenon. Further investigation is necessary to determine barriers to utilize systemic therapy in elderly patients with advanced RCC disease.

Renal Mass Biopsy to Inform a Multidisciplinary Small Renal Mass Conference
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Introduction: Due to increased diagnosis of small renal masses (SRMs), we instituted a multidisciplinary conference attended by urologists, pathologists and radiologists. Although recent guidelines for SRM do not explicitly address biopsy utility, we emphasize using biopsy to optimize care for the individual patient. We present biopsy rates and treatment choices made by our patients guided by our multidisciplinary conference recommendations.

Materials & Methods: Monthly multidisciplinary meeting attended by a urologic oncologist, endourologist, genitourinary radiologist, and genitourinary pathologist began in April 2015. Between April and January 2017, 107 cases were discussed. We queried a prospectively maintained database of demographic, imaging, comorbidity, and biopsy data on all patients discussed. A biopsy was deemed diagnostic if it was oncocytoma or renal cell carcinoma (RCC).

Results: Of 107 patients, 62 underwent biopsies with some undergoing more than one biopsy (total biopsy count of 71). Biopsies were diagnostic in 56 of 71 cases (78.8%), including RCC in 52 cases and benign pathology (e.g., oncocytoma) in 4 cases (Table 1). Of 52 patients with malignant pathology on biopsy, 13 elected for surveillance (25%), 22 underwent ablation (42%), and 17 were managed with surgery (32%) (Table 2). All eight patients with benign or atypical pathology (e.g., “atypical epitheloid cells”) on biopsy underwent active surveillance (Table 2). Two patients with non-diagnostic biopsies also chose surveillance.

Conclusions: Diagnostic biopsy rate was 78.8% and results impacted clinical decision-making as seen in the diversity of treatment options pursued by patients with diagnostic biopsy results.
Performance Characteristics of Renal Mass Biopsy Techniques over Time

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Introduction: There is debate over the differential effectiveness of renal mass biopsy (RMB) techniques in providing clinically meaningful outcomes. We describe the trends of RMB techniques over time to determine the clinical utility and diagnostic performance of these procedures.

Materials & Methods: Our institutional database was queried for all RMBs performed between 2005 and 2015. Biopsies were classified according to type: fine needle aspiration (FNA), core biopsy (CB), or combined FNA and CB (combined). Utilization rate and diagnostic yield were compared among biopsy types and over time using the chi-squared test.

Results: A total of 418 RMBs were performed: 117 (28%) FNA, 60 (14%) CB, and 241 (58%) combined. A median of 36 biopsies (IQR 8-35) were performed each year. The overall number of biopsies increased over time, driven by a surge of the combined procedure, even as FNA procedures dropped (P < 0.001). Biopsy pathology was available in 328 patients, and 267 (81%) yielded a diagnostic result, defined as a definitive benign or malignant mass. The diagnostic result was higher in the combined procedure than FNA (92% vs. 66%, P < 0.001) and improved over time (P = 0.049). Renal cell carcinoma (RCC) was diagnosed on biopsy in 145 of the 328 patients (44%) with biopsy pathology reports. The incidence of biopsy-proven RCC increased over time while the number of biopsies yielding other diagnoses decreased (P = 0.015). Furthermore, the combined procedure detected RCC more frequently than FNA (95% vs. 24%, P < 0.001). Surgical pathology reports were available in 110 patients, 86 (78%) of whom were diagnosed with RCC.

Results: Compared to either FNA or CB, the combined technique demonstrated improved performance characteristics, with increased clinical utilization over time.

Conclusions: Performance characteristics of RMBs have improved over time and, compared to either FNA or CB, the combined technique demonstrated improved diagnostic performance.

Robotic-Assisted Partial Nephrectomy for Large (> 4 cm) Kidney Tumors: Meta-Analysis of Outcomes

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Introduction: Elective nephron-sparing surgery has been increasingly adopted for renal masses beyond the traditional cut-off size of 4 cm (clinical stage Ta). We aimed to perform a cumulative analysis of comparative outcomes of robot-assisted partial nephrectomy (RAPN) for large (> 4 cm) renal masses.

Materials & Methods: A systematic literature review was performed using multiple search engines to identify studies comparing RAPN for tumors larger than 4 cm (> cT1a) to RAPN for tumors smaller than 4 cm (cT1a). PRISMA criteria were used for article selection, and baseline demographics, surgical, functional and oncological parameters were extracted. For continuous outcomes, the weighted mean difference (WMD) was used as summary measure, whereas for binary variables, Odds Ratio (OR) was calculated with reporting of 95% confidence intervals (CIs).

Results: Overall, six case-control studies comparing the outcomes of RAPN in tumors < 4 cm (n = 991) to those of PN for tumors > 4 cm (n = 291) were included. There was no difference between groups in terms of age (p = 0.98), baseline eGFR (p = 0.52), and malignancy histology (p = 0.84). The < 4 cm group presented a lower nephrometry score (WMD: -1.4, CI -1.6, -1.2, p = 0.001), as well as significantly shorter operative time (WMD = -23.8 min, CI -32.6, -14.9 p < 0.001), warm ischemia time (WMD = -5.05 min, CI -6.5, 3.6, p < 0.001), and shorter hospital stay (WMD = -0.45 days, CI -0.6, 0.3, p = 0.001). Moreover, EBL (WMD = -82.7 mL, CI -78.3, -27.1 p < 0.001), and risk of complications (OR = 0.61, CI 0.43, 0.87, p = 0.007) were lower for the < 4 cm group. Positive surgical margin rates were 2.9% and 3.7% for < 4 cm and > 4 cm, respectively, with no significant difference in likelihood of positive surgical margins (p = 0.82).

Conclusions: RAPN represents an oncologically safe treatment option for renal masses larger than 4 cm (> cT1a), as there is no increased risk of positive surgical margin. Slightly worse surgical outcomes can be expected given higher tumor complexity and should be considered during patient counseling.

Patient Risk Reclassification Based on Combined Clinical Cell Cycle Risk (CCR) Score

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Introduction: Improved prognostic tools for newly diagnosed prostate cancer are needed to more appropriately match treatment to a patient’s risk of progression. The CCR score is a validated prognostic tool that estimates 10-year prostate cancer mortality (PCaM) based on prognostic information from both molecular (cell cycle progression (CCP) gene expression) and clinical (CAPRA) variables. We evaluate how the CCR score can reclassify PCaM-risk for men tested within the AUA Mid Atlantic section relative to NCCN and AUA risk categories.

Materials & Methods: Prostate biopsy samples from 1358 men within the AUA Mid Atlantic section were submitted for commercial testing. The CCR score was previously validated and is calculated as a linear combination of CAPRA and CCR score (0.39 x CAPRA + 0.57 x CCR). Patients were assigned to NCCN and AUA risk categories using clinicopathologic data obtained from test request forms. Interquartile ranges (IQR) for each NCCN/AUA risk category were determined from the full commercial cohort (N = 20,958). Patients whose CCR-based PCaM risks were outside the IQR of their NCCN/AUA risk category were reclassified according to whether their PCaM risk fell within the IQR of another risk category.

Results: After calculating PCaM-risk based on CCR, 31.7% of men were reclassified to a different risk category relative to NCCN criteria (9.2% lower, 22.5% higher; see Table). Similarly, PCaM-risk based on CCR scores resulted in the reclassification of 29.9% of men relative to AUA criteria (9.1% lower, 20.8% higher; see Table).

Conclusions: The prognostic information in the CCR score results in significant risk reclassification for all patients with localized disease when compared to stratification based only on clinicopathologic criteria.

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Incidence of T3a Up-staging and Survival after Partial Nephrectomy: Size-Stratified Rates and Implications for Prognosis

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Introduction: The use of partial nephrectomy (PN) to treat renal cell carcinoma has grown to include larger, more complex tumors. Such tumors are more likely to be up-staged to pT3a and generate controversy regarding the oncologic safety of PN. We aimed to estimate the proportion of patients up-staged to T3a disease after PN, stratified by clinical stage, and characterize their survival.

Materials & Methods: From 1998-2013, pT1-pT3aN0M0 kidney cancer patients undergoing PN or RN were identified from the Surveillance Epidemiology and End Results registries. Cox proportional hazards models compared cancer-specific (CSS) and overall survival (OS) for PN patients with pT1a, pT1b, and pT2 disease to stratified, up-staged pT3a patients undergoing PN. Also, we compared PN patients with up-staged pT3a disease to RN patients with pT3a disease.

Results: Of 28,854 patients undergoing PN, the estimated proportion up-staged to pT3a was 4.2%, 9.5%, 19.5% for pT1a/T1b, and pT2, respectively. OS was worse for tumors up-staged from pT1a to pT3a, but not for pT1b or pT2 tumors (Table 1). Up-staged pT3a tumors across all stage strata demonstrated worse CSS, with worse survival for larger tumors. Analysis revealed no difference in OS for pT3a PN patients compared to pT1a RN patients (Table 2).

Conclusions: A greater proportion of patients experience T3a up-staging after PN with increasing initial T stage. Up-staged patients have worse CSS across all strata after PN. However, our results do not demonstrate that patients up-staged after PN have compromised oncologic outcomes compared to all-comers with pT3a disease receiving PN.

Renal Mass Biopsy May Impact Surgical Treatment Decision Making in Patients with a > 4 cm Renal Mass: A Multi-Institutional Analysis

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Introduction: Up-staging of renal masses on biopsy may suggest that patients with large masses may not be suitable for initial partial nephrectomy (PN). The impact of biopsy before surgical treatment on surgical decision-making in patients with >4 cm renal mass is often complex. Albeit often feasible, oncologic safety of PN in these cohorts is debated. Yet, a significant portion of large renal masses that undergo radical nephrectomy (RN) prove benign or indolent. Since renal mass biopsy (RMB) is highly accurate in diagnosing oncogenic neoplasms, we assessed whether patients with large renal mass treated by RN could have benefited from pre-operative RMB.

Materials & Methods: We queried prospectively maintained kidney cancer databases from three institutions to identify patients who underwent RN for localized renal mass > 4 cm (cT1b - T2). We excluded patients with renal cell cancer metastases. Clinicopathological variables, mass anatomic complexity and patient co-morbidities were recorded. Wilcoxon-Mann-Whitney test was used to compare patients with oncogenic neoplasms to the rest of the cohort.

Results: A total of 722 patients (median age 62 years, 64% male, 30% Caucasian, median serum creatinine [SCr] 0.97 mg/dL, median Charlson comorbidity index [CCI] 1.0) underwent RN for localized > 4 cm CT1b/T2 renal mass (median tumor size 7 cm [IQR 4 - 9.1 cm]). 12.5% (n = 90) of patients harbored oncogenic neoplasms (n = 28, 3.8%) and chromophobe RCC (n = 63, 8.7%) at final pathology. Median RENAL Nephrometry Score was 9 (IQR 4 - 10). Oncogenic tumors were documented in younger patients (56.5 vs 62.5 years, p = 0.002), those with larger masses (7.6 vs 8.8 cm, p = 0.014), those with lower CCI (0 vs 2, p = 0.02) and those with lower pre-operative SCr (0.9 vs 1.0 mg/dL, p = 0.02).

Conclusions: Nearly 13% of patients in our cohort harbored benign or low risk oncogenic lesions. Although these patients had larger tumors, they were younger and less co-morbid than patients with oncologically higher risk lesions. As such, RMB may help calibrate the complex choice of PN vs. RN in these patients.

Change in Quality of Life Scores Before and After Renal Mass Biopsy in Patients With Small Renal Masses: Analysis of the DISSRM Registry

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Introduction: Renal mass biopsy (RMB) can be employed as a decision-making tool for patients with small renal masses (SRMs). It is hypothesized that the pathological diagnosis provided by RMB purports a QOL advantage by alleviating cancer-related uncertainty and anxiety. This study evaluates the influence of RMB on QOL in a large prospective registry of patients with SRM.

Materials & Methods: The DISSRM (Delayed Intervention and Surveillance for Small Renal Masses) Registry is a prospective multi-institutional study that follows patients with SRM. Patients complete SF12 QOL questionnaires at enrollment, 6 and 12 months, and then annually. SF12, MCS (Mental Component Summary) and PCS (Physical Component Summary) scores were analyzed using mixed-effects linear regression model before and after RMB controlling for age, sex, ECOG performance status, and BMI.

Results: 86 patients (13.5%) in DISSRM underwent RMB, 34 (39.5%) in the PI group, 37 (43.0%) in the AS group, and 15 (17.4%) in the crossover group. Overall, SF12 scores after RMB decline or remain unchanged in all three groups (6.46, p < 0.01 in PI, 1.26, p = 0.61 in AS, 0.82, p = 0.7 in crossover). PCS scores mirrored SF12 scores after RMB (2.69, p < 0.01 in PI, 5.20, p < 0.01 in AS, 0.25, p = 0.9 in crossover). Interestingly, MCS scores showed significant improvement in the PI and AS groups after RMB (1.96, p = 0.01 in PI, 1.02, p = 0.004 in AS, -0.46, p = 0.7 in crossover). See Figure.

Conclusions: RMB significantly improved mental component scores in patients with SRM in the PI and AS groups. Although selection bias exists in this cohort, improvement of QOL is a potential advantage of RMB that has not been previously demonstrated.
Impact of Urologic Conditions on Jobs and Caretaking Responsibilities in Developing Countries

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Introduction: Urologic disease is prevalent in the developing world. Study the economic impact of urologic disease.

Patients and Methods: During separate medical trips to Belize and Ghana, 38 patients presenting for evaluation of urologic disease were administered an 11-item questionnaire followed by survey. The aim of the survey was to identify the frequency of impact of urologic disease on employment and caretaking responsibilities.

Results: The most common urologic disease was urinary incontinence (UI; N = 18), but was also a result of embarrassment, time off from work, or travel to physician.

Discussion: The majority of patients reported a negative impact on their ability to maintain employment or provide adequate care for family. The economic impact of urologic disease often deleteriously impacts quality of life, the wider impact is understood. The aim of our study was to identify whether there is a negative impact on jobs and caretaking responsibilities is also understood. The aim of our study was to identify whether there is a negative impact on jobs and caretaking responsibilities.

Conclusions: The economic impact of urologic disease on employment and caretaking responsibilities is less understood. The aim of our study was to identify whether there is a negative impact on jobs and caretaking responsibilities.
Does Exparel® Improve Perception of Pain Following Robotic Urologic Surgery? Pilot Study

Alex Keary, Sharon Hill, James P. Towner
Charlestown Area Medical Center, Charleston, WV

Introduction: Exparel® is advertised to provide pain relief for 2-3 days once injected into the incision. Due to increased half-life, it is thought that the medication may decrease overall opioid use. This study hopes to determine if Exparel® changes the patient’s overall quality of life and hopefully decreases the patient’s perception of the pain.

Materials & Methods: A systematic search strategy was applied in Pubmed. All patients met inclusion criteria (12 transferred, 11 not transferred). All transferred patients were sent to evaluate any difference in how the patient perceived pain based on their intraoperative local anesthetic.

Results: Although responses from those receiving Exarel indicated better pain relief in regards to the APS-POQ, the results were not always statistically significant (p < 0.05). Those receiving Exarel were better able to tolerate activities in bed, such as sitting up and repositioning, as well as had a decreased need for use of non-medicinal pain control.

Conclusions: While the benefits of Exarel® were thought to decrease opioid intake, other benefits may include the patient’s perception of pain and impact on quality of life. This is the first prospective study relating quality of life directly to the use of Exarel®. Given the significant differences noted and the overall trend of improvement from those receiving Exarel® further studies may be necessary to determine its overall benefit.

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Cystectomy in the Pediatric Exstrophy Population: Indications and Outcomes

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Introduction: Cystectomy is the final surgical alternative to bladder repair among patients with bladder exstrophy and a poor quality bladder template. In this select group of patients, indications for cystectomy are not well understood and long-term data are lacking.

Materials & Methods: A prospectively maintained database of 1298 patients with exstrophy-epispadias complex was reviewed for patients who underwent cystectomy between 1970 and 2015 at the author’s institution. Demographic data, indication for cystectomy, surgical history, post-operative outcomes, and continence status at last follow-up were collected.

Results: Eighteen (6 male, 12 female) exstrophy patients (15 classic bladder exstrophy, 2 bladder exstrophy variants, 1 cloacal exstrophy) underwent cystectomy at a median of 3.8 years (range 1.0-13.5). Six patients (33.3%) underwent primary cystectomy without attempted bladder closure at a median of 1.5 years old (range 1-2.9). Twelve patients underwent cystectomy after primary bladder closure at outside institutions at a median age of 7.5 years (range 1.5-13.5). Eight (44.4%) failed primary closure with subsequent loss of capacity or inadequate growth. Four (22.2%) had successful primary closure but underwent cystectomy secondary to minimal bladder capacity with obstruction and decreased renal function. Urinary diversion at the time of cystectomy included 6 cutaneous ureterostomies, 4 bowel conduits (1 ileal, 3 colon), 6 neobladders with continent urinary diversion, and 1 ureterosigmoidostomy. One patient already had a cutaneous ureterostomy in place prior to cystectomy. Of eight patients who underwent a continence procedure by the time of last follow-up, all were dry at a median of 25.3 months after cystectomy.

Conclusions: Urinary continence is achievable in patients with bladder exstrophy that require a cystectomy. Poor bladder quality intrinsic to the diseased tissue at birth or as a result of previous failed closure is the most commonly reported indication for cystectomy.
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Does Tamsulosin Increase the Success Rate of Ureteral Navigation during Ureteroscopy for Pediatric Ureterolithiasis?

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Introduction: We aim to conduct the first study to address whether pre-operative tamsulosin increases the rate of ureteral navigation for ureteroscopy (URS) in the pediatric population.

Materials & Methods: We retrospectively reviewed all pediatric patients who underwent URS at our institution from January 2013 to March 2016. All cases were performed by a single surgeon using a standard approach with semi-rigid ureteroscope (Wolf 4.5 Fr) for distal and mid ureterolithiasis and flexible ureteroscope (Storz 7.5 Fr) with or without a ureteral access sheath (Cook 9.5 Fr) for proximal ureteral and kidney stones. Patients were separated into two groups: those who took tamsulosin (0.4 mg daily ≥ 48 hours pre-operatively and those who didn’t take tamsulosin pre-operatively. The Student T test, Z test, and chi square test were used for statistical analysis.

Results: A total of 68 patients underwent URS with 32 taking pre-operative tamsulosin, 19 without tamsulosin, and 17 patients were excluded (already had a ureteral stent). There was no significant difference between the groups with consideration to age and weight of the patients and size or location of the stones. We successfully navigated the ureter in 27 of 32 patients (84.4%) who took tamsulosin and 10 of 17 patients (58.8%) who didn’t take tamsulosin (p = 0.014). We successfully navigated the ureter in 12 of 14 patients (85.7%) in the tamsulosin group and 1 of 4 patients (25.0%) in the no tamsulosin group for mid/distal ureterolithiasis (p = 0.016). For proximal ureteral and renal stones, we successfully navigated ureter in 15 of 18 patients (83.3%) in the tamsulosin group and 1 of 4 patients (25.0%) in the no tamsulosin group for mid/distal ureterolithiasis (p = 0.014). We didn’t observe any adverse effect from tamsulosin.

Conclusions: Pre-operative tamsulosin did significantly increase the success rate of ureteral navigation for URS, particularly during semi-rigid URS for distal/mid ureterolithiasis.

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WITHDRAWN

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“Bladder attack”: The Effects of Acute Ischemia on the Isolated Perfused Working Pig Bladder

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Introduction: While there is an abundance of evidence demonstrating the negative impact of chronic ischemia on bladder function, the effects of acute ischemia have not been fully elucidated. The present study used the isolated perfused working pig bladder model to examine the relationships between perfusate flow and intravesical pressure during fill/void cycles.

Materials & Methods: Vesical arteries of pig bladders obtained from local slaughterhouses were cannulated and perfused with Krebs-Henseleit buffered solution. The urethra of each bladder was cannulated to permit bladder filling at 40 cc/min to a total volume of 510 cc followed by carbachol-induced, isovolumetric contraction and voiding. A ureter was cannulated with a pressure sensor to continuously monitor vesical pressure during filling, contraction, and equilibration.

Results: When the bladder was filled under ischemic conditions, the end-fill vesical pressure was significantly elevated over control at 13.69 ± 1.1 mmHg vs. 6.96 ± 0.6 mmHg, respectively (n = 3, p < 0.025), representing a 225% increase in filling pressure. Importantly, the strength of the carbachol-induced contraction following immediate reperfusion was not significantly decreased over control (p = 0.33), and the subsequent fill/void cycle with normal perfusate flow (non-ischemic conditions) showed a return to baseline end-fill vesical pressure of 7.34 ± 1.2 mmHg, not significantly elevated over control (p = 0.43). Furthermore, preliminary data suggest that the antimuscarinic compound atropine blocked the rise in end-fill vesical pressure induced by ischemia, supporting the hypothesis that the increase in tone is driven by acetylcholine released during acute ischemia. The increase in muscle tone under acute ischemic conditions was also found in an in vitro correlate using a rabbit detrusor smooth muscle preparation.

Conclusions: Bladder compliance is significantly affected by perfusion, and transient ischemia causes an acute increase in contractile activity (tone). This increased tone is completely reversible with re-perfusion, and can be blocked with antimuscarinic (atropine), suggesting a relationship between acute ischemia and increased local acetylcholine release.

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Laser Injuries and Never Events in Urologic Surgery

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Introduction: Surgical OR fires are infrequent events that can result in serious injury, disfigurement and death. An estimated 250 to 650 surgical fires occur annually in the United States, some resulting in second and third degree burns. 10% of fires are attributed to lasers/laser fibers, rendering this an important safety concern for urologists. Currently, laser fiber injuries have been classified under the rubric of “never events.”

Materials & Methods: We reviewed the literature to ascertain the current frequency of surgical patient burns as well as the prevalence of surgical lasers as the source of operating room fires.

Results: Our review revealed that 8.7% of operating room fires listed the surgical laser as the ignition source. Reports of serious injury or death due to burns have increased fivefold between the years 2012 and 2015.

Conclusions: Patient injury, patient burns, and operating room fires continue to be a persistent and underappreciated source of patient morbidity. These “never” events are entirely preventable. As per the FDA safety alert in 2011, laser fibers pose a surgical fire hazard such as burns or injury to the patient. They recommended that laser fibers be placed in protective holsters during surgery to preclude these risks. As per the Leapfrog group, 20% of US hospitals do not have a never events policy. Enacting a multidisciplinary prevention strategy is the best way to mitigate surgical risk, and avoid both laser fiber injuries as well as other surgical never events.
Stumbled upon Adrenal Masses (SAMs): Should We Treat?
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Introduction: Advancements in imaging sensitivity have enabled earlier identification of both malignant and benign processes. Incidentalomas, or stumbled upon adrenal masses (SAMs), are serendipitously found > 1 cm adrenal lesions resulting from improved and increasingly-utilized imaging. SAM management has evolved from an original 6 cm cutoff to the current 4 cm threshold for surgical excision, assuming no history of malignancy and non-secretory state. Adrenocortical carcinoma (ACC) is a rare malignancy occurring in 0.6-2.0 persons/million and 1:1000 known adrenal masses. The consensus is that most SAMs result in the diagnosis of benign adrenal adenoma. This multi-institutional retrospective investigation reviews ten years of adrenalectomy pathology to determine the rate of cancer based on size. We aim to apply these findings to modify current recommendations for surgical excision in patients without a secretory tumor or cancer history.

Materials & Methods: Chart review of 234 adrenalectomies from 2005-2015 was performed at Charleston Area Medical Center and West Virginia University to determine lesion size, pathology, functional status and whether patient had known malignancy. Adrenalectomies during radical nephrectomy were excluded with all functional tumors and those with known malignancy.

Results: The remaining 77 adrenalectomies were analyzed. Distribution was comparable among sexes. Mean age was 57.8 years at surgery. There were forty-seven SAMs > 4 cm and twenty > 6 cm. There were three ACCs, all > 6 cm. The remaining 74 lesions were benign.

Conclusions: In 2009, the American Association of Endocrine Surgeons revisited the 2002 NIH Consensus on management of adrenal incidentalomas calling for surgical excision of nonfunctioning adrenal masses > 4 cm in patients without malignancy. Our study suggests the original recommendation of excision at 6 cm in the same patient population is reasonable, safe and may have prevented 57 patients from undergoing an advanced laparoscopic or major open surgery. This study suggests that larger prospective trials are warranted for consideration and possible revision of current recommendations.

Using Predictive Survival Factors to Determine Efficacy of Ureteral Stenting in Women with Stage IV Pelvic Malignancies
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Introduction: Women with Stage IV gynecologic (GYN) malignancies usually have a poor overall prognosis. 5-year survival rates are very low with 28.8% for metastatic ovarian cancer, 16.8% for metastatic cervical cancer and 16.8% for metastatic uterine cancer (Howlader, 2016). In advanced cases, these malignancies can cause ureteral obstruction and urologists are commonly asked to help manage the obstruction. Little evidence supports whether intervention should be undertaken to alleviate the obstruction in these patients with such a poor overall prognosis.

Materials & Methods: From 2010-2016, 21 female patients at a single institution with stage 3/4 GYN cancer underwent ureteral stenting or percutaneous nephrostomy for urinary obstruction. Survival factors such as serum albumin level, serum hemoglobin, number of distant metastases and grade of hydronephrosis were collected to determine their efficacy at predicting survival.

Results: Hypoalbuminemia (serum less than 3 g/dL) was the only statistically significant predictor of decreased overall survival in this cohort (p = 0.04).

Conclusions: Decreased serum albumin is a poor prognostic factor and can be used to help counsel patients regarding the efficacy of urinary tract decompression in advanced GYN malignancies. Further studies are necessary to validate these results and identify additional prognostic factors to help counsel this patient population.