Moderated Posters 8: Prostate Cancer and Miscellaneous
June 25, 2013, 1400-1600

MP-08.01

Obesity is Associated with Larger Prostate Volume but not with Worse Urinary Symptoms: Analysis of a Large Cohort Undergoing Trans-rectal Ultrasound

Bhindi, Bimal; Trottier, Greg; Fernandes, Kim; Hamilton, Robert; Hersey, Karen; Finelli, Antonio; Trachtenberg, John; Toi, Ants; Zlotta, Alexandre; Fleshner, Neil
University Health Network, Toronto, ON, Canada

Introduction and Objectives: Given public health implications, the association between obesity and benign prostatic hyperplasia (BPH) warrants examination. Our objective was to further delineate the associations between body mass index (BMI) and prostate volume (PV) and lower urinary tract symptoms (LUTS).

Methods: A cohort of men undergoing trans-rectal ultrasound (TRUS), with or without biopsy, was derived from our institutional GU BioBank. Clinical and demographic parameters were collected using study-coordinator administered questionnaires and electronic chart review. Body mass index (BMI) was measured and patients were classified as normal (<25 kg/m2), overweight (25-30 kg/m2), or obese (≥30 kg/m2). Primary outcomes were TRUS-measured PV and International Prostate Symptom Score (IPSS). Exclusion criteria were missing BMI, prior TURP, or high volume prostate cancer (single biopsy core >50% involved, or number of cores involved >50%). Unadjusted outcome measures were analyzed with stratification for use of alpha blockers (AB) and 5-alpha reductase inhibitors (5ARI). Spearman's correlations were computed. Multiple linear regression analysis was performed using log-transformed PV and IPSS values.

Results: Of the cohort of 2571 men, 744 (28.9%) had normal weight, 1258 (48.9%) were overweight, and 569 (22.1%) were obese. There were no significant differences in AB or 5ARI use between the groups. PV was significantly higher with increasing BMI category for all strata of AB and 5ARI. The magnitude of differences across BMI categories was larger among AB and 5ARI users compared to non-users (Table 1). There were no significant associations between BMI category and IPSS. BMI was correlated with PV (r=0.11, p<0.0001) but not IPSS (p=0.83). Upon adjusting for age, AB and 5ARI use, BMI was again associated with PV (p<0.0001) but not IPSS (0.45).

Conclusion: Our study identifies that higher BMI is associated with larger prostates, but not necessarily worse urinary symptoms. Differences in PV between BMI categories were of greater magnitude among patients who develop sufficient urinary symptoms to warrant medical therapy with an AB or 5ARI.

Table 1. MP-08.01

Variable	Normal BMI, median (IQR)	Overweight, median (IQR)	Obese, median (IQR)	*p* value
Overall	42 (31-56)	45 (34-61)	47 (34-67)	<0.0001
No alpha blocker	41 (30-54)	42 (32-57)	43 (32-60)	0.021
Alpha blocker	50 (38-65)	53 (42-72)	58 (41-86)	0.035
No 5ARI	42 (30-55)	44 (33-59)	45 (34-63)	0.0002
5ARI	49 (36-66)	51 (39-73)	62 (42-83)	0.016

BMI: body mass index; IQR: interquartile range; 5ARI: 5-alpha reductase inhibitors.

MP-08.02

Determining Perception of Urology as a Specialty by Canadian Medical Students

Kim, Soojin[1]; Farrokhyar, Forough[1]; Lorenzo, Armando[2]; Matsumoto, Edward[1]; Braga, Luis H.[1]
[1]McMaster University, Hamilton, ON, Canada; [2]University of Toronto, Toronto, ON, Canada

Introduction and Objectives: Upon inquiring medical students and urologists across Canada, it is evident that Urology is perceived as a male-dominant specialty among other stereotypes. These misperceptions may hamper the recruitment of best and brightest trainees. With that in mind, we surveyed medical students in our institution to obtain an objective assessment of their perception of Urology and to determine the causes for misperceptions.

Methods: A 25-question, validated, anonymous, cross-sectional, self-reported electronic survey was sent to all medical students at McMaster University to assess their perception of Urology. The survey was piloted among students and educational leaders to optimize face and content validity, and minimize measurement bias. Six variables (years in training, positive role model, a family member or friend in Urology, gender, and exposure) were selected a priori and entered into a logistic regression model to determine factors associated with a positive impression of the specialty.

Results: The overall response rate was 70%. Of the respondents, 66% had no exposure to Urology and 61% found the amount of exposure to be inadequate. Urology staff and resident involvement in education was considered to be poor by over 30% of medical students. Over 20% perceived urologists intimidating and non-approachable. On multivariable analysis, exposure to Urology was the most important factor (p<0.001) associated with students' positive perception of the specialty in addition to male gender, earlier years in training and positive role models.

Conclusions: Concerns regarding inadequate Urology exposure and poor staff and resident involvement in undergraduate education were seen as potential causes for misperceptions of the specialty. Increasing exposure to Urology, encouraging female students, constant effort to approach senior students and providing mentorship is found to be important factors in establishing a positive perception of Urology.

MP-08.03

Increasing Rate of Fluoroquinolone Resistant Escherichia Coli and Incidence of Infectious Complications Following TRUS Guided Prostate Biopsy in Calgary, Alberta, Canada - A Retrospective Analysis

Rudzinski, Jan[1]; Kawakami, Jun[2]
[1]University of Calgary, Southern Alberta Institute of Urology, Calgary, AB, Canada; [2]Southern Alberta Institute of Urology, Calgary, AB, Canada

Introduction: Increasing risk of infectious complications associated with colonic Escherichia coli (E.coli) following trans-rectal ultrasound guided prostate biopsy (TRUS-PB) has been observed. Fluoroquinolone (FQ) antibiotics are used as the first line prophylaxis prior to TRUS-PB. We sought to evaluate whether increasing E.coli resistance correlates with increased incidence in infectious complications following TRUS-PB at our institution.

Methods: We conducted an electronic health record review of 927 patients who underwent TRUS-PB between January and July 2012 in Calgary. The variables collected prospectively included patient age, pre-biopsy PSA and date of biopsy. We documented presentation to the emergency department (ED) within 30 days of TRUS-PB for infectious complications, such as uri-

nary tract infections (UTI), prostatitis, and sepsis/bacteremia. For patients seen in the ED, we analyzed blood and urine cultures results, as well as antibiotic susceptibility and resistance rates.
Results: 41 patients (4.4%) were assessed in the ED due to post-TRUS-PB infectious complications within 30 days post-biopsy. The most common infectious complication was sepsis in 22 patients (2.3%), followed by UTI in 9 (0.9%), and prostatitis in 4 (0.4%). Of the 22 septic patients, blood culture results showed FQ resistance in 15 (68%). 15 patients were septic due to E. coli; 13 FQ resistant and 2 FQ susceptible strains. One patient had sepsis due to FQ susceptible Klebsiella oxytoca. Two patients were septic with FQ resistant Klebsiella pneumoniae and Comamonas species. There was one case of sepsis with Bacteroides fragilis. 3 patients were diagnosed with sepsis, but had negative blood cultures. All of the UTIs were due to ciprofloxacin resistant E.coli.
Conclusion: Our results suggest increased incidence of infectious complications due to FQ resistant organisms following TRUS-PB, which could be attributed to increasing community resistance to ciprofloxacin.

MP-08.04
Royal College Objectives of Urologic Training: A Survey of Faculty Members From Canadian Training Programs
Haddad, Richard[1]; Kassouf, Wassim[1]; Andonian, Sero[1]; Aprikian, Armen[1]; Ahmed, Ahmed Sayed Zakaria[2]
[1]Division of Urology, McGill University, Montreal, QC, Canada; [2]Research Institute of McGill University Health Centre, Montreal, QC, Canada
Introduction: The Royal College objectives in urology include surgical procedures, categorized as level A, B, and C, based on the need for independent proficiency. The aim was to survey the training faculty on (1) the level of proficiency required for Royal College accreditation, and (2) whether their most recent graduates have attained level A proficiency.
Methods: A twelve question survey assessing 54 procedures was sent to all Canadian urology training faculty using SurveyMonkey®.
Results: The response rate was 43.7% (95/217). Sixty percent of faculty operate with a R5 resident between 2 to 5 days per month. Overall, >80% of faculty agreed that all of their recent graduating residents achieved level A proficiency, in a consensus subset of procedures. When analyzing the opinion of sub-specialty faculty; (i) Uro-Oncologists (36/95); >80% faculty felt that only the following should be Level A - radical orchiectomy, TURBT, standard PLND, open/laparoscopic radical nephrectomy. (ii) Endo-Urologists (13/95) >80% faculty felt only the following should be Level A - ureteroscopy/lithotripsy, TURP, open/laparoscopic simple and radical nephrectomy, repair ureteral/bladder trauma. (iii) Female urology/voiding dysfunction (13/95) - >80% felt only the following should be Level A TURP, meatoplasty, sling procedures for SUI, ileal conduit. (iv) Pediatric Urologists (14/95) >80% felt that Level A should be only for circumcision, hydrocele/varicocele repair, testicular torsion, pyeloplasty, open radical nephrectomy. Furthermore, >80% of each sub-specialty faculty group felt that their own graduating R5 residents had reached Level A proficiency in their core set of procedures. However, more than 50% of all faculty either disagreed or were ambivalent that all of their graduating residents were Level A proficient in a subset of other procedures.
Conclusions: There exists sufficient disagreement to suggest revision of the current list of category A procedures.

MP-08.05
Residents' Use of and Attitudes Toward Social Media in Urology
Fuoco, Michael; Leveridge, Michael
Queen's University, Kingston, ON, Canada
Introduction and Objectives: Social Media services are enormously popular, particularly in younger age groups. Their impact on medical practice is unknown. We sought to understand urology residents' engagement in and attitudes toward social media.
Methods: A survey was delivered to all PGY1-3 and PGY5 Canadian urology residents. We used Likert scales to assess social media use as well as attitudes toward the roles, responsibilities and caveats of online interaction in a professional capacity.
Results: 67 of 110 delivered surveys were completed. 65% of residents admitted frequent or daily personal social media use; 3% frequently use these services professionally. 22% of residents regularly post on social media services; none is an author of or contributor to a blog. Discussion of patient cases or direct patient interaction was endorsed by 34% and 16% of residents, respectively. Social media's most appropriate role in health care is thought to be as professional discussion forums (66%) or simple information repositories (65%). Less than 4% of residents had read institutional or medical association guidelines for social media use; 62-84% were unaware of them. 98% felt that physicians should be careful about the content of their posts, even on personal accounts; 85% felt that "unprofessional" posts would (and 53% felt that they should) put physicians at risk of formal discipline. Privacy issues were perceived to be insurmountable by 41% of residents, although 79% feel that online patient-physician interaction will become unavoidable. Final-year residents were more likely to endorse a zero-contact policy toward online contact with patients (p=0.008).
Conclusions: Urology residents are frequent users of social media platforms, but remain apprehensive about healthcare applications, and avoid its use professionally. Residents feel social social media is best employed in interprofessional communication, but consider patient interaction inevitable in the future.

MP-08.06
A Novel Phenotype in Interstitial Cystitis/Bladder Pain Syndrome: Multiple Sensitivity Syndrome
Fuoco, Michael; Nickel, J. Curtis; Irvine-Bird, Karen
Queen's Urology, Kingston, ON, Canada
Introduction and Objectives: Phenotypic differentiation of patients with Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS) may improve understanding of the pathogenesis and heterogeneity of the condition as well as help develop patient specific treatment strategies. We have characterized a subgroup of IC/BPS patients with a multiple sensitivity phenotype.
Methods: We defined this IC/BPS associated multiple sensitivity syndrome as having at least three confirmed allergies/sensitivities to medications and/or environmental factors. These patients (cases) were compared to age-matched IC/BPS patients with few or no allergies (controls) randomly selected (1:2 ratio) from our prospectively collected IC/BPS database. Characterizations and comparisons were undertaken using previously described patient parameters (age, duration of symptoms, medical history, ICSI and PUF symptom scores, and UPOINT categorization).
Results: The study consisted of 17 cases and 34 controls. Mean age was 55 and 56 years in each group respectively. There was more medication and environmental allergies in the cases versus controls. Cases reported more concomitant illnesses (mean 9.6 vs. 6.2) and number of bodily systems affected (mean 6.0 vs. 3.8). Prevalence of Irritable Bowel Syndrome and Fibromyalgia was higher in the case group. There was more psychiatric disease, allergic/immune disease, and pulmonary disease in the case group. Symptom scores did not significantly differ between groups. UPOINT classification differed as more cases were categorized in the psychosocial and neuropathic/systemic domains. Total UPOINT classification was higher in cases than controls (mean 4.6 vs. 3.2).
Conclusions: We characterized a distinct phenotypic group in IC/BPS. These patients have more associated non-bladder syndromes and conditions. This observation suggests further research in the etiology and pathogenesis of this group and may help in developing phenotype targeted therapeutic strategies.

MP-08.07
Canadian Urological Resident Exposure to Trans-urethral Surgical Options for Benign Prostatic Hyperplasia: A Pan-Canadian Survey
Ben-Zvi, Tal; Hueber, Pierre-Alain; Valdivieso, Roger F.; Liberman, Daniel; Trinh, Quoc-Dien; Zorn, Kevin C.
Centre Hospitalier de l'Université de Montréal, Montreal, QC, Canada
Introduction and Objectives: Surgical treatment of benign prostatic hyperplasia is an important aspect of a urologists' practice. Few to no studies have examined the Canadian urological resident's exposure to these procedures. Our aim was to evaluate the surgical exposure, trends and satisfaction of urological residents in relation to transurethral BPH surgeries (TUBPHS) in the 13 Canadian academic training centres.

Methods: A bilingual 16 question online survey was distributed to all Canadian urological residents via their program directors. Reminder emails were sent to encourage participation (8 week period). Responses were analyzed via Excel 2010.
Results: 88 residents participated (88/162, 54%) from 12/13 faculties (Table 1). Estimated Millins prostatectomy volume was 0-5/month/centre (R345, Fig. 1). Preoperative TRUS sizing is almost never (~0%) performed in 6/12 centres and performed to various degrees in 6/12 (Table 2). Tabulated surgical volumes reported by R345 (Fig. 2) indicate the mode average for academic centres is 11-20 TUBPHS/month. TUBPH surgical modalities in Canadian training centres are monopolar TURP (12/12), Bipolar TURP(4/12), GreenLight (GL) (5/12) and Holmium (2/12) (Table 3). R345 responded they would like additional surgical exposure during their formation to GL (64.4%), Bipolar TURP (26.7%), PlasmaButton (17.8%) and HoLEP (15.6%) (45 responses, Fig. 3). Desire for additional exposure to GL did not differ significantly between R345 in centres with or without GL (65.9% vs.70.2%, p=0.66). 82.2% of R345 felt they received sufficient exposure to TUBPHS (45 responses, Fig. 4).
Conclusions: Training for TUBPHS is essential for a urologist's formation. A significant portion of senior residents feel that they do not receive sufficient exposure to TUBPHS. The majority of residents' desire increased exposition to alternative BPH surgical techniques such as GL, whether available at their training centre or not. Moreover not all centres provide training in alternative surgical techniques.

MP-08.08

Results of a Pilot Multidisciplinary, Simulation-based Robotic Basic Skills Training Curriculum (BSTC)

Foell, Kirsten[1]; Finelli, Antonio[1]; Yasfuku, Kazuhiro[2]; Bernardini, Marcus[3]; Lee, Jason Y.[1]; Waddell, Thomas[2]
[1]Division of Urology, Department of Surgery, University of Toronto, Toronto, ON, Canada; [2]Division of Thoracic Surgery, Department of Surgery, University of Toronto, Toronto, ON, Canada; [3]Department of Obstetrics and Gynecology, University of Toronto, Toronto, ON, Canada
Introduction and Objectives: Simulation-based training aims to improve skills while minimizing the impact of the educational process on patient care. We evaluate a pilot simulation-based robotic surgery BSTC for trainees and surgeons from different surgical specialties, all with minimal robotic experience.
Methods: A 4-week BSTC was offered to residents, fellows and staff surgeons at the University of Toronto, Departments of Surgery and Obstetrics & Gynecology. The BSTC consisted of didactic lecture, self-directed online-training modules, hands-on da Vinci robot (dVR) training, and

Table 1. MP-08.07

Participation Population	R1	R2	R3	R4	R5	Total	No. residents	% Participation
Dalhousie University	1	2	2	2	2	9	14	64%
McGill University	1	1	1	3	3	9	19	47%
University of Ottawa	5	2	2	1	2	12	17	71%
Queen's University	2	0	1	1	0	4	6	67%
University of Toronto	3	1	2	1	1	8	22	36%
McMaster University	1	0	1	3	0	5	15	33%
University of Western Ontario	2	0	1	1	3	7	16	44%
University of Manitoba	1	3	1	1	3	9	10	90%
University of Alberta	0	0	0	0	0	0	12	0%
University of British Columbia	1	2	1	1	1	6	15	40%
Université de Laval	2	0	2	2	2	8	10	80%
Université de Sherbrooke	2	1	2	0	0	5	5	100%
Université de Montréal	3	1	1	0	2	7	11	64%
Total	**24**	**13**	**17**	**16**	**19**	**89**	**172**	
No. residents	**35**	**33**	**34**	**36**	**34**	**172**		**Total participation**
% Participation	**69%**	**42%**	**50%**	**44%**	**56%**			**51.74%**

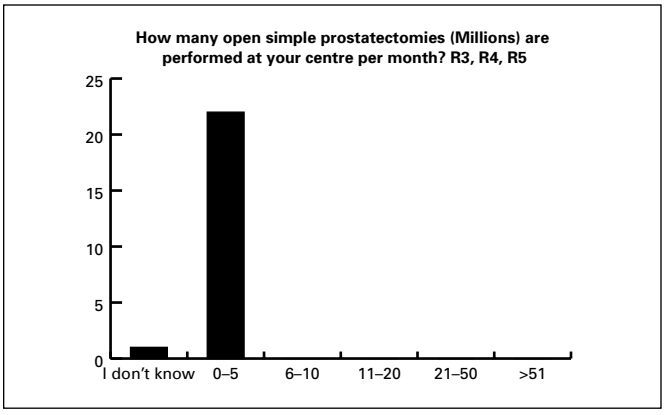

Fig. 1. MP-08.07.

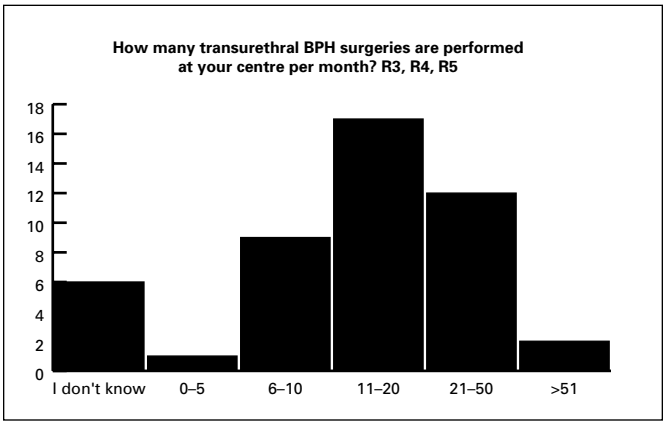

Fig. 2. MP-08.07.

Table 2. MP-08.07. How often is transrectal ultrasonography (TRUS) used to determine the volume of the prostate gland prior to transurethral BPH surgery at your centre? R3-4-5

	Almost never (0%)	25%	50%	75%	Almost always (100%)	Estimated %
Dalhousie University	4					0.0%
Queen's University	2					0.0%
McMaster University	4					0.0%
University of British Columbia	3					0.0%
Université de Laval	6					0.0%
Université de Sherbrooke	2					0.0%
University of Ottawa	4	1				5.0%
University of Manitoba	3	1				6.3%
University of Western Ontario	3	2				10.0%
Université de Montréal		1				25.0%
McGill University		2	4			41.7%
University of Toronto		2	1	1		43.8%
Total	**31**	**9**	**5**	**1**	**0**	**12.0%**

dedicated training on the da Vinci Skills Simulator (dVSS). A third of trainees participated in competency-based dVSS training, all others engaged in traditional time-based training. Pre- and post-BSTC testing was conducted on the dVR for two standardized skill tasks: "ring transfer" (RT) and "needle passing" (NP), and again 5 months later.

Results: 37 participants completed initial training (13 urology, 12 ObGyn, 12 thoracics). 55% had no clinical robotic experience and 81% had no surgical console experience. The dVSS demonstrated excellent face and content validity. All participants completed the BSTC and 14 (38%) completed both pre- and post-course RT and NP testing. Mean times and number of errors on both tasks improved significantly post-BSTC ($p<0.01$). Competency-based training was associated with significantly better post-BSTC performance. There was no significant difference in performance between specialties. Post-BSTC improvements in performance were found to be durable after 5 months.

Conclusions: Preliminary pilot testing of this simulation-based BSTC demonstrated excellent face and content validity. Participants from different surgical disciplines demonstrated improvements in basic robotic skills, regardless of specialty, level of training, or previous MIS experience.

MP-08.09

Validity of Natural Language Processing to Identify Patients with Prostate Cancer

Kim, Brian[1]; Thomas, Anil[1]; Zheng, Chengyi[2]; Jung, Howard[1]; Chang, Allen[1]; Gelfond, Joy[2]; Slezak, Jeffrey[2]; Porter, Kimberly[2]; Jacobsen, Steven[2]; Chien, Gary[1]

[1]Kaiser Permanente, Los Angeles, CA, United States; [2]Kaiser Permanente, Pasadena, CA, United States

Introduction and Objectives: The extraction of specific data from electronic medical records (EMR) remains tedious and is often performed

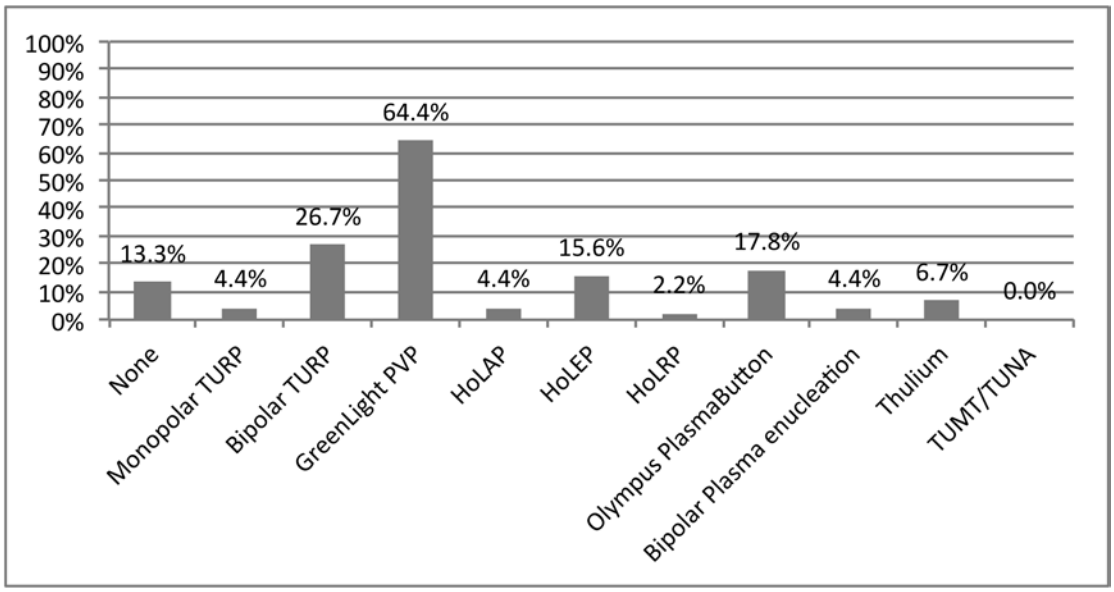

Fig. 3. MP-08.07. Are there any specific transurethral surgical options you would like to have more exposure to during your residency? R3-4-5

Table 3. MP-08.07. What are the transurethral BPH surgical options available at your centre?

	Monopolar TURP	Bipolar TURP	GreenLight PVP	Olympus PlasmaButton	Bipolar plasma enucleation	HoLAP/ HoLEP/ HoLRP	Thulium	TUMT/TUNA
University of British Columbia	1	0	0	0	0	1	0	0
Dalhousie University	1	1	0	0	0	0	0	0
McGill University	1	0	1	0	0	1	0	0
University of Ottawa	1	0	1	0	0	0	0	0
Queen's University	1	1	0	0	0	0	0	0
University of Toronto	1	0	0	0	0	0	0	0
McMaster University	1	0	1	0	0	0	0	0
University of Western Ontario	1	1	1	0	0	0	0	0
University of Manitoba	1	1	0	0	0	0	0	0
Université de Laval	1	0	0	0	0	0	0	0
Université de Sherbrooke	1	0	0	0	0	0	0	0
Université de Montréal	1	0	1	0	0	0	0	0
Total	**12**	**4**	**5**	**0**	**0**	**2**	**0**	**0**
Percentage	**100%**	**33%**	**42%**	**0%**	**0%**	**17%**	**0%**	**0%**

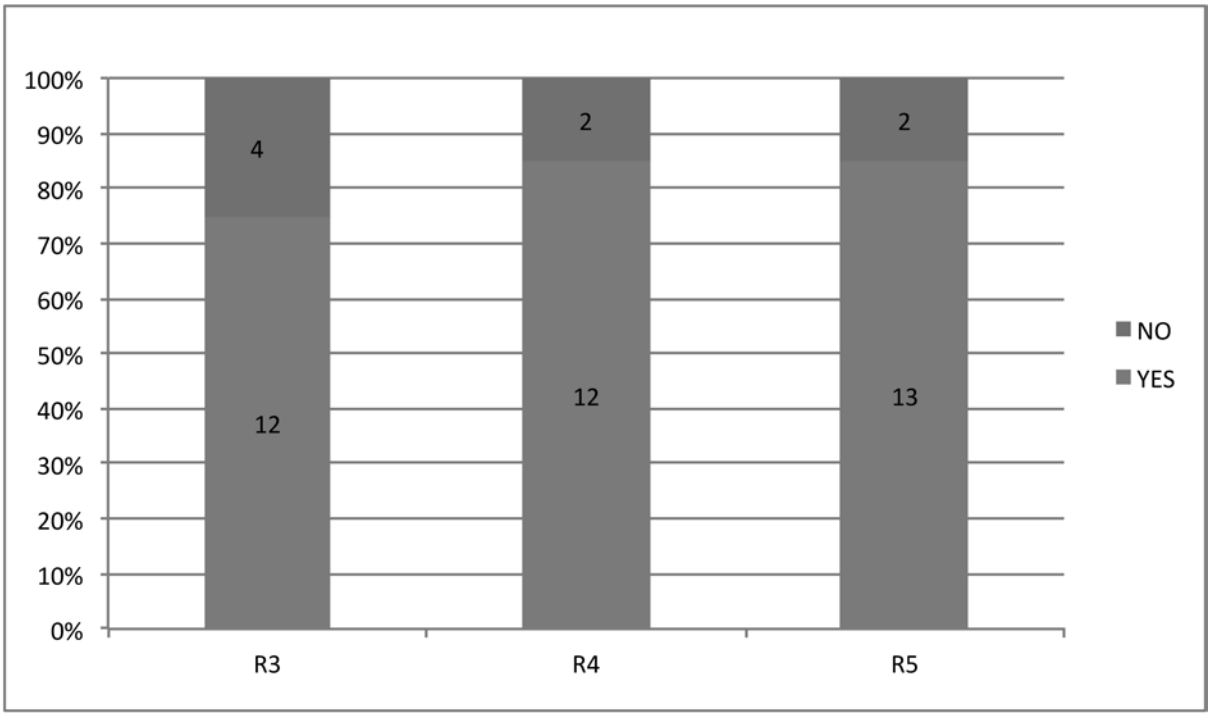

Fig. 4. MP-08.07. Do you feel you receive sufficient exposure to transurethral prostate surgeries in your training centre? R3-4-5

manually. Natural language processing (NLP) programs have been developed to identify and extract information within clinical narrative text. We performed a study to assess the validity of an NLP program to accurately identify patients with prostate cancer and to retrieve pertinent pathologic information from their EMR.

Methods: A retrospective review was performed of a prospectively collected database including patients from the Southern California Kaiser Permanente Medical Region that underwent prostate biopsies during a 2-week period. A NLP program was used to identify patients with prostate biopsies that were positive for prostatic adenocarcinoma from all pathology reports within this period. The application then processed 100 consecutive patients with prostate adenocarcinoma to extract 10 variables from their pathology reports. The extraction and retrieval of information by NLP was then compared to a blinded manual review.

Results: A consecutive series of 18,453 pathology reports were evaluated. NLP correctly detected 117 out of 118 patients (99.1%) with prostatic adenocarcinoma after TRUS-guided prostate biopsy. NLP had a positive predictive value of 99.1% with a 99.1% sensitivity and a 99.9% specificity to correctly identify patients with prostatic adenocarcinoma after biopsy. The overall ability of the NLP application to accurately extract variables from the pathology reports was 97.6%.

Conclusions: NLP is a reliable and accurate method to identify select patients and to extract relevant data from an existing EMR in order to establish a prospective clinical database.

MP-08.10

Complications After Prostate Biopsy: A Meta-analysis of Transrectal Prostate Biopsy Versus Transperineal Prostate Biopsy

Winter, Matthew[1]; Chalasani, Venu[2]; Woo, Henry[2]; Bergersen, Philip[3]
[1]Urology Society Australia and New Zealand, VIC, Victoria, Australia; [2]University of Sydney, Sydney, Australia; [3]Northern Sydney Local Health District, Sydney, Australia

Introduction and Objectives: Two established techniques of prostate biopsy exist: the more commonly used transrectal (TR) approach and the transperineal (TP) approach. By avoiding traversing the rectum, the TP approach is thought to reduce infectious complications. The aim of this paper is to conduct a meta-analysis to determine if any difference in complication rate exists between TR and TP prostate biopsy.

Methods: Biomedical databases from 1946 to 2012 in Medline, Embase, and Cochrane Central Register of Controlled Trial were searched, as were conference proceedings for the EAU, AUA, and BAUS. Studies were included if they were randomised controlled trials comparing TR to TP prostate biopsy. Meta-analysis was performed using a fixed effects model. A summary risk ratio (RR) and its 95% confidence interval were calculated.

Results: Four studies were identified with 428 patients undergoing TR prostate biopsy and 422 undergoing TP prostate biopsy. Data sufficient to conduct a meta-analysis were available for three studies, with a total of 742 patients. No significant heterogeneity was noted between trials. A total of 64 complications were reported using the TR approach and 60 for TP approach. Reported complications were haematuria (38 TR and 41 TP; RR 0.91 [0.60 - 1.39]), infectious complications (6 TR and 3 TP; RR 1.97 [0.50, 7.84]), urinary retention (8 TR and 4 TP; RR 1.96 [0.60 - 6.44]), rectal bleeding (6 TR and 5 TP; RR 1.16 [0.40 - 3.40]), haematospermia (2 TR and 5 TP; RR 0.49 [0.12 - 1.96]) and vasovagal events (4 TR and 2 TP; RR 1.97 [0.36 - 10.63]). No statistically significant difference present.

Conclusions: No statistically significant difference in complications was found between TR and TP prostate biopsy. A trend towards rectal bleeding, infectious complications, urinary retention, and vasovagal events occurring more frequently was seen in the TR approach with haematuria and haematospermia more commonly reported during the TP approach.

MP-08.11

Idiopathic Hydrocele Repair with Gubernaculum Preservation Can be Easily and Safely Performed Through a Subinguinal Incision; Comparing a Novel Technique to Traditional Repairs

Martin, Paul R.[1]; Zappavigna, Chris[2]; Rowe, Neal E.[1]; Guerra, Luis[2]; Oake, J. Stuart[2]; Blew, Brian[2]; Luke, Patrick P.[1]
[1]Western University, London, ON, Canada; [2]University of Ottawa, Ottawa, ON, Canada

Introduction and Objectives: Adult idiopathic hydrocele is a common benign disorder that merits surgical correction when symptomatic. The two traditional methods of repair are plication (Lord's procedure), or excision & eversion of the tunica vaginalis (Jaboulay procedure). These procedures are performed through a scrotal incision. We describe a novel technique of hydrocele repair with gubernaculum preservation through a subinguinal incision. Results are compared to a contemporary cohort of traditional repairs.

Methods: The novel technique is described in detail. A retrospective review was performed of those patients treated by a single surgeon with the novel technique. Demographic information, indication for treatment, success rate, and details regarding complications were collected. Results were compared to a contemporary cohort of patients treated surgically with traditional repairs.

Results: We term the technique the "tug & stitch" repair. Through a small subinguinal incision the tunica is wrapped around the cord and testes without resection of the hydrocele sac or gubernaculum. 10 patients with postoperative follow-up were identified and compared to 66 patients that had a traditional repair. At one month, 9 patients (90%) treated with the novel technique were cured compared to 39 (59%) treated with a traditional repair (p=0.08). Lord's technique had resolution in 62% of cases (28/45). Jaboulay repair had resolution in 52% of cases (11/21). There was only one complication recorded after the novel technique: a wound infection. There were 4 hematomas and one orchidectomy from traditional repairs.

Conclusions: Idiopathic hydrocele repair with gubernaculum preservation can be easily and safely performed through a small subinguinal incision.

MP-08.12

Prone Versus Supine Lasix Renal Scan to Assess Surgical Success Following Laparoscopic and Robotic-assisted Pyeloplasty

Lantz, Andrea G.; Ordon, Michael; Pace, Kenneth T.; Honey, R. John
St. Michael's Hospital, University of Toronto, Toronto, ON, Canada

Introduction and Objectives: Success following laparoscopic pyeloplasty (LP) for ureteropelvic junction (UPJ) obstruction is determined based on renal scan (RS) results and patient symptoms ± ultrasound. The upright or prone position during RS may facilitate drainage. This study reports on outcomes following LP and robotic-assisted pyeloplasty (RALP) and determines if patient position (supine vs. prone) alters the results of the postoperative RS and surgical "success".

Methods: A retrospective review of LP and RALP performed by one surgeon between 2005 and 2012 was performed. Follow-up consisted of RS's ± ultrasound. The paired t-test was used to assess for a significant difference between mean $T_{1/2}$ for supine vs. prone scans in each patient. Linear regression was used to determine if preoperative split renal function on the affected side or degree of preoperative hydronephrosis predicted difference in supine vs. prone $T_{1/2}$.

Results: 11 LP and 81 RALP were performed. 84 had follow-up data. There were 4 failures (4.3%). 38 patients had sufficient supine and prone RS's for analysis. The difference in $T_{1/2}$ between supine and prone RS's was significant (mean difference 10.18 ±27.28 min, p=0.03). Strict success increased to 65.8% from 44.7% and combined strict plus technical success increased to 78.9% from 63.1% on prone vs. supine RS. Split function and degree of hydronephrosis were not predictors of difference in RS results.

Conclusions: LP and RALP have good technical results. Prone position for RS may facilitate drainage and may be a more accurate representation of postoperative outcome following pyeloplasty, particularly in equivocal cases.

MP-08.13

Under-diagnosis of UTI with Retrospective Review vs. Prospective Data Collection: 1999 vs. 2011 AAP Criteria

Keays, Melise; Snodgrass, Warren; Bush, Nicol
Children's Medical Center Dallas, UT Southwestern, Dallas, TX, United States

Introduction: In 2011 the AAP issued new criteria for diagnosis of febrile UTI (fUTI) in children, replacing earlier 1999 guidelines. We hypothesized that patients classified as having a fUTI would vary significantly based on diagnostic criteria used and method of data collection.

Methods: Data from a prospective observational study of patients referred with a fUTI diagnosis and/or VUR from 2008-2011 were used to determine fUTI prevalence based on 1999 AAP diagnostic criteria. A subsequent retrospective chart review was done to determine fTUI rates by the new 2011 AAP criteria, contacting primary care physicians (PCPs) up to 3 times for urinalysis (UA) and culture results not found in the patient's computerized medical record. Positive and negative predictive values (PPV, NPV), sensitivity and specificity were compared for 2011 and 1999 AAP criteria. For patients with fUTI, abnormal DMSA rates were calculated for both AAP criteria (abnormal DMSA = function ≤44% and/or focal uptake defect on scans ≥3 months after UTI).

Results: Of a total 564 patients, 83% had a fUTI using 1999 criteria & presence of fever >101F. Using 2012 criteria, significantly less patients met criteria on retrospective review (50.5%, p<0.001). The PPV was 100%, NPV 34.1%, specificity 100%, and sensitivity 60.8%. Abnormal DMSA was found in 19.4% of those with fUTI by 1999 compared to 19.7% by 2011 criteria (p=0.84).

Conclusions: Retrospective application of 2011 AAP criteria in a prospective cohort of patients potentially underdiagnosed 39% of fUTIs, with 61% sensitivity and false negative rate of 66%, primarily due to inability to

obtain simultaneous urinalysis and culture data from PCP offices after the fact despite contacting them up to 3 times. While the 2011 AAP criteria for diagnosing UTI are likely more accurate requiring both pyuria on UA and non-bag-specimen cultures, and can thus reduce unnecessary testing in children who do not actually have fUTI, retrospective diagnosis may lead to underdiagnosis of UTIs.

MP-08.14

Are Canadian Urology Residency Programs Fulfilling the Royal College Expectations? A Survey on Graduated Chief Residents

Bachir, Bassel G.; Aprikian, Armen; Kassouf, Wassim
McGill University Health Centre, Montreal, QC, Canada

Introduction and Objectives: To assess outgoing Canadian urology chief resident's satisfaction with different aspects of surgical training and proficiency in surgical procedures.

Methods: An anonymous survey was sent by email to all 29 graduated urology chief residents from all provinces across Canada in August 2012. Basic demographic information was solicited and a five-point Likert scale was employed for most survey questions. The survey included a list of all urologic surgical procedures listed by the Royal College. According to the A/B/C classification used to assess competence in these procedures (A most competent, C least competent), we asked chief residents to self classify their competence with regards to each procedure, comparing the results to the current Royal College classification.

Results: The overall response rate amongst chief residents surveyed was 97%. The chief residents surveyed believed that they have received the least adequate training in robotic surgery (89.3%), followed by female urology (67.8%), andrology/infertility (67.8%), and reconstructive urology (61.4%). Interestingly, out of the 42 surgical procedures classified as category A by the Royal College, a significant percentage of residents felt that their proficiency was not category A in several surgeries, including repair of urinary fistulae (82.1%), pediatric indirect hernia repair and meatal repair for glanular hypospadias (67.9%), open pyeloplasty (64.3%), anterior pelvic exenteration (61.6%), open varicocelectomy (60.7%) and radical cystoprostatectomy (33.3%). Furthermore, 100% of respondents believed that they were deficient in at least one of the 42 category A procedures, while 53.6% believed they were deficient in at least 10.

Conclusions: There is a clear deficiency in what outgoing residents achieve and what the Royal College mandates. Future work should concentrate on addressing this discrepancy to assure that training is more aligned with Royal College expectations.

MP-08.15

Manpower Assessment of Academic Urology Across Canada: What are the Future Job Prospects?

Bachir, Bassel G.[1]; Aprikian, Armen[1]; Radomski, Sidney[2]; Kassouf, Wassim[1]
[1]McGill University Health Centre, Montreal, QC, Canada; [2]University of Toronto, Toronto, ON, Canada

Introduction and Objectives: To capture an overview of anticipated staffing needs at Canadian urology academic centres over the next five years in order to help guide and counsel urology residents in their respective programs.

Methods: A 30-question survey was sent by email to all chairmen of academic urology divisions/departments during the fall of 2012. The first part of the survey solicited basic demographic information regarding number of residents, number of fellows and fellowships, and number of attending staff and affiliated hospitals. The second part of the survey included detailed questions on the number and sub-specialty of urologists needed at each respective institution, as well as the appropriate year of recruitment.

Results: The response rate was 100%. There are 13 urology training programs across Canada located in 6 out of the 10 provinces. Robotic surgery is available at 9 out of the 13 centres. A total of 68 urologists need to be recruited by academic institutions throughout Canada within the next 5 years. In Ontario, there is an anticipated need for 23 academic urologists, 25 in Quebec, and 20 for the remaining provinces. Protected time offered varied depending on institution and sub-specialty. The greatest need is for general urologists, with a total of 13 required. This is followed by 12 urologic oncologists needed, 11 female urology, 7 reconstructive urologists, 6 pediatric urologists, 6 endourologists, 5 transplant surgeons, 4 infertility/andrology, and 4 experts in advanced laparoscopy/robotics. There was no need for any urologic trauma surgeons in any academic institution surveyed.

Conclusions: A total of 68 urologists need to be recruited into academic urology across Canada within the next 5 years. This crucial information can be used to help guide urology residents in choosing the most appropriate fellowship, in addition to providing them with an overview of future job prospects at academic institutions throughout the country.

MP-08.16

Management of Recurrent Urinary Tract Infections: Something's Wrong with Diagnosis and Treatment

Goneau, Lee[1]; Yeoh, Nigel[2]; Cadieux, Peter[3]; Burton, Jeremy[4]; Razvi, Hassan[5]; Reid, Gregor[4]
[1]Western University, London, ON, Canada; [2]Christchurch School of Medicine, Christchurch, New Zealand; [3]Fanshawe College, London, ON, Canada; [4]Western University, Lawson Health Research Institute, London, ON, Canada; [5]Western University, St. Joseph's Hospital, London, ON, Canada

Introduction: Our research is aimed at testing whether resurgence of small numbers of antibiotic tolerant 'persister' bacteria are the cause of treatment failure and recurrent urinary tract infection (UTI). Specifically, we are interested in determining if pathogens that cause recurrent UTI can form these tolerant isogenic variants at a higher frequency than organisms which are cleared using standard therapy. Here we draw comparisons between Escherichia coli clinical isolates that had caused recurrent infection ('same strain recurrence' (SSR)) or those causing 'acute infection' (AI) strains to illuminate variations in their response to antibiotic therapy.

Methods: Stationary or exponential phase cultures of either susceptible SSR or AI strains were challenged with lethal doses of ciprofloxacin, ampicillin or gentamicin for 3 hours and surviving persisters enumerated.

Results: Uropathogens in their stationary phase of growth were better equipped to survive antibiotic challenge than those in the rapidly multiplying exponential phase. SSR strains not only demonstrated tolerance to AMP and GEN during stationary phase, but appeared to grow in their presence despite normal susceptibility (percent survival - (116.4%, 182.7% versus CIP 0.4% respectively). The AI strains survived during stationary phase but did not grow in the antibiotics.

Conclusions: This study has shown that uropathogens isolated from recurrent UTI patients and susceptible to antibiotic killing can actually tolerate some of these drugs by entering persister states. Their ability to do this is modulated by environmental stressors including the antibiotics themselves. Current susceptibility testing fails to account for persister cells, so a urologist does not have sufficient information to ensure that agents prescribed can eradicate the infection. On the contrary, it may induce persister cells and enhance other aspects of virulence, resulting in chronic or recurrent infection arising at a later date.

MP-08.17

External Diagnostic Prostate Biopsy in Active Surveillance: A Predictor of Re-classification on Confirmatory Biopsy

Wong, Lih-Ming; Ferrara, Sarah; Evans, Andrew; Van der Kwast, Theodorus; Trottier, Greg; Timilshina, Narhari; Toi, Ants; Trachtenberg, John; Kulkarni, Girish; Hamilton, Robert; Zlotta, Alexandre; Fleshner, Neil; Finelli, Antonio
Princess Margaret Hospital, University of Toronto, Toronto, ON, Canada

Introduction and Objectives: In active surveillance (AS) for prostate cancer, we examine if having an externally performed diagnostic biopsy, compared to an in-house biopsy, predicts re-classification on the 2nd, otherwise known as the confirmatory, biopsy (B2).

Methods: We identified patients on AS from the database of our tertiary care referral centre (1997-2012) with PSA <20, Gleason sum (GS) 6, stage T1c, ≤3 positive cores (PCore) for cancer, <50% of single core involved, age ≤75 years and a repeat biopsy within 48 months after the initial biopsy.

Table 1. MP-08.17

Grade re-classification		Volume re-classification	
External biopsy	OR 2.86 (1.37-5.88), *p*=0.001	External biopsy	OR 2.08 (1.09-4.0), *p*=0.03
Age	OR 1.09 (1.66-5.08), *p*=0.001	PSA density	OR 2.15 (1.33-3.47), *p*=0.002
PSA density	OR 2.91 (1.04-1.15), *p*=0.001		
Maximum % core involvement	OR 1.05 (1.01-1.09) for every unit increase, *p*=0.009		

PSA: prostate-specific antigen; OR: odds ratio.

Patients were dichotomized on the basis of where their diagnostic biopsy (B1) was performed to internal (in-house) or external. All externally taken biopsies were reported externally. For all patients, B2 was performed internally.

Comparison of the internal and external groups, examining both B1 and B2, were made using the Mann-Whitney U and chi-squared tests. Logistical regression was used to assess if having the B1 performed externally was a predictor of re-classification at B2.

Results: A total of 649 patients were included, divided into external (n=138) and internal biopsy groups (n=511). At baseline, patients with externally taken biopsies had more HGPIN (*p*=0.01) and ASAP (*p*=0.001) diagnosed, and less identification of TRUS nodules (*p*=0.001). The total number of cores taken at B1 was not statistically different between internal and external biopsy groups (*p*=0.07), however the internal group tended to have more cores taken. At B2, patients with external B1, compared to internal, had increases in all 3 pathological re-classification criteria: GS≥7 (24.6% versus 11.6%, *p*=0.001), PCore >3 (23% versus 11.7%, *p*=0.001) and highest % core involved >50% (18.5% versus 8.3%, *p*=0.006). They were also more likely to have a TRUS nodule seen on B2 (45.5% versus 32.5%, *p*=0.003). Predictors of re-classification at B2 are shown in Table 1.

Conclusion: At our institution, patients who had their initial diagnostic prostate biopsy performed externally are more likely to have adverse pathological features and re-classify on internal re-biopsy. Given these findings, this group of patients could be prioritized for earlier confirmatory biopsy.

MP-08.18

Bone Health in Prostate Cancer Survivors Receiving Androgen Deprivation Therapy (ADT): Examining Enablers and Barriers to Care

Bies, Caitriona[1]; Alibhai, Shabbir[2]; Catton, Pamela[2]; Warde, Padraig[2]; Fleshner, Neil[2]; Matthew, Andrew[2]; Jones, Jennifer M.[2]

[1]Princess Margaret Cancer Centre, Toronto, ON, Canada; [2]University Health Network, Toronto, ON, Canada

Introduction and Objectives: ADT can induce long-term side effects including bone loss.[1] Men receiving ADT have a 5- to 10- fold increased rate of bone loss[2,3] and up to 20% fracture risk by 5 years of treatment[4,5]. Guidelines exist for bone loss management in this population but there is evidence of poor adherence. We assessed the knowledge and current practices regarding bone loss management in a sample of Canadian prostate cancer (PC) specialists.

Methods: Using Dillman's tailored design method, a questionnaire was distributed to PC specialists identified through the Canadian Urological Association, the Genito-Urinary Radiation Oncologists of Canada group, and the Canadian Urologic Oncology Group.

Results: 156 PC specialists completed the survey. Awareness of recommendations regarding the frequency of repeat DXA scans (76.3%) and vitamin D use (70.3%) was relatively high but lower for calcium intake (53.2%) and amount of weekly exercise (20.7%). A minority were aware of the prevalence of osteoporosis in otherwise healthy 60-year-old males (27.3%), the risk of developing osteoporosis after 1 year of continuous ADT (37.8%), and the excess fracture risk after 5 years on ADT (14.7%). 34.4% of respondents reported routinely ordering bone mineral density (BMD) tests prior to starting ADT and 36.6% ordered routine BMD tests after initiating ADT. Most reported routinely recommending exercise, calcium and supplemental vitamin D. The most significant barriers to implementing the recommendations were lack of time to counsel patients and supporting structures (e.g., patient education).

Conclusions: Participants were fairly knowledgeable regarding recommendations for managing bone loss in men on ADT. However, there were gaps in knowledge regarding risk of developing osteoporosis and in practice in surveillance and risk assessment. These findings suggest the need for knowledge translation strategies and tools to address this gap between evidence and clinical practice.

MP-08.19

The Use of Robotic Surgery in Canada

Breau, Rodney[1]; Morash, Christopher[2]; Blew, Brian[2]; Watterson, James[2]; Le, Tien[2]; FungKeeFung, Michael[2]; Weber, Robert[2]; Woodall, Kent[2]; Thompson, Calvin[2]; Minogue, Danny[3]

[1]The Ottawa Hospital Research Institute, Ottawa, ON, Canada; [2]The Ottawa Hospital, Ottawa, ON, Canada; [3]Minogue Medical Inc, Montreal, QC, Canada

Introduction and Objectives: We implemented a robotic surgery program composed of 9 surgeons and a specialized operating room team. For the first year we only performed radical prostatectomy or radical hysterectomy. The objective of this study was to compare the number of robotic assisted procedures performed at our institution to other Canadian hospitals.

Methods: The number of robotic assisted procedures performed at each hospital was obtained from Minogue Medical Inc, the supplier of the daVinci Surgical System® in Canada. Data were deidentified so no surgeon specific information was available. The number of cases performed within the past year and during the first year of implementation was calculated for each hospital.

Results: Between October 31, 2011 and October 31, 2012, 102 surgeons across 6 surgical specialties performed 2304 robotic assisted procedures at 18 Canadian hospitals. The median number of procedures per hospital was 116 (IQR 54 to 211). The median number of robotic surgeons at each hospital was 5 (IQR 4 to 8). Each additional robotic surgeon at a hospital was associated with an average of 25 additional procedures per year (*p*=0.008). The median number of specialties was 2 (IQR 1 to 3). Each additional specialty that performed robotic surgery at a hospital was associated with an average of 55 additional procedures per year (*p*=0.02). During the first 12 months of robotic surgery implementation, we performed 215 procedures. Among other hospitals, the median number of procedures within the first year of implementation was 76 (IQR 41 to 123).

Conclusions: Robotic surgery is frequently performed in Canada. Using a multi-surgeon approach limited to 2 procedures, there has been rapid uptake at our institution. While multiple factors are likely associated with surgical volume, it seems logical that a greater number of robotic surgeons limited to select procedures will result in a larger number of cases completed and improved operating room efficiency.

MP-08.20

Oncologic Outcomes Following Radical Prostatectomy in the Active Surveillance Era

Kulkarni, Girish[1]; Trachtenberg, John[1]; Nesbitt, Michael[1]; Louis, Alyssa[1]; Kalnin, Robin[2]; Maganti, Manjula[1]; Pintilie, Melania[1]; Alibhai, Shabbir[1]; Matthew, Andrew[1]; Finelli, Antonio[1]; Zlotta, Alexandre[1]; Hamilton, Robert[1]; Jewett, Michael[1]; Robinette, Michael[1]
[1]The Princess Margaret Cancer Centre, Toronto, ON, Canada; [2]Meridian Software, Toronto, ON, Canada

Introduction and Objectives: To examine the oncologic outcomes of men with low, intermediate and high preoperative risk prostate cancer treated with radical prostatectomy prior to and during the active surveillance era.

Methods: We analyzed records from patients who underwent radical prostatectomy at the Princess Margaret Cancer Centre from 2000-2012. Patients were stratified by D'Amico preoperative risk category and by year of treatment. Biochemical recurrence-free survival was estimated using the Kaplan Meier method.

Results: We included 2643 consecutive patients in our analysis. The proportion of men with low risk disease undergoing radical prostatectomy decreased from 2007 onwards coincident with the implementation of an active surveillance strategy in our institution. The 3-year recurrence free estimates of the low risk group before and after 2007 were 89.6% compared to 80.3% (p<0.05), those of the intermediate risk group were 74.1% compared to 70.6% (p=0.27) and the high risk group estimates were 43.8% compared to 33.5% (p=0.049). Within the low risk cohort, the later treatment group displayed significantly lower age, pre-treatment prostate specific antigen and tumour volume and significantly higher testosterone and body mass index.

Conclusions: The time period corresponding with the implementation of active surveillance at our institution corresponded with significant deterioration of biochemical outcomes in the low and high risk groups. This suggests that the men with most favourable disease deferred treatment, whereas men with worse preoperative disease characteristics were increasingly treated with radical prostatectomy in the past six years perhaps to their benefit.

MP-08.21

Inpatient UTI Trends and Predictors of Mortality

Abdo, Al'a[1]; Djahangirian, Orchidée[1]; Hanna, Nawar[1]; Meskawi, Malek[2]; Tian, Zhe[2]; Lavigueur-Blouin, Hugo[1]; Perrotte, Paul[1]; Karakiewicz, Pierre[1]; Sun, Maxine[2]; Trinh, Quoc-Dien[1]
[1]Department of Urology, University of Montreal Health Centre, Montreal, QC, Canada; [2]Cancer Prognostics and Health Outcomes Unit, University of Montreal Health Centre, Montreal, QC, Canada

Introduction: UTIs are a common condition and represent a significant contributor to healthcare expenditures. We examine the temporal trends in UTI incidence and mortality, and explore the predictors of mortality and increased length of stay (LOS) in the inpatient setting.

Methods: Data were retrieved from the NIS database 1998-2010, yielding a total of 6,794,026 admissions with a code for UTI. Of these, 1,833,070 patients had UTI or sepsis secondary to UTI as a primary diagnosis. Nationally weighted incidences and mortality rates were calculated, stratified according to sex, age, subtype of UTI and the presence of sepsis. Predictors of mortality and LOS beyond the 75th percentile were examined using logistic regression models adjusted for clustering using generalized estimation equations. Interaction between age and comorbidities were also assessed.

Results: The overall incidence and mortality for UTIs are increasing with an estimated annual percent change of +0.041 and +0.046 respectively. These same trends are observed with stratification by sex; however, stratification by age shows the most important increase for patients 75 to 84 years old. Predictors of mortality following UTI include: male gender (OR=1.184, p<0.0001), black race (OR=1.136, p<0.0001), when compared to Medicare - having Medicaid (OR=1.25, p<0.0001) or being uninsured (OR=1.217, p<0.0001). Predictors of increased LOS were: male gender (OR=1.301, p<0.0001) and black race (OR=1.471, p<0.0001). Being privately insured was protective (OR=0.756, p<0.0001) while median household income positively correlated with increased LOS in a stepwise fashion.

Conclusion: Admissions for UTI, and associated mortality, have been increasing over the last decade. Male patients, those of non-white race and those not privately insured are at increased risk of mortality during hospitalization. These findings are prospective quality indicators to adapt healthcare policy for particular vulnerable sub-populations.

MP-08.22

Adverse Events Resulting From Lasers Used in Urology

Elkoushy, Mohamed; Althunay, Abdulaziz; Elhilali, Mostafa; Andonian, Sero
McGill University Health Centre, Montreal, QC, Canada

Introduction and Objectives: Endourological procedures use different types of lasers with different wavelengths such as Neodymium-Doped Yttrium Aluminum Garnet (Nd:YAG), Holmium: YAG (Ho:YAG) and Potassium Titanyl Phosphate (KTP) lasers. Currently, there is no data regarding adverse events (AEs) to patients or operators resulting from the use of these lasers. Therefore, the aim of the present study was to collate world reports of such AEs.

Methods: The Manufacturer and User Facility Device Experience (MAUDE) database of the United States Food and Drug Administration (FDA) was searched using the term "Laser for gastro-urology use." In addition, the Rockwell Laser Industries (RLI) Laser Accident Database was searched for the following types of lasers: Nd:YAG, Ho:YAG, and KTP.

Results: Both databases were last accessed on October 1, 2012. Overall, there were 394 AEs (160 in FDA MAUDE database from 1992 to 2012 and 234 in RLI database from 1970 to 2005). Most of the AEs (49%) were related to generator failure or fiber tip breaking, especially with smaller laser fibers. While there were 20 AEs harming medical operators, 126 AEs resulted in harm for non-medical operators using Nd:YAG and KTP lasers. Interestingly, all 131 AEs resulting in eye injuries were associated with the use of Nd:YAG and KTP lasers as a result of improper eye protection and ranged from mild corneal abrasions to total vision loss. Overall, there were 36 (9%) AEs resulting in patient harm including 7 (1.7%) mortalities; 3 deaths from ureteral perforation and retroperitoneal bleeding using the Ho:YAG laser and 4 deaths from air embolisms using the Nd:YAG laser. In addition a case of bladder perforation necessitating urinary diversion, there were 4 cases with minor skin burns reported (Table 1).

Conclusions: Most of the AEs reported relate to equipment failure. Caution must be exercised when using lasers in urology including wearing appropriate eye protection when using Nd:YAG and KTP lasers.

MP-08.23

Prostate Evasive Anterior Tumour Syndrome, Further Insights

Al Edwan, Ghazi; Fleshner, Neil
Princess Margaret Hospital, UHN, Toronto, ON, Canada

Objective: Our objectives are 2-fold: (1) To review and to analyze patients with Prostate Evasive Anterior Tumour Syndrome (PEATS), identified based on positive (MRI) for anterior prostatic tumours and positive prostatic cancer, as the classical Trans Rectal Ultrasound Biopsy does not give a greater specific detection rate; and (2) To emphasize on the importance of a proper and accurate diagnosis in order not to miss the opportunity for a possible curative treatment.

Patients and Methods: Retrospectively we reviewed the MRIs between the years 2006 and 2012 from our database; we identified 148 patients with anterior prostatic tumours and positive prostate biopsy. In our analysis we included age of the patients, prostate specific antigen (PSA), PEATS indication (Active surveillance (AS), Negative biopsy, failed treatment, and Very high PSA), size of the anterior tumour on MRI, PEATS Gleason, elected therapy, pathological stage, nodal status, margins, post-surgical undetectable PSA and recurrences.

Results: Median PSA 18.26 ng/dl. The mean age was 64 years. PEATS indications: Active surveillance 79 patients, negative biopsy 43 patients. PEATS Gleason: G6:63 patients, G7 (3+4):46, G7 (4+3):21, G8 and 9:17 patients. Nodal metastatic tumour at presentation: 5 patients. 69 patients had radical prostatectomy. Pathological stage: T2:27 patients, T3a:31,

Table 1. MP-08.22

Laser type	Ho:YAG		Nd:YAG		KTP		Overall
Database	FDA	RLI	FDA	RLI	FDA	RLI	FDA and RLI
No. of adverse events	87	53	48	161	25	20	394
Generator or fiber failure	72 (83%)	48 (90%)	26 (54%)	30 (19%)	16 (64%)	0	192 (49%)
Harm to operator (medical)	9 (10%)	2 (3.7%)	0	4 (2.5%)	5 (20%)	0	20 (5%)
Harm to operator (non-medical)	0	0	0	109 (68%)	0	17 (85%)	126 (32%)
Eye injury	0	0	0	113 (70%)	1 (4.0%)	17 (85%)	131 (33%)
Harm to patient	6 (6.8%)	3 (5.6%)	2 (4.2%)	18 (11%)	4 (16%)	3 (15%)	36 (9%)
Death	3 (3.4%)	0	0	4 (2.5%)	0	0	7 (1.7%)

Ho:YAG: Yttrium Aluminum Garnet; KTP: Potassium Titanyl Phosphate; FDA: Food and Drug Administration; RLI: Rockwell Laser Industries; Nd:YAG: Neodymium-Doped Yttrium Aluminum Garnet.

T3b:7, T4:3. Of the Rp patients, 7 patients had adjuvant radiotherapy, 31 patients had positive margines, 66 patients had undetectable PSA post-RP, one patient had failed Rp, and 23 patients had local recurrence and required salvage radiotherapy and hormonal therapy.

Conclusion: 15% to 20% of MRI for prostate found to have PEATS. A considerable percentage of those patients previously either had a persistent negative biopsy, or were on active surveillance for low volume and low grade tumour. A prevalence of high Gleason and high stage tumour was found in patients with PEATS, which means proper and early diagnosis of PEATS will give a good opportunity for the available curative treatment.

MP-08.24

A Prospective Multicentre Randomized Study Comparing GreenLight XPS™ Laser and Transurethral Resection of the Prostate for the Treatment of Benign Prostatic Hyperplasia

Bachmann, Alexander[1]; Tubaro, Andrea[2]; Barbar, Neil[3]; d'Ancona, Frank[4]; Muir, Gordon[5]; Witzsch, Ulirch[6]; Grimm, Marc-Oliver[7]; Benejam, Joan[8]; Stolzenburg, Martin[9]; Riddick, Tony[10]; Pahernik, Sascha[11]; Roelink, Herman[12]; Thomas, James Andrew[13]

[1]University Hospital Basel, Basel, Switzerland; [2]Sant'Andrea Hospital, Sapienza University of Rome, Rome, Italy; [3]Frimley Park Hospital, Surrey, United Kingdom; [4]RadBoud University Njmegen Medical Centre, Nijmegen, Netherlands; [5]King's College Hospital and King's Health Partners, London, United Kingdom; [6]Krankenhaus Nordwest, Frankfurt, Germany; [7]University Hospital of Jena, Jena, Germany; [8]Hospital de Manacor, Manacor, Spain; [9]Universitatsklinikum Leipzig, Leipzig, Germany; [10]NHS Lothian, Edinburgh, United Kingdom; [11]University Hospital of Heidelberg, Heidelberg, Germany; [12]Ziekenhuis Groep Twente, Almelo, Hengelo, Netherlands; [13]Princess of Wales Hospital, Bridgend, Western Sahara

Introduction and Objectives: There have been very few prospective randomized trials comparing laser prostatectomy to traditional TURP for the treatment of symptomatic BPH. The objective of this study was to assess the efficacy and safety of a contemporary laser modality GreenLight XPS™ 180-W laser photovaporization (PVP) compared with transurethral resection of the prostate (TURP) in subjects with lower urinary tract symptoms secondary to benign prostatic hyperplasia.

Methods: 291 subjects were enrolled at 29 sites in 11 European countries. Subjects were randomized to either PVP or TURP. The primary outcome of the trial was the International Prostate Symptom Score (IPSS) at 6 months post-surgery. The trial was powered to demonstrate non-inferiority of PVP when compared to TURP. Other endpoints that were assessed included Qmax, PVR, PSA, prostate volume (via ultrasound) and incidence of complications.

Results: 291 subjects were enrolled between April 2011 and September 2012; of whom 281 were randomized (139 PVP, 142 TURP). At six months, the mean (+s.d.) IPSS score was 6.8 ± 5.3 for PVP compared to 5.5 ± 4.7 for TURP consistent with non-inferiority with the difference being 1.4 and the 95% confidence interval being 0.1-2.6. Likewise there was no difference in Qmax at 6 months 23.3 cc/s for PVP vs. 24.4 cc/s for TURP. The six-month complication free survival rate was greater for PVP (87.9%) than that observed for TURP (82.8%), however, this did not reach statistical significance (p=0.12). Additionally, prostate volume at 6 months was similar in the two groups.

Conclusions: To our knowledge this is the largest prospective randomized trial comparing PVP with TURP. PVP proved to be equal to TURP with respect to IPSS, Qmax, complication rate, and prostate volume.

MP-08.25

Prostate Tumour Size and Histopathologic Outcomes: Are MRI-undetectable Tumours Significant?

Samadi, David B.; Coutinho, Karl; Stensland, Kristian; Hobbs, Adele; Haines, Lindsay; Hall, Simon

The Mount Sinai Medical Center, New York, NY, United States

Introduction and Objectives: Active surveillance (AS) is a suitable option for many patients with low risk prostate cancer (PCa) that relies on repeat biopsy through the course of treatment. Endorectal MRI (eMRI) has been proposed as an alternative method to monitor tumour size, heterogeneity, and local extension as markers for higher-risk disease. This may reduce morbidity from repeat biopsies while ensuring accurate monitoring for progressing disease. While eMRI boasts reasonable PCa detection rates, its ability to detect small volume disease (<0.5cm) is dubious, which may limit eMRI's role in identifying small tumours in patients on AS. In this study, we investigate whether these tumours actually represent clinically significant disease.

Methods: From 2005-2013, 2979 patients underwent RALP at a single institution by a single surgeon. Of these, 1359 had histopathological evaluation of tumour size and complete clinical data. A multivariate logistic regression assessed histopathologic grade compared to tumour size while controlling for biopsy Gleason score, race, BMI, PSA and age.

Results: Tumour sizes are shown in Table 1. Tumours smaller than 0.5cm were much less likely to be high grade (>Gleason 6) at time of prostatectomy compared to larger tumours (25.4% vs. 90.7%, p<0.001), and were much less likely to be Gleason 8 or above (0.8% vs. 7.7%, p=0.002). Size was further shown to significantly predict grade on multivariate regression (p<0.001).

Conclusions: Prostate tumours below the detection threshold for MRI most likely represent clinically insignificant tumours, which alone would not necessitate leaving AS in favour of more aggressive therapy. These findings point to a possible role of eMRI in modern AS protocols.

Table 1. MP-08.25		
Tumour size (cm)	**N**	**%**
≤0.5	118	8.7
0.5-1	266	19.6
1-1.5	375	27.6
1.5-2	312	23.0
>2	288	21.2

MP-08.26

The Effects of Antidepressants on the Change in Erectile Function

Samadi, David B.; Kwon, Young Suk; Mohamed, Nihal E.; Stensland, Kristian; Hobbs, Adele; Collingwood, Shemille
The Mount Sinai Medical Center, New York, NY, United States

Introduction and Objectives: Depression and antidepressant medications have a known effect on erectile function. Our study examines whether a history of depression and its subsequent treatment are associated with a significant change in erectile function in a post-prostatectomy cohort.

Methods: We analyzed 1549 patients who underwent robotic assisted laparoscopic prostatectomy (RALP) and subsequently filled out the sexual health inventory for men (SHIM) questionnaire periodically. The change in erectile function (CEF) was defined as the difference between the baseline and the most recent SHIM score. We used a multivariate linear regression model to assess predictors of CEF, including antidepressant use, history of coronary artery disease (CAD), benign prostate hyperplasia (BPH), age and body mass index (BMI).

Results: Of the 1549 patients, 69 (4.5%) men had a prior diagnosis of depression and were taking antidepressants. Sixty-four (4.1%) and 164 (10.6%) men had CAD and BPH, respectively. The mean CEF was -8.56 with the median follow-up of 14.8 months. CEF was associated with advanced age (beta=-0.06, SE=0.03, p=0.03), higher BMI (beta=0.07, SE=0.004, p=0.009), and antidepressant use (beta=0.023, SE=0.71, p=0.045). CEF was not associated with a diagnosis of CAD or BPH.

Conclusions: Prior diagnosis of depression and its treatment may independently contribute to change in erectile function for post-RALP patients. Patients who have and/or are being treated for depression should be counseled appropriately during pre-surgical consultation.

MP-08.27

The Quality of Nerve-sparing During Radical Prostatectomy Affects Sexual Function and Urinary Continence Recovery

Samadi, David B.; Collingwood, Shemille; McBride, Russell; Leapman, Michael; Hobbs, Adele; Kwon, Young Suk
The Mount Sinai Medical Center, New York, NY, United States

Introduction and Objectives: Regain of continence and sexual function after radical prostatectomy depends on the quality of neurovascular bundle (NVB) sparing preservation. We investigated the factors associated with the quality of NVB sparing and the effect of nerve sparing quality on sexual and urinary function following robot-assisted laparoscopic prostatectomy (RALP).

Methods: The study included 2,549 men who underwent RALP from March 2010 to August 2012. NVB sparing was characterized as unilateral (left/right), bilateral (BNS) or non-sparing (NNS). Multivariate regression models were constructed to assess the significance of BNS on recovery of continence and erectile function. Regression models were designed to identify variables that impact the quality of nerve sparing.

Results: Of the 2460 patients in the study, 2255 (91%), 61 (2%), 62 (3%) and 82 (4%) underwent BNS, left and right NVB sparing and NNS, respectively. Patients who underwent BNS were significantly younger, had higher rates of preoperative continence and had a lower BMI (all p<0.05) compared to the other degrees of nerve sparing. There was no significant difference in cardiovascular risk factors among nerve sparing groups. The mean time to regain continence was shortest with BNS (4.7 months), and mean time to regain potency was shortest with left NVB sparing (4.1 months), though they did not reach statistical significance. Age, BMI, D'Amico risk and margin status were associated with BNS sparing versus NNS.

Conclusions: The quality of NVB sparing impacts the time to recovery of sexual function and urinary continence following RALP. Patients treated with BNS recover full continence the fastest. Cardiovascular risk factors were not associated with quality of nerve sparing.