



# JCU

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Abstracts

## Abstracts Book 2023

### ePoster Session I: Stones, Imaging and Upper Tract Disorders I, Monday 19 June, 1400-1500, Hall 8

**PI-1 Is remote follow-up using Patient Reported Outcome Measure (PROM) feasible in patients with urolithiasis?: A prospective feasibility study using Urinary Stones and Intervention Quality of Life (USIQoL) measure**

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**Introduction:** Patients with urolithiasis undergo regular follow-up. PROM based follow up using the USIQoL would be innovative and resource friendly, if matches traditional outcomes. We undertook a study to assess the feasibility of using the USIQoL as a tool for virtual follow-up.

**Patients (or Materials) & Methods:** The study involved 2 phases. The 1st phase was the development of the USIQoL based model using existing data. The 2nd phase involved prospective, single-blind application of the model (for outpatient follow-up), over a 12 months. The outcomes were need for intervention or not, based on clinical/radiological data. We assessed correlation between the USIQoL scores and clinical outcomes, and also formulated potential USIQoL cut-off scores which could be used to discriminate between intervention/no intervention (i.e., follow-up only). This was done using Binomial Logistic regression (BLR), ROC curves and Youden Index.

**Results:** 441 patients [average age group 46-64, M=298, F=143]. The relationship between USIQoL scores and clinical outcome was statistically significant [BLR: PPH exp(B) 1.148,  $p < 0.001$ , 95% CI 1.063-1.240; PSH exp(B) 1.179,  $p = 0.025$ , 95% CI 1.020-1.363]. The chosen cut-off scores were PPH 8 and PSH 10. Application of the model with the cut-offs demonstrated appropriate sensitivities and specificities [PPH sensitivity 0.861, specificity 0.400; PSH sensitivity 0.861, specificity 0.420].

**Conclusions:** This novel feasibility study demonstrates the potential of the USIQoL to be used as an aid to virtual follow-up using the proposed cut-off scores. This could transform outpatient care of patients with urinary calculi. Further larger scale study will confirm our findings.

### PI-2 Is Serum Urate Clinically Useful as a Screening Test in Renal Stone Disease?

**Mr Robert Geraghty<sup>1</sup>, Mr John Fitzpatrick<sup>1</sup>, Mr Matthew Shaw<sup>1</sup>, Mr Alistair Rogers<sup>1</sup>, Professor Bhaskar Somani<sup>2</sup>, Dr Paul Cook<sup>2</sup>, Professor John Sayer<sup>2</sup>**

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**Introduction:** The EAU guidelines recommend testing serum in all patients with kidney stones. However, the clinical utility of this test is unclear. We aimed to examine whether there was any utility in performing serum urate as a screening test to determine metabolic risk.

**Methods and Materials:** Data from patients attending metabolic stone clinics at two tertiary referral centres between 2015 – 2022 were analysed. All included patients had a serum urate measurement, along with a 24 hour urinary biochemistry analysis. We excluded patients with struvite and cystine stones. All analyses were performed in R. For diagnostic accuracy statistics we used a cut-off of 0.36mmol/L to determine high vs low/normal serum urate.

**Results:** There were 401 patients included for analysis, 240 had calcium oxalate stones, 77 had calcium phosphate stones and 84 had urate stones. There was no correlation between serum urate and 24 hour urinary urate (Spearman's rho = -0.003,  $p = 0.95$ ) [see figure]. Urate stone formers had significantly higher serum urate than other stone types ( $p < 0.001$ ).

Serum urate is unable to predict metabolic abnormalities or calcium stone types with  $AUC < 0.6$  [see figure]. There was poor prognostic accuracy for serum urate in detecting urate stones ( $AUC = 0.63$ , 95% CI: 0.59-0.67, sensitivity=0.68, specificity=0.70, PPV=0.38, NPV=0.89).

**Conclusions:** Serum urate is unable to predict metabolic abnormalities leading to kidney stone formation, nor is it useful for determining kidney stone type. Serum urate should not be used as part of the basic stone screen but be reserved for more detailed investigation in high-risk stone formers.

### PI-3 Ideal Timing of Decompression of the Infected Obstructed Kidney: Is sooner always better?

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**Introduction:** In patients with an infected obstructed kidney due to a ureteric calculus, surgical decompression has been shown to reduce mortality. However, the optimal timing to decompression has not been fully elucidated. The aim of this study is to compare the outcomes of patients with an infected obstructed urinary system who receive a JJ stent within 24hours, 24- 48hours and >48hours.

**Patients & Methods:** We performed a retrospective study of 62 patients with an infected obstructed kidney who received a JJ stent as an emergency from January 1,

2011 to December 31, 2020. Patients were divided into three groups based of the timing of decompression from the time of admission: <24hours (immediate), 24-48hours (urgent) and >48hours (delayed). The primary outcome was post-decompression sepsis and secondary outcomes included intra-operative hypotension, ICU consults/admissions, time to normalization of parameters, length of hospital stay and readmission rates.

**Results:** The median time to decompression was 25.0hours. The overall rate of post-decompression sepsis was 16.1%. There was no statistical significant difference in post decompression sepsis between groups. Decompression within 24hours and >48hours were associated an increased rate of intraoperative hypotension <100mmHg (p=0.029). Delayed decompression (>48hours) was associated with a longer length of hospital stay (p=0.027). There was no statistical significance in ICU consults/admission rates, time to normalization of parameters or readmission rates between the groups.

**Conclusion:** Decompression can be safely performed up to 48hours without compromising patient outcomes or length of hospital stay. Decompression 24–48hours allowing for antibiotic therapy and fluid resuscitation may improve peri-operative morbidity.

**Table 1.** Baseline Characteristics.

	Time to decompression			Overall	p-value
	< 24 hours	hours	> 48 hours		
Frequency (%)	30 (48.4%)	20 (32.3%)	12 (19.4%)		
Median Age (years)	44	44	44.5	44	
Mean +/- SD	43.6 +/- 16.1	46.7 +/- 13.4	44.4 +/- 13.4	44.5 +/-14.6	
Gender					
Male	10 (33%)	14 (70%)	5 (41.7%)	29 (46.8%)	
Female	20 (67%)	6 (30%)	7 (58.3%)	33 (53.2%)	
Male to Female Ratio	10:20	14:6	5:7	29:33	
Medical Co-morbidities					
Hypertension	9 (30%)	5 (25%)	2 (16.7)	16 (26.2%)	.668
Diabetes	2 (6.7%)	2 (10%)	0 (0%)	4 (6.5%)	.536
Connective Tissue Disorder	2 (6.7%)	1 (5%)	0 (0%)	3 (4.8%)	.649
Malignancy	1 (3.3%)	0 (0%)	1 (8.3%)	2 (3.2%)	.434
HIV	0 (0%)	1 (5%)	0 (0%)	1 (1.6%)	.344

(Continued)

**Table 1.** (Continued)

	Time to decompression			Overall	p-value
	< 24 hours	hours	> 48 hours		
Chronic Kidney Disease	0 (0%)	1 (5%)	0 (0%)	1 (1.6%)	.353
Pregnant	1 (3.3%)	0 (0%)	0 (0%)	1 (1.6%)	.582
History of Stone Disease (Y/N)	13 (43%)	9 (45%)	8 (66.7%)	30 (48.4%)	.367
Previous Stone Surgery (Y/N)	6 (20%)	2 (10%)	1 (8.3%)	9 (14.5%)	.490
Urinary Symptoms (Y/N)	19 (63.3%)	15 (75%)	7 (58.3%)	41 (66.1%)	.568
Renal Angle Tenderness (Y/N)	23 (76.7%)	14 (70%)	10 (83.3%)	47 (75.8%)	.687
Urinalysis- Positive (Y/N)	17 (56.7%)	14 (73.7%)	7 (58.3%)	38 (62.3%)	.828
Positive Urine Culture	4 (16.7%)	9(52.9%)	4 (36.4%)	17 (32.7%)	.049
Median Temperature	38.3	38	38.5	38.2	.629
Mean +/- SD	38 +/- 1.1	38 +/- 1.1	37.7 +/-1.5	37.9 +/- 1.2	
Median Pulse Rate	105.5	101	103	104	.137
Mean +/- SD	108.6 +/-17	98.7 +/- 14.8	106.7 +/- 21.1	105.1 +/- 17.6	
Median Systolic Blood Pressure	117.5	136	126.5	126	.227
Mean +/- SD	124 +/- 15.1	132.8 +/- 20.2	125.8 +/- 16.2	127.2 +/-17.4	
Median White Blood Cell Count	17.2	15.3	16.1	16.9	.190
Mean +/- SD	20.4 +/- 11	16.5 +/- 3.7	16.8 +/- 4.8	18.6 +/- 8.3	
Median Blood Urea Nitrogen	4.9	5.2	4.5	4.8	.921
Mean +/- SD	6.2 +/- 5.0	6.2 +/- 3.3	6.9 +/- 7.8	6.4 +/- 5.1	
Median Creatinine	106	122.5	105	106.5	
Mean +/- SD	127.9 +/- 83	148.8 +/- 113.4	157.1 +/- 143.5	140.9 +/- 106.8	.668

**Table 2.** Stone Characteristics.

	Time to decompression			Overall	p-value
	< 24 hours	24-48 hours	> 48 hours		
Median Number of stones	1	1	1	1	
Mean +/- SD	1.2 +/- 0.5	1.1 +/- .3	1.1 +/- .3	1.2 +/- .4	.580
Median Stone Size	9	5.5	10.5	8.6	
Mean +/- SD	10.5 +/- 5.3	7.3 +/- 4.6	9.7 +/- 4.6	9.2 +/- 5	.094
<5mm	3.5 +/- .7	3.1 +/- 1.4	2.5 +/- .7	3.1 +/- 1.2	.732

(Continued)

**Table 2.** (Continued)

	Time to decompression			Overall	p-value
	< 24 hours	24-48 hours	> 48 hours		
5-10mm	11.5 +/- 6.4	6.7 +/- 2.9	8 +/- 0	8.5 +/- 4.1	.547
>10mm	15.6 +/- 4.1	15.7 +/- 3.1	13.2 +/- 2.2	15 +/- 3.5	.438
Stone Side					.487
Left	15 (50%)	13 (65%)	4 (33.3%)	32 (51.6%)	
Right	14 (46.7%)	6 (30%)	7 (58.3%)	27 (43.6%)	
Bi-Lateral	1 (3.33%)	1 (5%)	1 (8.3%)	3 (4.8%)	
Stone Side					.132
Proximal	12 (40%)	7 (35%)	8 (72.7%)	27 (44.3%)	
Mid	1 (3.3%)	3 (15%)	1 (9.1%)	5 (8.2%)	
Distal	17 (56.7%)	10 (50%)	2 (18.2%)	29 (47.5%)	
Degree of Hydronephrosis					.697
None	1 (3.3%)	0 (00%)	0 (0%)	1 (1.6%)	
Mild	13 (43.3%)	7 (35%)	4 (36.4%)	24 (39.3%)	
Moderate	14 (46.7%)	10 (50%)	7 (63.6%)	31 (50.8%)	
Severe	2 (6.7%)	3 (15%)	0 (0%)	5 (8.2%)	

**Table 3.** Perioperative Characteristics.

	Time to decompression			Overall	p-value
	< 24 hours	hours	> 48 hours		
Median Time of Decompression	14.5	31	76.5	25	
Mean +/- SD	13.9 +/- 7.1	33 +/- 7	90.5 +/- 43.5	34.9 +/- 34.7	
Median Duration of Surgery	28	26	20	25.5	.449
Mean +/- SD	28.8 +/- 12.7	38 +/- 32.4	32.4 +/- 31.5	32.4 +/- 24.3	
Prophylactic Antibiotics Given	24 (80%)	17 (89.47)	12 (100%)	52 (86.8%)	.205
Evidence of Pyonephrosis	18 (60%)	8 (40%)	5 (41.7)	31 (50%)	.311



**Table 3.** Outcomes.

	Time to decompression			Overall	p-value
	< 24 hours	24-48 hours	> 48 hours		
Post-Decompression Sepsis (Y/N)	8 (26.7%)	1 (5%)	1 (8.3%)	10 (16.1%)	.089
<b>Intra-operative Hypotension</b>	<b>24 (80%)</b>	<b>9 (45%)</b>	<b>9 (75%)</b>	<b>2 (67.7%)</b>	<b>.029</b>
Use of Inotropes	11 (36.7%)	5 (25%)	2 (16.7%)	18 (29%)	.387
ICU Consults/admission (Y/N)	4 (13.3%)	1 (5%)	0 (0%)	5 (8.1%)	.297
Time to normal Temp. Mean +/- SD (days)	1.4 +/- .81	1.3 +/- .73	1.3 +/- .65	1.3 +/- .75	.827
Time to Normal Pulse Mean +/- SD (days)	1.8 +/- 1.12	1.5 +/- .76	1.5 +/- .67	1.6 +/- .95	.492
Time to normal SBP Mean +/- SD (days)	1.3 +/- .52	1.1 +/- .31	1 +/- 0	1.2 +/- .41	.120
Time to Normal WBC Mean +/- SD (days)	3.1 +/- 2.4	3.5 +/- 2.9	1.7 +/- .87	2.9 +/- 2.4	.1893
Post-op Day of Discharge Mean +/- SD (days)	4.2 +/- 2.0	4.6 +/- 2.8	3.7 +/- 2.8	4.2 +/- 2.4	.612
<b>Median Length of Hospital stay</b>	<b>4.5</b>	<b>4.9</b>	<b>7.25</b>	<b>4.8</b>	<b>.0265</b>
Readmission of UTI (<30 days)	3 (10%)	3 (17.7%)	2 (16.7%)	8 (13.6%)	.717

#### PI-4 “Silent Stones” can persist after initial presentation of ureteric colic with no hydronephrosis or symptoms

**Mr Eric Edison, Shiv Sarna, Dani Velinova, Siobhan Price, Emily Woodhead, Alberto Melchionna, Simon Choong, Sian Allen, Daron Smith, Vimoshan Arumham**

**Introduction:** There are no recognised follow-up guidelines for ureteric stones managed conservatively. Urologists often assess for resolution of hydronephrosis (on ultrasonography) and symptoms as markers for ureteric stone passage. This study aims to assess the validity of this.

**Methods:** The weekly Colic MDT was used as a platform for a prospective, observational study from June to December 2022. Patients presenting through A&E, referred with CT-confirmed ureteric stones, appropriate for conservative management, underwent a repeat CT KUB in 3 weeks. This was reviewed for presence of ureteric stone and hydronephrosis. Symptoms were assessed

using a template, assessing for pain, urinary symptoms and presence of haematuria.

**Results:** A total of 149 patients had a follow up CT scan following 3 weeks of conservative management. Of these, 94 had spontaneous passage of the stone and 55 had persistent stone on follow up. Of the persistent stones, 80%(44/55) had hydronephrosis at the initial presentation. Of these, hydronephrosis resolved in 50%(22/44), symptoms resolved in 40.9%(18/44), and 20.5% (9/44) had neither hydronephrosis nor symptoms despite a persistent ureteric stone ie a silent stone.

For patients with resolution of hydronephrosis, ongoing symptoms conferred a 47% sensitivity for predicting ongoing stone presence.

**Conclusion:** Of the stones that persist in the ureter, up to one fifth can have resolution of hydronephrosis and symptoms – ie become a “silent stone”. This implies that CT scan should be considered for follow up of all patients with ureteric colic.

### PI-5 Outcome of Treatment with Thiazide Diuretics for Prevention of Recurrent Renal Stones in Patients with Hypercalciuria

**Dr Jeetendra Rathod<sup>1</sup>, Ms Kimberley Chan<sup>1</sup>, Dr Tord HOGSAND<sup>1</sup>, Dr Kieran Sheimar<sup>1</sup>, Dr Shakir Zaman<sup>1</sup>, Dr Padmini Manghat<sup>1</sup>, Prof Seshadri Sriprasad<sup>1</sup>**

<sup>1</sup>Darent Valley Hospital, Dartford, United Kingdom

**Introduction:** Hypercalciuria is associated with calcium based renal stone. We present outcomes of thiazide diuretic treatment in hypercalciuric renal stone.

**Methodology:** We retrospectively analysed renal stone patient data for demography, 24-hour urine calcium, imaging, medications in metabolic stone clinic from 1st January 2014 until 31st October 2022. Patients were offered stone prevention dietary advice and thiazide diuretics. Patients with at least one pre and 6-month post intervention 24-hour urinary calcium and Imaging were included. A total of 226 patients were found to have hypercalciuria, 17 excluded for no follow up. 209 (Men 67%) patients were offered thiazide diuretics (Indapamide or Bendroflumethiazide). They were classified in Group A with (120, 57.41%) compliant to thiazides and Group B (89; 42.58%) non-compliant patients. Statistical analysis was done with two tailed t-test and Levene's test using SPSS software.

**Results:** Urine Calcium levels are expressed as mmol/d; mean + S.D. Group A had statistically significant reduction ( $p < 0.001$ ) in 24-hour urine calcium ( $9.56 \pm 3.24$  to  $8.43 \pm 3.35$ ) with Thiazides whereas in Group B urine calcium remained unchanged ( $8.80 \pm 3.21$  to  $9.03 \pm 3.38$ ). Post thiazide Urine Calcium was significantly lower ( $p < 0.001$ ) in Group A patients. Significantly more Group A Vs Group B patients were stone free (37.82% vs 31.4%;  $p = 0.03$ ), had lower new stones burden ( $p < 0.001$ ; 17.09% vs 43.9%) and increase in stone size ( $p < 0.001$ ; 13.79% vs 28.05%).

**Conclusion:** This is one of the few studies that has shown reduction in hypercalciuria and recurrence of renal stone after treatment thiazide diuretics.

### PI-6 A cross-sectional study on the role of posterior acoustic shadow width in ultrasound in determining stone size in urolithiasis

**Dr Mohamed Javid Raja Iyub<sup>1</sup>, Dr Srikala Prasad T<sup>1</sup>, Dr S Sudhakaran<sup>1</sup>, Dr Senthil Kumar<sup>1</sup>, Dr G Ramesh<sup>1</sup>, Dr Ananda Kumar<sup>1</sup>, Dr Prabhu Elumalai<sup>1</sup>**

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**Introduction & Objective:** In comparison with the direct measurement of stone size on ultrasound (US), the posterior acoustic shadow (PAS) width has been speculated as a more accurate measurement of the stone size in urolithiasis. There are hardly a few studies to substantiate this. The research was done to study the stone size measured directly in the US and the size of the posterior acoustic shadow width and to compare these with the stone size measured in Computed Tomography (CT) in urolithiasis patients.

**Patients & Methods:** 200 urolithiasis patients in whom CT and US were done one day apart were studied and the PAS width was compared to USG and CT stone sizes.

**Results:** The Average stone size was  $15.90 \pm 5.08$  mm on CT,  $18.66 \pm 5.38$  mm on US, and  $16.65 \pm 5.13$  mm by PAS shadow width. The mean difference between CT Size and US Size was  $2.67 \pm 1.5$  mm and SE was 0.860 ( $P = 0.0016$ ). The overestimation of the stone size by US in comparison with CT was statistically significant. In contrast, the Mean difference between CT Size and PAS Size was  $0.75 \pm 0.8$  mm and SE was 0.839, which was not statistically significant ( $P = 0.3686$ ). Also, the miscalculation of stone size by the US was 33.76% whereas it was 12.1% in PAS.

**Conclusions:** US overestimates stone size and the measurement of the posterior acoustic shadow width gives a more accurate estimation of the true stone size than direct stone measurement in US.

**Table I.** Outcome Data Pre and Post Thiazide Diuretics.

	Thiazide Compliant (n = 120)	Thiazide Non-Compliant (n = 89)
<b>24-hour Urine Calcium Pre-Thiazide Treatment</b>	9.56 + 3.24 mmol/d	8.80 + 3.21 mmol/d
<b>24-hour Urine Calcium Post Thiazide Treatment</b>	8.43 + 3.35 mmol/d	9.03 + 3.38 mmol/d
<b>Stone Free</b>	27 (37.8%)	36 (31.4%)
<b>New Stones</b>	20 (17.09%)	36 (43.9%)
<b>Increase in Stone size</b>	13 (13.79%)	23 (28.05%)

### PI-7 Machine Learning to Predict Patients that are not Stone Free at Ureteroscopy

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**Introduction:** Urolithiasis imposes a significant burden on global healthcare systems. Recent studies indicate stone volume may be important in managing this patient cohort. We intended to develop a predictive model using stone volume and other clinical and radiological factors to predict stone-free (SF) status at ureteroscopy (URS).

**Patients and Methods:** Retrospective analysis of patients undergoing URS for stone-related disease ( $\leq 3$  stones) at our institution from 2012 to 2021. We sampled all non-SF patients throughout this period to optimise our algorithm for identifying instances with residual stone burden. SF patients were also randomly sampled. Stone volumes were measured using preprocedural CT and combined with 20 other clinical and radiological factors. A five-fold cross-validated RUS boosted trees machine learning approach was used.

**Results:** A total of 131 patients were included (SF: n=91, not SF: n=40, mean age 60.3  $\pm$  4.2 years). A RUS boosted trees model had an accuracy of 74.8% and AUC of 0.81

(see Figure 1). The model sensitivity and specificity were 74.7% and 75.0%, respectively. Variable importance analysis identified operation time (31.4% of importance), total stone volume (13.3%), stone location (10.6%) and age (10.1%) as important factors in predicting non-SF patients. Stone size only represented 3.4% of total variable importance.

**Conclusions:** Machine learning can predict non-SF patients at URS. Among prognostic features, stone volume was more relevant than stone size. Our findings could be used to optimise management (e.g. stenting) at URS and highlights the increasing importance of stone volume in endourology.

### PI-8 Tailored antibiotic prophylaxis for day-case ureteroscopy: A strong case for microbiology participation in the stone MDT

**Dr Bronte Paice<sup>1</sup>, Mr Hari Ratan<sup>1</sup>, Dr Anna Wild<sup>1</sup>**

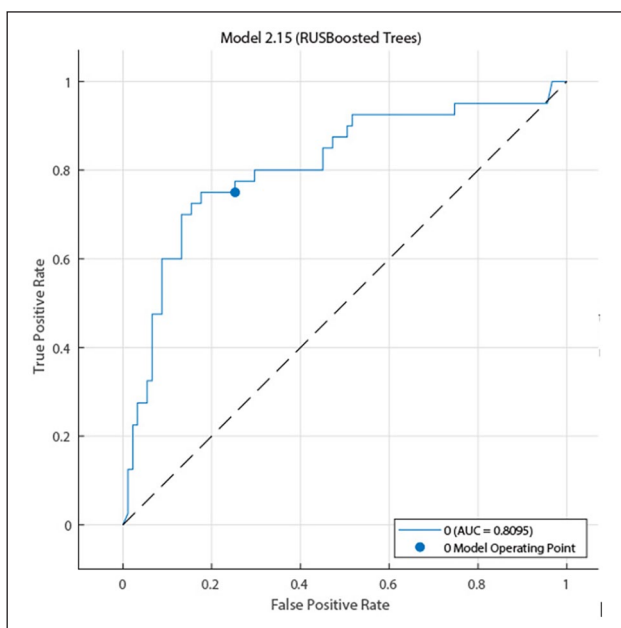
<sup>1</sup>Nottingham City Hospital, Nottingham, United Kingdom

**Introduction:** The rate of day-case ureteroscopy (URS) procedures has increased by 21-22% since 2007. One of the main risks involved in URS is post-operative infection. In our unit we devise peri-operative antibiotic regimens and potential post-operative 'rescue' antibiotics at the stone multi-disciplinary team (MDT), which includes a specialist uro-microbiologist.

**Patients and Methods:** Patients selected from a single stone unit which performs mainly day-case URS. Every patient undergoing a procedure involving ureteral manipulation was identified between February and May 2022. Pre- and post-operative MSU data were collected. Data related to prolonged post-operative stay or re-admissions were also collected. Antibiotic use pre- or peri-operatively was determined from electronic records.

**Results:** Total of 138 patients were included. 122 (88%) had a pre-operative MSU. There was a total of 36 (29%) positive MSUs with isolated species and 10 (8%) recorded as 'mixed growth'. Three patients without a pre-operative MSU were emergency admissions and had primary URS. All but 4 of the patients received peri-operative antibiotics at induction of anaesthesia. Of those that had a positive pre-operative MSU, 2 (4%) remained as inpatients post-operatively due to infection and 2 others were re-admitted with infection within 30 days of being discharged.

**Conclusion:** By giving these patients tailored peri-operative prophylactic antibiotics we have kept post-operative infective complications to a minimum. A pre-operative MSU allows a safe antibiotic plan to be made. Having a dedicated uro-microbiologist as part of the stone MDT has been pivotal. This facilitates safer day-case ureteroscopy to accommodate the increasing stone workload.



**Figure 1.** ROC for RUSBoosted trees model.

**P1-9 Less stent, more gain – A closed loop audit reducing the number of avoidable temporising JJ-stent insertion in ureteric colic patients with ureteric/PUJ stone – An endeavour to improve efficiency of the acute stone service**

**Mr Subhabrata Mukherjee<sup>1</sup>, Mr Milad Hanna<sup>1</sup>, Mrs Mitra Kondjin-Smith<sup>1</sup>, Mr Hamid Abboudi<sup>1</sup>, Mr Tamer El-Husseiny<sup>1</sup>, Mr Ranan Dasgupta<sup>1</sup>**

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**Introduction:** Both NICE and GIRFT guidelines recommend emergency stone treatment (ESWL/URS) in patients with ureteric colic where appropriate over temporising JJ-stent insertion and subsequent elective URS. This approach mutually benefits the patients and the wider NHS. Our aim was to reduce the number of avoidable temporising JJ-stents in ureteric colic patients. **Methods:** Initial audit (Sep-Nov 2021) vs re-audit (Jun-Aug 2022) after implementation of action plans. JJ-stents inserted for indications other than infection/sepsis, severe renal impairment, bilateral obstructing stones or obstructing stone in a solitary kidney were considered as avoidable temporising JJ-stents.

**Results:** Initial audit showed 14 out of 21 (67%) temporising JJ-stents inserted between Sep-Nov 2021 could have been avoided. We increased awareness of the clinicians regarding NICE and GIRFT guideline, encouraged emergency ESWL/URS and recommended that the on-call team should discuss with the stone consultants before temporising JJ-stent insertion in ureteric colic patients. Re-audit showed a drop in the number of both temporising JJ-stents (15) and avoidable temporising JJ-stents (4 out of 15, 27%) despite nearly similar number of ureteric colic patients attending A&E (Table-1). The proportion of avoidable temporising JJ-stents between the two study-periods reduced by 60% (from 67% to 27%).

**Conclusion:** Increasing clinicians' awareness regarding NICE and GIRFT guideline, encouraging emergency stone treatment and involving stone consultants in decision-making before temporising JJ-stent insertion can reduce the number of avoidable temporising JJ-stents in ureteric colic patients. This will minimise JJ-stent related morbidities, reduce healthcare costs and improve efficiency of the acute stone service.

**Table 1.** Indications for temporising JJ-stent insertion in ureteric colic patients.

Indication for JJ stent	Initial audit (Sep-Nov 2021, n=21)	Implementation of action plans*	Re-audit (Jun-Aug 2022, n=15)	Avoidable temporising JJ-stent
Infection/Sepsis	7 (33%)		8 (53%)	No
Low likelihood of spontaneous passage	7 (33%)		1 (7%)	Yes
Persistent obstruction	1 (5%)		0	Yes
Persistent pain	5 (24%)		2 (13%)	Yes
Stage 1-2 AKI	1 (5%)		1 (7%)	Yes
Stage 3 AKI**	0		1 (7%)	No
B/L obstructing stones***	0		2 (13%)	No

Note 1. Avoidable temporising JJ-stent: JJ-stents inserted for indications other than infection/sepsis, severe renal impairment (stage 3 AKI), bilateral obstructing stones or obstructing stone in a solitary kidney. Generally, in these situations, emergency stone treatment is avoided and thus temporising JJ-stent followed by elective URS is appropriate.

Note 2. Number of avoidable temporising JJ-stent: Initial audit 14/21 (67%), re-audit 4/15 (27%).

Note 3. Two clinicians independently went through the patient details and decided about the indication of temporising JJ-stent insertion. Any disagreement was resolved after discussion with rest of the authors.

\*Action plans - 1. Presenting NICE and GIRFT guideline on acute stone management to increase awareness of the clinicians. 2. Encouraging the clinicians to consider emergency ESWL/URS whenever feasible. 3. Advising the urology on-call team to discuss with the stone consultants regarding the most appropriate emergency management for all the acute stone cases without infection/sepsis before inserting a temporising JJ-stent.

\*\*Solitary right kidney with 6 mm obstructing mid-ureteric stone and moderate hydronephrosis with serum creatinine of 694 from baseline of 133.

\*\*\*One patient had 18 mm right upper ureteric stone with severe hydronephrosis and 21 mm left PUJ stone with moderate hydronephrosis. Another patient had 22 mm left PUJ stone with moderate hydronephrosis and 9 mm right VUJ stone with moderate hydronephrosis.

### P1-10 The 'Renal Hit' Paradox to Kidney function recovery after an Acute Ureteral Stone Episode

**Miss Laura Waley<sup>1</sup>, Dr Megan Prosser, Dr Freya Fagan-Bird, Mr Alexander Corbett, Mr Hans Johnson, Mr Joe Philip**

<sup>1</sup>Bristol Urological Institute, Southmead Hospital, Bristol, United Kingdom

Patients with ureteral stones are at risk of obstruction and associated renal dysfunction. Transient obstruction is purported to be associated with renal dysfunction but recovery of function is optimistic. We evaluated patients with an acute ureteral stone episode and affect on renal function, assessing the effect on renal function recovery based on treatment considerations.

A central hospital database was reviewed from April 2014 to end of 2019. Almost 22,500 CT scans were analysed. Patients with ureteric stones were further categorised according to KDIGO CKD classification with blood result review, before and after acute episode/treatment.

Renal function recovery was lower in patients with better renal reserve (CKD1-2) with <<sup>2</sup>/<sub>3</sub> patients recovering renal function to baseline and ><sup>2</sup>/<sub>3</sub> considered for conservative management.

Average stone size was larger in patients with worsening kidney disease (4.8mm c.f. 8.2mm). Patients presenting with a worse baseline renal function were less likely to be considered for conservative management.

Patients with better renal reserve fared worse than those with advanced CKD, probably due to tendency for conservative management and subsequent irreversible 'HIT' to renal function. Patients with worse CKD had larger stones and coupled with physician anxiety has resulted in enhanced care and subsequent better recovery of renal function.

Clinicians need to cultivate a proactive enhanced care for all patients with renal function compromise to minimise the Renal 'HIT'. Paradoxically, this is more so important in those with initial better renal reserve. Endourologists need to consider immediate/enhanced intervention in all patients in whom baseline renal function has dropped.

### ePoster Session 2 Andrology, Genitourethral Reconstruction, Infertility & Male Genital Cancers, Monday 19 June, 1400-1500 Hall 9

#### P2-1 The seminal microbiome and its association with male fertility

**Mr Shahriar Mowla<sup>1</sup>, Mr Tharu Tharakan<sup>2</sup>, Ms Linda Farahani<sup>3</sup>, Mr Goncalo Correia<sup>1</sup>, Ms Yun Lee<sup>1</sup>, Mr Suks Minhas<sup>2</sup>, Ms Jara BenNagi<sup>4</sup>, Mr Phillip Bennett<sup>1</sup>, Mr Channa Jayasena<sup>5</sup>, Mr David MacIntyre<sup>1</sup>**

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Andrology, Hammersmith Hospital, London, United Kingdom, <sup>6</sup>Department of Gynaecology, UCLH, London, United Kingdom, <sup>7</sup>Section of Investigative Medicine, Imperial College London, London, United Kingdom

Introduction: The relationship between semen bacteria and fertility parameters in the absence of infection is unclear. Studies of the semen microbiome are limited to small patient cohorts and have provided an inconsistent description of microbial composition. We aimed to assess the relationship between semen microbiota composition, bacterial load, and semen parameters, including ROS levels and DNA damage, in men undergoing fertility investigation and healthy controls.

**Table 1.**

CKD Stage (Patient number)	Renal function Revert to Baseline	Average Stone Size (mm)	Patients considered for conservative treatment
1 (138 patients)	57%	4.8	63%
2 (490 patients)	67%	5.0	60%
3a (91 patients)	74%	6.0	46%
3b (32 patients)	72%	5.5	41%
4 (10 patients)	90%	8.2	20%



**Patients and methods:** Semen samples were collected from 223 men, including 58 men with male factor infertility, 46 male partners of women with recurrent pregnancy loss, 56 men with unexplained infertility, and 63 healthy controls. Semen analysis, assessment of DNA fragmentation by TUNEL or Comet assays and quantitation of ROS using chemiluminescence were performed. Metataxonomic profiling of microbiota was performed by bacterial 16S rRNA gene sequencing and bacterial load was assessed using qRT-PCR.

**Results:** Hierarchical clustering of species-level taxonomy data indicated high compositional heterogeneity between samples. At genera level, 3 major profiles were characterised by high relative abundance of i) Streptococcus, ii) Prevotella, or iii) Lactobacillus/Gardnerella. High abundance of Prevotella was associated with high diversity, richness and bacterial load ( $P < 0.001$ ). No relationship was observed between microbial profiles or bacterial load with sperm qualities. DNA fragmentation, ROS and morphology were associated with relative abundance of specific taxa including a positive correlation between Flavobacterium and abnormal morphology.

**Conclusion:** The seminal microbiome is reflective of transient colonisation, the composition of which associates with ROS levels and DNA damage and may be pathogenic in couples with infertility and RPL.

## P2-2 The Efficacy of Clomiphene Citrate in the Management of Idiopathic Male Subfertility

**Dr Nimo Ali<sup>1</sup>, Mr Mohammed Saber Khalaf Mahmoud<sup>1,2</sup>, Elizabeth Williamson<sup>1</sup>, Ms Philippa Sangster<sup>1</sup>**

<sup>1</sup>University College London, London, United Kingdom, <sup>2</sup>Faculty of Medicine, Sohag University, Sohag, Egypt

**Introduction:** Despite using Clomiphene Citrate as an empirical treatment for male infertility, it is still not recommended by regulatory bodies due to the lack of data. The aim of this study is to address the evidence gap by presenting clinical data on Clomiphene Citrate's efficacy and enhancement in semen parameters.

**Patients and Methods:** It is a retrospective analysis of the effect of Clomiphene Citrate on the improvements in semen analysis and hormone profiles. 50 men with a minimum 1-year history of male subfertility, and baseline testosterone less than 12 nmol/ml were included. Patients with clinical varicoceles, previous genital surgeries and genetic conditions were excluded. The patients were treated with 50 mg Clomid, taken every other day for 3 months.

**Results:** Between June 2019 and July 2022, 23 patients with Azoospermia and 27 with Oligozoospermia were referred. The median age was 37 years (25-55). Clomiphene Citrate increased testosterone from 9.32nmol/ml to 16.95 nmol/ml ( $P < 0.001$ ). Consequently, there was a statistically significant improvement in sperm concentration, total sperm count and sperm motility ( $P < 0.001, 0.003, 0.014$ ) respectively. 14 out of 23 (61%) azoospermia patients produced sperms enough for cryopreservation; thus, avoiding the need for surgical sperm retrieval. Positive pregnancy was reported in 14% of patients. Patients with FSH concentrations below 8 IU/L responded better to Clomiphene Citrate.

**Conclusion:** Overall, Clomiphene Citrate has a positive effect on the hormone profile and boosts spermatogenesis in male subfertility. Randomized control trials with larger sample sizes are needed to further investigate this effect.

## P2-3 Spiral Preputial Graft for Panurethral Strictures

**Dr Shreyas Bhadranavar<sup>1</sup>, Dr Pankaj Joshi<sup>1</sup>, Dr Sanjay Kulkarni<sup>1</sup>, Dr Apurva Anand<sup>1</sup>, Dr Rathish Rajendra<sup>1</sup>, Dr Amey Talpallikar<sup>1</sup>, Dr Daniel Gomez<sup>1</sup>, Dr Cora Fogging<sup>1</sup>**

<sup>1</sup>Kulkarni Urology Institute Pvt Ltd, Pune, India

**Introduction:** Urethral Strictures can be penile, bulbar, or pan urethral. For Panurethral stricture, Kulkarni technique is preferred. The treatment of a pan urethral stricture requires additional graft to be harvested and is challenging. We propose a single spiral preputial skin graft (PSG) in non- Lichen Sclerosus (LS) penis.

**Methods:** At our center, we perform about 500 urethroplasties every year. We performed a prospective study from Jan 2020 to Sept 2022, 25 patients were included who had no LS with pan urethral stricture. Urethrogram and small caliber urethroscopy performed. Perineal incision made, penile invagination into perineum and one-sided mobilization of urethra done. A cylindrical preputial skin harvested by making skin deep inner and outer preputial incision and circumcision with sleeve technique. This graft then transferred over a 20cc disposable syringe and a spiral incision of 1.5cm width made to make a continuous long 1.5cm wide graft. This single long graft applied as dorsal onlay. Catheter removal- 4 weeks and uroflowmetry performed at 0,3,6, and 12 months.

**Results:** Total 25 spital graft urethroplasties were performed. The mean Q-Max at 12 months was 21ml/sec. 10 patients had mild edema at graft site. No Urinary tract

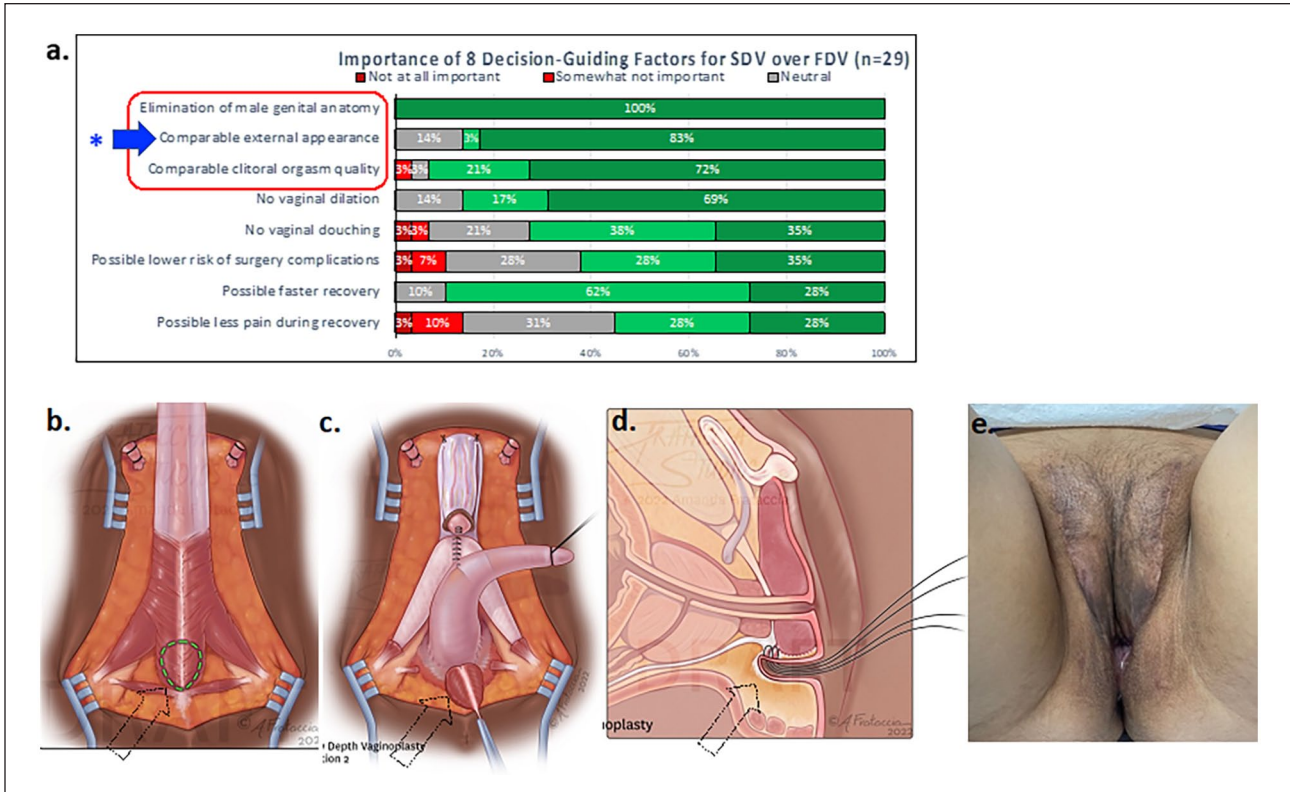


Figure 1.

infections, Chordee, and Sexual dysfunction seen. Uroflow reduced in 2 patients who needed secondary procedure. **Conclusion:** BMG and PSG have comparable results. With PSG we can avoid additional anastomosis at graft-to-graft side and hence avoid junctional strictures. The neurovascular supply is preserved as dartos is intact. PSG is well tolerated by the patient as there is no oral morbidity.

**P2-4 A Novel Surgical Technique to Create a Natural-Appearing Recessed Vaginal Introitus With Gender-Affirming Vulvoplasty (“Shallow-Depth Vaginoplasty”)**

Miss. Jenna Stelmar<sup>1</sup>, Miss. Samhita Mallavarapu<sup>1</sup>, Dr. Shannon Smith<sup>1</sup>, Dr. Nance Yuan<sup>1</sup>, Mr. Michael Zaliznyak<sup>2</sup>, Dr Sandeep Sandhu<sup>1</sup>, Dr. Maurice Garcia<sup>1</sup>  
<sup>1</sup>Cedars-Sinai Medical Center, Los Angeles, United States, <sup>2</sup>St. Louis University School of Medicine, St. Louis, United States

**Introduction:** Feminizing genital gender-affirming surgery (gGAS) options include vaginoplasty without creation of a

vaginal canal, referred to as ‘vulvoplasty’ or ‘shallow-depth vaginoplasty (SDV)’ is an alternative to full-depth vaginoplasty (FDV).

Together with the advantages of SDV (lower complications, no dilatation/douching), achieving “normal appearing” anatomy is critical.

However, no technique for creating a recessed vaginal introitus has been described.

We aimed to: 1. Better understand decision-making factors when choosing SDV; 2. Describe a novel technique creating a recessed vaginal introitus; and 3. Evaluate patient perceptions of appearance as compared to cisgender vulvae.

**Methods:** 110 patients underwent feminizing gGAS between 4/2017-7/2022: 35 (32%) SDV and 75 (68%) FDV. SDV patients completed an anonymous, electronic survey querying decision-making and satisfaction. Our technique is described.

**Results:** Priorities: Achieving an appearance “comparable to” cisgender vulvae was ranked second-highest after “elimination of male genital anatomy” (Figure 1a).

**Technique:** To achieve a recessed skin-lined introitus, gathering sutures create a “dimple” from penile/scrotal skin, which is tethered to the tendon of the Bulbospongiosus muscle, and diffuse perineal body tissue behind the urethral bulb. (Figure 1, b-d)

**Attractiveness:** When comparing their vulva to cisgender woman’s of similar age and weight, all 26 (100%) patients reported their vulva had “similar” or “somewhat similar” appearance to cisgender vulvae.

24/26 (92%) found their vulva to be either “similarly or more attractive” and 2/26 (8%) “less attractive” than cisgender vulvae.

**Conclusion:** For women to choose SDV, cosmetic appearance must be indistinguishable from cisgender female anatomy. The surgical technique presented appears to offer this.

### **P2-5 Quality of life outcomes following penile prosthesis insertion post-priapism**

**Miss Katy Naylor<sup>1</sup>, Ms Aisling Looney, Ms Isabel Dighero, Ms Chloe Mount, Ms Fiona Holden, Mr Mark Johnson, Professor David Ralph, Ms Philippa Sangster**

<sup>1</sup>University College Hospital London, London, United Kingdom

**Objectives:** Penile prosthesis (PP) insertion is recommended for patients experiencing long-duration ischaemic priapism who wish to restore erectile function. However, little has been published focusing on quality of life (QOL) for such patients with post-priapism PP. This is the largest study to date assessing QOL outcomes in these patients.

**Materials and Methods:** Within our department, 167 patients received post-priapism PP between 2002-2022. 44 were contactable (implants between 2007-2021) and 39 completed an email/telephone validated Quality of Life and Sexuality with Penile Prosthesis (QoLSPP) questionnaire. Responses, as well as clinical and demographic data, were electronically logged. Two additional questions were asked regarding regrets and feelings regarding their future with a PP.

**Results:** Median time to PP insertion was 22 days post-priapism. Of those who responded, 95% (37/39) actively use their prosthesis with 37% (14/39) primarily receiving an inflatable implant. No patients regretted receiving PP at the time of priapism, with 87% (34/39) satisfied with having a PP for the remainder of their life. Regarding pleasure, 74% (29/39) had satisfaction relating to experience and penetration half the time or more. 82% (32/39) felt their PP had met expectations at least half the time.

27/37(73%) reported partner satisfaction with the PP half the time or more.

**Conclusions:** PP insertion can positively maintain sexual function in such patients post-priapism. This study revealed that the majority of men who received PP post-priapism, and seemingly their partners, were satisfied. Every patient agreed they would still undergo PP implantation if returned to their priapism event again.

### **P2-7 Penoscrotal decompression should be considered for prolonged ischaemic priapism**

**Mr Matthew Megson<sup>1</sup>, Mr Shafi Wardak<sup>1</sup>, Professor David Ralph<sup>1</sup>, Mr Matthew Megson<sup>1</sup>**

<sup>1</sup>University College London Hospitals, London, United Kingdom

**Introduction:** Outcomes following prolonged ischaemic priapism (PIP) are poor. Management includes a proximal corporal shunt or immediate penile prosthesis placement with an increased risk of erosion and infection. Penoscrotal decompression (PSD) relieves the compartment syndrome of PIP and restores perfusion but experience is limited to 31 cases.

**Patients and Methods:** Retrospective review. Duration of ischaemia, prior management, clinical outcomes and change in International Index of Erectile Function (IIEF) score were analysed.

**Results:** Thirteen patients with a median PIP duration of 48 hours (IQR 38-56) presented between 2019-2022. Aetiology of PIP was idiopathic in 5, iatrogenic or recreational drug-related in 6 and sickle-cell disease (SCD) in 2. All failed intracavernosal phenylephrine and 2 failed distal corporo-glanular shunting. All had successful detumescence with 9 (69%) requiring bilateral PSD. Immediate pain relief was achieved in all but one. Another SCD patient recurred within 24 hours following unilateral PSD that resolved with phenylephrine. One man without SCD developed a recurrence of priapism. IIEF scores fell by a median of 12 (IQR 2.25-15.5) and 6 developed refractory erectile dysfunction after median follow-up of 17.6 months (IQR 1.3 – 19.7).

**Conclusions:** PSD successfully relieved PIP in all patients with good pain relief for most (n=12, 92%). Six developed refractory erectile dysfunction while 3 had recurrent priapism due to SCD (n=2) and cocaine abuse (n=1). The lack of fresh corporal bleeding during PSD is a risk factor for failure and an immediate penile prosthesis should be considered. PSD averted the need for penile prosthesis in 54%.



**Table 1.** Univariate and multivariate analysis for histopathological variables.

	N=	ILN+	Univariate OR (95% CI), p-value	Multivariate OR (95% CI), p-value
Location				
Prepuce	79 (46%)	10	Reference	Reference
Glans	77 (45%)	22	2.76 (1.21-6.31), p<0.01	7.51 (2.11-26.71), p<0.01
Shaft	14 (8.1%)	2	1.13 (0.22-5.91), p=0.9	0.53 (0.03-9.46) p=0.7
p16+	71 (42%)	13	0.977 (0.41-2.35), p=0.95	NA
LVI	12 (7%)	7	7.55 (2.21-25.82) p<0.01	10.0 (2.31-46.5), p<0.01
PNI	11 (6.4%)	3	1.53 (0.38-6.13) p=0.6	NA
Size	Continuous, per cm		1.038 (1.01-1.07), p<0.05	1.03 (0.98—1.07) p=0.2
Thickness	Continuous, per cm		1.14 (1.06-1.22) p<0.01	1.14 (1.04-1.25), p<0.01

### **P2-8 Glans location, tumour thickness and LVI are independent predictors of metastatic risk in T1 penile squamous cell carcinoma**

**Mr Adam Jones<sup>1</sup>, Mr Craig Jones<sup>1</sup>, Mr Adam Jones<sup>1</sup>, Dr Ashwin Sachdeva<sup>1</sup>, Mr Sean Rezvani<sup>1</sup>, Dr Pedro Oliveira<sup>1</sup>, Mr Maurice Lau<sup>1</sup>, Prof Vijay Sangar<sup>1</sup>, Mr Arie Parnham<sup>1</sup>**

<sup>1</sup>The Christie NHS Foundation Trust, Manchester, United Kingdom

**Introduction:** Inguinal lymph node (ILN) metastasis for patients with penile squamous cell carcinoma (PSCC) predicts worse survival. For patients with clinically impalpable lymph nodes (cN0), inguinal management is dependent on risk stratification by grade (G) and T-stage (T). The objective of this study is to assess known/potential primary tumour histopathological variables that may predict risk of ILN metastasis.

**Methods:** We analysed retrospective data for patients with grade 2 (G2) or grade 3 (G3) pT1 PSCC treated at our centre between 2007-2020. The primary outcome was the histologic presence of ILN metastases. We performed univariate and multivariate Cox regression analysis for tumour location, T-stage, size, thickness, grade, p16 status, lymphovascular invasion (LVI) and perineural invasion (PNI). Audit approval was obtained.

**Results:** We identified 171 eligible patients. Univariate analysis demonstrated an increased odds ratio (OR) for ILN positive disease for glans location, tumour size, tumour thickness and LVI. Age, T-stage, grade, p16 status and PNI were not found to be statistically significant. After multivariate analysis, glans location (OR 7.51, p<0.01), tumour thickness (OR 1.14 per cm, p>0.01), and LVI (OR 10.0, p<0.01) remained statistically significant for an increased risk of ILN disease.

**Conclusions:** This single-centre retrospective cohort study demonstrates that glans location, tumour thickness

and LVI are associated with increased risk of ILN disease in patients with T1 PSCC, independent of stage and grade of disease. These histological features may be used clinically to better risk stratify and counsel selected patients regarding suitability for surveillance versus invasive inguinal nodal staging strategies.

### **P2-9 A 10 year retrospective study comparing outcomes of minimally invasive pelvic lymph node dissection for penile cancer vs open pelvic lymph node dissection in a tertiary care centre in England**

**Miss Husay Janebdar<sup>1</sup>**

<sup>1</sup>Norfolk And Norwich University Hospital, Norwich, United Kingdom

**Introduction & Objectives:** Pelvic Lymph node dissection (PLND) is a key procedure in the diagnostic, staging and therapeutic process of multiple diseases spanning across multiple specialities. This ranges from penile cancer in urology, to all malignancies in gynaecology, to metastatic melanoma in plastic surgery. In our tertiary care centre, all the pelvic lymph node dissections for penile cancer are now carried out as minimally invasive robot-assisted laparoscopic procedures. A 10 year retrospective study was carried out to compare the outcomes of minimally invasive PLND for penile cancer vs open PLND for all other cancers.

**Patients & Methods:** Data was collected from electronic records on all cases of PLND between January 2011 and December 2021 including patient demographics, operation details, lymph node count, intra-operative and post-operative complications, length of hospital stay, rate of readmission and mortality.

**Results & Conclusion:** A total of 121 cases of PLND were identified between January 2011 and December 2021.

The most significant finding was that the post-operative length of stay in hospital was substantially reduced from an average of 8.25 days after an open PLND to 1.68 days following a minimally invasive PLND (P value < 0.001). In addition, the total lymph node (LN) count, which is a surrogate for oncological safety, was on average higher and therefore better in the robot-assisted laparoscopic group (LN count=24) compared to the laparoscopic group (LN count=15) and open group (LN count=16). However, there was no statistically significant difference in the complications, readmission rates and survival rates.

### **P2-10 Identifying Metastatic Disease in Penile Cancer Patients Using Novel Hybrid MRI-PET Imaging**

**Miss Michelle Christodoulidou<sup>1</sup>, Mr Varun Sahdev<sup>1</sup>, Mr Fabio Castiglione<sup>1</sup>, Mr Raj Nigam<sup>1</sup>, Dr Simon Wan<sup>2</sup>, Dr Jamshed Bomanji<sup>2</sup>, Mr Hussain Alnajjar<sup>1</sup>, Mr Maniit Arya<sup>1</sup>, Professor Asif Muneer<sup>1,3</sup>**

<sup>1</sup>Urology Department, University College London Hospitals, London, United Kingdom, <sup>2</sup>Nuclear Medicine Department, University College London Hospitals, London, United Kingdom, <sup>3</sup>NIHR Biomedical Research Centre, University College London Hospitals, London, United Kingdom

**Introduction:** The presence of metastatic disease in the inguinal lymph nodes is the most important prognostic factor in patients diagnosed with penile cancer. Conventional imaging using USS, CT and MRI is unreliable in detecting micrometastatic disease in the inguinal nodes. MRI-PET is a novel hybrid modality of imaging combining conventional MRI and PET. The aim of this trial was to assess the accuracy of MRI-PET in detecting metastatic penile cancer.

**Patients & Methods:** Following ethical approval, a prospective trial recruited newly diagnosed patients into two arms: those with impalpable (cN0) and palpable inguinal lymph nodes (cN+). Patients would undergo an MRI-PET in addition to conventional imaging in-line with the study protocol.

**Results:** A total of 78 patients were recruited into the trial 56cN0 and 22cN+ (2013-2019). 42cN0 and 19cN+ patients were included in the final analysis. MRI-PET imaging was correlated with lymph node histology. Preliminary analysis identified that MRI-PET demonstrated a sensitivity of 80% (28.4-99.5; 95%CI) and specificity of 67.6% (50.2-82; 95%CI) in patients with impalpable lymph nodes at presentation and in those with palpable disease the sensitivity was 100% (75.3-100; 95%CI).

**Conclusions:** MRI-PET is a novel hybrid imaging modality used for primary tumours and lymph nodes. This is one of the first prospective studies to investigate the use of MRI-PET in penile cancer patients. Although its usefulness in

the detection of micro-metastatic disease in patients with impalpable lymph nodes is inferior to dynamic sentinel lymph node biopsy, it is accurate in predicting metastatic disease in palpable inguinal lymph nodes and therefore avoids the need for fine needle aspiration or biopsy.

### **ePoster Session 3 Female Urology and Bladder Dysfunction, Monday 19 June, 1400-1500, Hall 10**

#### **P3-1 Nocturnal Enuresis: is sacral neuromodulation a good treatment?**

**Dr Jean O'Riordan<sup>1</sup>, Sr Julie Jenks<sup>1</sup>, Dr Konstantinos Kapriniotis<sup>1</sup>, Dr Alejandro Mercado-Campero<sup>1</sup>, Miss Helena Gresty<sup>1</sup>, Mr Jeremy Ockrim<sup>1</sup>, Miss Tamsin Greenwell<sup>1</sup>, Mrs Mahreen Pakzad<sup>1</sup>**

<sup>1</sup>UCLH, London, United Kingdom

**Introduction:** Enuresis is difficult to treat with variable response to NICE-recommended treatments of anticholinergics and desmopressin, particularly in the teenage/young-adult population. There is limited data on the effectiveness of Sacral Neuromodulation (SNM) in patients with Nocturnal Enuresis (NE). We report outcomes for patients who underwent SNM for Refractory NE.

**Materials and methods:** Retrospective review of patients undergoing SNM from 2010-2022 in a single high-volume centre identified 16 patients (3 male, 13 female) with NE aged 26-72 years. All were asked to complete a bladder diary and LUTS questionnaire. Mean follow-up post-surgery was 60 months (6-149).

Following insertion of tined-lead, patients were reassessed during the two-week trial phase with the same questionnaire. This allowed comparison of data pre and post-SNM.

**Results:** 13/16 of patients (81%) had at least a 50% improvement. The cure rate was 9/16 (56%).

2/16 (11%) were unchanged, one patient suffered a wound infection leading to device explantation.

One patient was lost to follow-up, although the SNM was successful in improving his nocturia from 2-hourly to once-nightly.

Using McNemar's test, there was statistically significant reduction in NE (p 0.008) following implantation of SNM (p < 0.05).

**Conclusions:** SNM is an effective treatment for NE, with a 56% cure and 81% improvement rate. SNM is not included in the NICE CG111 (Bedwetting in under 19's, October 2010). Teenagers, in particular, may benefit from SNM, where drug and behavioural treatment have failed to improve symptoms in this difficult-to-treat patient cohort.

	Female (n=13)	Male (n=3)	Total (n=16)
Complete resolution of NE	77%	50%	56%
At least 50% resolution of NE	77%	100%	81%
No change in NE	22%	0%	11%

### P3-2 Ketamine cystitis: presentation and management

**Miss Nikita Bhatt<sup>1</sup>, Ms Marita Isaac<sup>1</sup>, Dr Ravi Kare<sup>1</sup>, Dr Syed Alam<sup>1</sup>, Miss Charlotte Dunford<sup>1</sup>, Miss Ruth Doherty<sup>1</sup>**

<sup>1</sup>Norfolk And Norwich University Hospitals, Norwich, United Kingdom

**Introduction:** Ketamine cystitis is reported in a quarter of patients regularly using ketamine. We aimed to investigate the effects of Ketamine use on lower urinary tract symptoms (LUTS) and develop practical management pathways.

**Patients (or Materials) and Methods:** We established a multidisciplinary Ketamine clinic with Urology, Substance Misuse and Pain team stakeholders. This service runs from our hospital, with community support. We collated contemporaneous and prospective data on the presentation and management of patients. Bloods and imaging were arranged prior to review and information sent on their condition. Persistent use was determined on urine dipstick in clinic.

**Results:** Sixty-six patients have attended the Ketamine clinic for LUTS, 49 patients were followed up. The median age was 26 years and 78% were male. 10% (5) had acute kidney injury (AKI) at presentation and four have bilateral

nephrostomies. One patient had nephrostomies for pain (no AKI or hydronephrosis). Two patients with hydronephrosis but no AKI were followed up closely. 35% (17) had rigid cystoscopy for haematuria, bladder capacity ranged from 75- 500mls (mean 270mls) and biopsy findings showed ketamine cystitis. One patient died from an overdose in the community. Twenty patients had deranged liver function and 6 had common bile duct dilatation.

**Conclusions:** In our cohort of young patients regularly using Ketamine all presented with LUTS. 35% had biopsy proven ketamine cystitis and upper tract dilatation developed in 10%. Psychological support from a Substance Misuse team is vital in achieving abstinence to allow surgical management of remaining urological issues.

### P3-3 Urethral Diverticulum: Incidence and Management of Stress Urinary Incontinence

**Mr Wilson To<sup>1</sup>, Ms Jean O'Riordain<sup>1</sup>, Ms Helena Gresty<sup>1</sup>, Mr Richard Nobrega<sup>1</sup>, Mr Anthony Noah<sup>1</sup>, Mrs Mahreen Pakzad<sup>1</sup>, Mr Jeremy Ockrim<sup>1</sup>, Ms Tamsin Greenwell<sup>1</sup>**

<sup>1</sup>University College London Hospital, Department of Urology, London, United Kingdom, LONDON, United Kingdom

**Introduction:** Stress urinary incontinence (SUI) is both a presenting symptom and a risk of excision of urethral diverticulum. Here we report the incidence of SUI before and after excision of UD in a large series from a tertiary unit.

**Patients and Methods:** The medical records of 143 consecutive patients who underwent UD excision from a single surgeon between 2004 and 2022 were reviewed. Data collected included demographics, pre- and post-operative

**Table 1.**

Total N	Pre-Existing Stress Urinary Incontinence (PE-SUI) N (%) / Median Age (Years)		No Pre-Existing Stress Urinary Incontinence (No PE-SUI) N (%) / Median Age (Years)		
143	62 (43.4) / 47		81 (56.6) / 45		
	Resolution PE-SUI N (%) / Median Age (Years)	Persistence of PE-SUI N (%) / Median Age (Years)	No New Onset SUI N (%) / Median Age (Years)	New Onset SUI N (%) / Median Age (Years)	
	26 (41.9) / 47	36 (58.1) / 47	50 (61.7) / 44	31 (38.3) / 45.5	
		Dry/Improved with PFMT N (%)	Dry/Improved with Surgical Treatment N (%)	Dry/Improved with PFMT N (%)	Dry/Improved with Surgical Treatment N (%)
		23 (63.8.5%)	10 (27.7%)	19 (61.3%)	7 (22.6%)
	Status at last FU (Dry or Improved)				
135 (94.4)	26 (100)	33 (91.7) (2 on W/L for RFS)	50 (100)	26 (83.8%) (4 on W/L for RFS)	

\*W/L = waiting list.

RFS = Rectus Fascial Sling .

symptoms with an emphasis on SUI, pre-operative investigative **results** including MRI and video urodynamics (VUDs), any subsequent SUI treatment undertaken and its outcome.

**Results:** 143 patients underwent UD excision over the 18 year period with a median follow-up of 16 months (1-84). The median age was 46 years (17-81). All patients had pre-operative video urodynamics (VUDs), pelvic MRI, and underwent a midline ventral vaginal approach to excision of UD with a modified labial fat pad interposition (MLFPI). 62 (43.4%) of patients had SUI at presentation, of which 26 (41.9%) resolved after UD excision with MLFPI alone. All patients with bothersome SUI 6-12 months after UD excision underwent a repeat VUDS. Of the 143 patients, 36 (25.2%) and 31 (21.7%) patients had persistent SUI or new-onset SUI respectively. Of these, 23 and 19 (61.3% and 63.8%) patients improved with conservative treatment alone. Subsequent surgical procedure was successful in curing or improving SUI in 89.5% of patients. These **results** are summarised in table 1.

**Conclusions:** Surgery is an effective treatment for pre-existing and new onset SUI in patients with UD.

#### **P3-4 Topical and Oral Oestrogens for Recurrent Urinary Tract Infection (rUTI) – Evidence and recommendations from a systematic review of literature**

**Mr Vaki Antoniou<sup>1</sup>, Professor Bhaskar Somani**

<sup>1</sup>University Hospital Southampton, Southampton, United Kingdom

**Introduction:** We reviewed the role of oral and topical oestrogen for prevention of recurrent urinary tract infections (rUTIs) and to establish whether a relationship exists between oestrogen dosage and treatment efficacy.

**Methods:** A systematic review was completed based on PICO, PRISMA and Cochrane methodology between inception to April 2022, examining the role of topical and oral oestrogen for preventing rUTIs.

**Results:** 6 studies (7 treatment groups) using topical oestrogen (creams, pessaries or per-vaginal tablets) as a treatment arm were included (258 patients). 4 studies using oral oestrogen as the treatment arm were included (1376 patients). The mean follow-up duration for topical and oral oestrogen was 7.2 months and 14.5 months respectively. Topical oestrogen resulted in a UTI-free rate of 51-100%, whilst oral oestrogen was only effective in 1 study. All included studies agreed that topical oestrogen is effective prophylaxis for rUTI in women, with better efficacy associated with weekly doses 850µg and higher.

**Conclusion:** Our review concurs with current UTI guidance that topical but not oral oestrogen therapy can be a valid prophylaxis for women suffering rUTIs. Topical weekly administrations of 850µg and higher are associated with the best outcomes.

#### **P3-5 The efficacy of Intravesical iAluRil in the management of recurrent urinary tract infections, painful bladder syndrome and non-bacterial cystiti**

**Mr Ekpeno Inyang<sup>1</sup>, Ms Jayne Morris-Laverick<sup>1</sup>, Ms Stephanie Benzemer<sup>1</sup>, Ms Mehwash Nadeem**

<sup>1</sup>South Tees Hospitals Nhs Foundation Trust, Middlesbrough, United Kingdom

**Introduction:** iAluRil® is the first Intravesical GAG replacement therapy designed to effectively and efficiently restore the bladder epithelium which has a protective function in preventing urinary tract infections and bladder pain.

Study	Country of Study	Average weekly dose (µg)	Proportion of patients UTI free (%)
<b>Topical Oestrogen</b>			
Eriksen 1999	Haugesund, Norway	52.5	51
Group 2 Chompootawee et al 1998	Bangkok, Thailand	280	100
Raz et al 2003	Northern Israel	412.5	32.6
Group 1 Chompootawee et al 1998	Bangkok, Thailand	859	100
Raz et al 1993	Afula, Israel	1625	77.8
Xu et al 2001		4375	92.6
Pinggera et al 2005	Innsbruck, Austria	4500	80
<b>Oral Oestrogen</b>			
Kirkengen et al 1992	Oslo, Norway	11700	75
Cardozo et al 1998	London, UK	10500	43
Brown et al 2001	California, USA	4375	71.6
Ouslander et al 2001	Atlanta, USA	4375	64

Average weekly dose in ascending order versus proportion of patients UTI free.

Table 1

Patient demographics	Total number of patients (n): 48
	Gender: Male 5, Female 43
	Age distribution Minimum age: 18 years, Maximum age: 81 years Mean: 51.5 Median: 53.5 and SD: 20
Indications	CPPS: 26 (54.2%) Recurrent UTI: 18 (37.5%) Radiation /BCG cystitis: 4 (8.3%)
Presentation	Frequency: 24 (82.8%) Urgency: 7(24.1%) Nocturia: 2(6.9%) Dysuria: 9 (31%) Haematuria: 4 (13.8%) Suprapubic pain: 9 (31%)
Outcome	<u>Overall</u> Improvement 37 (77.1%) No Improvement 10 (22.9%)  <u>CPPS</u> Improve (22) 84.6% No Improvement 4 (15.4%)  <u>Recurrent UTI</u> Improve 12 (66.7%) No improvement 6 (33.3%)  <u>Cystitis</u> Improvement 3 (75%) No Improvement 1 (25%)

This prospective study was designed to evaluate the effectiveness of iAluril in our tertiary center.

**Materials and Methods:** A prospectively maintained database of all patients who had Intravesical GAG replacement therapy within a 2-year period was reviewed. Patients' demographics, Indications for iAluril administration, co-morbidities, investigations performed and treatment outcomes were recorded. Pre-treatment QoL and post-treatment PGI-I (Patient global impression of improvement) Scale were measured. For patients with recurrent UTIs, the number of infections/year, and urine culture **results** (causative bacterial organism and antibiotic sensitivities) were also reviewed.

**Results:** Outcomes are detailed in table 1.

A total number of 48 patients received Intravesical GAG with (median age of 55.1 years (18-81 years) and (Males 5, Females 43). Indications for therapy were CPPS: 26 (54.2%), Recurrent UTI: 18 (37.5%), and Radiation /BCG cystitis: 4 (8.3%). When adjusted for age, gender, and comorbidities the groups were comparable ( $p=0.6$ ).

Overall, 37 (77.1%) of patients had good symptomatic improvement on the PGI-I scale after the treatment

however, 11 patients (22.9%) had no improvement. Patients with CPPS benefited the most clinically with 22 patients (84.6%) c.f. 75% and 66.7% for BCG/radiation cystitis and rUTIs respectively. However, this did not show any statistical significance. ( $p=0.9$ )

**Conclusion:** iAluril has been shown to significantly improve patients' QoL and is effective in treating CPPS, recurrent UTIs, and radiation/BCG-induced cystitis.

### P3-6 Vesico-uterine Fistulae: A case-series experience from a tertiary unit

**Dr Ioannis Loufopoulos<sup>1</sup>, Mr Alfred Cutner<sup>1</sup>, Mr Richard Nobrega<sup>1</sup>, Mr Anthony Noah<sup>1</sup>, Miss Helena Gresty<sup>1</sup>, Ms Tamsin Greenwell<sup>1</sup>, Mr Jeremy Ockrim<sup>1</sup>**

<sup>1</sup>University College London Hospital, London, United Kingdom

**Introduction:** Vesico-uterine fistulae is a rare clinical condition representing less than 5% of uro-gynaecological fistulae. We have noted a surge in the number referred to a tertiary unit following Caesarean section. We describe presentation, surgical management, and outcomes for this rare cohort.



Patient	Gravida (previous sections)	Injury recognised at LSCS (attempted repair at section)	Surgical repair (months)	Type of repair	Success
1	3 (3)	Yes	12 months	Open repair with omental interposition with hysterectomy and salpingo-oophorectomy	Yes
2	2 (2)	No	Open repair at local hospital at 8 months failed	Open repair with omental interposition	Yes
3	1 (1)	Yes	7 months	Laparoscopic repair with omental interposition	Yes
4	1 (1)	Yes	na	Scheduled for laparoscopic repair	-
5	0 (0)	No	na	Spontaneous closure with 3 months catheterisation	-
6	2 (2)	Yes	15 months	Laparoscopic repair with omental interposition	Yes
7	2 (1)	yes	9 months	Laparoscopic repair with omental interposition and salpingectomy	Yes
8	1 (1)	No	na	Spontaneous closure with 3 months catheterisation	-

**Materials And Methods:** Data collected prospectively between 2010-2022 was analysed retrospectively. All patients had a confirmed vesico-uterine fistula either with MRI or cystogram. The outcomes were evaluated with intra-operative tests for the assessment of leakage post the repair (methylene blue test) and cystogram at 4 weeks to confirm closure.

**Results:** Eight patients with confirmed vesico-uterine fistula mean age of 36.4 years old (range: 31-43) and mean follow-up period of 17 months (range: 6 to 48 months) were included. Results are shown on Table 1. All but 1 patient had previous Caesarean sections. All presented with haematuria during menstruation and 6/8 with vaginal incontinence. Three patients had a laparoscopic approach whilst 2 patients were managed through an open intra-abdominal repair. 2 patients had spontaneous closure of their fistulae with 3 months urethral catheterisation. All patients had omental interposition between the bladder repair and the uterus. No complications were observed from either approach.

**Conclusions:** Caesarean section was the only cause for a vesico-uterine fistula in females, and in 7/8 patients occurred after multiple sections. Catheterisation for 3 months allowed spontaneous closure in 25% with involution of the gravid uterus. Successful closure was equivalent with open and laparoscopic approaches, and the method of closure should be tailored to individual circumstances.

### **P3-7 The efficacy of Intravesical iAluRil in the management of recurrent urinary tract infections, painful bladder syndrome and non-bacterial cystiti**

**Mr Ekpeno Inyang<sup>1</sup>, Ms Jayne Morris-Laverick<sup>1</sup>, Ms Stephanie Benzemer<sup>1</sup>, Ms Mehwash Nadeem**

<sup>1</sup>South Tees Hospitals Nhs Foundation Trust, Middlesbrough, United Kingdom

**Introduction:** iAluRil® is the first Intravesical GAG replacement therapy designed to effectively and efficiently restore the bladder epithelium which has a protective function in preventing urinary tract infections and bladder pain. This prospective study was designed to evaluate the effectiveness of iAluril in our tertiary center.

**Materials and Methods:** A prospectively maintained database of all patients who had Intravesical GAG replacement therapy within a 2-year period was reviewed. Patients' demographics, Indications for iAluril administration, co-morbidities, investigations performed and treatment outcomes were recorded. Pre-treatment QoL and post-treatment PGI-I (Patient global impression of improvement) Scale were measured. For patients with recurrent UTIs, the number of infections/year, and urine culture **results** (causative bacterial organism and antibiotic sensitivities) were also reviewed.

**Results:** Outcomes are detailed in table 1.

A total number of 48 patients received Intravesical GAG with (median age of 55.1 years (18-81 years) and (Males 5, Females 43). Indications for therapy were CPPS: 26 (54.2%), Recurrent UTI: 18 (37.5%), and Radiation /BCG cystitis: 4 (8.3%). When adjusted for age, gender, and comorbidities the groups were comparable ( $p=0.6$ ).

Overall, 37 (77.1%) of patients had good symptomatic improvement on the PGI-I scale after the treatment however, 11 patients (22.9%) had no improvement. Patients with CPPS benefited the most clinically with 22 patients (84.6%) c.f. 75% and 66.7% for BCG/radiation cystitis and rUTIs respectively. However, this did not show any statistical significance. ( $p=0.9$ )

**Conclusion:** iALuril has been shown to significantly improve patients' QoL and is effective in treating CPPS, recurrent UTIs, and radiation/BCG-induced cystitis.

### **P3-8 Outcomes of External Urethral Sphincter (EUS) Onabotulinum toxin type A (Botox) after failed Sacral Neuromodulation (SNM) therapy in women with voiding dysfunction (VD)/chronic non-obstructive urinary retention (CNOUR)**

**Mr Konstantinos Kapriniotis<sup>1</sup>, Miss Amelia Snook<sup>2</sup>, Miss Maryam Imran<sup>2</sup>, Mr Alejandro Mercado-Campero<sup>3</sup>, Ms Elizabeth Day<sup>1</sup>, Ms Helena Gresty<sup>1</sup>, Mr Jeremy Ockrim<sup>1</sup>, Ms Tamsin Greenwell<sup>1</sup>, Ms Mahreen Pakzad<sup>1,3</sup>**

<sup>1</sup>University College London Hospital at Westmoreland Street, London, United Kingdom, <sup>2</sup>University College London Medical School, London, United Kingdom, <sup>3</sup>National Hospital For Neurology And Neurosurgery, London, United Kingdom

**Introduction:** Treatment options for VD/CNOUR are limited. SNM is the only minimally-invasive NICE-approved treatment. EUS-Botox is a promising alternative. We reviewed the outcomes of EUS Botox in all female patients who had failed previous SNM for VD/CNOUR.

**Patients and Methods:** Retrospective review of all SNM procedures in a single tertiary referral centre between 2011-2021. All female patients with a history of VD/CNOUR and failed SNM followed by EUS-Botox were included. Demographic, clinical, urodynamic and patient global impression of improvement (PGI-I) data was collected.

**Results:** Twelve patients were included (mean age  $31.8 \pm 12.9$  years). Six (50%) were in complete retention (due to acontractile bladder [ $n=5$ ] or bladder-outlet-obstruction [BOO;  $n=1$ ]), requiring intermittent (CISC;  $n=5$ ) or indwelling-urethral (IDUC;  $n=1$ ) catheterisation. Other 6 patients were spontaneously voiding with high PVR, emptying via CISC ( $n=4$ ), suprapubic-catheter (SPC;  $n=1$ ) or simply not emptying ( $n=1$ ). Two had acontractile bladder and four BOO. All patients had raised

maximum-urethral-closure-pressure (MUCP; mean  $105 \pm 25$ cmH<sub>2</sub>O, expected  $62 \pm 13$ cmH<sub>2</sub>O). Based on PGI-I, 6 patients (50%) reported no change after EUS-Botox (PGI-I=4); three continued CISC, two underwent and one is considering a Mitrofanoff procedure. Six (50%) patients reported improvement (PGI-I=1-3) with less pain on catheterisation ( $n=1$ ), minor flow improvement ( $n=1$ ), >50% reduction of PVRs ( $n=2$ ) or becoming catheter free ( $n=3$ ). Initial benefit was maintained in 4 of these 6 patients, who continued to repeat injections (range 2-6 injections).

**Conclusion:** Despite a discrete 50% success rate, our data suggests that EUS-Botox is a good alternative to major reconstructive surgery in VD/CNOUR patients who failed previous SNM.

### **P3-9 Change in urodynamic (UDS) parameters of women with dysfunctional voiding (DV) following long-term sacral neuromodulation (SNM)**

**Mr Ross Stephens<sup>1</sup>, Mr Sachin Malde, Mr Arun Sahai, Dr Eskinder Solomon**

<sup>1</sup>Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

**Introduction:** SNM is utilised in women diagnosed with DV. It isn't well documented whether long-term SNM therapy improves voiding parameters in females with high pressure, low flow (HP-LF) voiding secondary to DV. Persistent HP-LF voiding **results** in bladder/renal dysfunction. Unlike anatomical bladder outlet obstruction (BOO), functional BOO (fBOO) typically **results** in variable flow-rate and detrusor pressures, invalidating the use of Pdet. Qmax and Qmax to describe the voiding phase. The area under the pressure-flow curve (AUC) represents the cumulative detrusor pressure throughout voiding and is likely a more reliable parameter of risk of secondary bladder/renal dysfunction.

**Aim:** assess if long-term SNM therapy reduces the AUC in women diagnosed with DV who demonstrated HP-LF at initial UDS.

**Patients & Methods:** We compared the AUC ( $AUC = \int Pdet dt$ ) and AUC/VV (normalised to voided volume) at initial presentation and following long-term SNM using paired t-tests in 7 patients. Inclusion criteria: women demonstrating irregular flowrate pattern, raised Pdet (Avg Pdet > 50cmH<sub>2</sub>O) and a mid-urethral calibre change observed radiographically during voiding (anatomical BOO excluded).

**Results:** Initial presentation age and maximum mid-urethral pressure ranged from 21-49 years (median-42) and 112-183cmH<sub>2</sub>O (median-144) respectively. Days between SNM implantation and subsequent UDS ranged from 161-1234 (median-986). There was no statistically significant change in AUC or AUC/VV following long-term SNM.

**Table 1.** Change in UDS parameters pre/post long-term SNM therapy.

UDS Parameter	Pre-SNM	Post-SNM	P value
AUC (cmH <sub>2</sub> O.s)	5580.57 (5253.3)	3832.74 (3053.3)	0.198
AUC/VV (cmH <sub>2</sub> O.s. .ml <sup>-1</sup> )	86.37 (168.7)	17.72 (19.3)	0.323
Qmax (ml/s)	6.9 (4.3)	10.0 (6.9)	0.099
VV (ml)	321.9 (275.6)	365.3 (223.9)	0.433
PVR (ml)	92.4 (91.7)	65.7 (72.1)	0.160

Table 1 demonstrates trend of Qmax increasing following long-term SNM.

**Conclusions:** Women with HP-LF voiding secondary to DV who undergo long-term SNM therapy don't demonstrate a statistically significant reduction in detrusor pressure during voiding. This cohort should be monitored for deterioration in bladder/renal function.

### P3-10 Should endoscopic laser removal of eroded urethral mesh/sling be offered to all patients with prior incontinence surgery: A systematic review of literature

**Dr Francesco Ripa<sup>1</sup>, Dr Mai Gamal Morsi<sup>1</sup>, Dr Amelia Pietropaolo<sup>1</sup>, Prof Bhaskar Somani<sup>1</sup>**

<sup>1</sup>University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

**Introduction:** The incidence of mid-urethral sling(MUS) or mesh erosion into the lower urinary tract after tension-free vaginal tapes(TVT) or trans-obturator tapes(TOT) placement for stress urinary incontinence(SUI) has been rising over the last years. We wanted to look at the current evidence on endoscopic management of this complication with holmium (Ho:YAG) laser excision and whether it is a safe and effective option.

**Materials and method:** A systematic review in line with PRISMA and Cochrane guidelines was conducted for all the articles (1996-2022, 27 years) reporting on endoscopic management of eroded urethral mesh following previous sling/mesh placement for SUI.

**Results:** Overall, 22 articles (249 patients) were included with a mean age of 57 years, and a mean time from initial surgery of 56.7 months(range:1-113 months). Of the erosions, 77.1% underwent TVT or TOT procedure. The site of erosion was bladder (n=161, 64.5%) and urethra (n=88, 35.3%), with presenting symptoms being visible and microscopic haematuria, recurrent UTIs, dysuria, urgency, incontinence and dyspareunia.

Of the treatments offered, 159(63.8%) had exclusively transurethral holmium laser excision of the exposed mesh and 90(36.2%) had a trans-urethral loop and/or

laparoscopic scissors resection. The success rate after a single and further laser procedure was 71.7%(114/159) and 94.3%(150/159) respectively. The overall complications were 22.5%, and included urinary tract infections(1.9%), voiding difficulties(0.1%), and recurrence of SUI(21%) as a predictable complication of mesh removal.

**Conclusion:** Laser excision of eroded mesh is a valid, minimally invasive strategy, and should be offered to all patients as a treatment option prior to open surgical removal.

### ePoster Session 4 Renal Cancer / Testis Cancer / Sarcoma, Monday 19 June, 1400-1500, Hall 11A

#### P4-1 Use of renal tumour biopsy prior to nephrectomy - An analysis of the British Association of Urological surgeons nephrectomy outcome data from 2012-2019

**Dr Vinson Wai-shun Chan<sup>1,2,3</sup>, Mr Jon Cartledge<sup>4</sup>, Dr, Selina Bhattarai<sup>4</sup>, Prof. Tze Min Wah<sup>2,4</sup>, British Association of Urological Surgeons Nephrectomy Audit**

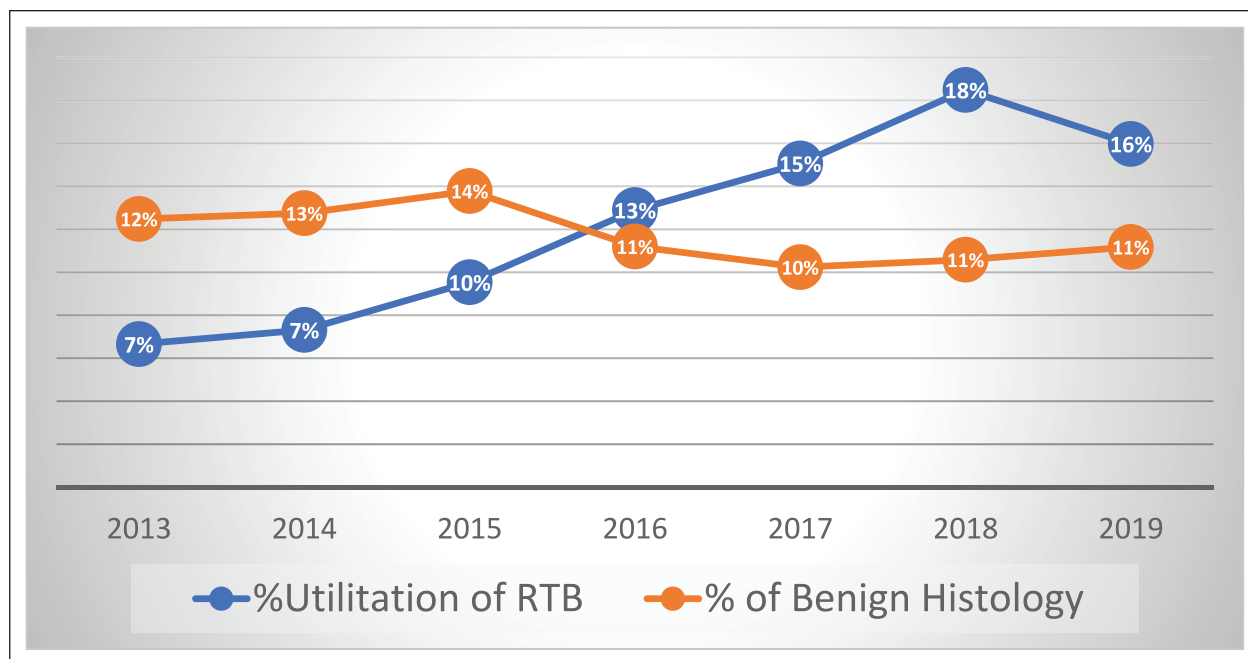
<sup>1</sup>Royal Derby Hospital, Derby, United Kingdom, <sup>2</sup>University of Leeds, Leeds, United Kingdom, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom

**Introduction:** Up to 30% of treated small renal masses (SRM) are benign. This study aims to review the use of renal tumour biopsy (RTB) for SRM in the UK and its potential benefits.

**Methods:** The prospective British Association of Urological Surgeons nephrectomy audit database was enquired for SRMs (T1a/bN0M0) treated by partial or radical nephrectomy from 2012-2019.

**Results:** A total of 15,320 patients (T1a: 46.58%, T1b: 43.51%, T1: 9.92%) from across the UK are included. 12.5% (1,915/ 15,320) patients received a renal tumour biopsy prior to treatment. The utilisation of RTB increased from 6.7% (94/1318) in 2013 to 16.0% in 2019 (304/1594)





**Figure.** Graph outlining the relationship between utilisation of pre-operative renal tumour biopsy and percentage of renal masses treated for benign histology.

( $p < 0.001$ ). The diagnostic rate of RTBs in the series is 92% (1741/1889). In patients with no missing histological data, 11.7% (1,794/ 15,312) were treated for a benign mass, of those, 56.0% (1,005/1,794) were treated with a partial nephrectomy, and 43.9% (789/1,794) were treated with a radical nephrectomy. However, stratifying by the biopsy status, patients not undergoing RTB are significantly more likely to be treated for a benign mass, compared to those who had an RTB. (12.8% [1721/13,399] vs 3.82% [73/1,913], Chi2- $p < 0.001$ , Logistic regression: OR:3.71, 95%CI: 2.92–4.72,  $p < 0.001$ ). Amongst those who did not receive RTB, 10.0% (760/7,588) were overtreated with a radical nephrectomy, and 16.5% (961/5,811) were overtreated with a partial nephrectomy.

**Conclusion:** RTBs are underutilised before nephrectomy, resulting in at least 1,721 patients (12.8%) overtreated in 7-years with potentially life-changing nephrectomy for a benign tumour. This study highlights the importance of RTB before treatment decisions for SRMs.

#### P4-2 Extended venous thromboembolism prophylaxis after minimal access retroperitoneal robot assisted partial or laparoscopic nephrectomy - is it necessary?

Miss Louise Paramore<sup>1</sup>, Dr Sarah O'Neill<sup>1</sup>, Mr Mohammed Aldiwani<sup>1</sup>, Sister Joanne Oakley<sup>1</sup>, Mr Muddassar Hussain<sup>1</sup>, Mr Neil Barber<sup>1</sup>, Mr Manar Malki<sup>1</sup>  
<sup>1</sup>Frimley Renal Cancer Centre, Frimley Park Hospital, Frimley, United Kingdom

**Introduction and Objectives:** The evidence to support extended (four weeks) post-operative anticoagulation to prevent venous thromboembolism (VTE) after retroperitoneal laparoscopic or robot assisted partial nephrectomy has been described as 'weak' and 'limited' in national and international guidelines. The benefit of anticoagulation to prevent VTE must be balanced against the risk of bleeding in the postoperative period. At our specialist renal cancer centre the current standard practice is not to give extended prophylaxis in either laparoscopic or robot assisted cases. Patients who undergo a robot assisted procedure do not routinely receive any postoperative anticoagulation and patients undergoing a laparoscopic procedure usually receive a daily dose of postoperative low molecular weight heparin during their inpatient stay which ceases at discharge. All patients have mechanical prophylaxis with compression stockings on the ward until ambulation and the use of intermittent pneumatic compression device intraoperatively unless contraindicated.

**Materials and Methods:** A retrospective electronic medical records and imaging review was conducted for five hundred and sixty three consecutive patients identified from our prospectively collected database who underwent a laparoscopic nephrectomy or robot assisted partial nephrectomy at our specialist renal cancer regional referral centre.

**Results:** Of the patients included for analysis in this case series five patients were suspected of having a venous thromboembolism within thirty days of their procedure and underwent imaging. No patients were confirmed to have a VTE on subsequent imaging.

**Conclusions:** The low rate of positive findings in this case series supports our current practice that extended VTE prophylaxis is not required.

### P4-3 Contemporary management of cT1a renal masses: results from the NEphron Sparing Treatment (NEST) for small renal masses cohort study

Miss Joana Neves<sup>1,2</sup>, Miss Hannah Warren<sup>1</sup>, Dr Menelaos Pavlou<sup>3</sup>, Mr Joseph Santiapillai<sup>1,2</sup>, Mr Darryl Bernstein<sup>1,2</sup>, Mr Ravi Barod<sup>1,2</sup>, Mr Prasad Patki<sup>2</sup>, Professor Faiz Mumtaz<sup>1,2</sup>, Dr Miles Walkden<sup>2</sup>, Dr Soha El-Sheikh<sup>2</sup>, et al.

<sup>1</sup>Division of Surgery and Interventional Science, University College London, London, United Kingdom, <sup>2</sup>Specialist Centre for Kidney Cancer, Royal Free Hospital, London, United Kingdom, <sup>3</sup>Department of Statistical Science, University College London, London, United Kingdom

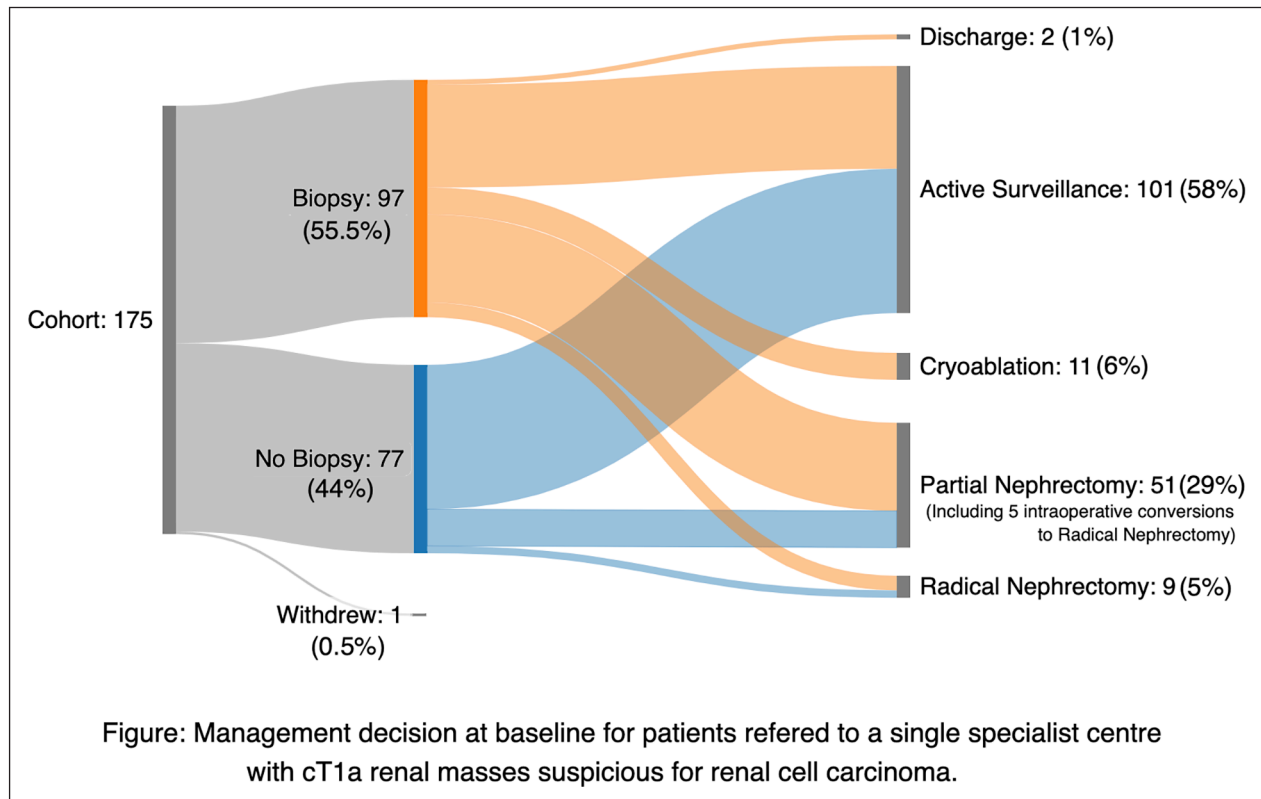
**Introduction:** Management of cT1a small renal masses (SRMs) continues to evolve with the advent of minimally invasive treatment options and improving diagnostics. We report contemporary data on the initial management decision of patients with SRMs from the NEphron Sparing Treatment (NEST) cohort study.

**Patients and Methods:** From May 2019 to July 2021 the NEST cohort study prospectively enrolled 200 consecutive

patients with cT1a renal masses suspicious for renal cell carcinoma (RCC) referred to a single specialist centre for consideration of treatment. We report demographics of the cohort and initial management decisions, made in collaboration between the patient and specialist multidisciplinary team (excluding 25 participants whose management was determined as part of a cohort-embedded randomised controlled trial).

**Results:** The NEST cohort included 200 patients with SRMs of mean age 63 years (SD 12), 60% male, ethnicity 73% white, 8.5% black, 8.5% Asian, 9.5% not reported, Charlson comorbidity index  $\leq 3$  in 91%. Mean tumour size was 26mm (SD 8mm) and RENAL score low, moderate, and high complexity in 43%, 49% and 7.5% respectively. Baseline management for 101 (58%) patients was active surveillance, 51 (29%) partial nephrectomy (including 5 intra-operative conversions to radical nephrectomy), 11 (6%) percutaneous cryoablation, 9 (5%) radical nephrectomy (7 robot-assisted, 2 standard laparoscopic) and 2 (1%) discharges (see figure). There were no conversions to open surgery.

**Conclusions:** In a single-centre specialist practice active surveillance was the initial chosen management in over half of patients with cT1a renal tumours, with minimally invasive techniques making up the majority of active treatment.



#### **P4-4 Oncological outcomes following pT3a partial nephrectomy – is the rollout of adjuvant immunotherapy in renal cell carcinoma generalisable?**

**Mr Mohammed Aldiwani<sup>1</sup>, Miss Joanne Oakley<sup>1</sup>, Mr Manar Malki<sup>1</sup>, Mr Muddassar Hussain<sup>1</sup>, Mr Neil Barber<sup>1</sup>**  
*<sup>1</sup>Frimley Renal Cancer Centre, Surrey, United Kingdom*

**Introduction:** Adjuvant Pembrolizumab has recently demonstrated improved disease-free survival for localised clear-cell renal carcinoma. This resulted in NICE approval for all intermediate-high risk renal cancer (subtype unspecified) post nephrectomy. Adjuvant therapy post partial nephrectomy was not specifically scrutinised.

Our aim was to explore the incidence and evaluate risk factors for disease relapse within our pT3a partial nephrectomy population, further informing the discussion on the role of adjuvant immunotherapy in this cohort.

**Patients and Methods:** All pT3a cases were identified from our prospectively maintained partial nephrectomy database between July 2006 and Dec 2021.

Pathological subtype, stage, grade and margins were recorded. Follow up information regarding survival, local recurrence and systemic disease was obtained from electronic patient records.

**Results:** Of 968 partial nephrectomies performed, final pathological stage was pT3a or more in 70 cases. Adequate follow-up data ( $\geq 12$  months) was available for 52 patients. The average follow-up duration was 30.6 months.

Metastatic disease developed in 5 patients overall (9.62%) including 2 cases of cancer specific mortality. Positive surgical margin did not correlate with increased risk of metastatic disease (15.4% vs 7.7%, Fishers exact  $p=0.58$ ). Compared to low nuclear grade, high grade was a risk factor for developing metastatic disease (2.9% vs 22%, Fishers exact  $p=0.043$ ).

**Conclusions:** The intermediate-high risk category that confers eligibility for adjuvant therapy is broad. In our pT3a partial nephrectomy series, low nuclear grade was associated with low risk of disease relapse and adjuvant therapy may be over-treatment. Careful case selection and counselling is paramount.

#### **P4-5 Oncological and peri-operative outcomes of percutaneous cryoablation of renal cell carcinoma for patients with hereditary RCC diseases - An analysis of European multi-centre prospective EuRECA registry**

**Dr Vinson Wai-shun Chan<sup>1,2,3</sup>, Dr Filzah Hanis Osman<sup>2</sup>, Dr David J Breen<sup>4</sup>, Dr Tommy Kjærgaard Nielsen<sup>5</sup>,**

**Dr Julien Garnon<sup>6</sup>, Dr Des Alcorn<sup>7</sup>, Dr. Brunolf Lagerveld<sup>8</sup>, Dr Ole Graumann<sup>9</sup>, Mr Francis Xavier Keeley Jr<sup>10</sup>, Prof. Tze Min Wah<sup>11</sup>, et al.,**

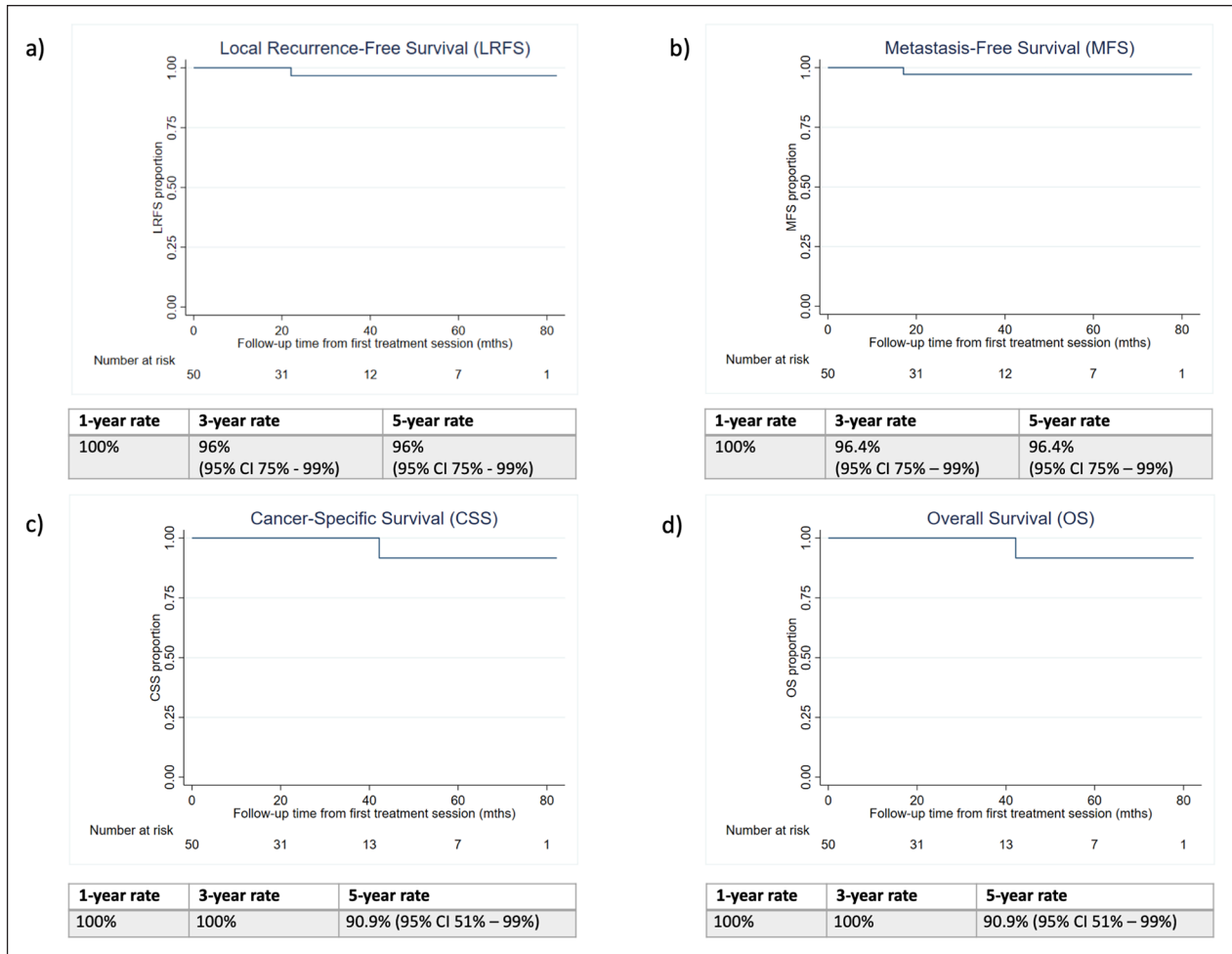
*<sup>1</sup>Royal Derby Hospital, Derby, United Kingdom, <sup>2</sup>University of Leeds, Leeds, United Kingdom, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>Southampton University Hospitals, Southampton, United Kingdom, <sup>5</sup>Aarhus University Hospital, Aarhus, Denmark, <sup>6</sup>Nouvel Hôpital Civil, Paris, France, <sup>7</sup>Gartnavel General Hospital, Glasgow, United Kingdom, <sup>8</sup>OLVG, Amsterdam, Netherlands, <sup>9</sup>Odense University Hospital, Odense, Denmark, <sup>10</sup>North Bristol NHS Trust, Bristol, United Kingdom, <sup>11</sup>Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom*

**Aim:** Treatment of inherited renal cell carcinomas (RCC) must balance oncological outcomes and renal function. This study aims to evaluate the safety, efficacy and renal function preservation of percutaneous cryoablation (PCA) for small renal masses (SRMs) in inherited RCC syndromes

**Methods:** Patients with inherited RCC syndromes with T1N0M0 RCCs ( $<7$ cm) undergoing PCA from 2015 to 2021 were identified from the European Registry for Renal Cryoablation (EuRECA). Primary outcome is local-recurrence-free survival (LRFS). Secondary outcomes include technical success, other oncological outcomes and peri-operative outcomes. Oncological outcomes were estimated using the Kaplan-Meier method. Simple proportions, chi-squares and t-tests were used to analyse peri-operative outcomes.

**Results:** 68 sessions of PCA were performed in 11 European centres on 53 patients with RCC (41 VHL, 1 HLRCC, 2 HRPC, 9 BHD) and 85 tumours were followed-up for a mean duration of 30.4 months (SD  $\pm 22.0$ ). Overall technical success rate was 99%. No intra-operative complications were noted. Major postoperative complication rate was 1.7% (1/58). 7.4% (2/27) of patients had  $>25\%$  reduction in renal function. All oncological events were observed in VHL patients. Estimated 5-year LRFS, metastasis-free survival, cancer-specific survival, and overall survival are 96.0% (95%CI 75% - 99%), 96.4% (95%CI 77% - 99%), 90.9% (95%CI 51% - 99%) and 90.9% (95%CI 51% - 99%) respectively. This study was limited by low statistical power, as hereditary RCCs are rare.

**Conclusions:** PCA of RCCs for patients with hereditary RCC SRMs appears to be safe and offers low complication rates, good renal function preservation and oncological outcomes.



**P4-6 A comparison of perioperative outcomes between robotic-assisted partial nephrectomy in the solitary kidney and standard cases**

**Miss Duaa Faruqi, Mr Oliver Hald, Mr Usman Haroon, Dr Fairleigh Reeves, Yasmin Abu Ghanem, Mr Rajesh Nair, Mr Azhar Khan, Mr Timothy O'Brien, Archana Fernando, Mr Ben Challacombe**

*<sup>1</sup>Department of Urology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom*

**Introduction:** While open partial nephrectomy has long been considered the standard approach in the solitary kidney (SK), the role of robotic-assisted partial nephrectomy (RAPN) has demonstrated oncologic efficacy in selected tumours.

**Patients and Methods:** A retrospective analysis between 2010-2022 of a tertiary institution was performed. Demographics and perioperative outcomes were reviewed. Clinical data was analysed to compare RAPN outcomes in the SK versus standard RAPN cases.

**Results:** 811 patients underwent partial nephrectomy in the 12 year period. In total, 369 patients had completed data available and were included: 26 (7%) were operated on a SK and 343 (93%) were standard cases. Patient characteristics were compared for age, BMI and gender. There was no statistical difference in tumour characteristics between the two cohorts: tumour size (2.8cm vs 3.3cm, p=0.06) and PADUA score (7.8 vs 8, p=0.53). Whilst a positive surgical margin was reported in 11 (3.2%) standard RAPN cases, none were observed in the SK cohort. Patients in the SK group reported a shorter ischemia time when compared with standard cases (12 minutes vs 17 minutes, p=0.001). Longer operative times (200 minutes vs 165 minutes, p=0.021) and higher mean blood loss (p=0.01) were observed in the SK group. There was one case of temporary dialysis and one conversion to open in the SK group. No difference was noted in complication rate or length of stay.

**Conclusions:** RAPN represents an efficient and minimally-invasive treatment option for patients with a SK, offering comparable preoperative outcomes, preservation of renal function and low surgical morbidity.

## P4-7 Functional Outcomes After Radical Nephrectomy Versus Nephron Sparing Surgery in Elderly Patients with T1a Renal Cell Carcinoma: A Multicentre Study

Dr THINESKRISHNA ANBARASAN<sup>1</sup>, Miss Flora Rogers<sup>2</sup>, Mr James Blackmur<sup>3</sup>, Miss Lucy Drummond<sup>4</sup>, Mr Ahmed Shehata<sup>5</sup>, Mr Edward Mains<sup>3</sup>, Mr Steve Leung<sup>3</sup>, Professor Alan McNeil<sup>3</sup>, Mr Simon Phipps<sup>3</sup>, Mr Alexander Laird<sup>3</sup>, et. al et

<sup>1</sup>Churchill Hospital, Oxford, United Kingdom, <sup>2</sup>Department of Urology, Queen Elizabeth University Hospital, Glasgow, United Kingdom, <sup>3</sup>Department of Urology, Western General Hospital, Edinburgh, United Kingdom, <sup>4</sup>Department of Urology, Victoria Hospital, Kirkcaldy, United Kingdom, <sup>5</sup>Department of Urology, Ninewells Hospital, Dundee, United Kingdom, <sup>6</sup>et. al,

**Introduction:** Nephron sparing surgery (NSS) remains the favoured surgical option for patients with T1a renal cancers compared to radical nephrectomy (RN). We aim to evaluate functional outcomes of NSS versus RN in elderly patients with T1a renal cell carcinoma.

**Patients and Methods:** Records for all consecutive patients with T1a renal cancer from five tertiary institutions between Jan 2012 and June 2017 were reviewed. Patients aged  $\geq 70$  years at diagnosis, surgically managed and had complete data were included.

**Results:** A total of 108 patients were included. Median age was 74 years (IQR: 72-77) and 54 (50.0%) were male. Patients with a history of ischaemic heart/ peripheral vascular disease or cerebrovascular accidents (29.9% vs 10.1%,  $p=0.017$ ), or smaller median max tumour diameter (2.80cm vs 3.45cm,  $p<0.001$ ) were more likely to undergo NSS ( $n=68$ ) compared to RN ( $n=40$ ). Amongst 82/108 patients with normal renal function at diagnosis, older age (OR:1.17,  $p=0.025$ ) and RN (OR: 3.87,  $p=0.034$ ) were independently associated with the onset of CKD (eGFR < 45) at a median follow-up of 5.2 years. Larger reductions

in eGFR (19.8% vs 12.3% at 5 years) were observed with RN vs NSS in regression model fitted with respect to time (Fig.1). No patient required renal replacement therapy. No difference in all-cause mortality was observed between RN and NSS at 5-years.

**Conclusion:** In this higher-risk cohort, a decline in renal function with progression to CKD was observed in those undergoing RN compared to NSS with no difference in mortality. This should be considered when making treatment decisions.

## P4-8 Exploring the feasibility of an ex-vivo high throughput screening platform in Kidney Cancer to improve treatment selection and novel drug discovery

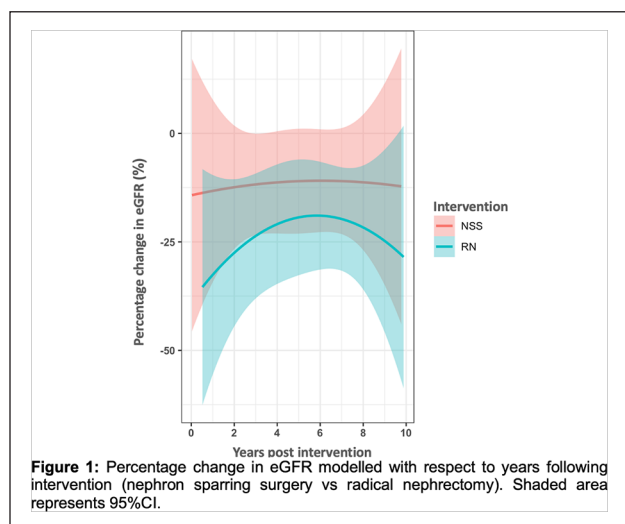
S Conroy<sup>1,2</sup>, G Wells<sup>1</sup>, H Gagg<sup>1</sup>, S Hansford<sup>1</sup>, J Rantala<sup>1</sup>, T Helleday<sup>1</sup>, M G Cumberbatch<sup>1,2</sup>, S Danson<sup>1,2</sup>, J WF Catto<sup>1,2</sup>

<sup>1</sup>Department of Oncology and Metabolism, University of Sheffield, UK, <sup>2</sup>Sheffield Teaching Hospitals NHS Foundation Trust, UK

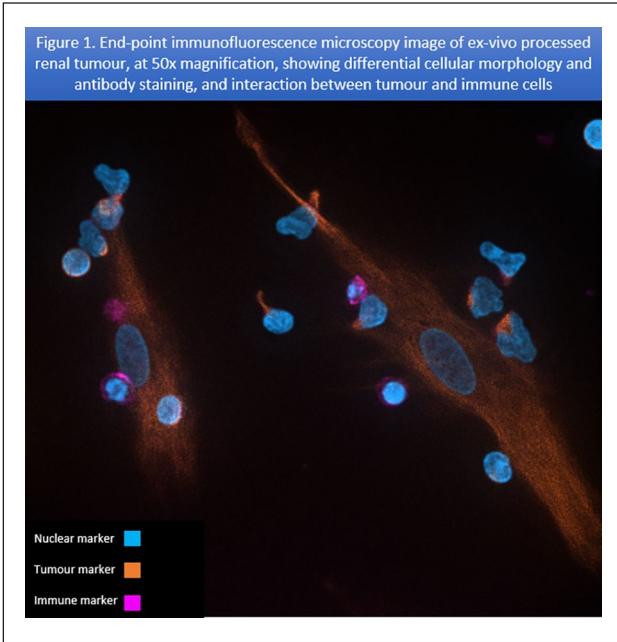
**Introduction:** Despite increased awareness of complex tumour biology and therapeutic advances, kidney cancer (KC) outcomes remain poor. Ex-vivo high-throughput drug screening - a novel pre-clinical model - may enhance individualised treatment selection and expedite novel drug discovery. Here, we present preliminary experiences of ex-vivo screening in KC.

**Patients and Methods:** Patients undergoing radical nephrectomy who provided informed consent were included (EVIDENT:STH20854). Tumours were transported fresh from theatre to histopathology for sampling. Tumour samples were dissociated into composite single-cell suspensions (tumour/stromal/immune) before seeding on pre-loaded drug plates. Personalised drug sensitivity profiles were generated using end-point metabolic (CellTiterGlo(CTG)) and immunofluorescence microscopy (IF) assays. Primary outcome: to evaluate methodological feasibility. Secondary outcomes: to explore individual drug response profiles and explore cell-type-specific IF analysis. Drug responses were calculated using Area Under Curve (AUC) of concentration replicates (GRMetrics; RStudio:4.1.3). AUC < 0.7 equated to phenotypic response.

**Results:** All ten patients approached consented to participate; this included eight(80%) renal cell carcinomas and two(20%) metastatic uveal melanomas. Ex-vivo methodological success (tumour-to-CTG) was 100%. Early drug screening analysis suggested mTOR inhibition was most effective (80% responded). The two melanomas responded to MEK/PI3K inhibition. Early IF results were promising, allowing for identification of differential cellular components (Figure.1) – including immune complement – and delivering cell-type-specific drug responses.







**Conclusions:** Ex-vivo screening in KC is promising with excellent methodological success. This novel approach may provide personalised phenotypic data to augment treatment selection, and may be particularly useful in rare cancers. Further validation using genomic, clinical follow-up, and larger drug screens are required.

**P4-9 Association of Y chromosome genes with survival outcomes in men with renal cancer**

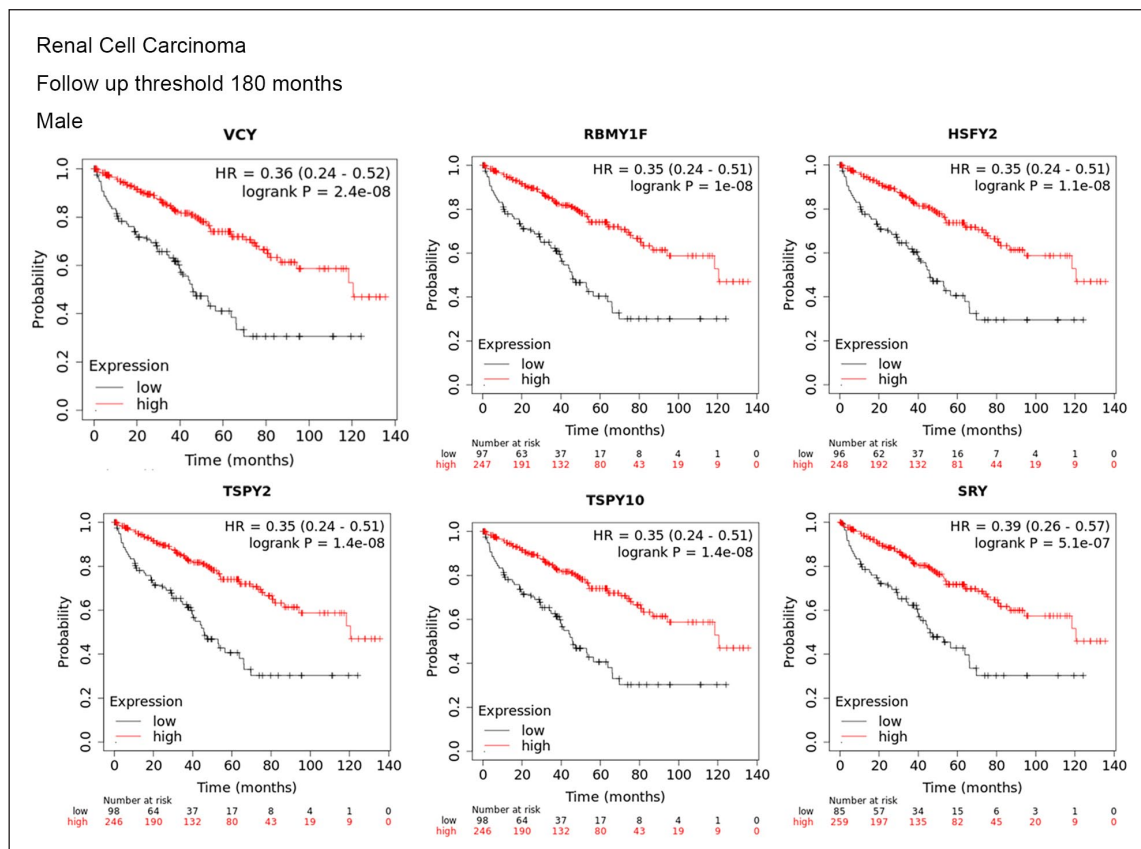
**Mr Diarmuid Sugrue<sup>1</sup>, Ms Clare O'Connell<sup>1</sup>, Mr Paul Ryan<sup>1</sup>, Ms Laure Marignol<sup>2</sup>, Ms Katie Valentine<sup>1</sup>, Professor Thomas Lynch<sup>1</sup>**

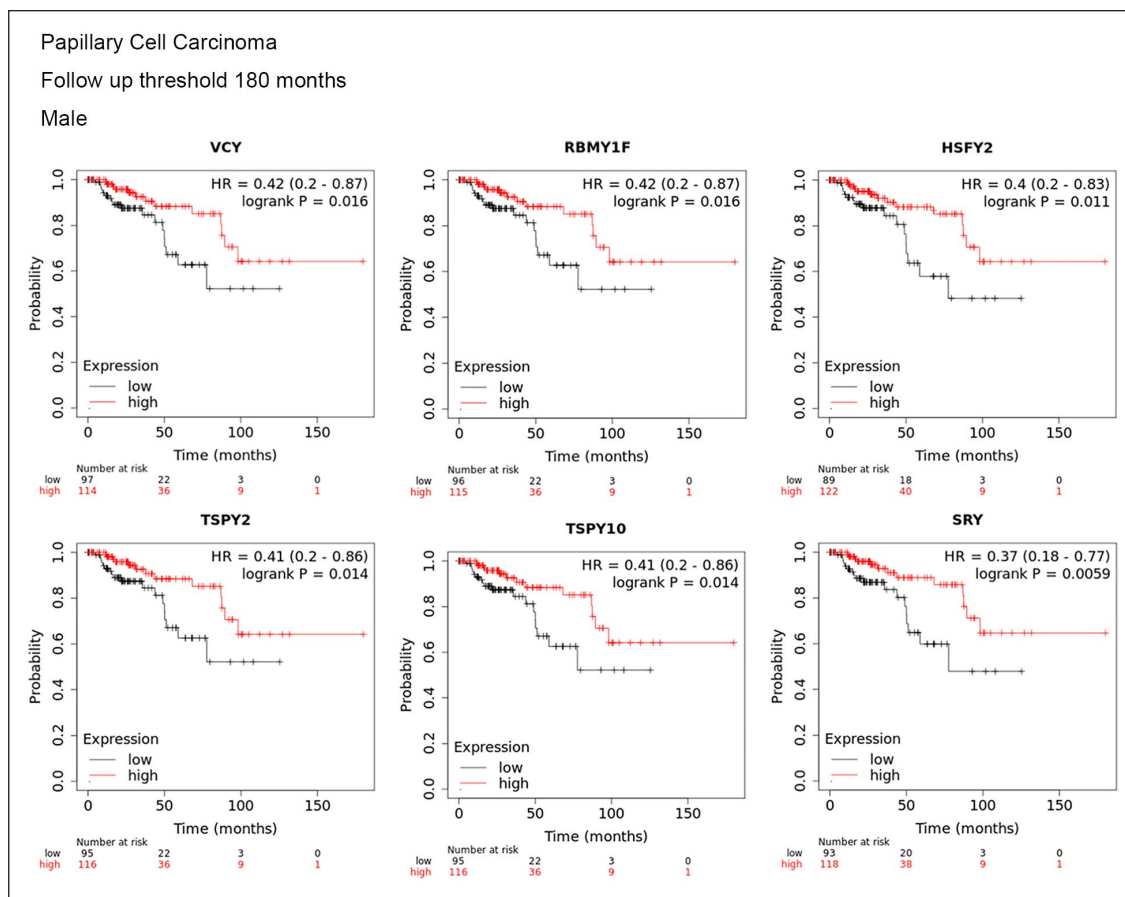
<sup>1</sup>St James Hospital, Dublin, Ireland, <sup>2</sup>Applied Radiation Therapy Trinity, Discipline of Radiation Therapy, Trinity College Dublin, Dublin, Ireland

**Introduction:** Y chromosome loss is a frequent event in both clear cells and papillary renal carcinoma. This in silico study sought to investigate the association between genes located on Y chromosomes and survival outcomes of men with renal cancer.

**Materials & Methods:** A total of 70 Y chromosome genes were analysed with KMPLOT ([www.kmplot.com](http://www.kmplot.com)). mRNA expression data for N= 948 men with clear cell (ccRCC), and N=292 with papillary renal cancer (pRCC), were analysed from the gene expression omnibus, European Genome Archive, and The Cancer Genome Atlas databases. The median survival of men dichotomised to low or high expression of the gene was recorded alongside the hazard ratio (HZ), 95% confidence interval and p-value.

**Results:** In ccRCC, 56 genes were significantly associated with overall survival. 48 had a hazard ratio was < 1, indicating that high expression was associated with longer





survival than low expression levels in these men. These included VCY, RBMY1F, HSFY2, TSPY2 and TSPY10. In pRCC, 35 of 51 genes were significantly associated with overall survival had a hazard ratio  $< 1$ . With  $HR=0.37$ , SRY was the gene with the lowest HZ. In these men, the median survival time was 50 months in the low expression cohort and 89.47 in the high expression group. When the list of genes with  $HZ < 1$  were compared between the two cohorts, 35 genes were common to both types of renal cancer.

**Conclusion:** Genes located on the Y chromosome could have relevance to survival outcomes in men with renal cancer.

#### P4-10 Impact of Surgical Volume on Oncological Outcomes and Complications in Upper Tract Urothelial Cell Carcinoma: Results from a British Association of Urological Surgeons Audit

Mr Saeed Dabestani<sup>1</sup>, Mr Ravi Barod<sup>2</sup>, Mr Rajesh Nair<sup>3</sup>, Mrs Yasmin Abu-Ghanem<sup>6</sup>, Mrs Sarah Fowler<sup>4</sup>, Mr Steve Bromage<sup>5</sup>

<sup>1</sup>Kristianstad Central Hospital, Dep of Urology, Region Skane, Lund University, Skane, Sweden, Malmö, Sweden, <sup>2</sup>Royal Free London, Urology Department, Specialist Centre for Kidney Cancer, London, UK, <sup>3</sup>Guy's and St Thomas', Urology Department, London, UK,

<sup>4</sup>British Association of Urological Surgeons, London, UK, <sup>5</sup>Stepping Hill hospital, Urology Department, Stockport, UK, <sup>6</sup>Kings College Hospital, London, UK

**Introduction:** Upper Tract Urothelial cell Carcinoma (UTUC) is a rare but aggressive cancer. Nephroureterectomy (NUx) is the primary treatment for UTUC. The risk of UTUC recurrence after NUx is a critical consideration and may be affected by individual surgeons' and centres' surgical volumes respectively.

**Methods:** The British Association of Urological Surgeons (BAUS) conducted an audit of nephroureterectomies for UTUC performed between 2017 and 2019 across 132 centres. Annual surgical volumes were divided into 4 tiers per surgeon ( $\leq 5$ , 6-10, 11-15,  $\geq 16$  cases) and per site ( $\leq 10$ , 11-20, 21-30,  $\geq 31$  cases) respectively. Anonymized data was collected until January 2022, allowing for a 2-year follow-up. Descriptive, survival and non-parametric statistics were applied for OS, PFS and complication rates.

**Results:** 1440 cases were available for current analyses. Mean age was 71 years and 65.5% were male. Median follow-up was 21 months (IQR 6-32). Minimally invasive surgery was performed in 90% of cases (of which 15% were robot-assisted). Postoperative Mitomycin instillation was provided in 42% of cases. There were no significant differences in OS and PFS between the categories of surgeon

volumes (OS  $p=0.600$ , PFS  $p=0.152$ ) nor site volumes (OS  $p=0.235$ , PFS  $p=0.111$ ). As for complication rates, a trend towards lower complication rates was noted with higher surgical volume.

**Conclusions:** Surgical volume may not significantly impact oncological outcomes in UTUC. However, higher surgical volume may improve complication rates. The study is limited by its retrospective nature.

**ePoster Session 5 Management/ Governance/Education/Quality Improvement, Monday 19 June, 1630-1730, Hall 10**

**P5-1 Evolving trends in route to diagnosis for urological cancers in England: a 12-year evaluation**

**Miss Samantha Conroy<sup>1,2</sup>, Mr Marcus Cumberbatch<sup>1,2</sup>, Prof James Catto<sup>1,2</sup>**

<sup>1</sup>Department of Oncology and Metabolism, University Of Sheffield, Sheffield, United Kingdom, <sup>2</sup>Sheffield Teaching Hospitals, Sheffield, United Kingdom

**Introduction:** 2-week wait(2WW) pathways were developed to streamline referrals for suspected cancer, increase early-stage diagnoses, reduce referral inequalities, and improve cancer-specific survival. Here, we describe the trends in routes to urological cancer diagnoses from 2006-2018.

**Methods:** Data was extracted from NHS Digital “Routes to Diagnosis” database (published:17/03/22) for ICD10-coded urological cancers (Prostate Cancer(PC), Bladder/Urethral Cancer(BC), Bladder Carcinoma-in-situ(BCis), Upper Tract Urothelial Cancer(UTUC), Kidney Cancer(KC) and Testicular Cancer(TC)). PC and TC were excluded

from sex-specific and TC from age-specific analysis. Prism(v9.4.1) was used for analysis.

**Results:** Between 2006-2018, 1,001,235 patients were diagnosed with urological cancers. Most patients (48%(478,024)) presented through GP/outpatient pathways(OPD), followed by 2WW (34%(339,631)), and emergency (13%(124,778)) routes. Figure.1 depicts cancer-specific trends by route. 2WW performed well for TC and PC, where PC saw the largest increase (24%(23% to 57%)) in 2WW diagnoses. However, 2WW performed poorly for BCis patients, with a reduction in 2WW diagnoses of 11%(26% to 15%) and reciprocal increase in OPD diagnoses of 13%(54% to 67%). KC and UTUC had the highest proportion of emergency presentations. Older (>80yrs) and younger (<50yrs) patients were significantly less likely be diagnosed through 2WW ( $p=0.0001$ ). Significant sex-specific differences in 2WW diagnoses were identified for all cancers, but most notable in BC.

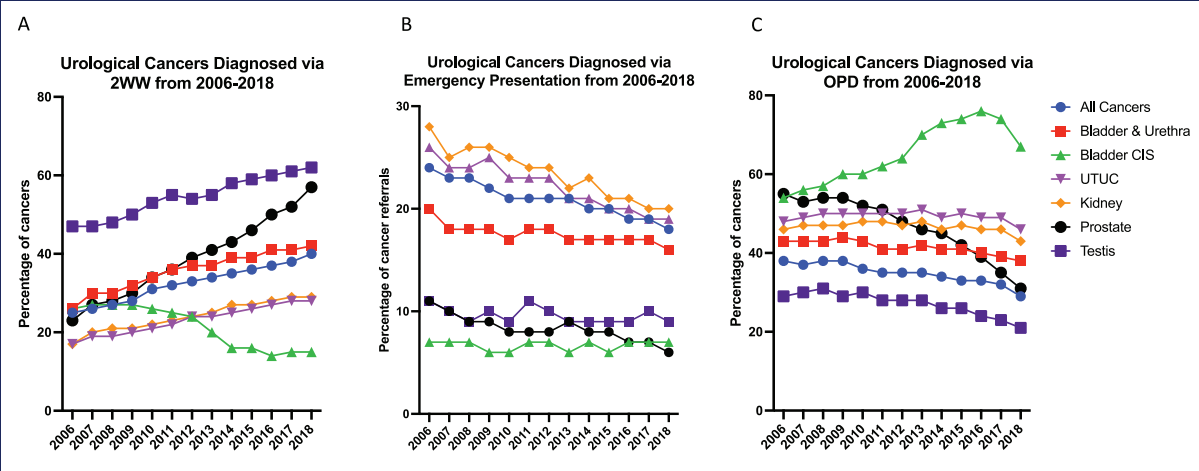
**Conclusion:** Most patients with urological cancers were diagnosed through non-2WW pathways between 2006-2018, although the trend is changing. 2WW is ineffective for patients with BCis and at extremes of age. Sex-specific differences in 2WW pathways exist. Further analysis exploring social deprivation, geographic variation, and impact on outcomes are required.

**P5-2 Full stream ahead: utilising streamlining to improve efficiency in the Urology Multi-Disciplinary Team Meeting (MDTM)**

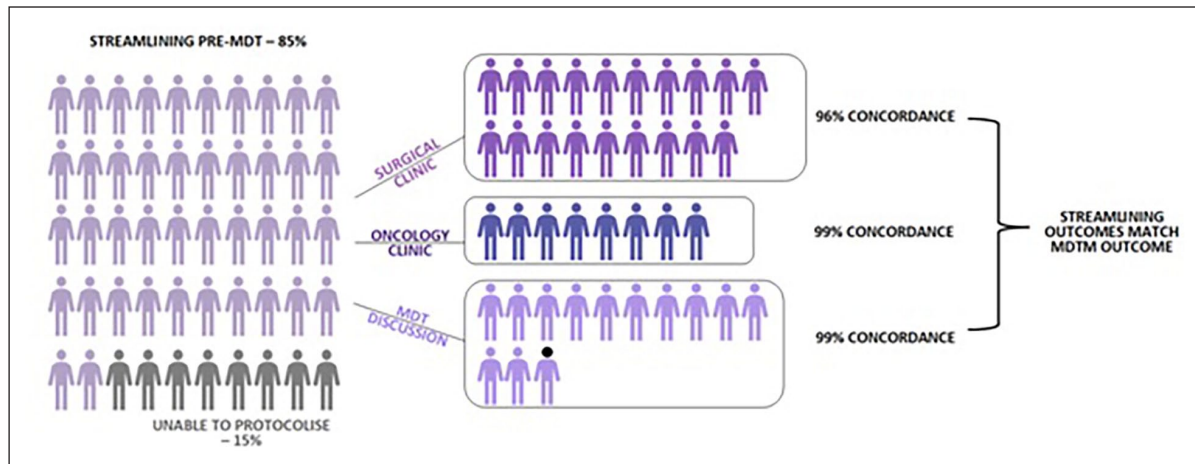
**Miss Rachel Oliver<sup>1,2</sup>, Dr Melika Moghim<sup>2,3</sup>, Mr Shrey Palmar<sup>3</sup>, Mr John Hines<sup>2,4</sup>**

<sup>1</sup>North Middlesex University Hospital, London, United Kingdom, <sup>2</sup>North Central London Cancer Alliance, London, United Kingdom, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>University College London Hospital, London, United Kingdom

Figure 1: Trends in urological cancer routes to diagnosis between 2006-2018 for: A – proportion of cancers diagnosed via 2WW; B – proportion of cancers diagnosed as emergencies; C – proportion of cancers diagnosed through GP/outpatient appointments







**Introduction:** To safeguard its continued success, the modern Multi-Disciplinary Team Meeting (MDTM) must overcome major challenges. With the rising volume of cancer referrals, MDTMs risk being overburdened resulting in insufficient time for complex case discussion. Following Independent Cancer Taskforce Report recommendations, NHS England has issued guidance on streamlining MDTMs to improve performance. Our aim was to assess the feasibility of streamlining at regional MDTM level and impact on meeting efficiency.

**Patients and Methods:** All new prostate cancer referrals to our regional cancer MDT were streamlined prior to the MDTM to either full MDTM discussion or directly to specialist clinic without full MDTM discussion, based on compliance with Standard of Care protocol. Concordance between pre-MDTM streamlined outcomes and MDTM outcomes was then assessed.

**Results:** Over a 16 week period 605 new prostate cancer referrals were discussed at our MDTM. Of these, 85% contained the minimum dataset required for streamlining to full MDTM discussion or specialist surgical or oncology clinic without full MDTM discussion. The outcome of streamlining matched the MDTM outcome in 98% (figure 1). The use of streamlining would have avoided full MDTM discussion in 355 cases (59%) leading to a mean reduction in meeting duration from 248 to 102 minutes.

**Conclusions:** We demonstrate streamlining can be successfully applied at regional MDTM level, improving meeting efficiency by significantly reducing the number of cases for full discussion. We anticipate this will allow the MDTM to focus more time on complex cases and lead to improved compliance with national MDTM quorate requirements.

### P5-3 PIT (Patient Integrated Teams) Urology MDT - a novel integrated approach between Primary and Secondary care to aid the elective recovery programme

Dr Ross Cunningham<sup>1</sup>, Mr Shiv Pandian, Dr James Harrison, Dr Sanjay Patel

<sup>1</sup>Evergreen Primary Care Centre, Enfield, United Kingdom

**Introduction:** This project is part of the 'elective recovery' programme: optimising non-admitted waiting-lists. We set up a working group to create a sustainable and effective method for reviewing patients awaiting an appointment at our local DGH. We conducted a GP-led desktop review of patient records who were accepted under Urology but awaiting a first appointment.

**Materials and Methods:** Using Health-e-Intent datasets, we identified and reviewed cases, classifying them as deemed suitable for MDT discussion with a Urologist or not. A virtual MDT between the reviewing GP and the Consultant Urologist was then completed, and we validated cases as either still requiring an outpatient appointment, or suitable for management via primary care with specialist advice. Rigorous QI methodology was used throughout.

**Results:** The GP (Dr Cunningham) reviewed the primary care records of 81 patients from our PCN. 16 of the referrals originated in secondary (rather than primary) care. 20 were downgraded 2-week-wait pathway referrals. 33 of the remaining 45 were identified for review in virtual MDT. Of these 11 (33%) were then deemed suitable for removal from the elective waiting list with advice. This data seems replicable across PDSA cycles.

**Conclusions:** Our findings suggest that ~25% of patients on the Urology waiting-list could be safely managed in primary care with specialist advice. The clinical situations of patients may change whilst on the waiting list, and these require review to ensure the list remains accurate and relevant. We are now expanding this work to other PCNs within NCL.

### P5-4 Improving access to neuro-urology for patients undergoing neurorehabilitation

Mr Adeoye Oluwakanyinsola Debo-Aina<sup>1</sup>, Dr Lenyalo King<sup>1</sup>, Dr Alifa Isaacs-Itua<sup>1</sup>, Ms Claire Taylor<sup>1,2</sup>, Mr Nicholas Faure-Walker<sup>1,3</sup>

<sup>1</sup>Kings College Hospital NHS Foundation Trust, London, United Kingdom, <sup>2</sup>Guy's and St Thomas NHS Foundation Trust, London, United Kingdom, <sup>3</sup>School of Immunology and microbial Science, Faculty of Life Sciences & Medicine, King's College London, London, United Kingdom

**Introduction:** Patients undergoing neuro-rehabilitation frequently require specialist neuro-urological management of neurogenic lower urinary tract dysfunction. CoVID restrictions have negatively impacted outpatient appointment (OPA) waiting times. To redress this and facilitate earlier investigation and management, a specialist multi-disciplinary team meeting (MDM) was initiated.

**Methods:** A bi-monthly, 30 minute, virtual MDM including neuro-urologists, neuro-rehabilitation physicians, specialist nurses and physiotherapists was initiated in May 2022. Patient details and MDM outcomes were recorded in a prospectively maintained database.

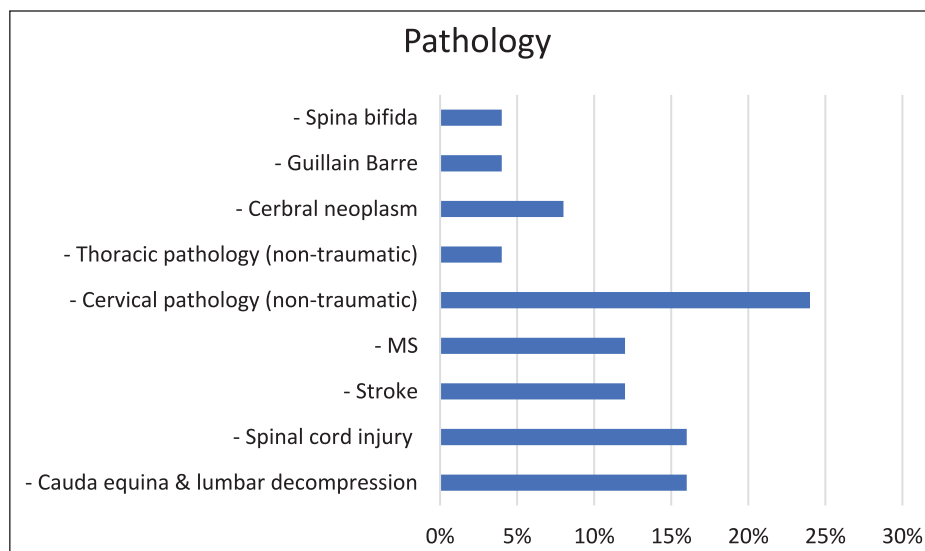
**Results:** To September 2022, 25 patients (M= 12 (48%): F= 13 (52%)) with mean age 61.8y (range 35-80) were discussed. Neuro-pathology included cauda equina syndrome - 4 (16%), traumatic spinal cord injury - 4(16%),

Stroke - 3 (12%), MS - 3 (12 %), non-traumatic cervical and thoracic pathologies - 7 (28%), Cerebral neoplasm - 2 (8%), Guillain Barre - 2 (4%) and Spina bifida - 2 (4%). Mean inpatient stay was 13.7 weeks (range 2.2-68.4) and 9 (32%) patients required catheterisation when discussed. MDM outcomes included trial without catheter - 2 (8%), intermittent-catheterisation - 2 (8%), urodynamics - 4 (16%), Suprapubic-catheterisation - 1(4%), OPA - 3 (12%) and medical advice in 13 (52%). The MDM avoided 22 OPAs (4.4 per month). Based on current wait times, 682 patient waiting weeks were saved, equating to mean reduction of 27.3 weeks per patient.

**Conclusion:** The neurorehabilitation urology MDM reduced waiting times for initial management by 6 months. This specialist MDT also reduced the need for OPAs in a population who often find outpatient attendance very challenging.

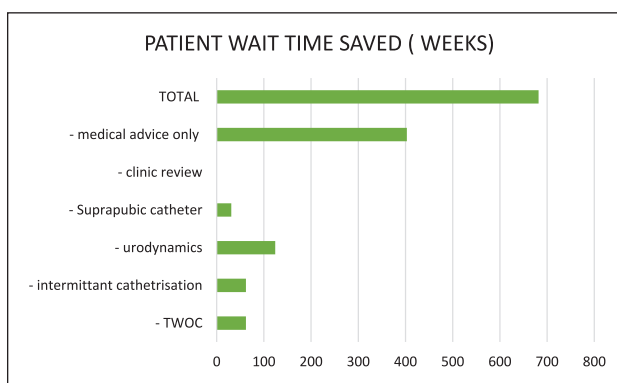
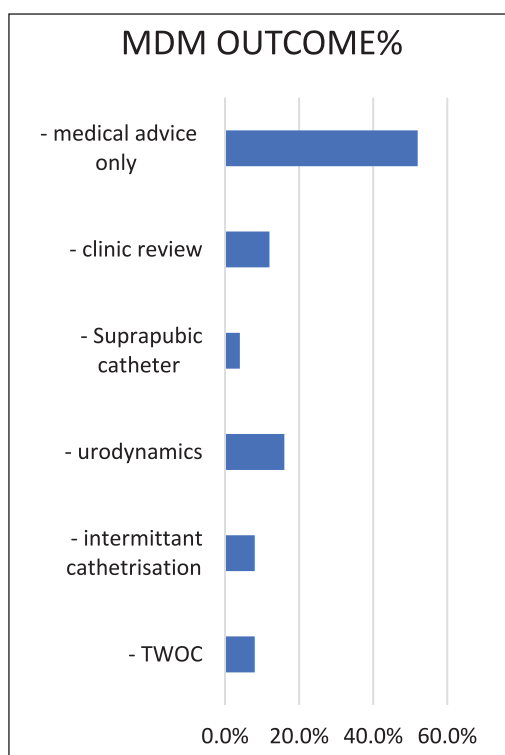
Neurorehabilitation Urology MDT Audit:

Pathology	No. Patients	Percentage %
- Cauda equina & lumbar decompression	4	16%
- Spinal cord injury	4	16%
- Stroke	3	12%
- MS	3	12%
- Cervical pathology (non-traumatic)	6	24%
- Thoracic pathology (non-traumatic)	1	4%
- Cerebral neoplasm	2	8%
- Guillain Barre	1	4%
- Spina bifida	1	4%
Total	25	

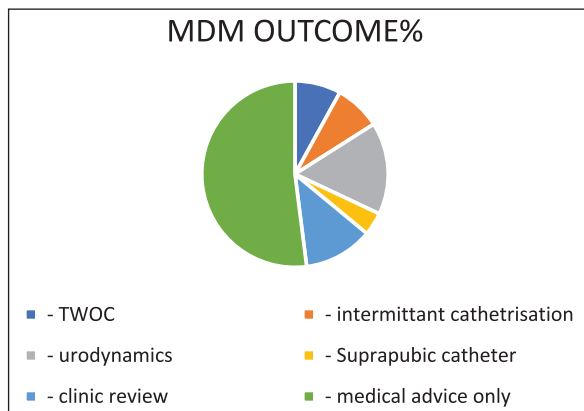


MDM Outcomes and Saved Patient Waiting times.

Advice:	Male	%	Female	%	TOTAL	%	Patient wait time saved* (weeks)
<b>TWOC</b>	1	7.7%	1	8.3%	2	8.0%	62
<b>Intermittent Catheterisation</b>	0	0.0%	2	16.7%	2	8.0%	62
<b>Urodynamics</b>	3	23.1%	1	8.3%	4	16.0%	124
<b>Suprapubic Catheter</b>	0	0.0%	1	8.3%	1	4.0%	31
<b>Clinic Review</b>	2	15.4%	1	8.3%	3	12.0%	0
<b>Medical advice only</b>	7	53.8%	6	50.0%	13	52.0%	403
<b>TOTAL</b>	<b>13</b>		<b>12</b>		<b>25</b>		<b>682</b>



Clinic Wait time out comes:	
<b>Current Clinic Wait time (n)</b>	31
<b>Clinic appointment saved (n)</b>	22
<b>Clinic saved per month (n)</b>	4.4
<b>Total patient wait time reduced (weeks)</b>	682
<b>Wait time per patient discussed ( weeks)</b>	27.28



**P5-5 Improving shared decision making in elective urological surgery using a digital consent platform: a prospective study**

**Mr Martin John Connor<sup>1,2</sup>, Dr Daniel Hazelton<sup>1</sup>, Dr Nina Dela Cruz<sup>1</sup>, Miss Sarah Brown<sup>1</sup>, Mr Allaudin Issa<sup>1</sup>, Mr Nikhil Mayor<sup>1,2</sup>, Mr Jerry Tangle<sup>1</sup>, Ms Lona Vyas<sup>1</sup>, Mr Bijan Khoubehi<sup>1</sup>, Mr Nishant Bedi<sup>1</sup>, Mr Hama Attar<sup>1</sup>, Mr Michael Dinneen<sup>1</sup>**

<sup>1</sup>Department of Urology, Chelsea and Westminster NHS Foundation Trust, London, United Kingdom, <sup>2</sup>Division of Surgery, Department of Surgery and Cancer, Imperial College London, United Kingdom

**Introduction:** Shared decision making (SDM) is a process in which clinicians and patients work together to come to an optimal treatment decision. This may enhance

SDM-Q-9 (Likert Scale [0] "completely disagree" to "completely agree" [5]) "My doctor..."	Digital Consent, Mean score, (+/-SD)
made clear that a decision needs to be made	4.34 (0.83)
wanted to know exactly how I want to be involved in making the decision	3.98 (1.10)
told me that there are different options for treating my medical condition	3.88 (1.15)
precisely explained the advantages and disadvantages of the treatment options.	4.09 (0.95)
helped me understand all the information	4.26 (0.85)
and I asked me which treatment option I prefer	3.91 (1.22)
and I thoroughly weighed the different treatment options	3.91 (1.22)
and I selected a treatment option together	3.98 (1.16)
and I reached an agreement on how to proceed	4.27 (0.87)

the quality of informed consent. Digital supplementation of this offers patients time to remotely review the risks and benefits of their proposed procedure well in advance of surgery, complemented by visual aids and BAUS-information leaflets.

**Methods:** All patients undergoing elective urological surgery in a single centre (March-July/22). Invitation via protected text message/email to a digital consent platform (Concentric Health, UK). Procedure-specific risk profiles, videos, BAUS-leaflets, anaesthetic and peri-operative information embedded. On the day, surgeons had dedicated electronic tablets to perform e-consent uploaded to electronic health records (Cerner, USA). Study questionnaire completed, including validated SDM-Q-9 tool (Likert 0-5).

**Results:** Overall, 63 patients completed the study questionnaire. Participants mean age was 58.9 (SD 17.2) years, with 80.9% male (51/63) and 19.0% (12/63) female, respectively. 69.8% (44/63) patients "received and pre-reviewed" their digital consent form prior to the day of surgery. Overall, 69.8% (44/63) correctly recalled the proposed operation and 63.5% (40/63) reported reading attached patient information leaflets. 47.6% (30/63) of participants "strongly agree" or "completely agree" to understanding the risks and benefits associated with their operation from the digital consent platform prior to verbal consent with their surgeon. The SDM-Q-9 results (Table 1) reported high mean scores  $\geq 4.0$  ("strongly agree") in 4 of 9 domains.

**Conclusion:** The integration of a digital consent platform into our elective urological surgery pathway reported high levels of shared decision making.

#### P5-6 The Use of Clinical Teaching Associates (CTAs) in Teaching Male Intimate Examination to Medical Students: A Randomised Controlled Trial

Mr Anthony Vijayanathan<sup>1</sup>, Ms Deborah Bruce<sup>2</sup>, Mr Chu Yiu<sup>3</sup>, Dr Findlay MacAskill<sup>1</sup>, Mr Jonathan Makanjuola<sup>4</sup>, Mr Arun Sahai<sup>2</sup>

<sup>1</sup>King's College London, London, United Kingdom, <sup>2</sup>Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom, <sup>3</sup>Queen Elizabeth Hospital, London, United Kingdom, <sup>4</sup>King's College Hospital Foundation Trust, London, United Kingdom

**Introduction:** Genital examinations are challenging for medical students to learn in part due practice opportunities. In an attempt to address this, we conducted a randomised controlled trial teaching male intimate examinations to third year medical students using CTAs in addition to the standard curriculum.

**Materials and Methods:** A single-blinded parallel-group RCT was conducted, recruiting 96 students. The control group was only given access to the current curriculum (lectures, videos, models) whilst the other group was offered this and a teaching session with CTAs, who are professionally trained, and provided a tutorial as well as allowing students to examine them. Assessment took the form of a bespoke Objective Structured Clinical Examination (OSCE) and a self-assessment confidence questionnaire before and after the teaching.

**Results:** Assessed by an experienced clinician, the group receiving the additional CTAs teaching scored significantly higher than the control group in the OSCE in 55% (n = 11) of domains. This included, but was not limited to, competence at performing hernial orifice (p = <0.001), testicular (p = 0.002), penile (p = <0.001) and prostate examinations (p = 0.026). Assessment by the CTA, acting as the patient, also showed a significant difference in favour of the intervention group in all domains and included whether the patient felt safe (p < 0.001) and whether the patient would see the student again (p < 0.001).

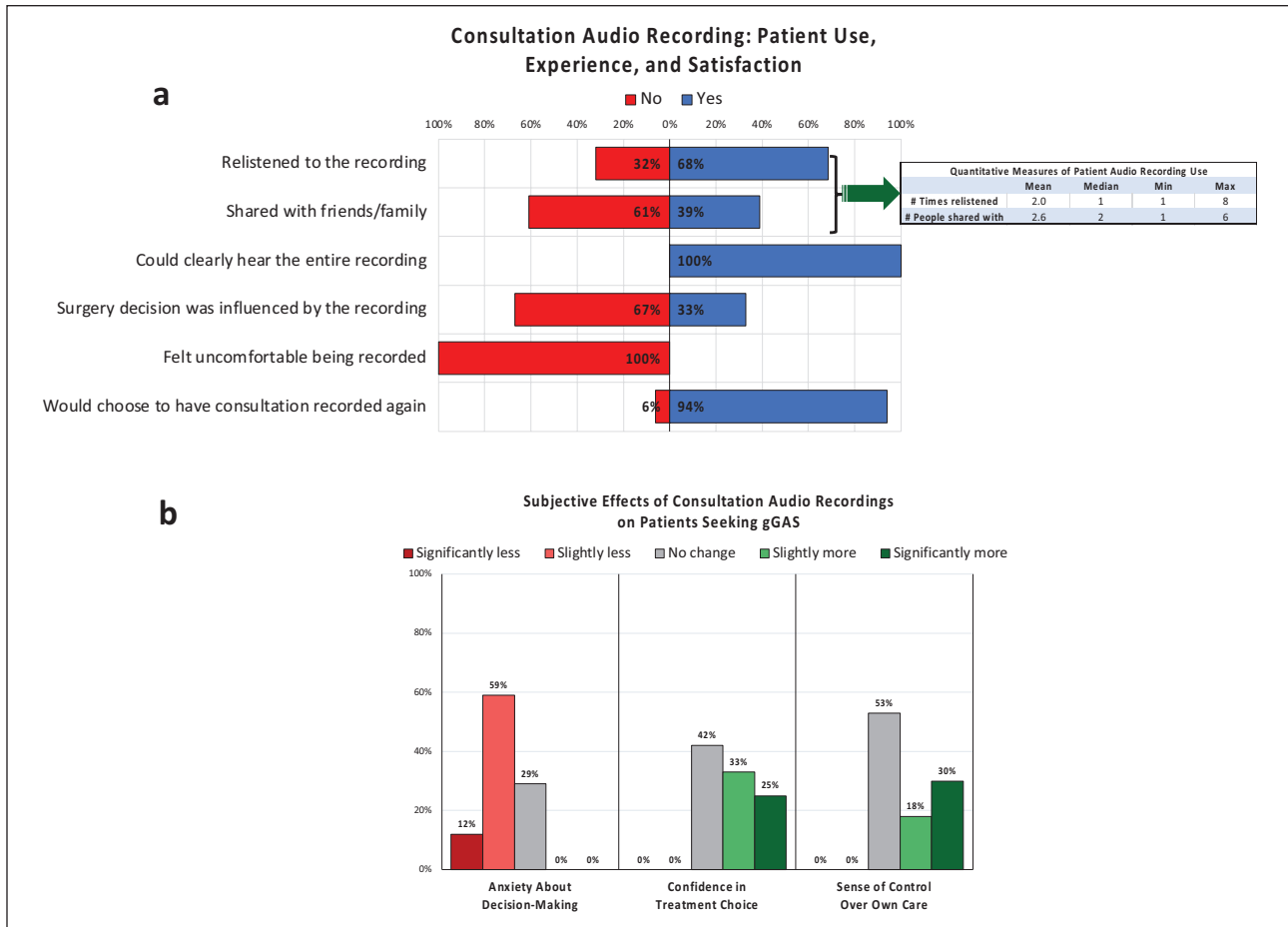
**Conclusions:** The use of CTAs for teaching male intimate examination results in significantly greater student competence and confidence and their use should be considered into medical schools.

#### P5-7 Use of Audio Recordings in the Consultation of Patients Seeking Genital Gender-Affirming Surgery: An Opportunity for Broader Application Throughout Urology, and Development of a Novel Smartphone App

Dr. Shannon Smith<sup>1</sup>, Dr Sandeep Sandhu<sup>1</sup>, Miss. Jenna Stelmar<sup>1</sup>, Miss. Grace Lee<sup>1</sup>, Dr. Maurice Garcia<sup>1</sup>

<sup>1</sup>Cedars-Sinai Medical Center, Los Angeles, United States

**Introduction:** Patient recall of medical information is often poor and inaccurate. Audio recordings for patient consultation has been described, but, to our knowledge,



**Figure 1.**

not specifically for consultations pertaining to gender-affirming surgery. Our aim was to determine whether, and specifically how, consultation recordings for patients presenting for genital gender-affirming surgery would be of benefit.

**Methods:** Patients were offered the opportunity to record their consultation. One copy was provided to the patient and a second copy was retained for medical record-keeping. An anonymous, internet-based survey of these patients was undertaken to query its utility post-visit.

In parallel, we developed a smart-phone App to simplify the technological aspect of our approach.

**Results:** 71/72 (98.6%) patients consented to audio recording of their consultation. 50/71 (70%) participants responded to our survey (Figure 1a), of which, a large proportion reported benefit and viewed the option of recording their consultation positively (Figure 1b).

We developed a smartphone App (Visit Replay, iOS and Android) (U.S. and International Patents Pending) that: 1. Records up to 90-minute consultations; 2. Can attach additional patient-education files (manuscripts, documents, audiovisual materials); 3. Attach hyper-links, such as studies or website to the associated email; and 4. Emails

the audio and attachments to the patient, followed by immediate deletion of patients' files.

**Conclusions:** Routine audio recording of patient consultations is highly beneficial, with little provider cost. This approach may have applications in broader clinical contexts with complex, nuanced discussions pertaining to patient care. Since patients face similar challenges during medical consultations globally, larger studies are warranted.

### P5-8 High Intensity Theatre Lists in Urology: Implementing 'pit-stop' principles to increase theatre efficiency

**Mr Ahmed Khattak<sup>1</sup>, Dr Marc Furrer<sup>1</sup>, Ms Nisha Pindoria<sup>1</sup>, Mr Ata Jaffer<sup>1</sup>, Dr Kariem El-Boghdady<sup>1</sup>, Dr Imran Ahmad<sup>1</sup>, Mr Ben Challacombe<sup>1</sup>, Mr Rick Popert<sup>1</sup>, Mr Jonathan Noel<sup>1</sup>**

<sup>1</sup>Guy's and St Thomas' NHS Trust, London, United Kingdom

**Introduction:** According to RCS England, greater than 400,000 patients are waiting over 1 year for procedures. To address this, the anaesthetic team in our institution utilises efficient pit-stop principles of Formula 1. The high intensity theatre (HIT) list represents a solution to tackle

**Table 1.** Breakdown of outcomes per procedure.

Procedure	Number of cases performed on HIT list	Mean number of cases usually performed on 2 elective lists (Departmental)	Number of complications	Mean day of discharge
Minors (Circumcision, Scrotal Procedures)	18 (10 circumcisions, 8 scrotal procedures)	10	2	0
Robotic Radical Prostatectomies	8	4	0	1
Aquablation	10*	4	1	2.2
<b>Totals</b>	<b>36</b>	<b>18</b>	<b>3</b>	<b>N/A</b>

\*Highest volume performed in a single centre in one day.

elective recovery in surgery overall. We present our experience of the HIT list protocol.

**Methods:** 3 Urology HIT lists were performed between July-November 2022. Two parallel surgical teams were supplemented by a 50% increase in staffing as compared to conventional theatre models.

Patients were identified as suitable candidates based on ASA score inclusive of performance status, home support and consent to partake in the HIT protocol. Procedure specific pre-operative seminars allowing for anesthetic assessment and pre-op tests were carried out 2 weeks before surgery. Outcomes measured were number of cases performed on HIT list versus departmental mean for similar cases in usual elective settings, mean day of discharge and post-operative complications.

**Results:** In total 36 cases (median ASA 2) were performed over 3 separate HIT list days. Outcomes are detailed in table 1.

There were two Clavien-Dindo grade 2 complications (1 UTI and 1 wound infection), and one grade 3 complication (insertion of one suture for wound dehiscence after circumcision). Mean day of discharge was unaffected by the HIT list as compared to usual practice.

**Conclusions:** Cost analysis comparing regular elective sessions with HIT list are being undertaken, however, implementing HIT mentality is an innovative and safe method to ameliorate the growing burden associate with waiting lists.

### **P5-9 How Good is Your Male LUTS Service Really? Retrospective Review of Case Selection from over 1000 Patients Attending For HoLEP Surgery in a Single Centre**

**Mr Mohamed Hassan, Mr Anish Pushkaran, Mr M Vizreanu, Mr Richaz Raheem, Mr Angus Campbell, Mr Barnaby Barrass, Mr Mohamed Asad Saleemi, Mr Farooq Khan**

<sup>1</sup>Luton & Dunstable NHS Foundation Trust, Luton, United Kingdom

**Introduction:** In an ever increasing litigious environment careful selection for bladder outlet surgery is important,

particularly with the multitude of treatments available. Guidelines suggest, amongst others, a valid flow test, IPSS score and PSA evaluation. Pre-operative patient evaluation can be variable and incomplete especially in non-dedicated male LUTS clinics. We present our patient work-up data from over 1000 cases listed for bladder outlet surgery (HoLEP) in a single unit.

**Patients:** 1096 patient notes were reviewed from our HoLEP dataset with electronic notes, blood tests and follow-up letters including IPSS scores and flow tests.

**Results:** 1096 listed for HoLEP surgery ; 566 retention cases (51.6%) and 520 for LUTS (48.4%). Of the pre-operative LUTS patients listed for HoLEP surgery 82.8% (n=439) had a recorded valid flow test, 79.6% (n=422) a recorded IPSS and only 72% (n=382) had a recorded PSA. Post-operative HoLEP data capture at 3 months post surgery; flow test 78.5% (n=416), IPSS 77.7% (n=412) and PSA 69.4% (n=368).

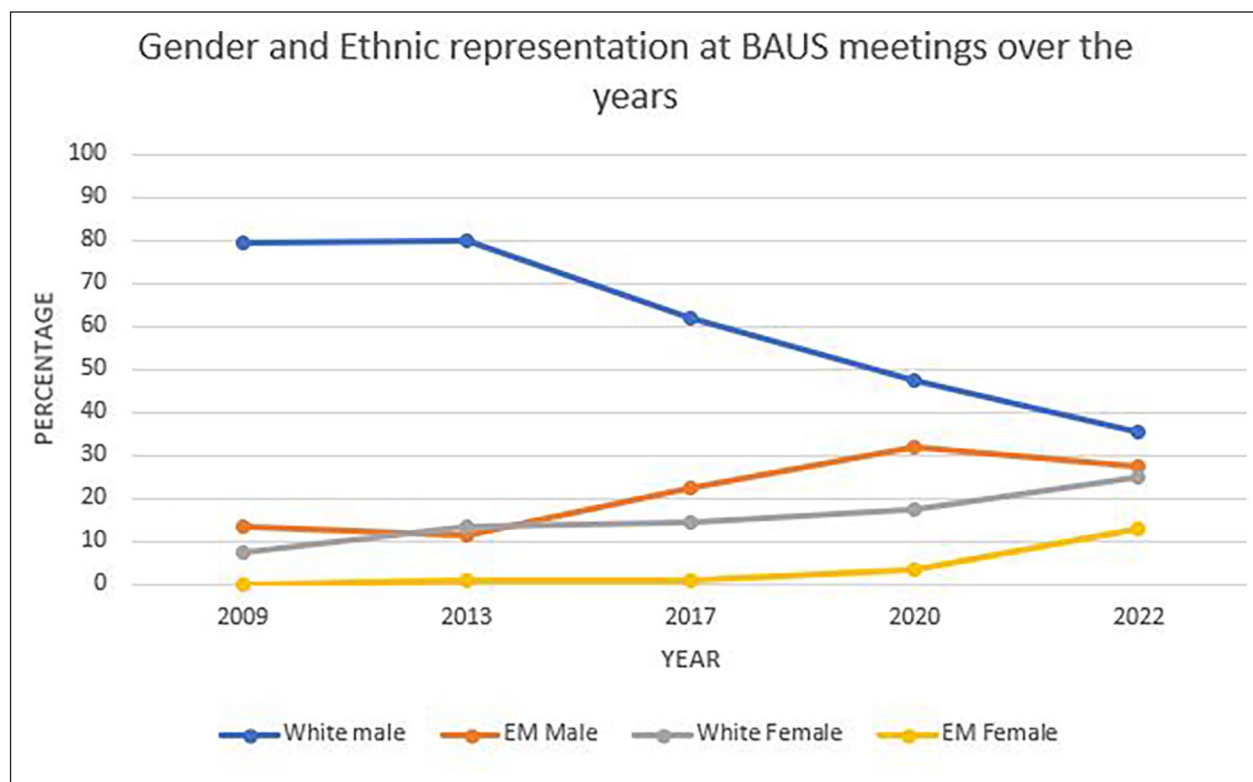
7.4% cancer detection rate in our series with with almost half (44.4%) seen in patients operated on for LUTS pre-operatively. For those patients with LUTS who subsequently had cancer on their specimen 19.5% of patients had no work-up including a pre-op PSA test.

**Conclusion:** There remains great variation in patient work-up in a highly selected group of men listed for definitive bladder outlet surgery. Consideration for dedicated male LUTS clinics, with dedicated urologists, to ensure complete patient work-up to protect patients and surgeons alike and enhance appropriate case selection.

### **P5-10 BAUS 10-point plan for widening participation: Are principles of Equality, Diversity and Inclusion (EDI) framework being addressed – Evidence from annual BAUS meeting programmes**

**Miss Virginia Massella<sup>1</sup>, Miss Jo Cresswell<sup>2</sup>, Miss Susan Willis<sup>3</sup>, Miss Olayinka Gbolahan<sup>4</sup>, Miss Mriganka Sinha<sup>5</sup>, Miss Amelia Pietropaolo<sup>1</sup>, Mr Nitin Shrotri<sup>6</sup>, Mr Joe Phillip<sup>7</sup>, Professor Ian Pearce<sup>8</sup>, Professor Bhaskar Somani<sup>1</sup>**





<sup>1</sup>Southampton General Hospital, southampton, United Kingdom, <sup>2</sup>South Tees Hospital, Middlesborough, United Kingdom, <sup>3</sup>Guy's and St Thomas Foundation Trust, London, United Kingdom, <sup>4</sup>Royal Free Academy of PMC, London, United Kingdom, <sup>5</sup>Cheltenham General Hospital, Cheltenham, United Kingdom, <sup>6</sup>Chaucer Hospital, Canterbury, United Kingdom, <sup>7</sup>Southmead Hospital Bristol, Bristol, United Kingdom, <sup>8</sup>Manchester Royal Infirmary, Manchester, United Kingdom

**Introduction:** In response to the Kennedy Report and to widen participation, BAUS implemented a 10-point action plan in 2021, with one of the pillars being inclusivity and non-diverse panels for conferences. We compared the ethnic and gender trends of speakers at BAUS annual meetings to review and analyse changing trends

**Methods:** Data for BAUS annual meetings over a 14-year period(2009-2022) were obtained for 4 sub-sections including Endourology, Oncology, Andrology and Female, Neurological and Urodynamic urology(FNUU). This was then compared for gender and ethnic diversity(ED) for period 1(2009-2020) and period 2(2021 and 2022), representing pre and post 10 point action plan development.

**Results:** A total of 2476 speakers were involved, with 1903(76.9%) and 573(23.1%) in periods 1 and 2 respectively. The proportion of white males reduced from 67% to 39.1% during periods 1 and 2, while this increased for ED males (19.6% to 30.3%), white females (11.3% to 20%) and ED females (1.5% to 10.4%) during the same period.

**Conclusions:** Annual BAUS meetings have seen a higher proportion of ethnic minority and gender representation in recent years, with BAUS becoming a more progressively

inclusive association reflecting the demographic of its membership clearly demonstrating early success for the 10 point action plan.

## ePoster Session 6 Inequalities in Urological Healthcare Provision and Training, Monday 19 June, 1630-1730, Hall 11A

### P6-1 Pregnancy outcomes in UK urologists in training

**Ms Jessica Whitburn<sup>1,2</sup>, Mr Saiful Miah<sup>2</sup>, Dr Sarah Howles<sup>1,3</sup>**

<sup>1</sup>Nuffield Department of Surgical Sciences, Oxford, United Kingdom,

<sup>2</sup>Wycombe Hospital, High Wycombe, United Kingdom, <sup>3</sup>Churchill Hospital, Oxford, United Kingdom

**Introduction:** Over half of UK medical students are female, however women are underrepresented in urology, constituting 32% of trainees and 12% of consultants. International data suggests that childbearing surgeons experience high pregnancy complications, however, little is known about outcomes among UK childbearing urologists (CBU). We aimed to identify rates of pregnancy delay and complications in UK urological trainees.

**Materials and Methods:** An anonymised survey was distributed via BSOT and social media. Data from CBU's and non-surgeon partners of non-childbearing urologists (NSP) was compared.

**Results:** The survey was completed by 115 trainees (74 female; 41 male), 50% were parents. Half delayed child-bearing due to training; 87% regretted this decision. At first pregnancy CBUs were older than the UK average (32.5 vs 30.7) however, infertility testing rates were comparable (10%).

Among CBUs, 38% experienced pregnancy loss, higher than national data (~15%) but comparable to NSPs. Following pregnancy loss, 25% of CBUs and 90% of non-childbearing urologists took no time off work.

Pregnancy complications were similar between CBUs and NSPs (87.3%); the most common being musculoskeletal pain (39%). Many CBUs (22%) had a complication necessitating bedrest. There was no difference in gestation or birth weight of babies of CBUs compared to NSPs or the UK population.

**Conclusions:** This national study has revealed high pregnancy loss and complications amongst urology trainees. It highlights the need to change working culture, so trainees don't feel the need to delay conception, and are supported in taking time off work due to pregnancy complications/loss.

## P6-2 The Man Van – Community Based Targeted Case Finding For Prostate Cancer

**Mr Masood Moghul<sup>1</sup>, Miss Fionnuala Croft<sup>1</sup>, Miss Kaljit Kaur<sup>1</sup>, Miss Netty Kinsella<sup>1</sup>, Mr Declan Cahill<sup>1</sup>, Professor Nick James<sup>1</sup>**

<sup>1</sup>Royal Marsden Hospital, London, United Kingdom

**Introduction:** Early intervention is potentially lifesaving in prostate cancer however barriers to early access remain. The Man Van project is designed to address these with a highly novel community-based targeting of high-risk groups on a mobile unit.

**Methods:** A bespoke mobile health vehicle was taken to areas of high deprivation indices in London, inviting men for a health check and a PSA test where relevant.

**Results:** Between December 2021 and September 2022, 444 men were seen at Man Van clinics (non-attendance rate 26%). The highest uptake was in the primary care centre. The median age of attendees was 55 years, range 25-87. 42% of attendees were non-white (30% black). The median BMI was 27.7, range 16.2-50.5. 298 PSA tests were

	Dec 2021-Sept 2022	%
Scheduled	603	
<b>Total Attended</b>	444	74%
<b>DNAs</b>	159	26%
<b>Ethnicities:</b>		% of attendees
Black/Black British	135	30%
Asian/Asian British	50	11%
White	223	50%
Mixed/Other/Did not disclose	36	8%
<b>Ages:</b>		% of attendees
>50	290	65%
40-49	103	23%
<40	51	11%
<b>Testing:</b>		% of attendees
PSA	298	67%
HbA1c	239	54%
Urinalysis	273	61%
<b>Secondary care referrals:</b>		
Rapid access prostate	37	12% (of PSA tests)
Rapid access haematuria	26	10% (of urinalysis tests)
Oncogenetics	18	6% (of PSA tests)
Prostate Cancer Diagnoses	10	3.4% of PSA tests
<b>Primary care referrals:</b>		% of attendees
Hypertension	98	22%
Diabetes	14	3%
Treatment for benign LUTS	26	6%
Treatment for ED	12	3%
Raised BMI management	41	9%
Alcohol Excess	40	9%
Mental Health	36	8%
Smoking	45	10%



performed with 10 prostate cancers (3.4%) found till date. 60% of these cancers were grade group 2 (all >5% pattern 4). Of patients with prostate cancer: median age 54 years, range 48-73, 70% black, median PSA 5.2 µg/L, range 0.81-9.4, median IPSS score 9.5, range 2-31, median IIEF-5 16, range 1-25. 1 bladder and 1 oesophageal cancer were also found. 26 patients (5.9%) required input for benign urinary symptoms and 12 for erectile dysfunction (2.7%). Service evaluation questionnaires showed overwhelmingly positive support for the service.

**Conclusions:** The Man Van initiative is a novel method of linking primary and secondary care for a range of men's health checks, including PSA. By improving community awareness and access in high-risk groups we demonstrate high uptakes for health checks including for prostate cancer.

### **P6-3 Black patients have worse continence outcomes at 12 months following robotic-assisted radical prostatectomy**

**Mr Findlay MacAskill<sup>1</sup>, Mr Arun Sahai<sup>1</sup>, Mr Majed Shabbir<sup>1</sup>, Mr Paul Cathcart<sup>1</sup>, Mr Jonathan Noel<sup>1</sup> on behalf of the Guy's Post Pelvic Surgery Research Group**  
<sup>1</sup>Gstt, London, United Kingdom

**Introduction:** It is known that racial disparities exist for oncological outcomes following prostate cancer, with black patients having a higher mortality. There remains a paucity of specific data regarding functional outcomes and ethnicity in robotic-assisted radical prostatectomy (RARP). The aim of this study was to investigate if racial disparity exists in outcomes following RARP at our institution, which covers a diverse population.

**Methods:** This single site study utilised an institution approved (10128) prospective database of patients that underwent primary RARP from 2020-2021 with a minimum follow up of 12 months. All 5 surgeons perform a retropubic approach. Logistic regression was performed to investigate the continence rate at 3, 6 and 12 months for significance ( $p < 0.05$ ). Continence is defined as 0 pads/24 hours.

**Results:** In this study, 232 men were included of which 37% (86) were black. On average black men underwent surgery at a younger age (59 versus 63 year). However, no difference was observed between black and white men for mean prostate volume, ISUP grade or T stage. While difference in urinary continence recovery was not significant at 3 months (36% versus 52%) and 6 months (49% versus 63%), recovery of urinary continence recovery was inferior for black men at 12 months after surgery (57% versus 75%,  $p = 0.01$ ).

**Conclusions:** The study demonstrates a racial disparity for return of urinary continence following robotic-assisted laparoscopic prostatectomy with black men having inferior recovery of urinary continence. Further work is required to investigate the reasons for the different outcome.

### **P6-4 Identifying challenges and reforms for difficulties faced and support needed by International Medical Graduates (IMGs) when they first move to UK: A survey of 173 IMG doctors**

**Miss Jenni Lane<sup>1</sup>, Mr Nitin Shrotri<sup>2</sup>, Dr Sunil Daga<sup>3</sup>, Professor Bhaskar Somani<sup>1</sup>**

<sup>1</sup>University Hospital Southampton, Southampton, United Kingdom, <sup>2</sup>East Kent Hospitals University NHS Foundation Trust, Canterbury, United Kingdom, <sup>3</sup>Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom

**Introduction:** There is limited published evidence researching the views of IMGs or doctors from ethnic minority backgrounds on the difficulties faced and support needed when they first move to UK. Therefore, we conducted a survey specifically looking into the support given to these doctors and whether they are equally treated to their peers.

**Methods:** A surveymonkey account was used to distribute the survey to primary care doctors and urologists via closed WhatsApp doctor groups. The questionnaire included clinician demographics, familiarity and support given for their first job, supervision provided, induction received, study leave, and if they or anyone they knew were referred to the GMC and reasons for referral. Finally, to identify areas of improvement and suggestions to make the system fairer.

**Results:** A total of 173 IMGs (160 ethnic and 13 British trained abroad) and 16 British trained doctors were included. When asked about their first role in the NHS, there was a big difference in terms of familiarity, support offered, induction, mentorship and study leave for IMGs when compared to British trained doctors.

**Conclusion:** Despite an increasing percentage of UK workforce, this survey confirms that the majority of IMGs are not being given equal or adequate support when starting their first role in the UK. IMGs require a focused and detailed induction, educational and clinical supervision and mentorship throughout the transition to the NHS. IMG support should be held to a similar high standard as deanery trainees, with an emphasis on professional development.

	<b>International Medical Graduate</b>	<b>British Trained abroad</b>	<b>UK Graduate</b>
<b>Date of first appointment</b>	2010 (1980-2022)		
<b>How familiar were you with UK healthcare system? (0-unfamiliar)</b>	28%	51%	77%
<b>How supported did you feel to learn the UK healthcare system? (0-unsupported)</b>	31%	37%	60%
<b>In your first job:</b>	% Yes	% Yes	% Yes
<b>Were you in a training programme?</b>	29%	8%	93%
<b>Did you have dedicated educational/clinical supervisor?</b>	43%	38%	93%
<b>Have an IMG mentor?</b>	14%	25%	-
<b>Did you have an induction?</b>	48%	46%	79%
<b>How useful was your hospital induction? (0-not useful)</b>	32%	41%	53%
<b>Did you have:</b>	% Yes	% Yes	% Yes
<b>A shadowing period?</b>	41%	54%	63%
<b>A mentor?</b>	13%	8%	19%
<b>Study leave?</b>	48%	54%	44%
<b>Study budget?</b>	41%	46%	37%

### **P6-5 Ethnic composition of the national urology workforce and BAUS leadership 2009-2020: A retrospective analysis**

**Mr Kelvin Adasonla<sup>1</sup>, Mr Thomas Newman<sup>2</sup>, Mr Ricky Ellis<sup>3</sup>, Mr Matthew Parry<sup>4</sup>, Mr Nitin Shrotri<sup>5</sup>, Miss Joanne Cresswell<sup>6</sup>, Prof James Green<sup>1</sup>**

<sup>1</sup>Whipps Cross University Hospital, London, United Kingdom, <sup>2</sup>Kings College Hospital, London, United Kingdom, <sup>3</sup>University Hospitals of Derby and Burton, Derby, United Kingdom, <sup>4</sup>Clinical Effectiveness Unit, The Royal College of Surgeons of England, London, United Kingdom, <sup>5</sup>Chaucer Hospital, Canterbury, United Kingdom, <sup>6</sup>James Cook University Hospital, Middlesbrough, United Kingdom

#### **Aim**

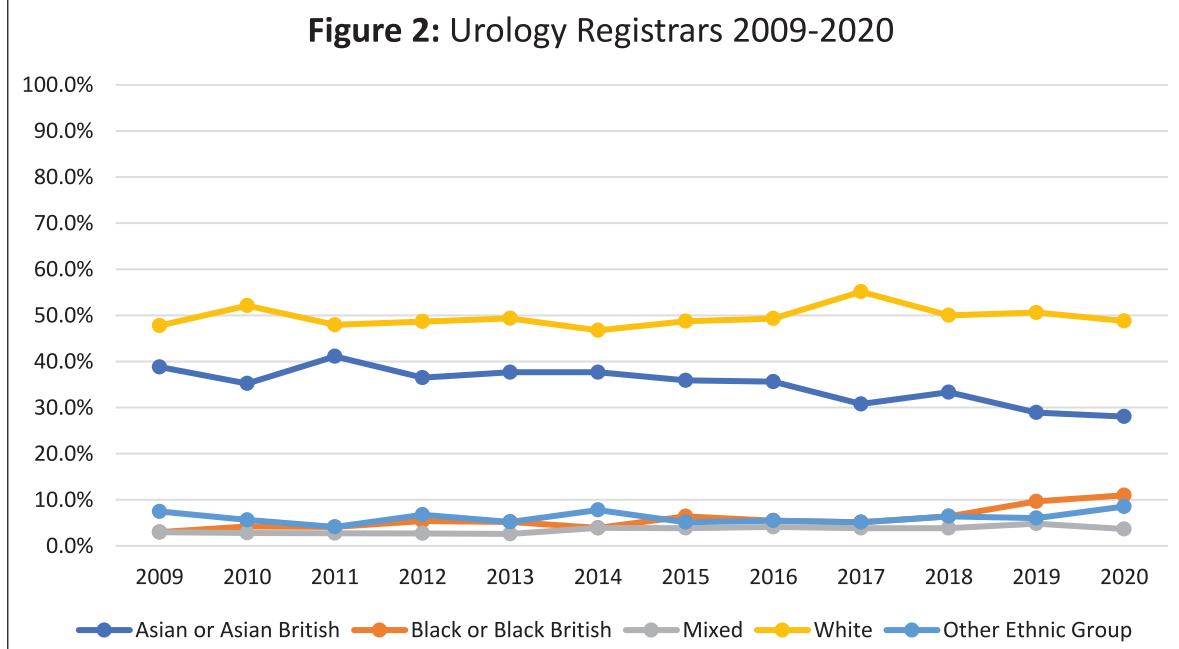
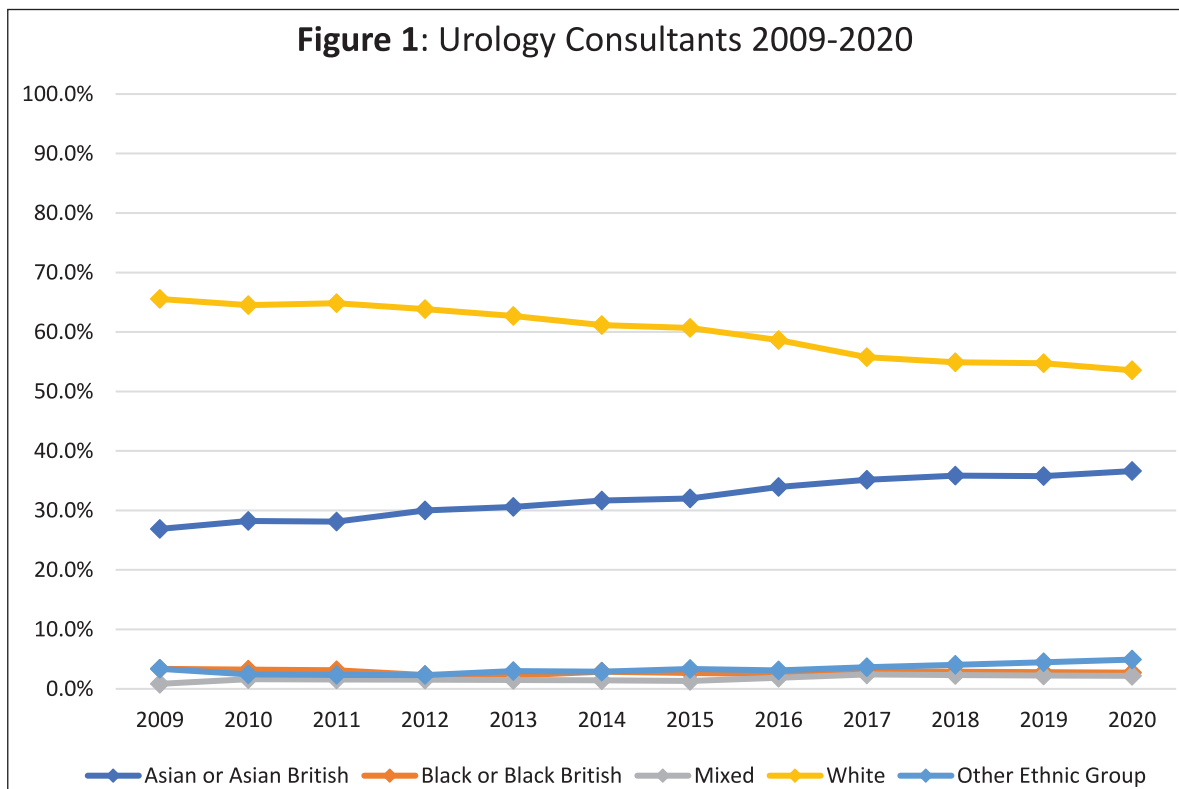
Little is known about the ethnic composition of the national urology workforce. This study aimed to assess the impact of existing strategies to promote equitable progression, with respect to ethnicity, in the English urology workforce and British Association of Urological Surgeons (BAUS) leadership between 2009 and 2020.

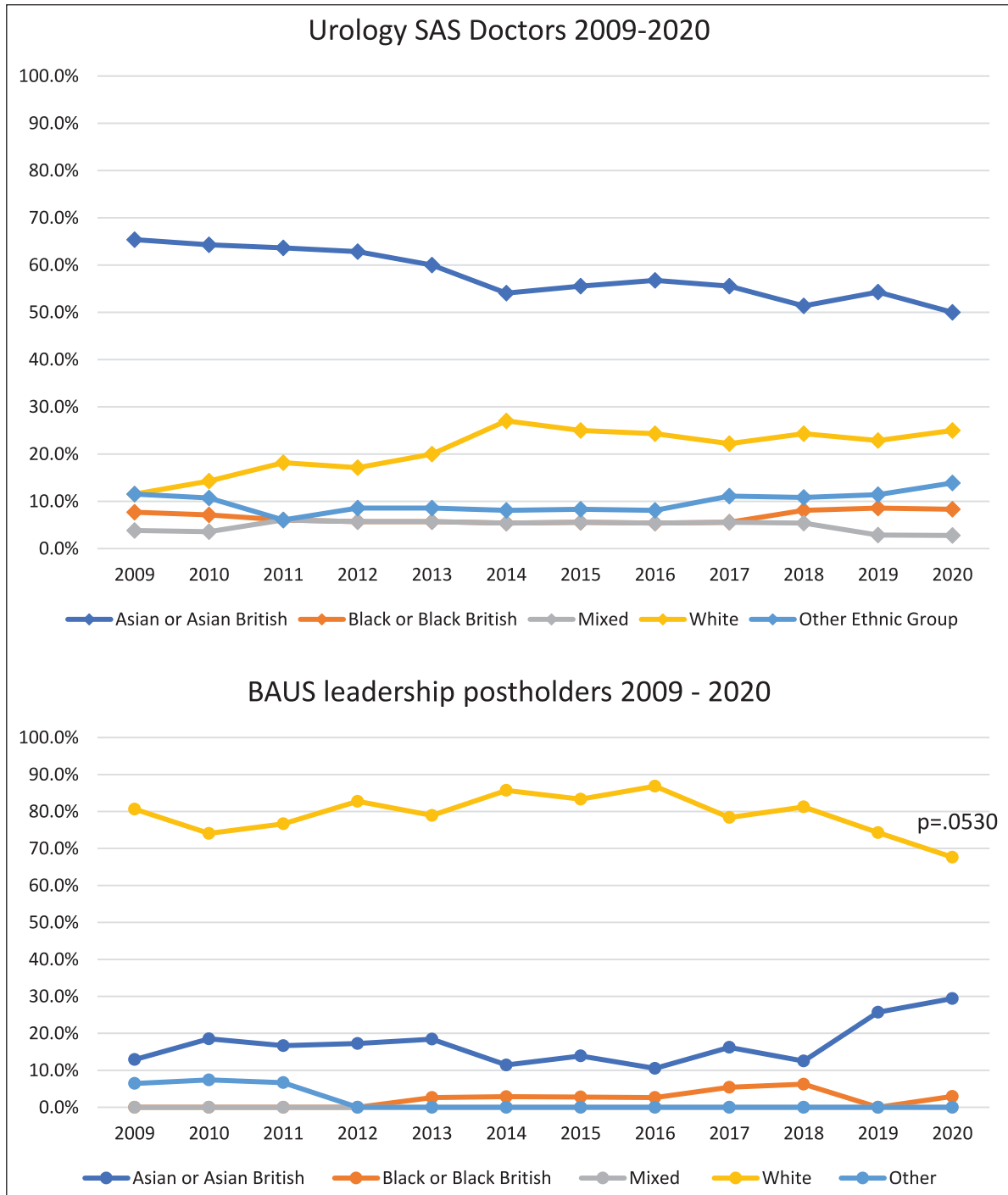
**Methods:** A Freedom of Information (FOI) Act request was made to NHS Digital regarding demographic data of clinicians working in urology in England over the study period. Data was collected on consultants, specialist registrars, specialty, and associate specialist (SAS) doctors over this period. The ethnicities of British Association of Urological Surgeons (BAUS) Trustees and Council Members were determined by review of public profiles. Statistical analysis was performed using the Cochran-Armitage test.

**Results:** The proportion of consultants identified as White decreased from 65.5% to 53.6%,  $p < .0001$ ), while the proportion of Asian/Asian British consultants increased (26.9% to 36.6%,  $p < .0001$ ). There was a significant increase in Black/Black British trainees (3.0% to 11.0%,  $p < 0.0001$ ) but a decrease in the proportion of Asian/Asian British trainees. Over half of SAS doctors were Asian/British Asian, but this decreased over time. There was a decrease in the proportion of White urologists occupying BAUS leadership positions (80.6% to 67.6%,  $p = 0.5$ ).

**Conclusion:** Increased ethnic diversity over time was seen across all groups, especially consultants. More limited change was observed in the urology leadership,

suggesting a time lag and that there is more to be done in addressing barriers to progression in the highest echelons of urology in the UK.





**P6-6 Ethnic disparities in uptake of prostate cancer clinical trials compared to clinical practice**

**Mr Nikhil Mayor<sup>1</sup>, Professor Suks Minhas, Mr Alistair Grey<sup>1</sup>, Dr Lucy Simmons<sup>1</sup>, Professor Mark Emberton<sup>1</sup>, Miss Emma Cullen<sup>1</sup>, Mr Taimur Shah<sup>1</sup>, Ms Mariana Bertonecelli-Tanaka<sup>1</sup>, Professor Hashim Ahmed**  
<sup>1</sup>Imperial College Healthcare NHS Trust, London, United Kingdom

**Introduction:** Black men have double the risk of being diagnosed with, and dying from, prostate cancer (PCa) compared to white men. It is therefore imperative they are represented in clinical trials. We evaluated whether disparities exist in recruitment to PCa trials for black men compared to clinical practice.

**Methods:** We compared characteristics of men in the Rapid Assessment for Prostate Imaging and Diagnosis

**Table 1.** RAPID vs clinical trials (CADMUS, PICTURE, and PROMIS).

Ethnicity	RAPID (n=4419)	Trials (n=1131)	p-value
White	46.8%	82.7%	< 0.0001***
Black	9.5%	7.8%	0.04*
Asian	6.6%	2.9%	< 0.0001***
Mixed	2.8%	0.8%	< 0.0001***
Unknown	26.9%	3.5%	< 0.0001***

(RAPID) PCa diagnostic pathway to PCa diagnostics trials. Comparative PCa studies evaluating mpMRI performed at our centre since 2017 were included: PROMIS, PICTURE, and CADMUS.

**Results:** 4419 patients completed the RAPID pathway. Mean age and PSA were 65.6 (SD 8.4) and 9.8ng/mL (17.7). 1952/4419 (44.2%) underwent biopsy. 1131 participants were included in the clinical trials. Mean age was 63.5 (7.5). Mean PSA was 7.6ng/mL (3.9). All men in PROMIS and PICTURE (825) and 257/306 (84.0%) in CADMUS underwent biopsy.

There was considerable variation in ethnicity between the two groups (Table 1). The clinical trials group consisted of a significantly smaller proportion of black men compared to RAPID patients.

The number of men diagnosed with PCa varied by ethnicity but the proportion of black men with prostate cancer was similar between RAPID (10.1%) and the trials (9.7%).

**Conclusions:** Ethnic disparities exist in the uptake of PCa clinical trials compared to clinical practice, with black men significantly underrepresented. This is likely due to socio-economic and cultural factors impacting access to trials. Future trials must actively attempt to recruit black men, as they carry a greater risk from prostate cancer.

### P6-7 Gender representation and prevalence of manels at international urological surgery conferences

**Dr Kristie Hing Chi Leung<sup>1</sup>, Miss Maria Georgi<sup>2</sup>, Dr Aqua Asif<sup>2</sup>, Dr Monty Fricker<sup>3</sup>, Dr Sonam Patel<sup>4</sup>, Mr Arslan Khaliq Raja<sup>5</sup>, Dr Alice Gargan<sup>6</sup>, Dr Kate Gargan<sup>3</sup>, Dr Katherine Lee<sup>7</sup>, Dr Oliver E Burton<sup>8</sup>, . et al**

<sup>1</sup>University Hospitals Sussex NHS Foundation Trust, Brighton, United Kingdom, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>Imperial College Healthcare NHS Trust, London, United Kingdom, <sup>4</sup>University Hospital Southampton NHS Foundation Trust,

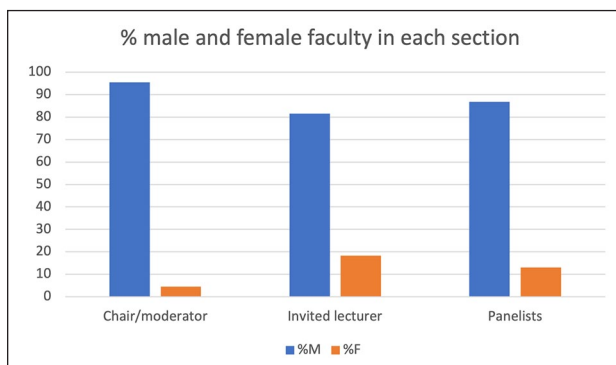
Southampton, United Kingdom, <sup>5</sup>University of Edinburgh, Edinburgh, United Kingdom, <sup>6</sup>St George's University Hospitals NHS Foundation Trust, London, United Kingdom, <sup>7</sup>Royal Berkshire NHS Foundation Trust, Reading, United Kingdom, <sup>8</sup>Newcastle Hospitals NHS Foundation Trust, Newcastle, United Kingdom

**Aim:** Females are disproportionately under-represented in surgery despite the upward trend in women entering the medical profession. Visibility of female surgeons at academic meetings gives a cross-sectional view of inclusion within the field. We aimed to quantify the proportion of female faculty and prevalence of all-male panels (“manels”) at major international urological surgery meetings.

**Materials and Methods:** We retrospectively analysed annual meetings organised by major urological surgery associations or societies between January 2016 and December 2021. Demographic and academic metrics, including H-index, number of publications, and number of citations were collected for each invited lecturer, panellist and chair/moderator.

**Results:** Twenty-two conferences held by four urological surgery organisations were identified, including 1871 sessions delivered by 5427 speakers. On average across all speakers, 12.0% (n=643) were female. Of the 838 panel sessions, 584 (69.7%) were manels. Percentage of manels was statistically significant between online and in-person conferences (online 64.6% versus in-person 75.1%;  $p < 0.05$ ). There was a statistically significant difference in the proportion of manels over time (79.4% in 2016 versus 28.8% in 2021;  $p < 0.05$ ). Male invited lecturers had significantly higher H-index than female invited lecturers (male 32 versus female 17;  $p < 0.05$ ).

**Conclusions:** Despite the encouraging findings that manels are becoming less prevalent in major urological surgery meetings, manels continue to comprise the majority, whilst female speaker representation remains poor. This study hopes to highlight the need for greater gender diversity and female representation in urology.





### **P6-8 Do Urology Conferences demonstrate Gender Diversity within their Scientific programme? Evaluation of the gender of Podium Presenters (speakers) at BAUS22 and EAU22**

**Dr Hannah Jeffery<sup>1</sup>, Miss Susan Willis<sup>2</sup>, Miss Sophie Rintoul-Hoad<sup>3</sup>**

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**Introduction:** Task force initiatives to improve Equality, Diversity and Inclusion (EDI) provide an opportunity for reflection within organisations; EAU estimates 17% female membership and BAUS 30% female workforce.

We aimed to evaluate gender diversity of prominent roles i.e. podium presenters (speakers), at BAUS22 and EAU22.

**Methods:** EAU22 and BAUS22 programmes were analysed and gender and ethnicity (Caucasian/non-Caucasian) of speakers was inferred using speaker profile picture, name and/or social media. Not ascertaining preferred identity/ethnicity is a limitation.

A SurveyMonkey questionnaire containing 10 questions evaluated perceptions and experiences of gender diversity at conferences; this was distributed via WhatsApp group for female consultant urologists.

**Results:** EAU22 listed 919 Speakers; 13% (n=123) were female, of which 76% were doctors/surgeons (n=94). 50% of the Speakers' countries had no female representation (n=33). 31% (n=56) of BAUS22 speakers were female: 95% were doctors/surgeons.

2% of EAU22 speakers were non-Caucasian women (n=17); compared to 17% at BAUS22 (n=31).

31/154 (20%) survey responses were received, indicating: 75% (n=23) felt it was 'extremely'/'very' important to see female speakers. 64% (n=20) felt 'a lot more' needs to be done to improve gender diversity. Commonest barriers to speaking included: confidence (48%,n=14), caring commitments (41%,n=12), clinical commitments (37.9%,n=11). 66% (n=20) want scientific programmes to include 31-50% female presenters in 2023.

**Conclusions:** This project explores gender diversity at two urological conferences, stimulating further discussion and research. Speaker roles reflecting the urological workforce and wider society is one step towards achieving EDI; and enables delegates to 'see' themselves as belonging to the urological community.

### **ePoster Session 7 History of Urology, Tuesday 20 June, 1130-1230, Hall 10**

#### **P7-1 The history so far: metallic ureteric stents**

**Mr Lahiru Siriwardena<sup>1</sup>, Mr Christopher Berridge<sup>1</sup>, Mr Aran Nanthakumar<sup>1</sup>, Mr Raghuram Devarajan<sup>1</sup>, Mr Ayman Girgis<sup>1</sup>, Mr Priyadarshi Kumar<sup>1</sup>**

<sup>1</sup>University Hospital Coventry And Warwickshire, Coventry, United Kingdom

**Introduction:** Ureteric stents have been utilised since the 19th century. Metallic stents gained favour when long-term stents resistant to external compression were required.

**Materials and Methods:** A comprehensive literature search was performed using Medline, PubMed and Google Scholar.

**Results:** In 1967, the first fully internalised stent was placed by Zimskind et al. Following this barbed, single-J and double-J stents were developed. The earliest metallic stent insertion was by Gort et al in 1990 for a ureteroileal stricture. Subsequently Wallstents, segmental self-expanding stainless steel mesh stents, came into vogue. In 1992 Lugmayr and Pauer used Wallstents for malignant compression. Although successful, distal extrinsic compression was an issue. Successors to Wallstents would all use Nitinol. The first of which was Memokath-051, a thermo-expandable stent initially described by Kulkarni and Bellamy in 1999 with encouraging **results**. The all-metal spiral-design Resonance stent was introduced next. Interestingly it was first reported by interventional radiologists Wah et al in 2007. Later that year urologists Feki et al described Resonance stent blockage by external tumour compression. Most recently, covered stents were developed. In 2012 Moskovitz et al reported the use of Allium ureteric stents in Israel whilst in South Korea, Kim et al described their experience of UVENTA stents. Both stents have a similar design but use different polymers to 'cover' its Nitinol mesh. Thus metal stents evolved to address specific issues.

**Conclusions:** Although the ideal stent material eludes us, metal stents represent an excellent option for certain patients by minimising nephrostomy usage and frequent stent changes.

#### **P7-2 Peter the Great and Urology in the Eighteenth Century**

**Mr Jonathon Dawson<sup>1</sup>, Mr George Greenlees<sup>2</sup>**

<sup>1</sup>Liverpool University Hospitals NHS Foundation Trust, Liverpool, United Kingdom, <sup>2</sup>Bradford Teaching Hospitals NHS Foundation Trust, Bradford, United Kingdom

**Introduction:** Peter I or Peter The Great (1672-1725) is widely credited with modernising Russia and transforming the country into a major European power. A huge man of 6ft 8 inches, his interests included heavy drinking, ship-building and even amateur surgery. In addition to his wider significance to European history he also suffered from urological disease, and thus provides an ideal lens to appraise the state of urology in the early eighteenth century.

**Materials and Methods:** Using a range of primary and secondary sources we present the case of the unfortunate Tsar and outline the state of urology in early eighteenth-century Europe.

**Results:** Late in Peter's reign he began to be troubled by repeated bouts of urinary retention requiring intermittent self-catheterisation with a metal catheter. Stricture and

stone formation began to complicate subsequent treatment and despite the best efforts of an English surgeon, William Horn, and Peter's Dutch physician, Nicolaas Bidloo, his condition deteriorated. Peter died in February 1725 with his autopsy demonstrating a grossly inflamed, gangrenous bladder.

Suprapubic lithotripsy had been described by William Cheselden in 1723 but did not become widespread until the advent of general anaesthesia in the nineteenth century. Peter was also unfortunate that the advent of flexible catheterisation (1752) and minimally invasive lithotripsy (1823) came within a century of his death.

**Conclusions:** The story of Peter the Great is a welcome reminder of how urological innovation can render life-threatening diseases easily manageable, and is of interest to urologists of all career grades.

### **P7-3 Bending the Truth: The Cardiff Coudé Catheter Con of 1957**

**Mr John Hayes<sup>1</sup>**

<sup>1</sup>Department of Urology, The James Cook University Hospital, Middlesbrough, United Kingdom

**Introduction:** Insertion of a urethral catheter in males necessitates more of a scenic journey when compared to the equivalent procedure in females. The curved-tip coudé catheter has proved a useful adjunct for urologists over the years whilst trying to negotiate around a troublesome prostate.

**Materials and Methods:** Copies of the infamous under-mentioned 1957 article and subsequent 'Letters to the Editor' were acquired from the Wellcome Collection in London. This was complimented with a search of the PubMed database and secondary historical sources.

**Results:** The origins of the coudé catheter were relatively uncontentious until the Welsh National School of Medicine in Cardiff published a hoax article in the 1957 winter edition of their in-house journal 'The Leech'. The inventor of this handy urological device, proposed via a spoof biography with accompanying references, was a certain French surgeon by the name of Emile Coudé. A complete fabrication. This erroneous claim was later alluded to in an undergraduate surgical textbook at the time, much to the embarrassment of the eminent author Sir Hamilton Bailey who submitted letters to both the Lancet and British Medical Journal in order "to save others from falling into this mire".

Coudé (adjective) in French simply means bent; a less curious albeit more logical reason for the catheter's nomenclature. The Parisian urologist Louis Mercier should be rightfully credited with its creation in 1836.

**Conclusion:** The fictional Emile Coudé did not invent the curved-tip catheter despite a good-humoured attempt by the Cardiff medical students at 'bending the truth'.

### **P7-4 Alfred Zinner and how a rare genetic abnormality was described**

**Dr Shail Shah<sup>1</sup>, Ms Theodora Stasinou<sup>1</sup>, Mr Vaibhav Modgil<sup>1</sup>, Professor Ian Pearce<sup>1</sup>**

<sup>1</sup>Manchester University NHS Foundation Trust, Manchester, United Kingdom

Dr Alfred Zinner (1879 – 1967) lends his name to a syndrome consisting of a triad of mesonephric duct abnormality comprising of unilateral renal agenesis, ipsilateral seminal vesicle cyst, and ejaculatory duct obstruction. This was first described in 1914 in Vienna, Austria at a time of limited diagnostic means. No more than 300 cases have been described globally.

When a fit and well 18-year-old male presented to Dr Zinner with hesitancy and strangury, a vesical lesion was identified during a cystoscopy. An open cystotomy and excision of this 'peculiar' lesion was performed.

Sadly, the patient passed away soon after. It was the unusual autopsy **results** along with the unexpected microscopic analysis of the excised cyst, woven with significant research and critical thinking that led to the conclusion that the case in hand was the first of its kind, and subsequently reported and published in the same year with some hand drawn illustrations.

Dr Zinner's life and academic career were less than straightforward. During the second world war, he was forced to flee from Austria to the Philippines to evade the wrath of the Nazis in 1938. He consequently emigrated to Los Angeles in the USA where he continued to practice until his death in 1967 at the age of 85.

Despite his significant contribution to his field, there are no known photographs of Dr Zinner in the public domain.

### **P7-5 The Man Behind the Sign: Douglas Prehn and his Contribution to the 'Scrotal Pain Dilemma'**

**Miss Beth Flemington<sup>2</sup>, Miss Theodora Stasinou<sup>1</sup>, Mr Vaibhav Modgil<sup>1</sup>, Professor Ian Pearce<sup>1</sup>**

<sup>1</sup>Manchester University NHS Foundation Trust, Manchester, United Kingdom, <sup>2</sup>University of Manchester, Manchester, United Kingdom

Douglas Theodore Prehn, (1901 – 1974) was an American urologist. He pioneered a possible solution to a presentation that had long eluded even the experts. The eponymous clinical sign- 'Prehn's sign'- distinguishes between testicular torsion and epididymitis when it comes to acute scrotal pain diagnosis. Born in 1901, to former Wisconsin State Assemblyman Fred Prehn, Douglas Prehn was one of five brothers, (two of whom, would also enter the medical profession), two sisters and four half siblings.

After earning a Doctorate of Medicine from Columbia University in 1927, he subsequently served as a captain in the US Navy, first as a Medical Officer and later as a Urologist at the Naval Submarine Base in New London,

Connecticut. In 1940, Prehn became the Chief of Urology at the Brooklyn Naval Hospital in New York and retired in 1953, having won multiple medals including the WWII Victory Medal.

In 1934 he described 'A New Sign in the Differential Diagnosis Between Torsion of the Spermatic Cord and Epididymitis' in the Journal of Urology.

A positive Prehn's sign is recorded when elevation of the affected hemiscrotum fails to alleviate pain and is indicative of testicular torsion whilst a negative sign is recorded when elevation reduces pain and is indicative of epididymitis.

Douglas Prehn deserves a place at the BAUS Hall of Eponyms.

Urologists, (& Wikipedia!) should be clear on what a positive sign consists of for clinical accuracy and medicolegal purposes.

### **P7-6 Napoleon Bonaparte: The Emperor's Penis**

**Mr Benjamin Wharton<sup>1</sup>, Mr Iain Wharton<sup>2</sup>**

<sup>1</sup>Corpus Christi College, University of Oxford, Oxford, United Kingdom, <sup>2</sup>University Hospital of Coventry & Warwickshire, Coventry, United Kingdom

Defeated at the Battle of Waterloo(1815), Napoleon was exiled to Saint Helena where he remained until his death from apparent gastric cancer(1821). At autopsy, conducted by Francesco Antommarchi, the doctor excised a rib and amputated his penis. Bribed by Napoleon's chaplain, Abbé Anges Paul Vignali, the amputation was allegedly revenge for Bonaparte calling him "impotent". The priest, who read Napoleon his last rites, smuggled the penis to his home on Corsica, where it remained with his family, despite the Abbé's blood vendetta death(1828), until 1916.

Antiquarian London bookseller, Maggs Bros.Ltd then purchased the penis and catalogued it as a "mummified tendon". In 1924 they sold it for £400 to Philadelphia-based bookseller, A.S.W. Rosenbach(1876-1952). Described by Time magazine as a "maltreated strip of buckskin shoelace", the penis was displayed at New York City's Museum of French Art(1927).

In subsequent years, the penis changed ownership between booksellers/collectors and was even offered to the French government who had returned Napoleon's exhumed corpse to Les Invalides, Paris(1840). However, they not only declined to bid for the penis but denied its existence.

In 1977, Columbia University urologist and artefact collector John K.Lattimer(1914-2007;Table1) purchased the penis for \$3,000. Interestingly, Lattimer had served as a medical officer at the Nuremberg war trials and was involved in John F.Kennedy's autopsy. After Lattimer's death, his collection passed to his daughter in New Jersey,

**Table 1.** Notable artefacts in John K. Lattimer's Collection.

<b>John K. Lattimer Artefact Collection:</b>
- Napoleon Bonaparte's Penis
- Blood-stained collar of Abraham Lincoln from his assignation at Ford's Theatre
- Hermann Göring's Luftwaffe signet ring
- Brass cylinder that contained Hermann Göring's cyanide capsules
- Charles Lindbergh's flying goggles
- Swatch of Blood-stained Upholstery from John F.Kennedy's Limousine in Dallas

who to this day keeps the penis as a private item. Ironically, Napoleon's withered penis has ventured further around the world than the self-proclaimed Emperor managed.

### **P7-7 Withdrawn**

### **P7-8 Vikings and Urology: Past and Present**

**Dr Sara Ramsey<sup>1</sup>, Mr Gordon McFarlane<sup>2</sup>**

<sup>1</sup>Raigmore Hospital, Inverness, United Kingdom, <sup>2</sup>Gilbert Bain Hospital, Lerwick, United Kingdom

The Vikings were seafaring people from Scandinavia who raided and traded in Europe between the 8th century and 11th century. They were famously fierce warriors with an interest in personal grooming. Identifying fatal bowel injuries using onion soup is probably one of the earliest attempts at diagnostics. This identification as to whether to nurse the injured warrior or leave them to die is one of the first documented examples of "realistic medicine." Vikings also wrote extensively in sagas, and detail of sexual problems and penis size suggest a strong knowledge of Andrology.

Whilst there is no longer a nation of Vikings, a group of general surgeons continue as the Viking Surgeons Association. They represent the last true generalists in surgery, based in geographically remote areas such as the far north of Scotland, Nordic countries, even Newfoundland. Even general surgery is now subspecialised, and urology even more so: these remote and rural surgeons are true generalists, with skills in urology, orthopaedics, and obstetrics. Their urology work is usually core procedures such as cystoscopy, TRUS & Biopsy, inguinoscrotal surgery, but vital where travel may be impossible.

The Viking Surgeons Association has been in existence since 1974, to consolidate learning and strengthen links with specialist colleagues and providing an opportunity to share practice. The Royal College of Surgeons of Edinburgh has now formed the Faculty of Remote, Rural

and Humanitarian Healthcare, so we may see a new generation of trainees interested in this fabulous speciality and who may become Vikings of the future.

### **P7-9 The Urological Contribution of Hôtel-Dieu, Paris**

**Mr Benjamin Wharton<sup>1</sup>, Mr Iain Wharton<sup>2</sup>**

<sup>1</sup>Corpus Christi College, University of Oxford, Oxford, United Kingdom, <sup>2</sup>University Hospital of Coventry & Warwickshire, Coventry, United Kingdom

Founded by St.Landry(651AD), Hôtel-Dieu(“Hostel of God”) is the oldest hospital in France. Run by the Church to provide“charity dedicated to the shelter, comfort and treatment of the poor” physicians attended to fulfil charitable obligations and surgeons to hone operative technique. Through the ages, the attending practitioners read as a who’s who of French Urology.

During his time at Hôtel-Dieu, royal surgeon Ambrose Pare(1510-1590) published illustrations of male urinals for the incontinent. Royal lithotomist Laurent Colot(1520-1590) was appointed at Hôtel-Dieu and excelled. His secret techniques and position remained within his family which led to a lithotomy monopoly in Paris for 150-years. Chief surgeon Jean Mery(1645-1722) professionalised surgery and described Cowper’s gland(1684) before Cowper(1699). He also supervised Frere Jacques(1651-1720), who after demonstrating technique on cadavers performed lithotomies on patients at Hôtel-Dieu. As 38 of 71 patients died of complications Jacques was debarred from undertaking surgery in Paris.

Pierre-Joseph Desault(1738-1795) introduced Urology as a specialty at Hôtel-Dieu and his pupils included Piere Bouchet(1752-1794) and Xavier Bichet(1771-1802;father of modern histology). Philippe Ricord(1800-1889) studied at Hôtel-Dieu under Guillaume Dupuytren(1777-1835) and went on to receive prizes for varicocele treatment and urethroplasty. He also developed Ricord’s formula for treating urethritis.

Dermatologist Jean Alfred Fournier(1832-1914) trained at Hôtel-Dieu before he described congenital syphilis and necrotizing fasciitis of genitalia. Urologist Alphonse Guérin(1816-1895) practiced at Hôtel-Dieu(1872-1879) and described Guérin’s glands, later re-described as Skene’s glands(1880), and Guérin’s valve and sinus within the terminal male urethra.

Since 1900, Hôtel-Dieu has evolved into the endocrine and emergency-care centre that it is today.

### **P7-10 Alexander Marcet and The First Bedside Chemical Diagnostics Kit**

**Dr Kirandeep Saini<sup>1</sup>, Mr. Nikhil Mayor, Mr Martin Connor, Mr Michael Dineen<sup>1</sup>, Mr Nishant Bedi<sup>1</sup>**

<sup>1</sup>Chelsea & Westminster Hospital, London, United Kingdom

**Introduction:** Dr. Alexander Marcet (1770-1822) was a lecturer in Chemistry and physician at Guy’s Hospital, London. He is largely remembered as the husband of prolific scientific textbook author Jane Marcet (1769-1858). His own work included establishing ‘The Geological Society’, fighting the Napoleonic army, and pioneering chemical point-of-care testing.

**Methods:** Primary sources from Marcet, an examination of the reconstructed kit at the Gordon Museum in London and a non-systematic search of the literature form the basis of this study.

**Results:** In 1817, Marcet published ‘An Essay on the Chemical History and Medical Treatment of Calculous Disorders’ in which he outlines the world’s first bedside chemical diagnostics kit, with a view to identifying different types of urinary calculi. The basic kit Marcet described required a portable blowpipe, candle, and tongs. A small portion of the stone, held upon the tip of a knife, was to be placed over a flame. The subsequent changes in colour, form and smell were to be observed. The stone could then be identified by matching these **results** to Marcet’s descriptions. He then lays out a more advanced kit using acid-base solubility tests to resolve diagnostic uncertainty.

**Conclusion:** In the quest for a reliable oral treatment to dissolve stones, Marcet proposed ingesting small volumes of acid or alkali dependent on stone composition. This is a search that goes on to this day. We owe a debt of gratitude to Marcet for demonstrating the value of immediate bedside chemical testing in diagnosis.

### **ePoster Session 8 Prostate Cancer, Tuesday 20 June, 1400-1500, Hall 8**

#### **P8-1 A new approach to survivorship care following radical prostatectomy**

**Mr Findlay MacAskill<sup>1</sup>, Ms Sammy Gharbieh<sup>1</sup>, Ms Amy Sandher<sup>1</sup>, Mr Tet Yap<sup>1</sup>, Miss Claire Taylor<sup>1</sup>, Mr Majed Shabbir<sup>1</sup>, Mr Arun Sahai<sup>1</sup> on behalf of the Guy’s Post Pelvic Surgery Research Group**

<sup>1</sup>Gstt, London, United Kingdom

Significant treatment regret still exists following prostatectomy largely based on the disparity between the expectation and the actual functional outcome achieved. This has led to an increased focus on cancer survivorship.

We conducted a retrospective review of prostatectomy care in 2017, 293 patients with mean age 60 (Range 44-76) years. All had a radical prostatectomy at Guy’s Hospital. Only 2 out of 293 patients had PROM assessment on erectile dysfunction (ED) or continence. Post-operatively, 283 and 288 were informally asked about ED and continence but no PROM assessment performed. There was inconsistent use of PDE5i and poor access to the vacuum pump. No patient interacted with the functional or andrological team within the first 12 months.



Following this, we introduced a new survivorship focused pathway with continence and andrology specialists working in conjunction other specialists.

Currently, 819 patients are enrolled with 98% patients completing PROMs on physical and mental wellbeing, continence, and sexual dysfunction at 5 timepoints. 100% patients receive a vacuum pump and, if relevant, a daily PDE5i. All patients are reviewed 3 times in the first 12 months by the functional and andrology teams.

Ninety-two percent of patients reported their holistic care needs were being met. Our patient experience data shows 85% and 86% patients report being well-informed about ED and incontinence before surgery and 86% being better informed about their survivorship management after their first rehabilitation appointment.

This new pathway is the first step to put cancer survivorship at the centre of prostatectomy care.

### **P8-2 Can we avoid systematic biopsies and do only targeted biopsies when there is a discernible lesion in MRI scan prostate with PI-RADS scores 4 or 5? A single high volume centre retrospective data analysis**

**Mr Anish Pushkaran<sup>1</sup>, Mr Ray Hsu<sup>1</sup>, Mr Mohamed Hassan<sup>1</sup>, Mr Kadhim Hassan<sup>1</sup>, Mr Rickaz Raheem<sup>1</sup>, Dr Ahsen Razzaq<sup>1</sup>, Mr Farooq Khan<sup>1</sup>, Mr Aza Mohammed<sup>1</sup>, Mr Sanjeev Taneja<sup>1</sup>, Mr Barnaby Barrass<sup>1</sup>**  
*<sup>1</sup>Luton & Dunstable NHS Foundation Trust, Luton, United Kingdom*

**Introduction:** Guidelines recommend performing both targeted biopsy (TBx) and systematic biopsies (SBx) even when a lesion is detectable on MRI. Doing only TBx if a definite lesion is seen on MRI is desirable as this may decrease the morbidity of the procedure. However, this must be balanced against the risk of missing clinically significant prostate cancer (csPCa).

**Materials and Methods:** We retrospectively collected data on patients with MRI scores PIRADS 4 or 5 who underwent LATP biopsies in our institute between February 2019 and July 2022. SBx were performed using Ginsburg TP protocol. For MRIs showing targetable lesion, four-core cognitive guidance TBx was done per target. csPCa was defined as ISUP grade 2 or above.

**Results:** 329 patients had MRI scores of PI-RADS 4 or 5. 245 (74.5%) had targetable lesions and underwent both TBx and SBx. Both TBx and SBx were positive for csPCa in 39.6% (97/245). Both TBx and SBx did not show csPCa in 46.1% (113/245). In 5.7% (14/245), TBx showed csPCa when SBx was negative. In 8.6% (21/245), csPCa detected by SBx was missed by TBx. 15.9% (21/132) csPCa would have been missed if only TBx was performed for PIRADS 4 & 5 with an MRI targetable lesion. The sensitivity of TBx in this study was 82.2%, with specificity 89.0% and negative predictive value 84.3%.

**Conclusion:** This study from a high-volume centre suggests that adopting TBx-only approach for MRI targetable lesions continues to miss a significant level of csPCa. Therefore, adopting this strategy remains debatable.

### **P8-3 Assessing the potential of artificial intelligence for prostate MRI in a diverse multi-centre diagnostic population**

**Dr Aarti Shah<sup>1</sup>, Prof Richard Hindley<sup>1</sup>, Prof Nikhil Vasdev<sup>2</sup>, Dr Paul Burn<sup>3</sup>, Mr Mark Hinton<sup>4</sup>, Dr Antony Rix<sup>4</sup>, Dr Nadia Moreira Da Silva<sup>4</sup>, Prof Evis Sala<sup>5</sup>**

*<sup>1</sup>Hampshire Hospitals NHS Foundation Trust, Winchester, United Kingdom, <sup>2</sup>East and North Herts NHS Trust, Stevenage, United Kingdom, <sup>3</sup>Somerset NHS Foundation Trust, Taunton, United Kingdom, <sup>4</sup>Lucida Medical Ltd, Cambridge, United Kingdom, <sup>5</sup>Catholic University Sacro Cuore and Policlinico Universitario A. Gemelli, IRCCS, Rome, Italy*

**Introduction:** We explore how AI-based software to support analysis of pre-biopsy MRI for prostate cancer can generalise to routinely collected, sequentially referred patient data from multiple sites, MRI scanners, field strengths and protocols.

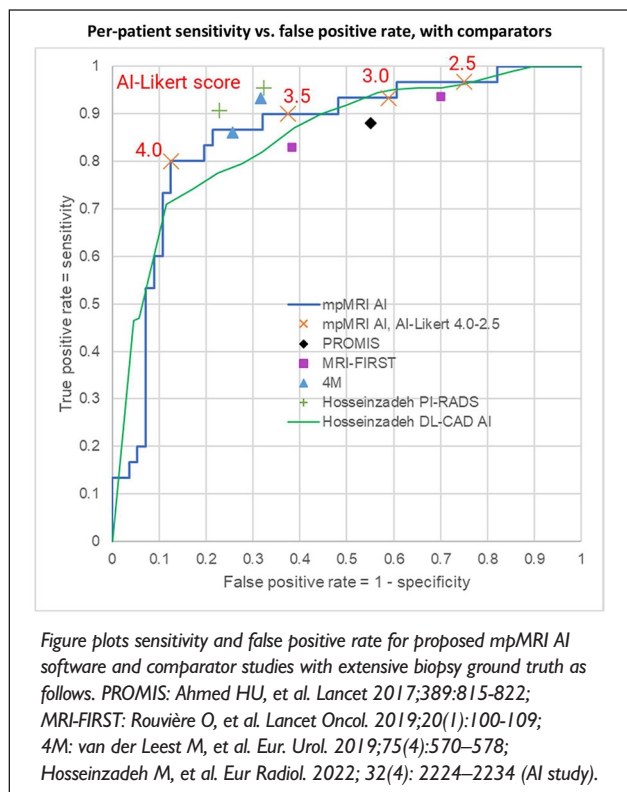
**Materials and Methods:** AI-based software was developed using retrospective data from 459 patients from the PAIR-1 and PROSTATEx studies. Data included one 1.5T and four 3T scanners, with varying protocols. Data was partitioned into training (n=274, prevalence=0.28), development-validation (n=91, prevalence=0.33) and held-out test (n=94, prevalence=0.35) sets. The software computes scores/ROIs to identify GS $\geq$ 3+4 csPCa per-patient and per-lesion. Patients scored PI-RADS3/4/5 had csPCa confirmed by biopsy. PI-RADS1/2 patients/lesions that did not receive biopsy are assumed negative.

**Results:** The AI patient score is intended to support deciding whether to biopsy. At per-patient threshold 3.5, the AI identified patients with csPCa with sensitivity 90% (95% CI 78-100%), specificity 63% (49-75%), NPV 92% (84-100%), and AUC 0.86 (0.76-0.93) using mpMRI held-out test data. In meta-analysis of 12 major studies (prevalence=0.37), radiologists identified patients with csPCa with sensitivity 86%, specificity 42% and NPV 84%.

The AI lesion score is intended to assist selecting biopsy targets. At per-lesion threshold 2.5, the AI identified csPCa lesions with sensitivity 93% (95% CI 85-100%), specificity 48% (38-58%), NPV 93% (86-100%), and AUC 0.82 (0.74-0.9) on the same data (128 lesions, per-lesion prevalence 0.34).

**Conclusion:** AI can generalise to support prostate cancer detection in diverse real-world settings including 1.5T and 3T scanners, with sensitivity and specificity comparable to expert radiologists in major studies.





**P8-4 PSA density predicts clinically significant prostate cancer in a screening population: outcomes from the IPI-PROSTAGRAM study**

**Mr Nikhil Mayor<sup>1</sup>, Mr David Eldred-Evans<sup>1</sup>, Mr Martin Connor<sup>1</sup>, Dr Paula Burak<sup>2</sup>, Dr Emily Day<sup>2</sup>, Dr Martin Evans<sup>1</sup>, Dr Francesca Fiorentino<sup>2</sup>, Dr Martin Gammon<sup>1</sup>, Dr Feargus Hosking-Jervis<sup>1</sup>, Professor Hashim Ahmed<sup>1</sup>, et al<sup>1</sup>**

<sup>1</sup>Imperial Prostate, London, United Kingdom, <sup>2</sup>Imperial Clinical Trials Unit, London, United Kingdom

**Introduction and objectives:** PSA density (PSAD) is a recognised metric used in prostate cancer management, with a threshold above 0.15ng/ml<sup>2</sup> traditionally applied to select men with PI-RADS 3 lesions on MRI for prostate biopsy. However, PSAD is yet to be studied in a screening population.

**Materials and Methods:** We evaluated the optimal PSAD within IPI-PROSTAGRAM where community-based biopsy-naïve men underwent a short non-contrast “Prostagram” MRI regardless of PSA level. Systematic and targeted biopsy were performed for men with MRI score  $\geq 3$ . PSAD was calculated based on MRI volume. Clinically significant prostate cancer (csPCa) was defined as any Gleason grade  $\geq 3+4$ . A logistic regression model and ROC analysis was used to evaluate PSAD as a predictor csPCa.

**Results:** 72 of 408 had a positive Prostagram with 65 agreeing to biopsy; 14 (21.5%) had csPCa. Median PSAD in this group was 0.11ng/ml<sup>2</sup>. PSAD was a statistically significant predictor of prostate cancer in men with an MRI score of  $\geq 3$  ( $p=0.002$ ). AUC was 79.8%. Setting a sensitivity and negative predictive value of  $\sim 90\%$  would lead to PSAD  $\geq 0.03\text{ng/ml}^2$  for biopsy decision-making; consequently 19/65 (29%) biopsies could be avoided at the expense of only 1 (7%) missed csPCa. Using PSAD  $\geq 0.15\text{ng/ml}^2$  would avoid 60/65 (92%) biopsies but miss 10/17 (71%) csPCa (Figure 1).

**Conclusion:** PSA density is a predictor of csPCa with the optimal PSAD threshold likely to be much lower than that used in secondary care when Prostagram MRI is used to screen in the community.

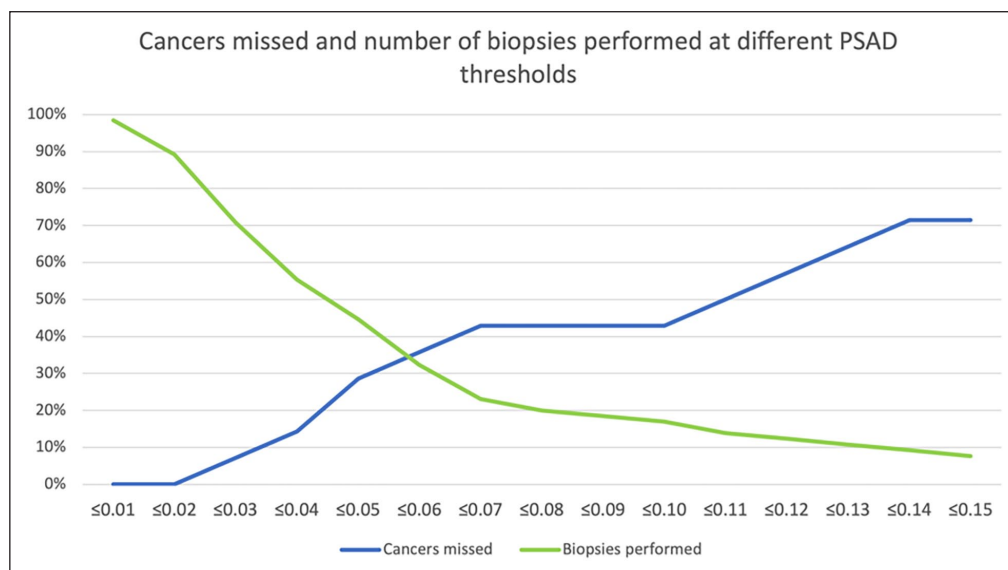


Figure 1.

**Table 1.** Risk stratified follow-up schedule and intervals of out-patient appointments, PSA testing, MRI scans and recommendations for biopsy (PSAd- PSA density). \* Option to omit and discuss with patient.

STRATCANS Group	Inclusion criteria	Follow up schedule
1	Cambridge Prognostic Group 1 AND PSAd < 0.15	3 monthly PSA 18 monthly out-patients telephone MRI Likert 1-2 - repeat at 3 years MRI Likert 3 - repeat at 18 months MRI Likert 4-5 – repeat at 12 months No routine re-biopsy Triggered re-biopsy if any change
2	Cambridge Prognostic Group 2 OR PSAd ≥ 0.15	3 monthly PSA 12 monthly out-patients telephone MRI Likert 1-2 - repeat at 3 years MRI Likert 3 - repeat at 18 months MRI Likert 4-5 – repeat at 12 months Re-biopsy at 3 years* Triggered re-biopsies if any change
3	Cambridge Prognostic Group 2 AND PSAd ≥ 0.15	3 monthly PSA 6 monthly out-patients telephone MRI (any Likert)- repeat at 12 months Re-biopsy at 3 years* Triggered re-biopsies if any change

### P8-5 Prospective implementation and early outcomes of a risk stratified prostate cancer active surveillance follow-up protocol -STRATified CANcer Surveillance (STRATCANS)

Sister Vineetha Thankappanair<sup>2</sup>, Ms Alexandra Keates<sup>2</sup>, Dr Tristan Barret<sup>1</sup>, Professor Vincent Gnanapragasam<sup>1</sup>

<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Cambridge University Hospitals NHS Trust, Cambridge, United Kingdom

**Introduction:** Active Surveillance (AS) is a major management option for men with early prostate cancer but current guidelines advocate identical follow-up for all. We previously proposed a pragmatic 3-tier STRATified CANcer Surveillance (STRATCANS) follow-up strategy. Here we report early outcomes from implementation of the STRATCANS protocol.

**Patients and Methods:** Men on AS were enrolled into a prospective programme with 3-tiers of increasing follow-up intensity based on NICE: Cambridge Prognostic Group (CPG), PSA density (PSAd) and MRI Likert score (Table 1). Rates of progression to ≥CPG3, any pathological progression and patient selection for treatment were measured.

**Results:** Data from 156 men (median age 67.3 years) were analysed. 38.4% had CPG2 disease and 27.5% Grade Group 2 at diagnosis. Median overall time on AS was 4 years (IQR 3.2-4.9) and on STRATCANS, 1.5 years. Overall 135/156 (86.5%) men remained on AS or converted to WW and only 6/156 (3.8%) stopped AS by choice in the evaluation period. 66/156 (42.3%) were allocated to STRATCANS 1 (least intense follow-up), 61/156 (39.1%) to STRATCANS 2 and 29/156 (18.6%) to STRATCANS 3 (highest intensity). By increasing STRATCANS tier, progression rates to ≥CPG3 and any

progression events were 0% & 4.6%, 3.4% & 8.6% and 7.4% and 22.2% respectively (p=0.019). Modelling resource usage suggested potential reductions in appointments by 22% and MRI by 42% compared to guideline recommendations (first 12 months of AS).

**Conclusions:** A risk-tiered AS follow-up strategy could de-escalate follow-up in men at low-risk of progression while redirecting resources for those who need closer follow-up.

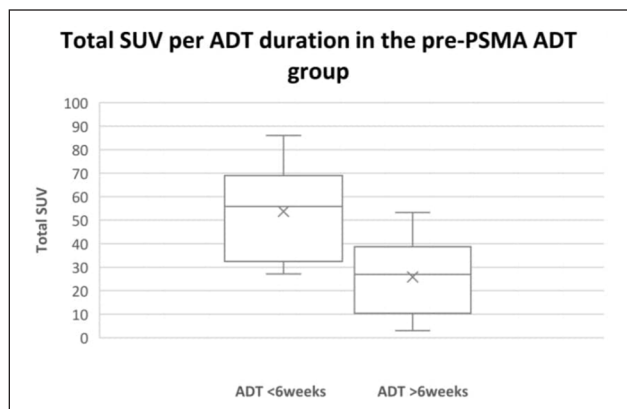
### P8-6 The impact of initiating ADT on PSMA PET/CT imaging

Mr Mostafa Ragab<sup>1</sup>, Dr Michael Kay<sup>1</sup>, Mr Amit Mevcha<sup>1</sup>, Mr Joshua Phillips<sup>1</sup>, Mr Andrew Wedderburn<sup>1</sup>, Mr Kevin Turner<sup>1</sup>

<sup>1</sup>University Hospital Dorset, Bournemouth, United Kingdom

**Introduction:** Prostate-specific membrane antigen (PSMA) positron-emission tomography (PET)/CT scanning is increasingly used to detect recurrent disease after radical treatment for prostate cancer. Laboratory evidence demonstrates upregulation of PSMA expression by ADT (Androgen Deprivation Therapy). We sought to determine the impact of this flare in clinical practice.

**Patients and Methods:** From June 2020 to June 2022, 50 [68Ga]-PSMA-11 PET scans were performed in a single-UK centre for patients with biochemical failure after prostate cancer radical treatment. Patients were divided into those who received ADT prior to their PET scan & those who had not. Men receiving ADT prior their scan were further divided into those who received ADT for >6 weeks or <6 weeks pre-scan. Total standardised uptake value (SUV) was determined & the impact of commencing ADT on total SUV was examined between groups.



**Results:** The average age in our cohort was 69.1 years. 28% had ADT prior to their scan. There was a statistically significant difference between the 2 groups in total SUV (No pre-PSMA ADT mean SUV= 20.4 (range;2.4-127.7) & pre-PSMA ADT mean SUV= 39.8 (range;3-86)( $p=0.03$ , t-test). Analysis of the pre-PSMA group showed total SUV was significantly increased in men receiving <6 weeks of ADT vs men receiving ADT>6 weeks (mean SUV= 53.7 & 25.8, respectively,  $p=0.019$ ).

**Conclusions:** Our study demonstrates that ADT causes a significant flare in PSMA expression, which has largely resolves after 6 weeks. The impact of ADT on PSMA expression in the clinical setting should be considered when determining the timing of PSMA PET/CT scans.

### P8-7 Self-removal of Catheter after Robot Assisted Radical Prostatectomy – Saving the Planet One Catheter at a Time

Mr Wissam Abou Chedid<sup>1</sup>, Maria Innes<sup>1</sup>, Helen Casson<sup>1</sup>, Mr Dimitrios Moschonas<sup>1</sup>, Mr Matthew James Alexander Perry<sup>1</sup>, Mr Wissam Abou Chedid<sup>1</sup>

<sup>1</sup>Royal Surrey County Hospital, Guildford, United Kingdom

**Introduction:** Self-removal of catheter after Robot assisted radical prostatectomy (RARP) is a novel concept which has never been reported in the literature.

**Patients and Methods:** We included 129 consecutive RARP performed in our centre for the self-TWOC (trial without catheter) program. The exclusion criteria were: patient preference, surgeon preference due to difficult anastomosis or patients suffering from poor manual dexterity. The men who opted in were explained about self TWOC preoperatively and contacted after TWOC to fill a questionnaire. Among the 129 who opted in, 112 filled the follow-up questionnaire and therefore were included in the final analysis.

**Results:** Self TWOC was successful in all the 112 men included in the study. Patient satisfaction was high. Distance

**Table 1.** Cost analysis of self-TWOC in our study.

	Diesel car (£)	Petrol car (£)	Petrol hybrid car (£)
Cost of TWOC clinic per patient	85	85	85
Parking cost for 4 hours	5.6	5.6	5.6
Travel cost to and from hospital	15.99	16.18	9.87
Carbon Offset	0.28	0.28	0.14
Total savings	106.87	107.06	100.61

of travel avoided per patient: 79.6 +/-36.72 km (Mean +/-SD). Average travel time per patient: 77 minutes. Waiting time in hospital avoided: four hours per TWOC appointment. This also saved 85£/patient for the hospital. Our study showed fuel cost savings of 9.87 to 15.99£ per patient depending on car engine size/type. The carbon footprint calculated was 0.02 tonnes of CO<sub>2</sub> assuming average engine sized (<2.0 litre capacity) diesel/petrol cars and 0.01 tonnes of CO<sub>2</sub> for average UK petrol hybrid car. The calculated carbon offset per patient for diesel/petrol cars: 0.32£, petrol hybrid: 0.16£ (Table-1).

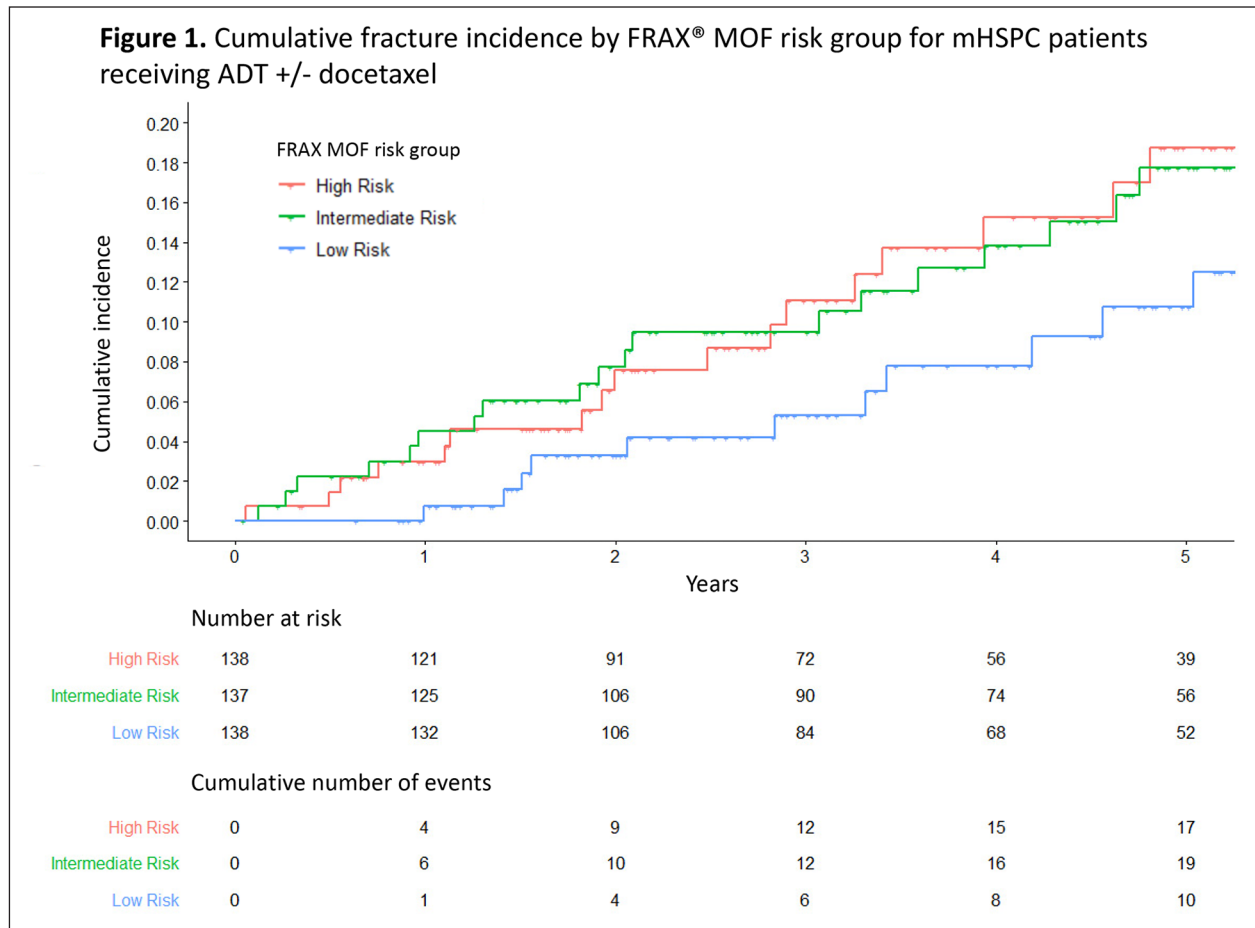
**Conclusion:** Self TWOC after RARP is feasible, safe and cost effective for the hospital and patients. With 7913 robotic prostatectomies in UK per year, our program if expanded to other units can save 158 tonnes of CO<sub>2</sub> emissions per year.

### P8-8 FRAX fracture risk and clinical fracture incidence in men with metastatic hormone sensitive prostate cancer (mHSPC): a HES-linked study in STAMPEDE trial patients

Mr Craig Jones<sup>1</sup>, Laura Murphy, Macey L Murray, Louise C Brown, Janet Brown, Eugene McCloskey, Matthew R Sydes, Nicholas D James, Noel W Clarke, Ashwin Sachdeva

<sup>1</sup>Christie and Salford Royal NHS Hospitals, Manchester, United Kingdom

**Introduction:** Current guidelines do not routinely recommend bone protection agents (BPA) in men with mHSPC receiving androgen deprivation therapy (ADT). FRAX<sup>®</sup> calculates mean 10-year major osteoporotic fracture (MOF) risk, but its utility in men with mHSPC on ADT is unknown. Hospital Episode Statistics (HES) for STAMPEDE trial patients in England were used to assess fracture incidence and compared with baseline fracture probabilities calculated by FRAX.



**Materials and Methods:** HES data until January 2018 were obtained for mHSPC patients recruited to STAMPEDE's Arm A (ADT) and Arm C (ADT+docetaxel). Incident fracture events were identified using a prespecified coding framework of diagnosis and procedure codes. FRAX 10-year MOF risks at baseline were calculated and patients stratified into risk groups by tertile: low (<5.9%); intermediate (5.9-8.0%); and high (>8.0%).

**Results:** Linked datasets were available for 413 patients (51% relevant metastatic cohort; mean age 66 years; median follow-up 4.5 years). Clinical fracture events (not just MOF) were captured: the 5-year fracture incidence (15.8%) was substantially higher than predicted by FRAX (median 10-year MOF risk 6.8%) with no statistically significant differences between risk groups: (low = 10.8%, intermediate = 17.7%, and high = 18.7%,  $p=0.3$ ) (Figure 1). Only 2% of patients, at baseline, met the National Osteoporosis Guideline Group threshold for BPA.

**Conclusions:** Using HES data from STAMPEDE, we demonstrated the considerable fracture risk in men receiving ADT +/- docetaxel for mHSPC. These high fracture rates suggest a limited role for the current version of FRAX and other similar tools in decision-making about BPA in this setting.

### P8-9 Identifying Prognostic Factors for Poorer Mental Wellbeing Outcomes in Prostate Cancer within the Prospective MIND-P Cohort Study: An Interim Analysis

**Mr Oliver Brunckhorst<sup>1</sup>, Mr Jaroslaw Liszka<sup>1</sup>, Dr Callum James<sup>1</sup>, Dr Jack Fanshawe<sup>2</sup>, Prof Robert Thomas<sup>3</sup>, Mr Shahid Khan<sup>4</sup>, Prof Matin Sheriff<sup>5</sup>, Prof Hashim Ahmed<sup>6</sup>, Prof Prokar Dasgupta<sup>1</sup>, Mr Kamran Ahmed<sup>1</sup>, et al.,**

<sup>1</sup>King's College London, London, United Kingdom, <sup>2</sup>Queen Elizabeth Hospital, London, United Kingdom, <sup>3</sup>Bedfordshire Hospitals NHS Foundation Trust, Bedford, United Kingdom, <sup>4</sup>East Surrey Hospital, Redhill, United Kingdom, <sup>5</sup>Medway NHS Foundation Trust, Gillingham, United Kingdom, <sup>6</sup>Imperial College London, London, United Kingdom

**Introduction:** Increasing evidence demonstrates mental wellbeing impact of prostate, however, less is known about which patients suffer more. Therefore, this study aims to investigate patient, treatment, and oncological prognostic factors for multiple mental wellbeing outcomes in prostate cancer.

**Patients and Methods:** The MIND-P study is an ongoing prospective cohort study across 8 UK sites (NCT04647474). Newly diagnosed individuals are followed for 12 months



post diagnosis, with 3-monthly questionnaires evaluating mental, physical, and social wellbeing outcomes. Five mental wellbeing outcomes of interest (depression, anxiety, fear of recurrence, body image issues or masculine self-esteem) were selected. Cumulative incidence of significant wellbeing issues was calculated with univariate regression utilised to explore baseline patient, oncological and treatment factors against a composite wellbeing outcome.

**Results:** Of 300 participants recruited, 131 have completed follow up and were included in this analysis. In these 15.3% and 13.7% developed significant depression or anxiety in the first year. Overall, 48.1% of individuals developed at least one mental wellbeing issue. Treatment undergone was not associated poorer mental wellbeing, however metastatic disease at presentation was (OR 5.00,  $p=0.048$ ). Younger age (OR = 1.08,  $p=0.006$ ) and black ethnicity (OR 4.41,  $p=0.029$ ) were consistent prognostic factors for poorer mental wellbeing. Overall, the strongest prognostic factors were baseline wellbeing scores at diagnosis (OR 1.08-1.84, all  $p<0.001$ )

**Conclusions:** Mental wellbeing issues are common in prostate cancer, showing the importance of evaluating these outcomes. Patient predictive features including younger age, black ethnicity and baseline wellbeing status should be considered to ensure high risk patients are monitored.

### **P8-10 Targeted Prostate Health Checks, a novel system to identify those prostate cancer patients who failed to present during the pandemic**

**Professor Stephen Langley<sup>1</sup>, Dr Jeremy Goad<sup>3</sup>, Sister Michele Pietrasik<sup>1</sup>, Dr Alex Norman<sup>2</sup>, Dr Catherine Hodges<sup>2</sup>, Mr Lee Foster<sup>2</sup>, Mrs Stephanie Bell<sup>2</sup>, Ms Lara Brooks<sup>3</sup>, Dr Edward Bosonnet<sup>3</sup>, Dr Matthew Knight<sup>3</sup>**

<sup>1</sup>Stokes Centre for Urology, Royal Surrey Hospital, Guildford, United Kingdom, <sup>2</sup>Surrey and Sussex Cancer Alliance, Guildford, United Kingdom, <sup>3</sup>Medefer Ltd, London, United Kingdom

**Introduction:** During the pandemic the Surrey & Sussex Cancer Alliance saw a reduction in men referred with suspected prostate cancer, PC, by ~3,000 amounting to ~450 cancer diagnoses. The project set out to find those men.

**Methods:** Men aged 50-70, or 45-70 if Black or a family history of PC, were identified through GP records and sent a text inviting them to visit [www.talkprostate.co.uk](http://www.talkprostate.co.uk) to find out about PSA checks. If eligible and consenting, men were scheduled a PSA test. Funding for 24,000 PSA tests has been secured over 2 years. The pilot study **results** of 500 PSA tests are presented.

**Results:** 1549 men were texted, resulting in 700(40%) completing the survey online, 10(1.4%) by phone. Of those undertaking the survey 605(87%) qualified for and consented to a PSA test. 500 men presented for a test, in 2(0.4%) a dipstick UTI was identified and their test

postponed. 28(5.6%) of men had an abnormal age related PSA and were referred as a TWR for further assessment. The service utilises a third party supplier to reduce burden on primary care.

Of the 28 TWR referrals, 26 submitted to mpMRI, leading to 9 trans-perineal LA biopsies. All patients had clinically significant cancer: 3+4, $>5\text{mm}=6$ , 3+5=1, 4+5=2. Overall cancer detection rate test was 1.9%.

**Conclusions:** This novel way to identify men at risk of PC appears to be acceptable to patients. Only clinically significant cancer was detected. With the current rate of detection 24,000 tests should identify 459 patients - the missing men?

### **ePoster Session 9 Stones / Imaging / Upper Tract Disorders 2, Tuesday 20 June, 1400-1500, Hall 9**

**P9-1 Moses laser lithotripsy vs Thulium fibre laser for flexible ureteroscopy(f-URS) for renal stones: Is there a clear winner? Outcomes from the FLEXOR study**

**Miss Mriganka Mani Sinha<sup>1</sup>, Dr Vineet Gauhar<sup>2</sup>, Prof Bhaskar K Somani<sup>3</sup>, Group TOWER GROUP<sup>2</sup>**

<sup>1</sup>Cheltenham General Hospital, Cheltenham, United Kingdom,

<sup>2</sup>Department of Urology, Ng Teng Fong General Hospital, Singapore,

<sup>3</sup>University Hospital Southampton, Southampton, United Kingdom

**Introduction & Objectives:** Super pulsed thulium fiber laser(TFL) and the Moses laser using the holmium fiber(HLM) are used for flexible ureteroscopy and lithotripsy (f-URSL) for renal stones. The aim was to compare the outcomes of these two laser technologies in 2075 patients enrolled in the FLEXible ureteroscopy Outcomes Registry(FLEXOR) project.

**Materials & Methods:** Adult patient who underwent f-URS for renal stones between January 2018 and August 2021 were retrospectively included. Analyses was repeated after propensity score matching(PSM) to adjust for bias. One-to-one matching for age, gender, stone location, single/multiple stone, and estimated HU.

**Results:** Before PSM: 508 patients in HLM and 1567 with TFL enrolled. TFL group were significantly younger ( $46.44\pm 14.01$ ), larger stone diameter(mm) ( $14.35\pm 7.37$ ,  $p<0.001$ ), single stones (65.6% vs 42.5%,  $p<0.001$ ) and stones in the pelvis (46.4% vs 17.1%,  $p<0.001$ ). Stone density was higher in HLM group( $p=0.016$ ).

After PSM: 297 patients for each group. Pure dusting (5.7% HLM, and 28.8% TFL) and stone extraction (89.2% HLM and 40.5% TFL,  $p<0.001$ ), with using time not significantly different, total operation time significantly longer with TFL ( $74.75\pm 51.38$  vs  $62.42\pm 29.98$  minutes,  $p<0.001$ ). 11 patients who had sepsis in the TFL group and none in the HLM group ( $p=0.002$ ). SFR was significantly higher with TFL (84.8% vs 56.6%,  $p<0.001$ ).



**Conclusions:** In our global study TFL was the winner with significantly higher SFR and a better laser for treating renal stones by dusting especially in larger stones. A higher rate of sepsis however cautions its careful use. Moses is equally effective for fragmentation and extraction and urologists should counsel patients accordingly.

### P9-2 Pediatric retrograde intra renal surgery (RIRS) with Thulium fibre laser (TFL) or High power Holmium laser: Which one to choose from – An experience in 126 cases

**Miss Mriganka Mani Sinha<sup>1</sup>, Dr EG Rojo<sup>1</sup>, Dr Vineet Gauhar<sup>2</sup>, Dr Oliver Traxer<sup>3</sup>, Dr L Ea Jean<sup>1</sup>, Dr Deepak Ragoori<sup>4</sup>, Dr Daniel Castellani<sup>5</sup>, Prof Bhaskar K Somani<sup>6</sup>**

<sup>1</sup>Cheltenham General Hospital, Cheltenham, United Kingdom, <sup>2</sup>Ng Teng Fong General Hospital ( NTFGH), Singapore, <sup>3</sup>Department of Urology AP-HP, Sorbonne University, Tenon Hospital, Paris, France, <sup>4</sup>Asian Institute Of Nephrology & Urology, Hyderabad, India, <sup>5</sup>Urology Unit, Azienda Ospedaliero-Universitaria Ospedali Riuniti di Ancona, Università Politecnica delle Marche, Ancona, Italy, <sup>6</sup>University Hospital Southampton, Southampton, United Kingdom

**Introduction & Objectives:** We wanted to look at the role and outcomes of high power holmium lasers(HPL) and thulium fiber laser(TFL) for pediatric retrograde intra renal surgery(RIRS) for renal calculus, to compare the safety, efficacy with respect to Stone free rate(SFR) and complications indifferent age groups.

**Materials & Methods:** Retrospective data from 4 global centers on RIRS for children upto the age of 17 with normal pelvicalycealsystem anatomy, calculi in any location with HPL(>60watt) or TFL were included. Patients divided into two groups(Gr 1 HPL,vs Gr 2 TFL).

**Results:** 126 children, (29 Group2, 97 Group1) were included, with older children in Gr 1(P=0.004). Gr 2 had more boys(p=0.047), pre-stented(69%vs 50.5%), multiple stones(51.7% vs 30.9%), access sheath use (70.45 vs 30.1%;p=0.001). The renal stone distribution and stone diameter were comparable (9.70mm Gr1,vs10.91 Gr2). Dusting and popcorning was equally used in both with no differences in Laser and operative time.

None of the patients in Group2 needed post op stenting(23.3% in Gr1). Postop fever and transient hematuria noted in the same 5 patients in Gr1 only. While not significant SFR was higher in Gr 2 (89.7 vs 81.4%;p=0.449). 15 children in Gr 1 vs 2 in Gr2 had relook RIRS for residual fragments(RF) within 3 months of first procedure.

**Conclusions:** Both lasers were equally effective and safe in children of any age group for any stone location using popcorning and or dusting technique. TFL had a slight advantage with higher single stage SFR, lesser RF reintervention.

### P9-3 Functional outcomes from stent or nephrostomy insertion in the Scottish Malignant Ureteric Obstruction Study

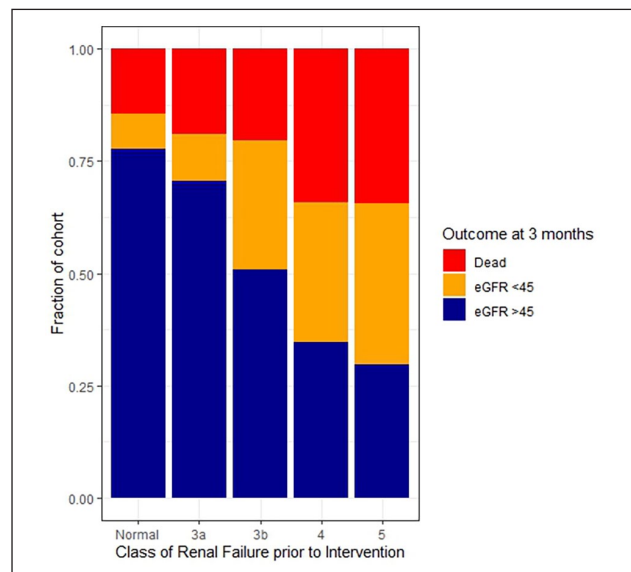
**Mr James Blackmur<sup>1</sup>, Dr Oliver Llewellyn<sup>2</sup>, Miss Rachel McLennan<sup>3</sup>, Miss Lynne Kerr<sup>4</sup>, Mr Ben Thomas<sup>5</sup>, Dr Neil Young<sup>6</sup>, Mr Paramanathan Mariappan<sup>5</sup>, Professor Alan McNeill<sup>5</sup>, Mr Seamus Teahan<sup>3</sup>, Mr Alexander Laird<sup>1</sup>, et al.**

<sup>1</sup>Department of Urology, University Of Edinburgh/NHS Lothian, Edinburgh, United Kingdom, <sup>2</sup>Radiology Department, NHS Lothian, Edinburgh, United Kingdom, <sup>3</sup>Department of Urology, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom, <sup>4</sup>Department of Urology, NHS Ayrshire and Arran, Ayr, United Kingdom, <sup>5</sup>Department of Urology, NHS Lothian, Edinburgh, United Kingdom, <sup>6</sup>Department of Radiology, NHS Tayside, Dundee, United Kingdom

**Introduction-**Malignant ureteric obstruction (MUO) is common, however there are few studies and no standard approach to management. We have previously demonstrated MUO as a marker of advanced cancer, and have developed the Scottish MUO prognostic score. To further improve patient counselling, we assessed change in renal function, and the number of changes and readmissions following intervention.

**Patients (or Materials) and Methods-**Patients were identified who underwent intervention for MUO from 6 Scottish Health Boards 2008-2020. Primary outcomes were improvement in renal function stratified by initial renal function, and number of readmissions to hospital for any reason following intervention along with total length of stay.

**Results-**In 905 patients, 433 (47.8%) and 472 (52.2%) were ultimately managed by PCN and US, respectively. The proportion of patients with eGFR>45ml/min/1.73m2 at 3-months varied significantly according to initial renal function (p<2.2e-16). Renal function at 3-months



stratified by class of initial renal failure are shown in Fig 1. There was no significant difference in number of exchanges between those managed ultimately by US or PCN (US median 1 exchange (IQR 0-4), PCN median 1 exchange (IQR 0-3),  $p=0.08$ ). Median number of hospital admissions was 2 (IQR 1-5), with median total length of stay 18 nights (IQR 8-39). In the 791 patients who died, a median of 7% (IQR 3-24%) of remaining life was spent in hospital. 78 patients spent >50% of their remaining life in hospital.

**Conclusion**—To support patient counselling, we present further clinical data that augment our Scottish MUO Score.

#### P9-4 Renal aspirate culture during ureterorenoscopy – Is it worth it?

**Miss Naomi Drye<sup>1</sup>, Mr Samuel Shillito<sup>2</sup>, Mr Agapios Gkentzis ChM FRCS (Urol)<sup>3</sup>**

<sup>1</sup>York Hospital, York, United Kingdom, <sup>2</sup>Stepping Hill, Stockport, United Kingdom, <sup>3</sup>Royal Bolton Hospital, Bolton, United Kingdom

**Introduction:** Focused antimicrobial treatment of post ureterorenoscopy infection could be aided by microbiological information gained from intraoperative urine aspirates. We assessed the microbial yield in bladder and renal aspirate cultures and compared it with the pre-operative mid-stream urine cultures to identify high risk patients and potential changes in clinical course.

**Materials and Methods:** We retrospectively reviewed 248 ureterorenoscopies, performed over 18 months and collected data on those who had intra-operative bladder and renal aspirate cultures. Data including patients' demographics, co-morbidities, pre-operative stents/nephrostomies, antimicrobial management and clinical course was collated

**Results:** Of the 248 procedures, 73 renal samples were taken, of these 32 grew positive cultures. 23 renal cultures were different from their respective bladder and pre-operative samples. 16 organisms were solely found in renal cultures. Most grew gram-negative bacteria as expected but also 10 gram-positive organisms were grown. 6 aspirates grew candida. Majority of patients having positive cultures were elderly (20), 8 had diabetes and 19 had pre-operative stent/nephrostomy. All patients with positive bacterial cultures had either been given post-operative broad spectrum antibiotics based on clinical suspicion or never developed infection and were monitored. Only candida identification resulted in clinical management change with 4 patients requiring anti-fungals (1 had sepsis and 3 persistent clinical infection). Candida was only found in patients with multiple co-morbidities.

**Conclusion:** Intraoperative renal aspirates may result in change of clinical management. We propose collecting renal aspirates during ureterorenoscopy in elderly, co-morbid, diabetic and those patients with stents/nephrostomies to tailor antimicrobial management of potential post-operative infection.

#### P9-5 Comparison of stent-related symptoms between conventional double-J stents and two novel metallic stents: a validated-questionnaire-based study

**Ms Anastasia Kantartzi<sup>1,2</sup>, Mr Christopher Khoo<sup>2</sup>, Mr Hamid Abboudi<sup>2</sup>, Mr Tamer El-Husseiny<sup>2</sup>**

<sup>1</sup>Lewisham And Greenwich Nhs Trust, London, United Kingdom,

<sup>2</sup>Imperial College Healthcare NHS Trust, London, United Kingdom

**Introduction:** Traditional management of chronic ureteric obstruction (CUO) is via double-J polymer stent or nephrostomy. Unfortunately, these are prone to failure and require regular exchange. Metallic stents have emerged as viable long-term alternative, but evidence on stent-related symptoms is lacking. This study compares the tolerability of Allium and Resonance metallic stents with conventional Double-J polymer stents.

**Method:** After obtaining institutional approval, operative records were retrospectively reviewed to identify patients with CUO managed with Double-J polymer, Allium, or Resonance stents (Jan15/Sep21). Deceased patients, those with history of nephrolithiasis, and those with iatrogenic strictures (eg post-transplant) were excluded. Eligible patients were invited to complete the Ureteral Stent Symptom Questionnaire (USSQ). Baseline demographics and stricture characteristics of participants were extracted. USSQ domain scores of metallic and polymer stent groups were compared using Mann-Whitney U / chi-squared test as appropriate.

**Results:** 78 patients were included (Allium: 10, Resonance: 26, Double-J: 42). 29 patients had benign underlying pathology (Allium: 6, Resonance: 9, Double-J: 14).

Allium vs. Double-J: no significant differences in urinary symptoms ( $p=0.1$ ), pain ( $p=0.07$ ), general health ( $p=0.24$ ), or urinary tract infection (UTI) frequency ( $p=0.36$ ). In patients with benign underlying aetiology, Allium offered improved urinary symptoms ( $p=0.034$ ) and general health ( $p=0.031$ ) (although strength is limited by sample size).

Resonance vs. Double-J: no significant differences in urinary symptoms ( $p=0.34$ ), pain ( $p=0.19$ ), general health ( $p=0.37$ ) or UTI frequency ( $p=0.163$ ).

**Conclusion:** Both Allium and Resonance are tolerated just as well as double-J stents. Allium may offer better tolerability to patients with benign aetiology.

#### P9-6 Ureteroscopy in Patients with Urinary Diversion: Outcomes and Lessons Learned from two European Tertiary Referral Centres

**Mr Vaki Antoniou<sup>1</sup>, Mr Patrick Juliebø-Jones, Mr Christian Arvei Moen, Mr Peder Gjengstø, Mr Mathias Sørstrand Æsøy, Mr Christian Beisland, Mr Øyvind Ulvik, Professor Bhaskar Somani**

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**Introduction:** Ureteroscopy (URS) in patients with urinary diversion (UD) is technically challenging. In this

study, we evaluate safety and efficacy of URS in this select patient subgroup.

**Materials and Methods:** URS procedures (antegrade and retrograde), performed between 2010 and 2022 (12-years) at two tertiary centres in Europe were retrospectively analysed. Technical success, complications (intra- and post-operative), stone free rate (SFR), and hospital stay were analysed.

**Results:** 72 URS procedures in 50 patients were included. Most subjects (82%) had an ileal conduit. Of these, Wallace was the most common anastomosis (64%). Indications for treatment included urolithiasis (30%), suspected malignancy/recurrence (33%), hydronephrosis with concomitant suspected stricture (36%) and miscellaneous (1%). Mean operative time and hospital stay were 49 mins (range:11-126) and 1 day (range:0-10) respectively. Mean time between original surgery and URS was 79 months (range:3-696). 86% of patients underwent retrograde URS, in whom 81% had successful ureteric orifice (UO) cannulation. Inability to access the UO was the commonest reason for this failure. All antegrade cases were successful in ureteric access. Postoperative complications were recorded in 4 patients (6%). These included UTIs and arrhythmias, with one major complication (urosepsis requiring ICU admission – Clavien Dindo IV). SFR was 81% when defined as residual fragments  $\leq$  2mm and 75% when defined as zero residual fragments. At follow up, there were no new cases of stricture formation.

**Conclusion:** Despite the surgical challenges this patient group present, URS can be performed both safely and effectively in a tertiary endourology practice.

### **P9-7 A multicenter propensity score matched pair study in 313 patients comparing percutaneous nephrolithotomy versus retrograde intra renal surgery for management of urolithiasis in calyceal diverticulum**

**Miss Mriganka Mani Sinha<sup>1</sup>, Prof Bhaskar Kumar Somani<sup>2</sup>, Dr Daniele Castellani<sup>3</sup>, Dr Deepak Ragoori<sup>4</sup>, Dr Abhay Mahajan<sup>5</sup>, Dr Pankaj Nandkishore Maheshwari<sup>6</sup>, Dr Nariman Gadzhiev<sup>7</sup>, Dr Yiloren Tanidir<sup>8</sup>, Dr Bin Hamri Saeed<sup>9</sup>, Dr Olivier Traxer<sup>10</sup>, Dr Vineet Gauhar<sup>11</sup>**

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Abdulaziz National Guard Medical City, Saudi Arabia, <sup>10</sup>Department

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<sup>11</sup> Ng Teng Fong General Hospital ( NTFGH), Singapore

**Introduction & Objectives:** Management of calyceal diverticulum (CD) is retrograde intrarenal surgery (RIRS) or Percutaneous nephrolithotomy (PCNL). We aimed to assess preferences, complications and outcomes of treatment by both approaches.

**Materials & Methods:** Retrospective Data of 313 patients from 10 countries was evaluated for patient demographics, peri-operative parameters and outcomes. Propensity score-matching (PSM) was then performed matching for baseline characteristics of age, gender, stone type (single  $<$  1 cm, single  $>$  1 cm, or multiple), diverticulum location, and stone size classification.

**Results:** Before PSM: While PCNL was preferred for single stones and malrotated kidneys, and RIRS for recurrent and multiple stones. Post intervention if no dilatation/widening of diverticulum mouth was done residual fragments (RF) ( $p < 0.001$ ) was significantly higher. 15 (8.1%) RIRS cases needed conversion to either PCNL or Endoscopic combined intrarenal surgery (ECIRS) for completion and only 6 (4.7%) PCNL cases needed ECIRS.

After PSM: Similar findings as above, however significantly more PCNL patients had transient intra-op bleeding but did not preclude surgery. Post operative bleeding, sepsis, perirenal collections and overall stone free rate was similar. On Multivariate analysis, using a Thulium fiber laser (TFL) had a higher SFR ( $p = 0.009$ ). 74 patients had difficult diverticulum access where pain was the main presenting complaint. RIRS was preferred here especially in lower pole and had a significantly higher SFR (78%,  $p = 0.031$ ).

**Conclusions** Our series is the first multicenter study to compare and contrast the utility of the two endourological approaches for renal diverticular urolithiasis. Traditionally PCNL was the goto intervention but currently RIRS seems to be equally effective and even preferred when the access particularly in lower pole is difficult.

### **P9-8 Is Primary Treatment Of The Stone Safe In The Presence Of Urosepsis?**

**Dr Andrew McIntyre-robinson<sup>1</sup>, Dr Geena Loke<sup>1</sup>, Dr Carmella Catlow, Mr Jonathan Masters<sup>1</sup>**

<sup>1</sup>Whangarei Hospital, Whangarei, New Zealand

**Introduction:** Renal colic is one of the commonest urological emergencies in New Zealand and associated urosepsis can be life threatening. Commonly, in the presence of urosepsis, a stent is initially placed, but is it safe to treat the stone?

**Methods:** A five-year retrospective cohort study of all patients who presented acutely to a Health Board hospital with urolithiasis. The presence of urosepsis, treatment modality, and outcome data were analysed.

**Results:** There were 1009 acute presentations with urolithiasis by 864 patients. Of these, there were 105 presentations with urosepsis. 71 presentations were managed

with surgical intervention, 14 underwent primary treatment of the stone and 57 were stented. In primary treatment, 10 (71%) had no complications and 2 (14%) had a grade III or IV complication (Clavien-Dindo classification). These rates were lower than the stent only patients where 37 (65%) had no complications and 14 (25%) had a grade III or IV complication. Median stone size in primary treatment was 8 mm compared to 12 mm in those stented. Median post-op length of stay in those with primary treatment was 3 days which was the same as in those stented.

**Conclusion:** Primary treatment of the stone in this selected group of patients was at least as safe as stenting alone. In addition, primary treatment meant that patients did not need to return for further surgery to treat the stone. Our data may suggest it is time for a randomised controlled trial of primary treatment of the stone in urosepsis.

### **P9-9 Covid Killed Kidneys: a comparison of the management of benign non-functioning kidneys before and during the COVID era**

**Dr Chirag Rao<sup>1</sup>, Mr Zhi-Yang Low<sup>2</sup>, Ms Siobhan Price<sup>2</sup>, Ms Dani Velinova<sup>2</sup>, Mr Vimoshan Arumham<sup>2</sup>, Ms Sian Allen<sup>2</sup>, Mr R. Daron Smith<sup>2</sup>**

<sup>1</sup>Epsom And St Helier University Hospitals NHS Trust, London, United Kingdom, <sup>2</sup>Institute of Urology, University College London Hospitals NHS Foundation Trust, London, United Kingdom

**Introduction:** A symptomatic non-functioning kidney (NFK) is best managed by benign nephrectomy, with or without prior nephrostomy/stent drainage. Given its effect on urological surgery, particularly for benign disease, we evaluated the impact of COVID-19 on the management of NFKs.

**Patients and Methods:** We performed a retrospective analysis of a database of 145 NFK (defined as  $\leq 15\%$  by MAG3 renography) identified at our endourology MDT. 78 NFK during COVID-19 (01/01/2020-31/12/2021) were compared to 62 historical cases (01/01/2006-31/12/2018).

**Results:** The mean incidence of NFK was 4.8 per year pre-COVID (median age 55) increasing to 39.0 per year (median age 62) during COVID. Extrinsic oncological obstruction accounted for 21% [13/62] of NFK pre-COVID doubling to 41.0% [32/78] ( $p=0.02$ ) during COVID.

Patients were more likely to be managed conservatively (29.5% [23/78] vs 11.3% [7/62] ( $p=0.01$ )) and less likely to undergo nephrectomy (26.2% [12/62] vs 10.26% [8/78] ( $p=0.15$ )) before and during COVID respectively.

Although the requirement for drainage was not significantly different in the two eras, 88% [22/25] were stented pre-COVID reducing to 51.5% [17/33] during COVID, with the remaining 48.5% [16/33] drained via nephrostomy ( $p=0.002$ ).

**Conclusion:** These data support the title "COVID Killed Kidneys" with the incidence of NFKs increasing more than eight-fold during the COVID-era. This was driven by later/more advanced presentation, especially oncological obstruction, with irretrievable loss of renal function. Due to limited theatre access, NFK were significantly more likely to be managed conservatively, have a nephrostomy rather than a stent, and less likely to have a definitive nephrectomy than before COVID.

### **P9-10 Endoscopic Management of Upper Tract Urothelial Carcinoma at a Tertiary Centre Over An 11-Year Period-A Retrospective Single Cohort Analysis**

**Mr Paul Gravestock<sup>1</sup>, Mr Bhavan Prasad Rai<sup>1</sup>, Mr Alistair Rogers<sup>1</sup>, Mr Matthew Shaw<sup>1</sup>, Mr David Rix<sup>1</sup>, Mr Rajan Veeratterapillay<sup>1</sup>**

<sup>1</sup>Freeman Hospital, Newcastle Upon Tyne, United Kingdom

**Introduction:** Ureteroscopic Ablation (UA) is an option in carefully selected patients with Upper Tract Urothelial Carcinoma (UTUC). We present mid-term oncological outcomes of ureteroscopically managed UTUC.

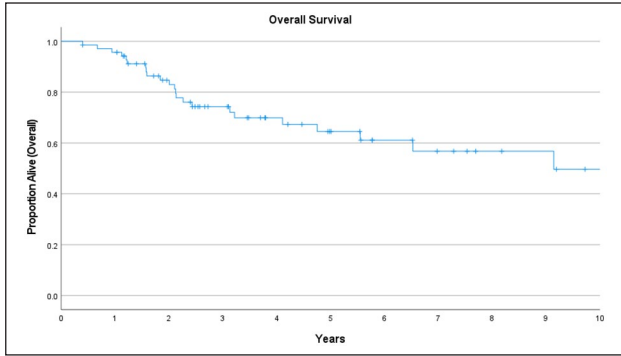
**Patients and Methods:** We retrospectively identified patients who underwent UA for suspected UTUC over an 11-year period (2010-2021). Patient records were reviewed with data collected about demographics, histology, further management and outcomes. Outcome measures included recurrence, progression, salvage nephroureterectomy (RNU) and mortality. Descriptive and survival analyses were performed in SPSS, the latter represented using Kaplan-Meier curves.

**Results:** 67 patients underwent UA for UTUC, of which 61 (91%) were successfully cleared endoscopically. The median (IQR) age was 76 (73-80) years, male:female ratio was 1.3:1. 38 patients (57%) had a prior history of bladder cancer (BC). 64 patients (96%) had disease which was non-invasive and 52 (78%) had disease which low grade. 36 patients (54%) were deemed fit to undergo an RNU. The median (IQR) follow up was 4.6 years (2.5-7.6 years). 5 patients (7%) underwent surgical management, 4 salvage RNU and 1 distal ureterectomy. 6 patients (10%) with no prior history of BC, developed bladder recurrences.

5-year recurrence free survival for all sites of recurrence was 39.6% (95% Confidence Interval (CI) 26.5%-52.8%) for upper tract recurrence only it was 52.5% (95% CI 38.7%-66.2%). 5-year cancer specific and overall survival was 83.2% (95% CI 72.5%-93.8%) and 62.6% (95% CI 49.7%-75.6%) respectively.

**Conclusions:** UA can be appropriately offered for UTUC in carefully selected patients with reasonable mid-term oncological outcomes





**ePoster Session 10 General Urology I, Tuesday 14 June, 1400-1500, Hall 10**

**P10-1 Aquablation Therapy® vs Transurethral Resection of the Prostate: 5-year Outcomes of the WATER Randomized Clinical Trial for Medium-sized Prostates**

**Mr Richard Hindley<sup>1</sup>, Dr Kussil Oumedjbeur, Dr Ahmed Ibrahim, Dr Imad Matta, Dr David-Dan Nguyen, Dr Adel Areski, Dr Iman Sadri, Dr David Bouhadana, Dr Tawfik Elsherbini, Prof Peter Gilling, Mr Neil Barber, Dr Mihir Desai, Dr Alexis E Te, Dr Claus G Roehrborn, Dr Kevin C Zorn**

<sup>1</sup>Hampshire Hospitals FT, Basingstoke, United Kingdom, <sup>2</sup>University of Winchester, Winchester, United Kingdom

**Introduction:** To date, no long-term superiority endpoints have been reported for medium-sized prostates.

In this subset analysis of the WATER study, we aim to compare the 5-year efficacy and safety of Aquablation® vs. TURP for the management of 50-80mL prostates.

**Patients and Methods:** WATER is a double-blinded, multicenter prospective randomized-controlled clinical trial for prostates 30-80 mL. 96 randomized men with prostates 50-80 mL from the initial cohort were retained for the subset analysis. Men received follow-up at 1, 3, 6 and 12 months, then annually up to 5 years. The primary efficacy endpoint was reduction of IPSS at 5-year follow-up. The primary safety endpoint was the occurrence of Clavien-Dindo postoperative complications grade 1 persistent (CDIP) and grade 2 (CD2) or higher at 6 months.

**Results:** Overall reduction in IPSS score was significantly higher in the Aquablation group across 5 years of follow-up (-14.1 vs. -10.8, p=0.02). The Aquablation group displayed no changes in MSHQ-EjD score, while TURP yielded poorer questionnaire scores (0.6 vs -2.1, p=0.01). The Aquablation group achieved a significantly lower rate of CDIP and CD2 or higher events at 6 months follow-up (RD = -23.1%; 95% CI [-29.9, -15.5]). Among recorded complications, post-operative ejaculatory dysfunction was notably lower in Aquablation® (RD = -21.9%; 95% CI [-32.5, -10.7]), while risk of bleeding remained similar.

**Conclusion:** Aquablation Therapy® yields better long-term efficacy and safety outcomes than TURP in the management of LUTS for volumes of 50-80 mL, supporting the case for adoption of Aquablation Therapy® for men with medium-sized prostates.

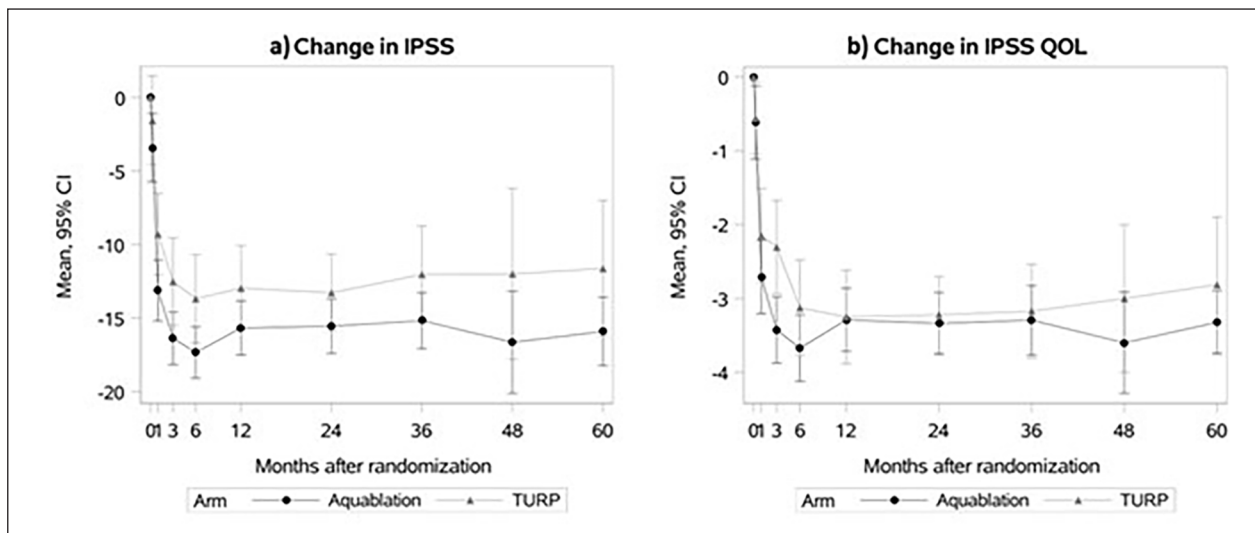
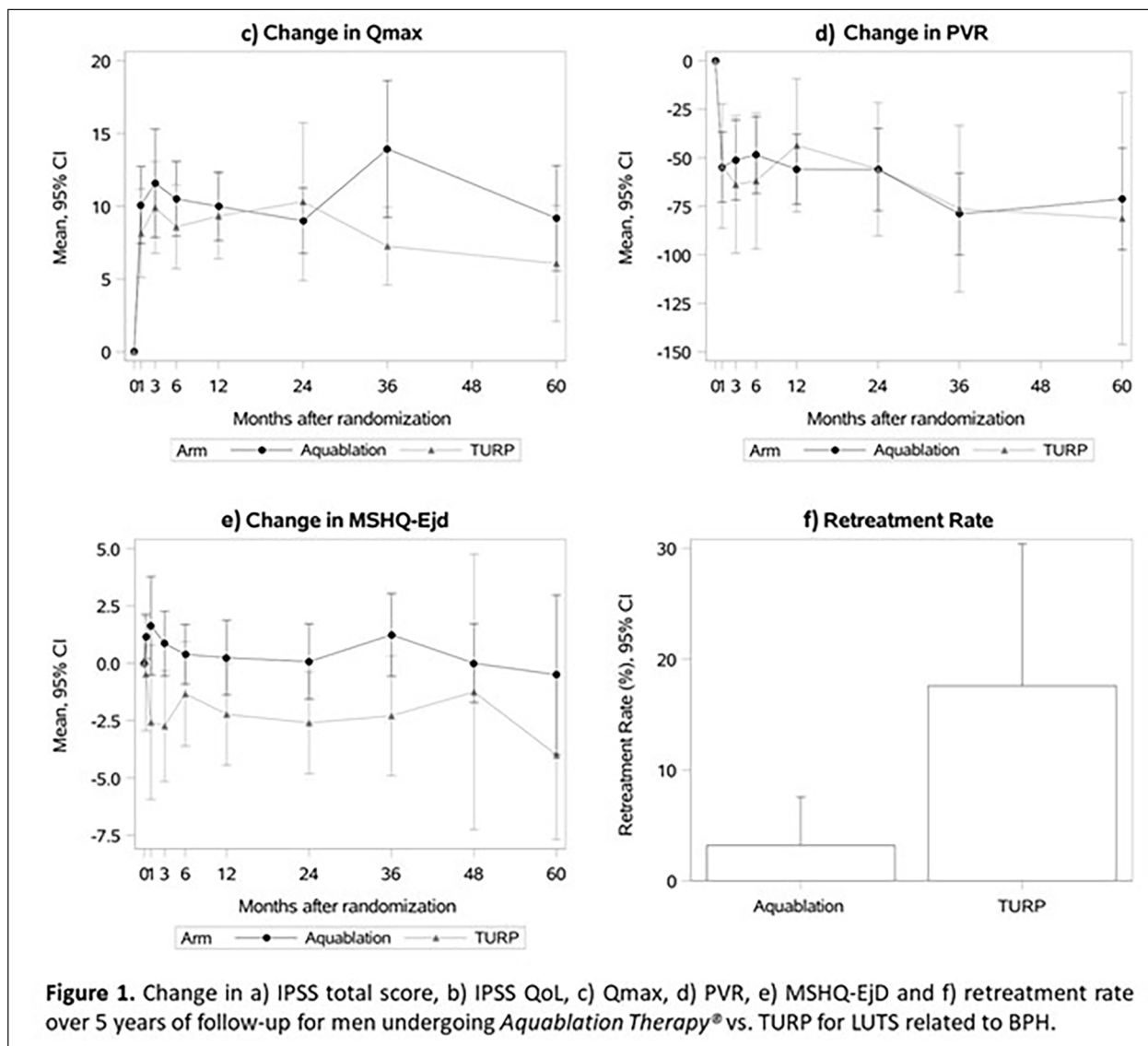


Figure 1. (Continued)



(Continued)



### PI0-2 Aquablation for Benign Prostatic Hyperplasia in Large Prostates (80-150mL): FINAL 5-year Results

Mr Neil Barber<sup>1</sup>, Dr Naeem Bhojani, Dr Mitch Humphreys

<sup>1</sup>Frimley Health, Camberley, United Kingdom

**Introduction:** WATER II is a prospective, multicentred, international study evaluating the efficacy and safety of Aquablation of the prostate in treating the larger volume prostate.

**Methods:** 101 men with moderate-to-severe BPH symptoms and prostate volumes between 80-150mL underwent a robotic-assisted Aquablation procedure in a prospective multicentre international trial. Herein we report the final 5-year results.

**Results:** The study successfully met its safety and efficacy performance goal, which was based upon TURP outcomes typically done in smaller prostates, at three months. Mean prostate volume was 107mL (range 80-150mL). Mean operative time (TRUS in to catheter in), was 55 minutes (range 24-111 minutes) and mean Aquablation resection time was 8 minutes (range 2.5-17 minutes). Most (89%) adverse events were low grade defined as either non-procedure related or Clavien-Dindo grade 2 or less. There was no reported de novo erectile dysfunction and 15% of patients developed ejaculatory dysfunction. The TRUS results showed a 42% reduction in prostate volume at 3 months, which aligned to the 44% reduction in serum PSA at 6 months. At 5-years, IPSS scores improved from 23.2 at baseline to 6.9 and Qmax improved from 8.7 cc/sec at baseline to 18.6 cc/sec. Improvements in both IPSS, IPSS

Quality of Life, Qmax, and PVR were immediate ( $p < .0001$ ) and sustained ( $p < .0001$ ) throughout the follow-up period, Figure 1. The annualized retreatment rate was less than 1% per year.

**Conclusions:** At 5-year of prospective follow-up, the Aquablation procedure was shown to be safe and effective in men with large prostates (80-150mL). ClinicalTrials.gov number, NCT03123250.

**P10-3 Undertreatment affects Prostatic Urethral Lift (PUL) durability in pooled analysis of 330+ subjects**

**Dr Neil Barber<sup>1</sup>, Dr Claus Roehrborn, Dr Steven Gange, Dr Mark Rochester, Dr Peter Chin**  
<sup>1</sup>Frimley Park Hospital, Camberley, United Kingdom

**Introduction:** In this analysis of 330 subjects treated with PUL in a controlled trial setting, we examine how baseline and procedural variables underlie treatment durability.

**Materials and Methods:** Patients from five PUL controlled studies were aggregated to create a logistic regression analysis. A lack of surgical retreatment for BPH at 1- and 5-years post-PUL was defined as ‘successful durability.’ Covariates used included prostate volume, age, BMI, race, medical history, proxies of disease severity, and procedural characteristics.

**Results:** PUL was durable in most subjects at 1 and 5 years in these controlled studies. Increasing numbers of

implants were placed as prostate volumes increased; 4.8 implants were placed on average. No patient who received 7 or more implants required surgical retreatment during follow-up.

**1-year durability:** Baseline IPSS total score did not impact durability; medical and surgical failure were predicted by increased hesitancy/straining at baseline. Fewer overall implants and lower implant-to-prostate volume ratio predisposed subjects to surgical retreatment or return to medication.

**5-year durability:** The surgical retreatment rate was 13.7% at 5 years, impacted by incomplete emptying at baseline. High dissatisfaction on baseline quality of life scores, high total IPSS scores, and high IPSS obstructive domains predicted both medical and surgical retreatment. Durability was found to be independent of additional factors examined at all timepoints.

**Conclusions:** Undertreatment is associated with lack of durability at 1-year post-PUL and implant density is higher in patients who avoided surgical retreatment. Baseline IPSS symptoms primarily affected 5-year durability.

**P10-4 Prostatic Urethral Lift (PUL) provides consistent patient experience outcomes for men with lateral and median lobe obstruction**

**Dr Neil Barber<sup>1</sup>, Dr Gregg Eure, Dr Karl-Dietrich Sievert, Dr Christian Gratzke, Dr Daniel Rukstalis**  
<sup>1</sup>Frimley Park Hospital, Camberley, United Kingdom

**Introduction:** The novel BPH6 endpoint examining recovery and sexual function preservation in lateral lobe (LL) obstruction is applied to patients with obstructive median lobes (OML) treated with PUL.

**Materials and Methods:** The BPH6 composite endpoint was applied to 45 OML subjects from the MedLIFT study (single arm; PUL for OML) (Table 1). Responders were defined as subjects that attained each element at 12 months post-treatment; achievement rates were compared to LL subjects treated with TURP and PUL (from the BPH6 RCT). OML and LL patient satisfaction data was pooled and a logistical regression conducted to examine variables associated with 12-month post-treatment patient satisfaction.

**Results:** OML patient responder rates were 53%, consistent with PUL LL responder rates (Table 1).  $\geq 80\%$  of OML patients indicated their quality of recovery was very good and achieved at least 30% symptom improvement from baseline. In terms of quality of recovery and ejaculatory function preservation, OML subjects maintained superiority over TURP LL patients and did not experience any high-severity AEs. At 12 months post-treatment, 89.5% of PUL

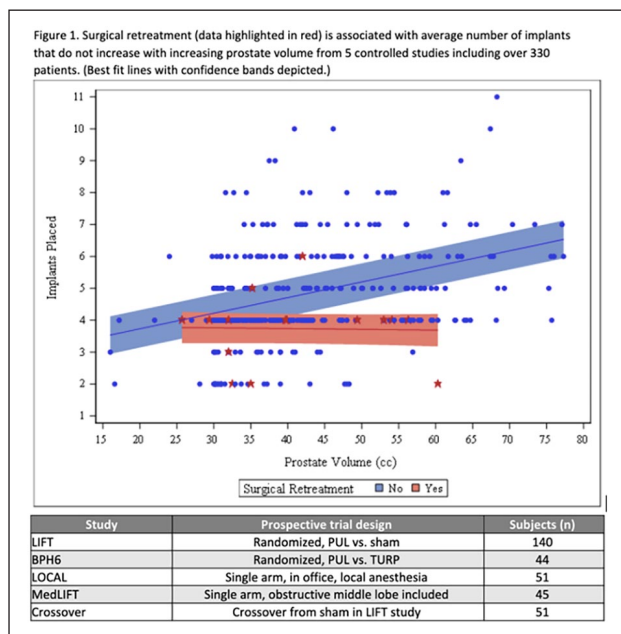


Table 1 – Summary of response rates for the BPH6 endpoint and the six individual elements at 12 mo for OML and LL patients treated with PUL or TURP			
	MedLift OML n/N (%)	BPH-6 PUL LL n/N (%)	BPH-6 TURP LL n/N (%)
BPH6 endpoint	53% (24/45)	52% (23/44)	20% (7/35)
LUTS element (IPSS reduction ≥30%)	80% (36/45)	73% (32/44)	91% (31/34)
Recovery element (QoR VAS ≥70%)	82% (37/45)	82% (36/44)	53% (18/34)
Erectile function element (SHIM reduction <6)	95% (39/41)	97% (38/39)	94% (31/33)
Ejaculatory function (MSHQ-EjD #3 not zero)	100% (41/41)	100% (39/39)	61% (20/33)
Continence element (ISI <5)	91% (38/42)	85% (35/41)	75% (24/32)
Safety element (no CD grade II+)	91% (40/44)	93% (38/41)	79% (26/33)

subjects rated their urinary symptoms as ‘very much better’, ‘much better’, or ‘a little better.’ Responders were found to have significantly better Qmax at baseline; continuous improvement in post-treatment IPSS, QoL, MSHQ-EjD and BPHII corresponded with satisfaction.

**Conclusions:** Patients with median and lateral lobe obstruction treated with PUL experience similarly high rates of patient satisfaction.

#### P10-5 Success Predictors and Long-term Durability in Acute Urinary Retention (AUR) Patients Treated with the Prostatic Urethral Lift (PUL)

**Dr Mark Rochester<sup>1</sup>, Dr. Oliver Kayes, Dr. Neil Barber, Dr. Rajesh Kavia, Dr. Toby Page, Dr. Nikesh Thiruchelvam, Dr. Gregg Eure**

<sup>1</sup>Norfolk And Norwich University Hospital, Colney, United Kingdom

**Introduction:** Voiding restoration may be accelerated in AUR patients by shifting treatment to day-case procedures such as PUL. This analysis examines patient and procedural characteristics underlying PUL treatment success and durability in AUR patients.

**Materials and Methods:** To assess factors associated with successful PUL outcomes, a logistical regression model was constructed using covariates including age,

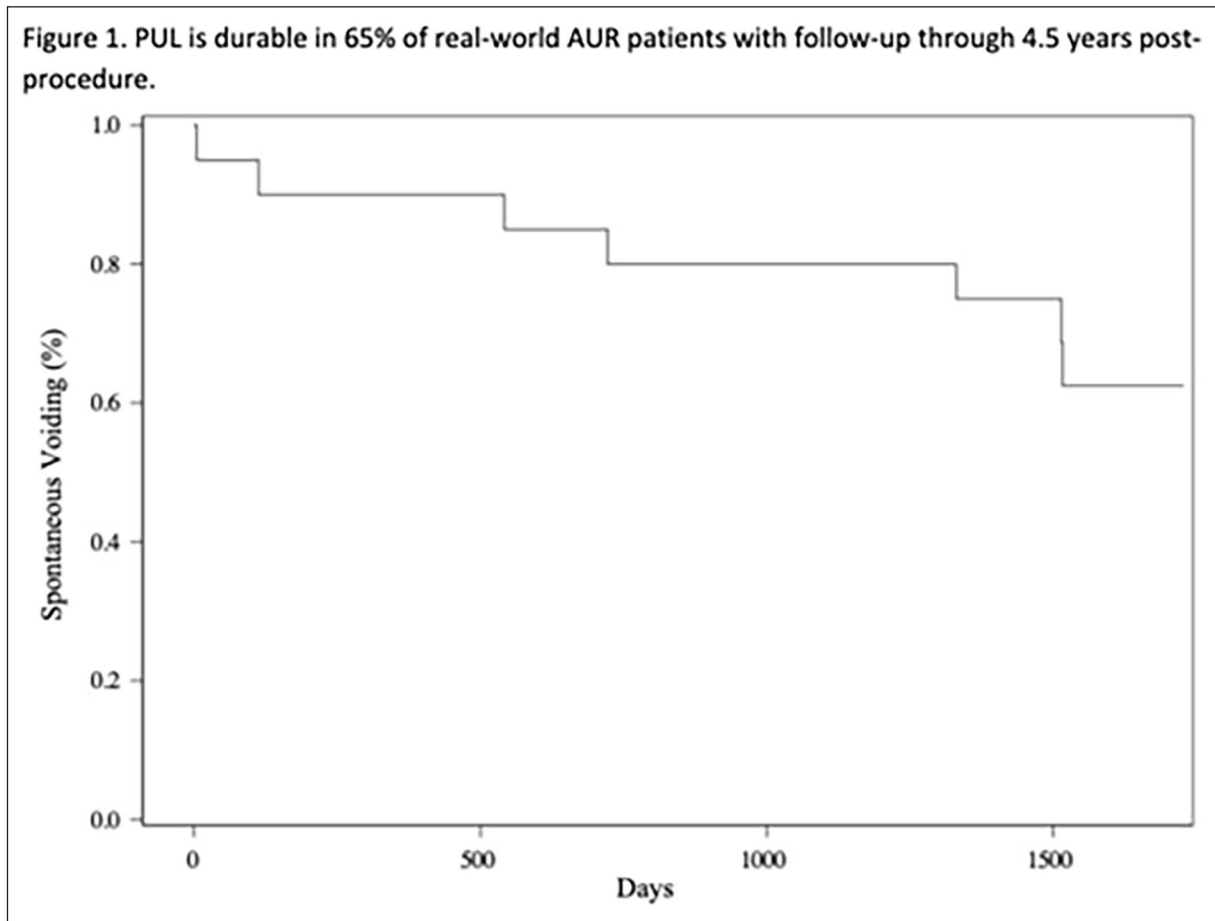
prostate volume, proxies of BPH disease severity, medical history, and procedural details from the PULSAR study (single arm PUL in AUR; n=51) and retention patients from the Real-World Registry (RWRr; n=388). **Results** were reported as odds ratio point estimates with chi-squared tests quantifying statistical significance. Outcomes for 20 PULSAR patients with follow-up through 4.5 years post-PUL were incorporated to assess long-term procedural durability.

**Results:** 73% of PULSAR subjects were catheter and surgery free 12-months post-PUL, with higher bladder voiding efficiency (BVE) predicting success during the post-operative period. Analysis of the combined PULSAR and RWRr groups revealed higher BVE and age <70 years were predictive of success (Table 1). 65% of long-term follow-up patients (13/20) remained catheter-free at 4.5 years post-PUL; compared to patients whose PUL procedure failed, patients with durable voiding had smaller prostates and better IPSS and QoL scores. Patients that failed had longer-than-average pre-procedure catheter durations; surgical failures alone had a lower-than-average post-procedure BVE (Fig. 1).

**Conclusions:** In a subset of PULSAR subjects, PUL is durable in 65% of patients through 4.5 years. Suboptimal PUL outcomes are associated with higher baseline PVR and PSA, advanced age, and longer pre-procedure catheter durations.

Table 1. Univariate patient and procedural characteristics predictive of resolution of retention following PUL				
Covariate	Responder Mean	Failure Mean	Odds Ratio	P-value
<b>PULSAR</b>				
Voiding efficiency	54	29	1.02	<0.05
<b>RWR Retention (RWRr)</b>				
Age <70	69.5	72.3	1.78	<0.05
PSA	3.1	5.8	1.06	0.05
PVR	228.9	504.4	1.00	<0.01
Pre-procedure catheter (days)	43.5	204.2	1.00	<0.01
<b>Combined (PULSAR &amp; RWRr)</b>				
Age <70	69.7	72.7	2.04	<0.01
Voiding efficiency	59.0	32.0	1.02	0.02
Pre-procedure catheter (days)	53.2	198.7	1.00	<0.01

Figure 1. PUL is durable in 65% of real-world AUR patients with follow-up through 4.5 years post-procedure.



**P10-6 Efficacy of modified mini bladder neck incision with prostatic urethral lift in men with LUTS secondary to high tight bladder neck and BPE: Single Urology Institution's Experience**

**Dr Rami Abuseedou<sup>1</sup>, Mr Keng NG, Mr Neil Barber**  
<sup>1</sup>Frimley Park Hospital, Surrey, United Kingdom, <sup>2</sup>Frimley Health, Surrey, united kingdom

**Introduction:** Prostaticurethral lift (urolift) has been one of the Mainstay of minimally invasive prostate surgery which used in treatment of male LUTS due to BPE. Advantages include day case surgery with early recovery and symptomatic improvement without impacting sexual function postoperatively. However, in a cohort of men with BPE associated with high tight bladder neck, urolift

alone is not sufficient. Therefore, we have employed modified mini bladder neck incision (BNI) combined with urolift to target both bladder neck and prostate obstruction.

**Methods:** Retrospective review of Mini BNI and Urolift carried out from Sept 2019 to April 2022. A Single 6 o'clock mini shallow vertical incision with Collin's knife followed by urolift to the lateral lobes of prostate. Data including IPSS, flowmetry, sexual function and patient satisfaction were recorded pre and post procedure.

**Results:** 30 operations were performed with median age of 70 and mean prostate volume of 40mls. All patients were discharged same day and 90% were sent home catheter free while others had successful TWOC following next 2-3 days. mean IPSS improved from 17 to 8. Qmax showed an improvement of 60%. More importantly, mean quality of life (QoL) reduced from 4.7 (unhappy) to 2.3 (mostly satisfied). All men describe no worsening of erectile function while maintaining antegrade ejaculation. No postoperative complications were recorded except one UTI case.

**Conclusion:** For specific cohort of men with enlarged prostate and tight bladder neck, modified mini BNI and urolift have proven to be effective and safe minimally invasive treatment while preserving sexual function.

### P10-7 Is Power Everything in HoLEP Surgery? Efficiency of a Low-Power Holmium Laser at Enucleating Large Prostates

**Mr Mohamed Hassan<sup>1</sup>, Mr Anish Pushkaran<sup>1</sup>, Mr Rickaz Raheem<sup>1</sup>, Mr Angus Campbell<sup>1</sup>, Mr Mohammed Saleemi<sup>1</sup>, Mr Barnaby Barrass<sup>1</sup>, Mr Ian Nunney<sup>2</sup>, Mr Farooq Khan<sup>1</sup>**

<sup>1</sup>Luton & Dunstable NHS Foundation Trust, Luton, United Kingdom,

<sup>2</sup>Norwich Medical School, Norwich, United Kingdom

**Introduction:** Holmium laser enucleation of the prostates (HoLEP) can be performed at lower power settings. Scepticism continues about the ability of 50W laser systems to efficiently achieve prostate enucleation, especially in large prostates. We present from our single series data of almost 1100 HoLEPs our enucleation rate and outcomes for prostates greater than 80cc with a 50W laser.

**Methods:** 374 HoLEPs greater than 80cc (TRUS/ MRI volume) were completed by surgeons (Auriga XL, Boston Scientific Inc., Piranha morcellator, Richard Wolf). Pre and post-operative data including stop-clock enucleation and wet weight were accurately recorded. Mentorship was provided by a senior 100W HoLEP surgeon from an adjoining hospital

**Results:** Statistical analysis: paired t-test by an independent bio-statistician (IN).

Mean values: age 72.8, TRUS volume 121.7cc, enucleated weight 82.4g (95% CI 78.56-86.29), enucleation rate 1.38g/min (95% CI 1.32-1.45, median 1.27g/min) with

higher rates noted of 1.58g/min individually (FK, 95% CI 1.45-1.70, median 1.47 g/min).

Post-operatively mean values: IPSS fell by 14.0 (95% CI -15.52-12.50  $p < 0.0001$ ), Qmax increased 13.4 ml/s (95% CI 10.63-16.11  $p = < 0.0001$ ), hospital stay 1.06 days, Hb fall of 1.56 g/dl (95% CI -1.75-1.38  $p < 0.0001$ ). Post-op stricture rate 2.9% and bladder neck contracture 3.1%. 8 transfusions noted (0.72%) with a return to theatre of 6 cases (0.55%). Incidental cancer detection 7.66% and redo of 5 cases (0.45%), proven sphincter injury in 2 cases (0.18%) across the whole series.

**Conclusion:** Low power lasers enucleate large prostates at efficient rates. A balance between power, technique and directed mentorship are more important than power alone.

### P10-8 Defining the Learning Curve in HoLEP Surgery from a Contemporary Series of 1000 Cases

**Mr Anish Pushkaran<sup>1</sup>, Mr Mohammed Hassan<sup>1</sup>, Mr Richaz Raheem<sup>1</sup>, Mr Angus Campbell<sup>1</sup>, Mr Mohamed Asad Saleemi<sup>1</sup>, Mr Barnaby J R Barrass<sup>1</sup>, Mr Ian Nunney<sup>2</sup>, Mr Farooq Khan<sup>1</sup>**

<sup>1</sup>Luton & Dunstable NHS Foundation Trust, Luton, United Kingdom,

<sup>2</sup>Norwich Medical School, Norwich, United Kingdom

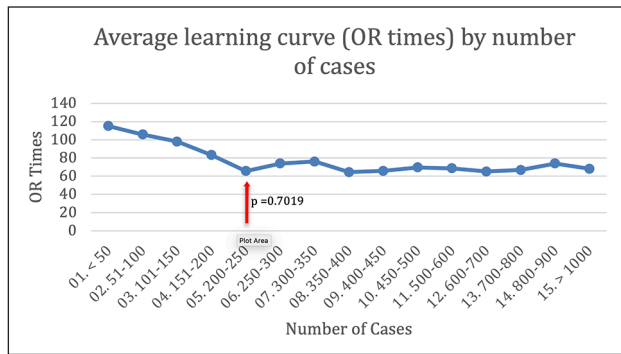
**Introduction:** The learning curve for HoLEP surgery is debatable. Reports suggest that this sits at 50 cases but to achieve a pentafecta model requires approximately 250 cases. Enucleation times and operating room times (OR - enucleation and morcellation) are parameters to define this concept. We suggest the learning curve is not defined by a small number of cases from our dataset of a de novo HoLEP service.

**Methods:** Two HoLEP naïve surgeons completed 1096 HoLEPs (MAS & FK) over 7.5 years using a 50W Holmium laser (Auriga XL, Boston Scientific Inc., Piranha morcellator, Richard Wolf). Accurate stop-clock enucleation, morcellation and total (OR) times were prospectively recorded. Cases banded and analysed to look for a transition point in OR times to plateau. Mentorship provided by a senior HoLEP surgeon.

**Results:** Statistical analysis was provided by an independent bio-statistician (IN) using SAS v9.4 software. A mixed linear model to investigate the effect of experience (number of cases performed) and OR times was calculated. Adjusted mean estimates and 95% confidence intervals were reported between bands of 50 cases.

OR times began to statistically reduce in the band 151-200 cases ( $p = 0.0013$ ) and plateau at 200-250 cases ( $p = 0.7019$ ) indicating consistent reproducible operating times for the two surgeons, that consistently then remained so. Rate of enucleation continued to improve indicating that surgical competency continues to develop with increasing experience.





**Conclusion:** We believe the HoLEP learning curve sits around 200-250 cases. This will support structured mentorship programs to new HoLEP surgeons around the country.

**PI0-9 Transperineal Laser Ablation (TPLA) of the prostate. The first UK patients treated**

**Mr Chris Ogden, MR Abul Kashim Mohammed Anisul Haque, Ms Deepa Leelamany**

<sup>1</sup>UCL and Princess Grace Hospitals, London, United Kingdom

**Introduction:** Transperineal laser ablation (TPLA) has been introduced as a novel minimal invasive treatment for BPO. This 1064-nm diode laser induces coagulative necrosis. Moreover, TPLA is unique because it has a transperineal approach and can be performed under local anesthesia in an outpatient setting. We present the first cases performed on patients in the UK

**Patients:** Five patients on the waiting list for surgical treatment of BOO were offered the procedure after full disclosure of the novel nature of the procedure and the limited available published outcomes from the procedure. (full ethics and new procedure committee permission granted) Eligible patients were men ≥40 years of age, with a prostate volume of 30 to 120 cc, having urodynamically proven bladder outlet obstruction, and having a peak urinary flow of 5 to 15 mL per second. All patients underwent TPLA of their prostate under general anesthesia by using the EchoLaser system. Depending on the prostate volume, 2 to 4 laser fibers were placed bilaterally into the prostate. Patient follow-up consists of uroflowmetry,

PROMs, and imaging by using ultrasound. Total follow-up is at three months following treatment.

**Results:** All five patients had no perioperative complications. 80% of patients experiencing a doubling of their flow rates and dramatic improvement or no significant post void residual. Their QOL improved from either unhappy or terrible to either delighted or pleased.

**Conclusion:** The technique is easy to adopt, particularly for Urologists who perform transperineal prostate biopsy. It also offers the potential of ablative therapy for focal prostate cancer.

**PI0-10 Rezum thermotherapy for large prostate volumes (>= 80 cc): 2-year clinical outcomes**

**Dr Abdulla Uthman<sup>1</sup>, Dr Martin J Connor<sup>2</sup>, Dr Charlie Khoo<sup>2</sup>, Dr Amar Rai<sup>2</sup>, Dr Edward J Bass<sup>2</sup>, Dr Sanjiv Agarwal<sup>2</sup>, Dr Ranan Dasgupta<sup>2</sup>, Dr Mathias Winkler<sup>2</sup>, Dr Hamid Abboudi<sup>2</sup>, Dr Tamer El-Husseiny<sup>2</sup>, Professor Hashim U Ahmed<sup>2</sup>**

<sup>1</sup>Cwm Taf Morgannwg University Health Board, Cardiff, United Kingdom,

<sup>2</sup>Imperial College Health Care NHS Trust, London, United Kingdom

**Introduction:** Current guidelines support using transurethral water vapour treatment (Rezum®) in prostate volumes of < 80cc. The clinical outcomes for larger prostate volumes beyond 12-months are largely unknown. We report on 2-year clinical outcomes for patients with prostate volumes of ≥/ = 80cc.

**Patients and Methods:** Patients with a prostate volume of ≥/ = 80cc were identified at a single tertiary centre, who underwent Rezum® with a minimum 2-year follow-up (December/2017-October/2020). Patients with clinically significant prostate cancer or prostatitis were excluded. IPSS, IPSS(QoL) and IIEF-5 were completed at baseline and follow-up (Wilcoxon signed-rank test). Rezum failure: restarting any BPH-medications and surgical retreatment.

**Results:** 29/405 patients met inclusion criteria, with a 33-month median follow-up. Median prostate volume was 91.6cc. Pre-operative median age, QMax (ml/s) and PVR (ml) were 70 years, 8.5, 154, respectively. Pre-operative mean IPSS, IPSS(QoL) and IIEF-5 scores were 21.2, 4.78, and 15.4, respectively. Intra-operatively, median injections number to lateral lobes, median lobe and overall were: 8.0, 2.0 and 12.0, respectively. Post-operatively, successful

Case no.	Age	Volume of prostate	FR (pre)/Qmax/PVR	IPSS (pre)	QOL (pre)	Total tx time	Adverse effect
1	67	31cc	4.4 / 190	29	3	57	None
2	81	20cc	4.2 / 650	20	6	43	None
3	70	34.4cc	6 / 50	31	5	35	None
4	58	43cc	15 / 0	25	5	31	None
5	65	30cc	4.8 / 102	19	6	76	None

TWOC was reported in 86.2% and failure in 13.8%. In patients with paired outcomes, mean improvements in IPSS, IPPS(QoL) and IIEF-5 were -12.07 (-57.0%), -2.36 (-49.4%), and +1.4 (+9.1%), respectively. Clavien-dindo  $\geq 2$  complications were urethral false passage 3.4%, urosepsis 3.4%, and epididymo-orchitis 3.4%. Overall, 27.6% of patients restarted their BPH-medications and 10.3% required a further surgical intervention for bladder outflow obstruction.

**Conclusions:** Rezum appears safe in larger prostate volumes at 2-year follow-up. However, our series suggests higher failure rates than previously reported in studies with restricted prostate volumes.

## ePoster Session II General Urology 2, Tuesday 20 June, 1630-1730, Hall 10

**PII-1 Clinical audit of pre-biopsy multi-parametric MRI (mpMRI) for patients with suspicion of prostate cancer (PCa): Correlation of PIRADS score with clinically significant prostate cancer (csPCa) stratified by PSA density (PSAD) subsequent diagnosis of clinically significant prostate cancer**

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**Dr Senthil Ragupathy<sup>1</sup>, Mr David Douglas<sup>1</sup>, Ms Justine Royle<sup>1</sup>, Mr Thomas Lam<sup>1</sup>**

<sup>1</sup>NHS Grampian, United Kingdom

**Introduction:** We performed an audit of men with suspected PCa who underwent pre-biopsy prostate mpMRI followed by prostate biopsy, correlating PIRADS score with csPCa (ISUP Grade  $\geq 2$ ).

**Patients/Methods:** The records of consecutive patients with suspected PCa (i.e. raised PSA or abnormal DRE) between 01/01/2018 to 31/12/2020 were retrospectively reviewed. Men with previous biopsies or who had their MRI after biopsy were excluded. All patients underwent mpMRI (T2WI, DWI and DCE) on a standard 1.5T MRI scanner and images were reported by two uro-radiologists (PIRADS V2.0/2.1). All biopsies were performed using TRUS guidance, including cognitive-fusion systematic and targeted biopsies for targetable lesions. PIRADS 2 cases were only biopsied if clinically indicated (i.e. PSA density  $>0.15$  units or abnormal DRE). The main outcome was correlation of PIRADS score with csPCa stratified according to PSAD.

**Results:** 1, 074 consecutive patients were included. All PIRADS  $\geq 3$  cases were biopsied; 47.3% of PIRADS 2 cases (264/294) underwent biopsy. The incidence of csPCa for the entire cohort was 37.3% (291/780) (Table 1). There was close correlation between PIRADS score and csPCa,

Correlation of prostate mpMRI PIRADS score with clinically significant prostate cancer (ISUP Grade  $\geq 2$ ) stratified by PSA density (PSAD).

PIRADS/PSAD	<0.1	0.1-0.149	0.15-0.199	$\geq 0.20$	Overall across all PSAD groups
PIRADS 2	<1% (1/113) ISUP 2: 1	6.5% (5/77) ISUP 2: 4 ISUP 3: 1	7% (3/43) ISUP 2: 2 ISUP 5: 1	9.6% (4/31) ISUP 2: 3	4.9% (13/264)
PIRADS 3	4% (1/25) ISUP 2: 1	15% (6/40) ISUP 2: 5 ISUP 3: 1	22.2% (8/36) ISUP 2: 8	37.5% (9/24) ISUP 2: 6 ISUP 3: 1 ISUP 5: 1	19.2% (24/125)
PIRADS 4	46.4% (13/28) ISUP 2: 8 ISUP 3: 2 ISUP 4: 2	57.4% (27/47) ISUP 2: 24 ISUP 3: 1 ISUP 4: 2	50% (26/52) ISUP 2: 21 ISUP 3: 2 ISUP 4: 3	64.6% (53/82) ISUP 2: 34 ISUP 3: 14 ISUP 5: 4	56.9% (119/209)
PIRADS 5	50% (7/14) ISUP 2: 1 ISUP 5: 6	76.9% (20/26) ISUP 2: 8 ISUP 3: 5 ISUP 4: 1 ISUP 5: 5	51.8% (14/27) ISUP 2: 8 ISUP 3: 3 ISUP 4: 1 ISUP 5: 2	81.7% (94/115) ISUP 2: 44 ISUP 3: 21 ISUP 4: 10 ISUP 5: 16	74.2% (135/182)
Overall across all PIRADS groups	12.2% (22/180)	30.5% (58/190)	32.3% (51/158)	63.5% (160/252)	37.3% (291/780)

ranging from 4.9% (13/264) in PIRADS 2 to 74.2% (135/182) in PIRADS 5. The incidence of csPCa increased proportionally with increasing PSAD, even amongst PIRADS 2 cases, where the incidence of csPCa for PSAD >0.20 was almost 10%. Conversely, the incidence of csPCa amongst PIRADS 3 for PSAD <0.10 was 4%.

**Conclusions:** The audit validates our current pre-biopsy mpMRI-based protocol supplemented by PSAD in terms of justifying prostate biopsies.

### PII-2 Ultrasound for the diagnosis of testicular torsion: a systematic review and meta-analysis of diagnostic accuracy

**Mr Cameron Alexander<sup>1,11</sup>, Mr Alexander Light<sup>2,11</sup>, Dr Vinson Chan<sup>3,11</sup>, Dr Aqua Asif<sup>4,11</sup>, Mr Keiran Clement<sup>5,11</sup>, Dr Yuhong Yuan<sup>6</sup>, Professor Yemisi Takwoingi<sup>7</sup>, Mr Sinan Khadouri<sup>8,11</sup>, Ms Hannah Warren<sup>9,11</sup>, Ms Eleanor Zimmermann<sup>10,11</sup>, et al.,**

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**Introduction:** The inability to clinically differentiate testicular torsion (TT) from other scrotal pathologies leads to a significant proportion of patients undergoing negative scrotal exploration. Scrotal ultrasound (USS) is a non-invasive diagnostic tool, but existing evidence is conflicting regarding its accuracy. The objective of this study was to assess the diagnostic accuracy of USS in the diagnosis of TT.

**Patients and Methods:** A comprehensive search strategy was undertaken in accordance with Cochrane methodology up to 11/07/21. Studies were included where participants presented with suspected TT and underwent USS of testes (index test), and subsequent scrotal exploration or clinical follow-up (reference standards). Meta-analysis and the generation of the summary receiver operating characteristics (SROC) plots were undertaken in Review Manager and Stata.

**Results:** 34 studies met the study eligibility criteria and were included. Meta-analyses demonstrated an overall sensitivity of 96.2% (95% CI 90.6 to 98.5) and specificity of 97.8% (95% CI 93.6 to 99.2) for testicular USS in the diagnosis of TT. Subgroup analysis was performed for point of care ultrasound (POCUS) studies (n=5), which demonstrated a sensitivity of 99.1% (95% CI: 68.7 to 100) and specificity of 76.8% (95% CI 39.3 to 94.4). QUADAS-2 risk of bias assessment demonstrated significant methodological limitations of included studies; 88.2% (n=30/34) were judged to be high risk (n=14/34) or unclear risk

(16/34) for patient selection, principally due to concerns regarding the use of case-control design.

**Conclusions:** The high sensitivity and specificity observed suggests that testicular USS is an underutilised tool in existing diagnostic pathways for TT.

### PII-3 Complications in patients with Xanthogranulomatous Pyelonephritis(XGP) undergoing nephrectomy, a global multicentre analysis of 400 patients

**Dr Vineet Gauhar<sup>2</sup>, Miss Mriganka Mani Sinha<sup>1</sup>, DR Daniele Castellani<sup>3</sup>, Dr Deepak Ragoori<sup>4</sup>, Dr santosh kumar<sup>5</sup>, Dr abhay mahajan<sup>6</sup>, Dr Pankaj Nandkishore Maheshwari<sup>7</sup>, Dr Arvind p ganpule<sup>8</sup>, Dr José Iván Robles Torres<sup>9</sup>, Prof Bhaskar K Somani<sup>10</sup>**

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**Introduction & Objectives:** XGP a rare entity characterized by a chronic infection in patients with untreated nephrolithiasis with destruction of the renal parenchyma and surrounding tissues. Often a pathological diagnosis post nephrectomy, with complications in up to 50% of cases. The aim of this study is to determine the factors associated with complications in patients treated with nephrectomy due to XGP.

**Materials & Methods:** Data from 10 centers(5 countries) was included in this retrospective study. Between January 2018-June 2022 patients who underwent nephrectomy for XGP confirmed by histopathology were included. The primary outcome was major complication, defined as per Clavien-Dindo(CD) classification, established as a complication  $\geq$  grade 3. Uni and multi variate(UV,MV) logistic regression analysis were performed, creating a scoring system for risk stratification of major complications associated with nephrectomy. The ROC curve and the area under the curve(AUC) were generated to build the prediction model for surgical complications.

**Results:** 403 patients with a mean age of 45.2years included. Most frequent comorbidity was chronic kidney disease(69.7%) Most common laboratory abnormality was anemia(70.9%). Independent predictors of major complications in MV were renal abscess extended-spectrum beta-lactamase agents in urine, retroperitoneal approach and pararenal extension of disease. 14.9%

patients admitted in ICU with a 1.2% mortality rate. Overall CD>3 seen in 14.4%.

**Conclusions:** Open Nephrectomy remains the treatment of choice of XGP despite a higher risk of high grade complications. Urologist must be aware that presence of Renal abscess, extended-spectrum beta-lactamases agents, retroperitoneal approach and pararenal extension of disease are associated with significant morbidity.

#### **PII-4 Catheter-Related Bladder Discomfort Questionnaire: Development and validation of a novel comprehensive questionnaire to evaluate the symptoms in urethral catheterisation**

**Dr Mohamed Javid Raja Iyub<sup>1</sup>, Dr Srikala Prasad T<sup>1</sup>, Dr S Sudhakaran<sup>1</sup>, Dr Senthil Kumar<sup>1</sup>, Dr G Ramesh<sup>1</sup>, Dr Ananda Kumar<sup>1</sup>, Dr Prabhu Elumalai<sup>1</sup>**

<sup>1</sup>Chengalpattu Medical College, Chengalpattu, India

**Introduction:** A reliable psychometrically valid questionnaire was designed to measure and evaluate the symptoms in patients with urethral Catheter-Related Bladder Discomfort (CRBD).

**Patients and Methods:** 360 patients and 50 healthy volunteers (as controls) were prospectively enrolled in three different phases.

Phase 1: Structured literature search and 30 patient interviews were conducted to construct an initial draft of the questionnaire.

Phase 2: The questionnaire was pilot tested, reviewed by 4 experts in the subject, and then field tested in 30 patients to generate a final draft.

Phase 3: 300 patients were assessed for validity, reliability, and sensitivity to change, and formal validation studies were conducted. By administering the questionnaire to 50 healthy volunteers without catheters, discriminant validation was performed.

**Results:** The final draft comprised of various symptoms: Pricking sensation/Burning sensation/Uncharacterizable vague pain at the tip and/or entire course of the penis in males and at the region of exit of the catheter in females, sense of urinary urgency, discomfort in suprapubic region and behavioural changes (including agitation and strong desire or attempts to remove the catheter).

The validation studies showed the questionnaire to be internally consistent, with excellent test-retest reliability ( $r > 0.90$ ). The questionnaire displayed good construct validity and sensitivity to change as exhibited by the significant changes in the score with and after the removal of the catheter. Our questionnaire also differentiated healthy controls from patients with urethral catheters ( $p < 0.001$ ).

**Conclusions:** The new CRBD questionnaire is a credible tool that can serve as a standard outcome measure of CRBD.

#### **PII-5 Does Uromune® reduce UTI related hospital admissions for patients with recurrent UTI?**

**Mr Xiang Wei Jonathan Lee<sup>1</sup>, Ms Jennifer Jones<sup>1</sup>, Ms Holly Bekarma<sup>1</sup>**

<sup>1</sup>University Hospital Ayr, Ayr, United Kingdom

**Introduction:** Recurrent urinary tract infection (UTI) is a challenging condition with significant impact on our health economics. There is no clear consensus despite emerging treatment modalities due to pathological complexities and variable patient factors. Uromune® is a sublingual vaccine, given over a 3 months course. The study compares frequency of UTI related hospital admissions for all patients before and after starting Uromune®.

**Methods:** We conducted a retrospective analysis of all patients who received Uromune® between 2019 and 2022. Local online database was used to track hospital admissions and length of stay (LOS) (1 year pre- and post-Uromune®).

34 patients with mean age 65 (Range 35-89) completed the 3 months course. 1 patient excluded from study due to allergic reaction.

**Results:** Average frequency of UTI related hospital admission decreased (1.15 vs 0.79) post-Uromune® treatment. Study also showed reduction in mean hospital LOS post-Uromune® (9.24 vs 6.56 days). 6 patients who had admission frequency between 1 to 3 times per year had no UTI related hospital admission following treatment. Despite vaccine treatment, a total of 357 urine cultures were sent by clinicians post-Uromune®, implicating ongoing significant impact on laboratory workload and costs. Patients who have similar or worse admission rates post-Uromune® more likely to have nephrostomies, stent/s or perform ISC.

**Conclusion:** Analysis from our cohort show that patients who meet the criteria for Uromune® may benefit from reduced UTI related hospital admissions and length of stay. Larger sample size and further analysis is vital to consolidate our findings.

#### **PII-6 Treatment outcomes for the patients with recurrent urinary tract infections using a multidisciplinary approach in a complex UTI clinic- A 20 month's experience**

**Mr Ekpeno Inyang<sup>1</sup>, Ms Jayne Morris-Laverick<sup>1</sup>, Ms Stephanie Benzemer<sup>1</sup>, Dr Victoria McCune<sup>1</sup>, Dr Igor Kulbeka<sup>1</sup>, Ms Mehwash Nadeem<sup>1</sup>**

<sup>1</sup>South Tees Hospitals Nhs Foundation Trust, Middlesbrough, United Kingdom

**Introduction:** Urinary tract infections (UTIs) remain a significant cause of morbidity in patients with a huge financial burden on healthcare systems. Furthermore, with the

increasing prevalence of antimicrobial resistance, it is valuable to have a multidisciplinary approach to treating these patients. To achieve this, we established a multidisciplinary complex UTI clinic in April 2021, in collaboration with specialist nurses and microbiologists.

**Materials and Methods:** A prospectively maintained database of all 176 patients {(median age 57.4 years (14-89 years) and (M:F of 1:10) } who were referred to our clinic,

within a 20 months period was reviewed. Patients' demographics, urine culture **results** (causative bacterial organism and antibiotic sensitivities), investigations performed, and treatment outcomes were recorded. Pre-treatment QoL and post-treatment PGI-I (Patient global impression of improvement) Scale were measured. The clinic was supported by specialist nurses and microbiologists.

**Results:** Outcomes in table 1

Table 1:

Patient Demographic	Total number of patients (N): 176 Gender: Male n: 16 (9.1%); Female n: 160 (90.9%)  Age distribution (years) Mean: 57.4 Median: 59.5 Minimum age:14 Maximum age: 89 (SD: 19.06)  Significant comorbidities: 79 (44.9%) Post-menopausal females: 64 (40%)
Mode of referral	GP: (65%) Specialist: (35%)
Frequency of UTI	<3 episodes in 12months: 7 (8%) > 3 episode in 12 months:76 (92%)
Presentation <sup>1</sup>	Frequency: 167 (95%) Urgency: 136(77.3%) Nocturia: 92(52.3%) Dysuria: 80(45.5%) Haematuria: 14 (7.9%) Abdominal pain: 36 (20.5%)
Hospital admission with UTI	Yes: 11 (6.3%) No: 165 (93.7%)
Causative organism <sup>2</sup>	Escherichia Coli: 168 (68.9%) Klebsiella: 29 (11.9%) E. fecalis: 15 (6.1%) Pseudomonas: 12 (4.9%) Others (including mixed growth): 35 (14.3%) Culture negative: 22 (9%)
Antibiotic sensitivities <sup>2</sup>	Nitrofurantoin: 164(67.2%) Cefalexin: 144 (59%) Trimethoprim: 115 (47.1%) Co.Amoxiclav: 142 (58.2%) Amoxicillin: 68 (27.9%)
Investigation <sup>3</sup>	<b>Abnormal findings</b> Flexible cystoscopy: 25 (14.2%) Renal USS: 23 (13.1%) CT Urogram: 19 (10.8%)
Treatment received before referral	Cystitis preventive measures: 18 (10.2%) Antibiotics: 176 (100%) Methenamine hippurate : 20 (11.4%) Cranberry Juice: 6 (3.4%) D Mannose: 7(3.9%)
Treatment given at UTI clinic <sup>4</sup>	Cystitis preventive measure: 176 (100%) Low dose Antibiotics: 145 (82.4%) Methenamine hippurate: 104 (59%) Vaginal estrogen cream: 46 (total post-menopausal women 107) 43% CISC: 24 (13.6%) Intravesical gentamicin: 21 (11.9%) Intravesical Amikacin: 2 (1.1%) Intravesical GAG replacement therapy: 23 (13.1%) Surgical intervention: 11 (6.3%) {Urethral dilatation 5 (2.8%), urachal cyst excision 1(0.6%), PCNL 1 (0.6%)}, TURBT (3), awaiting nephrectomy 1
Treatment response	<b>Yes: 125 (71%)</b> <b>No: 51 (29%)</b>
Pre- treatment impact on quality of life (QoL)	Significant: 113 (64.2%) Moderate: 21 (11.9%) Minimal: 42 (23.9%)
Patient global impression of improvement (PGI-I)	<b>PGI-I 5 (Good improvement): 94 (88.6%)</b> PGI-I4 (Some improvement):12 (11.3 %) PGI-I3 (No improvement): 0 (0%) *Awaiting further clinic review: 70 patients

<sup>1</sup> Most patients had more than one symptom at presentation  
<sup>2</sup>Some patients had more than one organism on urine culture result. Total number of urine samples: 244  
<sup>3</sup> Post-menopausal women had flexible cystoscopy and imaging done while young patients had investigations done if indicated e.g. Flank pain, haematuria, suprapubic pain or persistent UTI  
<sup>4</sup>Patients had a combination of more than one treatment.



*Escherichia Coli* (68.9%) was identified as the most common causative organism. Abnormal renal USS, CTU, and cystoscopy were reported in 13.1%, 10.8%, and 14.2% respectively including diagnosis of bladder (3) and renal cancer (2). All patients received information on general cystitis prevention measures. 44 (25%) patients did not respond to oral treatment and hence received intravesical treatment. Pre-treatment 64% patients reported a significant impact on their QoL. Post-treatment, 71% patients had UTI resolution and 89% patients had good symptomatic improvement on the PGI-I scale.

**Conclusion:** UTI can be successfully managed with a systematic and multidisciplinary approach that can not only resolve infection but can also significantly improve patients' QoL.

### PII-7 Are Intravesical Aminoglycosides the New Gold Standard in the Management of Refractory Urinary Tract Infection: A Systematic Review of Literature

**Dr Andrea Ong<sup>1</sup>, Miss Amelia Pietropaolo, Mr George Brown, Professor Bhaskar K. Somani**

<sup>1</sup>Portsmouth Hospitals University NHS Trust, Portsmouth, United Kingdom

**Introduction:** Antibiotic resistance in urinary pathogens is increasingly common, leading to rising cases of complicated urinary tract infections (UTIs). Conventional antimicrobial treatment may be insufficient and Intravesical aminoglycoside instillation is an alternative treatment option that delivers localized, high-dose treatment to the source of infection. This study summarises the existing evidence for the efficacy and safety of this treatment.

**Materials and methods:** A systematic search was conducted per PRISMA methodology and Cochrane standards. Studies were included if they reported outcome data for the prevention and reduction in UTIs, eradication of antimicrobial-resistant organisms, or change in sensitivities.

**Results:** Of 826 articles, 19 studies were included. A successful outcome was identified in 80.7%(n=289) of patients treated with aminoglycosides alone and 79.5%(n=163) treated with an aminoglycoside in combination with polymyxin. Discontinuation was noted in 6.2% of patients. An increase in antimicrobial sensitivity was seen in 15.3%(n=55) and 16.3%(n=36) in the aminoglycoside and aminoglycoside/polymyxin groups, respectively.

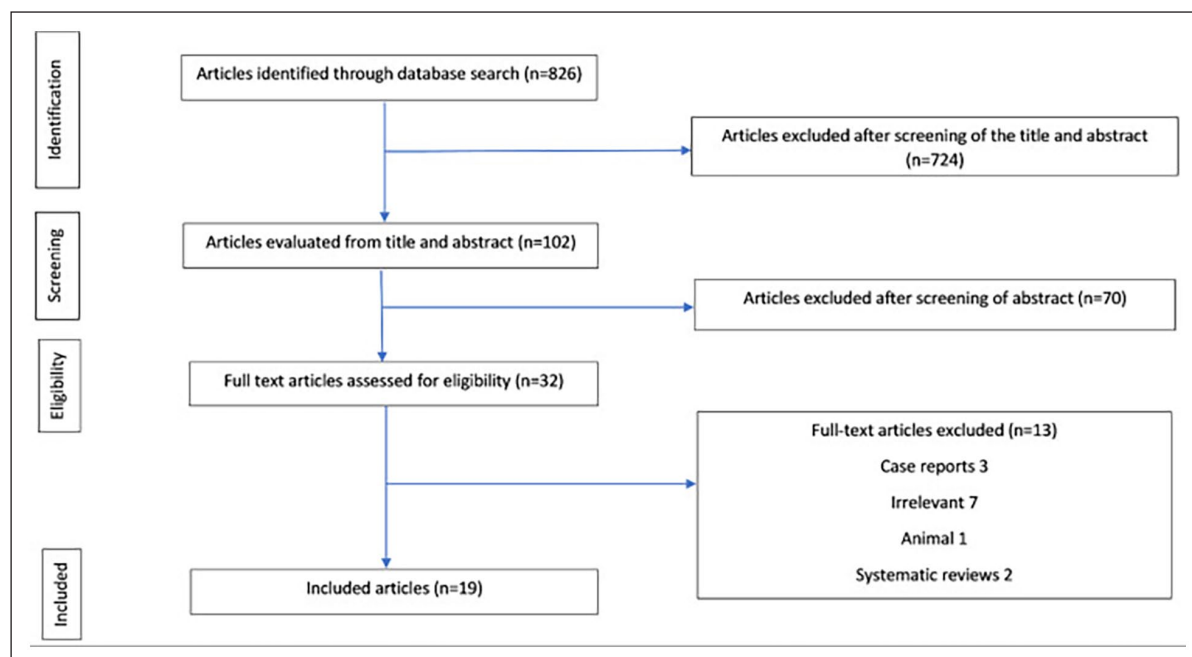
**Conclusions:** This study observed that intravesical antibiotics are an efficacious method of managing the treatment and prophylaxis of refractory UTIs in the short term. Patients were able to self-administer the treatment and the low discontinuation rates suggest that it is a well-tolerated treatment option.

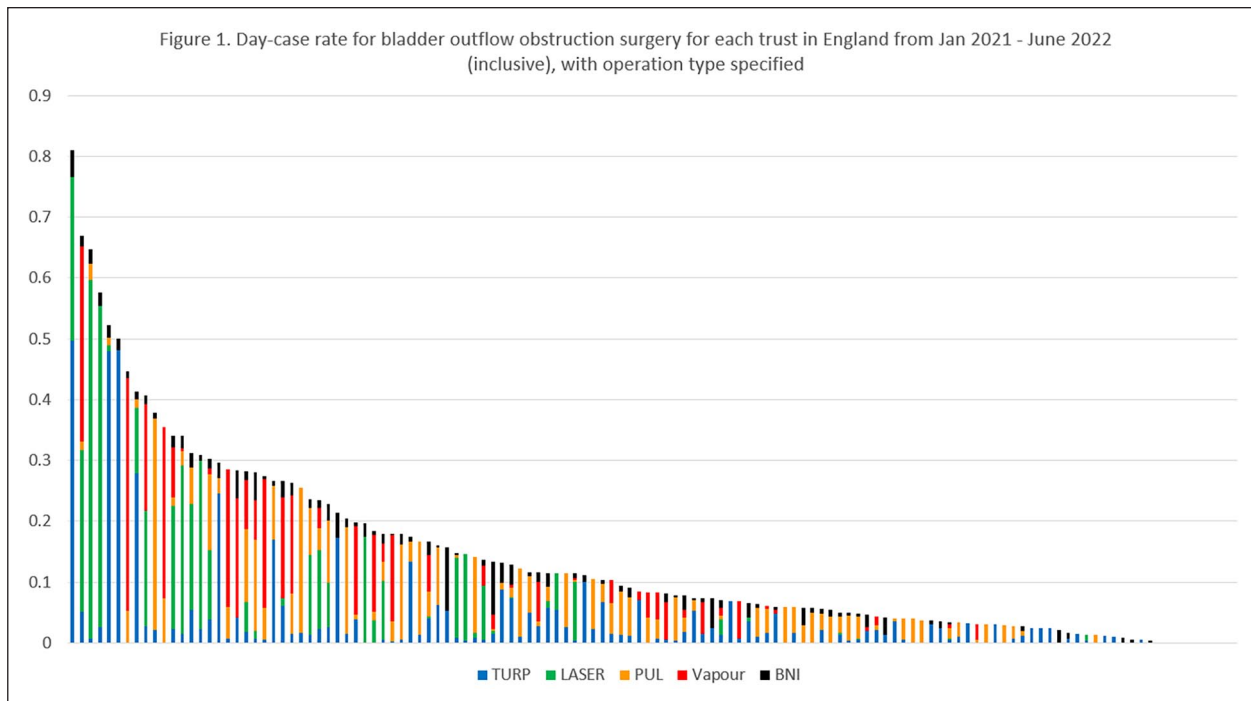
### PII-8 Trends in day-case surgery and technology adoption for bladder outflow obstruction in England – analysis of 118,966 cases using Hospital Episode Statistics

**Mr Joseph John<sup>1,2</sup>, Mr Kieran O'Flynn<sup>2,3</sup>, Professor Sir Tim W. R. Briggs<sup>2,4</sup>, Mr John S. McGrath<sup>1,2</sup>, Mr William K. Gray<sup>2</sup>**

<sup>1</sup>Royal Devon and Exeter Hospital, Exeter, United Kingdom, <sup>2</sup>Getting It Right First Time (GIRFT), London, United Kingdom, <sup>3</sup>Salford Royal NHS Foundation Trust, Salford, United Kingdom, <sup>4</sup>Royal National Orthopaedic Hospital, Stanmore, London, United Kingdom

**Introduction:** Efficient day-case pathways are a potential means of addressing long waiting-lists for bladder outflow obstruction (BOO) surgery. Our study aimed to assess





day-case rate (DCR) trends over time, and understand different surgical technology utilisation and safety in a day-case setting.

**Patients and Methods:** Hospital Episode Statistics (HES) data for England were analysed (January 2017-June 2022, inclusive). All 118,966 elective BOO operations were extracted and GIRFT-defined OPCS-4 codes allowed identification of TURP, LASER ablation/enucleation, bladder neck incision, prostatic urethral lift (PUL), vapour ablation. DCR trends were analysed. Readmissions by operative modality were assessed, and their association with DCR tested.

**Results:** Day-case patients were younger with fewer comorbidities. Time series analysis showed a linear DCR increase from 8.3% (Jan-2017) to 21.0% (June-2022). Compared with 2017, 2021/22 national total case-volume decreased 14.6%, whereas day-case volume increased 83.0%. Fig.1 shows 2021/22 hospital DCR, with operative modalities indicated. Three of the six trusts with highest DCR performed predominantly day-case TURP, and the other three LASER surgery. Nationally, PUL and vapour surgery had highest DCR (80.9% and 38.1%). 90-day readmissions were comparable across modalities irrespective of day-case/inpatient status. Spearman rank testing showed no association between DCR and 90-day readmissions for TURP, LASER, or pooled modalities.

**Conclusions:** DCR for BOO surgery have linearly increased. Minimally-invasive surgical technologies are commonly performed day-case, whereas high DCR for TURP and LASER operations are seen in a minority of hospitals. The absence of association between TURP/LASER DCR and readmissions suggests day-case pathways can be safely developed irrespective of operative modality.

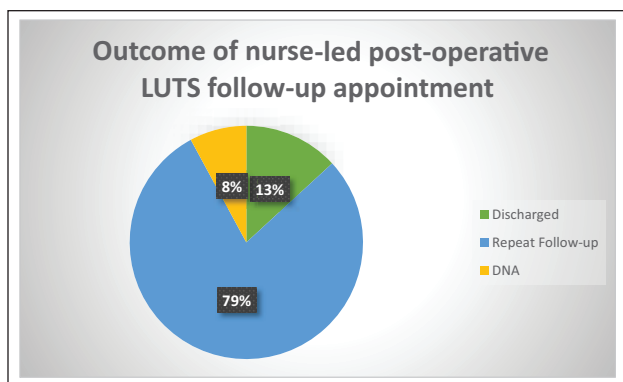
### PII-9 Nurse-Led Post-operative Male LUTS Clinics – a potential new paradigm or not?

**Mr Matthew Schembri<sup>1</sup>, Dr George Gibbs<sup>1</sup>, Mr Sanjiv Agarwal<sup>1</sup>, Mr Tamer El-Husseiny<sup>1</sup>, Mr Ranan Dasgupta<sup>1</sup>, Prof Hashim Ahmed<sup>1</sup>, Mr Hamid Abboudi<sup>1</sup>**  
<sup>1</sup>Imperial College Healthcare NHS Trust, London, United Kingdom

**Introduction:** The increase in the number of procedures available for benign prostatic hyperplasia (BPH) has resulted in an increase in the follow-up workload. The COVID-19 pandemic has accelerated a shift towards both virtual clinic as well as nurse-led follow-up appointments for post-operative LUTS patients. The aim of this study is to investigate the effectiveness of clinical nurse specialists (CNS) in providing routine post-operative follow-up for patients undergoing procedures for BPH.

**Patients and Methods:** A pilot study was conducted at a tertiary hospital performing five different types of BPH procedures namely HOLEP, TURP, Rezum, Urolift and PAE. Over a period of 4 months selected patients undergoing procedures by the specialist Endourology team were assigned to a 4-month LUTS nurse-led follow-up appointment with the outcome of the consultation recorded as the primary endpoint.

**Results:** Thirty eight patients were included in the study. 78.9% (n=30) were booked for further follow-up and 13.2% (n=5) were discharged. 7.9% (n=3) of patients did not attend their follow-up appointment. In the cohort requiring further follow-up, 26.7% (n=8) were seen in a nurse-led virtual clinic while 33.3% (n=10) were escalated to a clinician due to incomplete resolution of symptoms. 30% (n=9) of patients were booked



for flexible cystoscopy and urodynamic studies. The remaining 10% (n=3) were booked for a second procedure namely PAE and Rezum.

**Conclusion:** This study identified that a high proportion of patients who were seen in nurse-led post-operative LUTS clinics went on to have repeat follow-up appointments with a reduction in the discharge rate.

### PII-10 The aetiology and presenting symptoms of men with prostatic reflux

**Mr Ross Stephens<sup>1</sup>, Mr Sachin Malde, Miss Claire Taylor, Mr Arun Sahai, Dr Eskinder Solomon**

<sup>1</sup>Guy's And St Thomas' NHS Foundation Trust, London, United Kingdom

**Introduction:** Prostatic reflux (PR) can result from dysfunctional voiding/detrusor-sphincter dysynergia (DV/

DSD) or guarding against detrusor overactivity (DO). PR can result in prostatitis (perineal pain and dysuria) which is refractory to antibiotics and its effective treatment requires delineating the root cause.

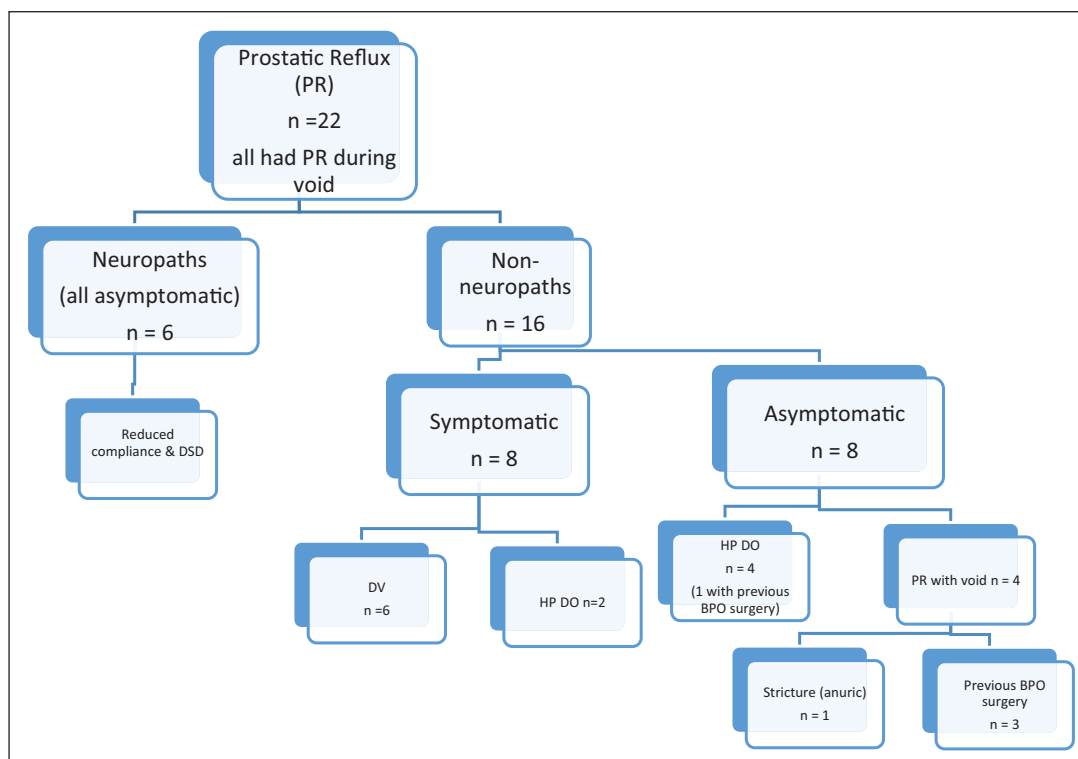
**Aim:** To determine the aetiology of PR and its association with symptoms consistent with prostatitis.

**Patients and Methods:** Retrospective review of 22 male patients referred for video-urodynamics VCMG for refractory LUTS, during which PR was observed. We determined the aetiology of the PR and whether it was associated with prostatitis symptoms

**Results:** Mean age of patient was 57.9(±15) years. Results are illustrated in Figure 1. 64% of patients with PR reported prostatitis symptoms. All patients with prostatitis symptoms had PR secondary to reduced bladder compliance, DO or DV.

Of the 8 non-neuropaths who were asymptomatic, 4 demonstrated DO and 4 had PR during the voiding phase only (one anuric patient, 3 having previous prostatic BOO surgery). There was no difference in DO onset, desire to void volume or DO PP between symptomatic and asymptomatic patients with PR resulting from DO.

**Conclusion:** 64% of patients with PR reported symptoms consistent with prostatitis. The cause for symptomatic PR appears to be distension of the prostatic urethra either due to guarding against raised detrusor pressure during storage or inappropriate relaxation of the external urinary sphincter during voiding (DV or DSD). Patients with PR secondary to BPH surgery did not present with prostatitis symptoms (likely due to the lower voiding pressures).



## ePoster Session I2 TUF-BAUS Best of the Regions, Wednesday 21 June, 1130-1300, Hall 10

### P12-1 Is the need to treat acute ureteric stones within 48 hours necessary for Shockwave Lithotripsy?

**Mr Jacob Wilson<sup>1</sup>, Mr Sam Compton<sup>2</sup>, Miss Abigail Irish<sup>2</sup>, Miss Jodie Prynne<sup>2</sup>, Miss Glynis Sanderson<sup>2</sup>, Mr Jonathan Manley<sup>2</sup>, Mr James Dunn<sup>2</sup>, Mr Andrew Dickinson<sup>2</sup>**

<sup>1</sup>Cheltenham General Hospital, Cheltenham, United Kingdom,

<sup>2</sup>Plymouth Hospitals NHS Foundation Trust, Plymouth, United Kingdom

**Introduction:** The NICE guidelines on Renal and Ureteric stones recommends primary ureteric stone treatment should be offered within 48 hours of diagnosis or readmission if ongoing pain, or if the stone is unlikely to pass.

We present the success rate of shockwave lithotripsy (SWL) in acute ureteric colic at a regional centre and report the important variables which effect success.

**Patients and Methods:** Retrospective analysis of 259 episodes of lithotripsy in 258 patients with acute ureteric colic, treated with SWL (Storz SLX-F2 Connect) between August 2020 and December 2022 was performed. The primary outcome was success on first treatment with SWL. Time from image diagnosis to SWL was captured, along with age, sex, stone location, skin to stone distance, stone density and Storz medical lithotripsy index. Binary logistic regression analysis was performed (IBM SPSS Statistics).

**Results:** 60% (155/259) had success on first treatment with SWL. Receiving SWL <48 hours from diagnosis did not significantly alter success (OR 1.562 (95% CI .764 – 3.194),  $p = .222$ ). Significant variables found to be affecting success of SWL were age, where an increasing age reduces the likelihood of success, size and density (see Table 1).

**Conclusions:** The time from diagnosis to treatment of acute renal colic with SWL did not impact on the success rate. This finding is at odds with national guidelines and should be considered cautiously though does suggest the need for a larger multi-centred observational study on the optimum time to treat acute ureteric stones with SWL.

### P12-2 The impact of initiating Androgen Deprivation Therapy on PSMA PET/CT imaging

**Mr Mostafa Ragab<sup>1</sup>, Dr Michael Kay<sup>1</sup>, Mr Joshua Phillips<sup>1</sup>, Mr Amit Mevcha<sup>1</sup>, Mr Andrew Wedderburn<sup>1</sup>, Mr Kevin Turner<sup>1</sup>**

<sup>1</sup>University Hospital Dorset NHS Foundation Trust, Bournemouth, United Kingdom

**Introduction:** Prostate-specific membrane antigen (PSMA) positron-emission tomography (PET)/CT scanning is increasingly used to detect recurrent disease after radical-treatment for prostate cancer. Laboratory evidence demonstrates upregulation of PSMA expression by ADT (Androgen Deprivation Therapy). We sought to determine the impact of this flare in clinical practice.

**Methods:** Between Jan2020 and Jan2022, 50 [68Ga]-PSMA-11 PET scans were performed for patients with biochemical recurrence after prostate cancer radical treatment. Patients were divided into those who received ADT prior to their PET scan & those who had not. Men receiving ADT prior their scan were further divided into those who received ADT for >6 weeks or <6 weeks prior their scan. Total standardised uptake value (SUV) was determined & the impact of commencing ADT on total SUV was examined between the groups.

**Results:** The average age in our cohort was 69.1 years. 28% had ADT prior to their scan. There was a statistically significant difference between the 2 groups in total SUV (No pre-PSMA ADT mean SUV= 20.4 (range;2.4-127.7) & pre-PSMA ADT mean SUV= 39.8 (range;3-86) ( $p=0.03$ , t-test). Further analysis of the pre-PSMA group showed total SUV was significantly higher in men who received <6 weeks of ADT vs men who received ADT>6 weeks (mean SUV= 53.7 & 25.8, respectively,  $p=0.019$ ).

**Conclusions:** Our study demonstrates that ADT causes a significant flare in PSMA expression, which has largely resolved after 6 weeks. Urologists should be mindful of the impact of ADT on PSMA expression in the clinical setting when determining the timing of PSMA PET/CT scans.

### P12-3 An acute scrotal pain pathway incorporating the TWIST score and ultrasound has decreased the time to scrotal exploration and the negative exploration rate, without any missed testicular torsion

**Mr Samuel Folkard<sup>1</sup>, Mr Chim Chipeta<sup>1</sup>, Mr Ed Hart<sup>1</sup>, Dr Sarah Lim<sup>1</sup>, Dr Chigoziem Ogbolu<sup>1</sup>, Dr Amaury Trockels<sup>1</sup>, Dr Erica Mulholland<sup>1</sup>, Dr Samaher Al Binali<sup>1</sup>, Dr Sharon Darkwa<sup>1</sup>, Mr Max Kemp<sup>2</sup>, Mr Ian Rudd<sup>1</sup>, Mr Ali Henderson<sup>1</sup>**

<sup>1</sup>Maidstone and Tunbridge Wells NHS Trust, Maidstone, United Kingdom, <sup>2</sup>Kent and Medway Medical School, Canterbury, United Kingdom

Testicular torsion is a common urological emergency, necessitating urgent scrotal exploration. The negative exploration rate for torsion has recently been estimated as 75% in tertiary paediatric centres in the UK.

We initially audited our acute scrotal pain pathway results as a cross-site DGH Trust from April 2020-September 2021. A total of 276 patients presented with acute scrotal pain, of which 144 (52%) patients underwent scrotal



exploration. The negative exploration rate was 78%. From this baseline we designed and introduced a new Trust protocol for acute scrotal pain incorporating the Testicular Workup for Ischaemia and Suspected Torsion (TWIST) clinical scoring system, and the use of scrotal ultrasound by the radiology team in usual working hours.

The new Trust protocol incorporating the TWIST score and ultrasound decreased the time from presentation to theatre from a mean of over 5hrs to 3hrs 24mins ( $P=0.02^*$ ). The negative exploration rate decreased from 78% to 66%, and representation following scrotal exploration within 30 days decreased from 16% to 11%. There were no missed torsions with the new protocol. All data was uploaded to the STPN regional audit.

In conclusion, our new Trust protocol incorporating the TWIST score and ultrasound has significantly decreased the time from arrival at A&E to theatre start time for patients presenting with suspected testicular torsion. The negative exploration rate has also decreased, without any missed torsions. This protocol has improved patient care for boys and men presenting with acute scrotal pain and would be easily reproducible across different Trusts.

#### **P12-4 The design and validation of a low-cost trans perineal (TP) prostate biopsy simulator for training: improving trainees' confidence and cognitive targeting skills**

**Miss Kelly Ong<sup>1</sup>, Mr David Dryhurst<sup>1</sup>, Mr Philip Bald, Mr Rahul Lunawat<sup>1</sup>, Mr Saif Ahmed<sup>2</sup>, Miss Gauri Thapa<sup>2</sup>, Miss Alice Tirnoveau<sup>2</sup>, Mr Richard Webb<sup>2</sup>, Mr Eqram Rahman<sup>2</sup>, Professor Sri Sriprasad<sup>2</sup>**

<sup>1</sup>Princess Royal University Hospital, Bromley, United Kingdom,

<sup>2</sup>Canterbury Christ Church University,

**Introduction:** The aim of this research was to create a novel and low-cost TP prostate biopsy simulator that has face, content and construct validity with high educational value.

**Methods:** This research developed a TP prostate biopsy simulator using 3D-printed moulds and tissue mimicking materials. Important regions (anterior, mid and posterior zones) were coded with different colours. Ultrasound visible abnormal lesions were embedded in the prostate phantom. Expert and novice participants in TP biopsies were recruited. Essential skills were identified through consensus of six experts. These skills were assessed through tasks performed by participants. This included accuracy and timing of systematic and target biopsies. Immediate feedback was determined by the colour of biopsy cores taken. A survey was distributed to evaluate its realism and educational value.

**Results:** This cost of the simulator was £7.50. This simulator was proven to have face, content and construct validity. There was significant difference ( $p=0.02$ ) in accuracy of systematic biopsies between experts and novices.

There was also significant difference ( $p=0.01$ ) in ability to accurately identify target lesion on ultrasound between both groups. Participants rated overall realism of the simulator 4.57 / 5 (range 3 – 5). 100% of the experts agreed on the benefit of introducing this simulator in TP prostate biopsy training. 85.7% of the participants strongly agree that the simulator improved their confidence in TP biopsies.

**Conclusion:** There is value in integrating this proof-of-concept TP prostate biopsy simulator into training. It has highly rated educational value and has face, content and construct validity

#### **P12-5 Management of small testicular masses: outcomes from a single-centre specialist multidisciplinary team**

**Mr Jamie Lindsay, Mr Shafi Wardak<sup>2</sup>, Mr Karl H. Pang<sup>3</sup>, Mr Fabio Castiglione<sup>3</sup>, Dr Miles Walkden<sup>5</sup>, Dr Dan Heffernan Ho<sup>5</sup>, Dr Alex Kirkham<sup>5</sup>, Mr Paul Hadway<sup>2</sup>, Mr Raj Nigam<sup>3</sup>, Mr Rowland Rees<sup>3</sup>, Dr Constantine Alifrangis<sup>8</sup>, Mr Hussain M. Alnajjar<sup>3</sup>, Mr Asif Muneer<sup>9</sup>**

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Currently there is no agreed standard pathway for the management of small testicular masses (STMs). The increased use of scrotal ultrasound and the higher resolution of images has led to more frequent detection of STMs. Management of STMs can include surveillance, primary biopsy or radical orchidectomy. However, due to the lack of an agreed consensus or guideline, patients with STMs may still undergo radical orchidectomy, which can affect body image, fertility and testosterone production. A retrospective analysis of all patients referred to a specialist centre from 2010 to 2020 was performed. Patients



with STMs ( $\leq 2$ cm) were identified. A total of 307 patients with indeterminate STMs were included in the study. Each case was discussed at a dedicated testis cancer MDT and management based on the imaging characteristics, tumour markers and risk factors for testicular cancer as well as patient choice. The 307 patients were stratified by lesion size into four groups ( $< 5$ mm, 5 – 9mm, 10 – 14mm and 15 – 20mm) and lesion-size specific outcomes were assessed.

The aim of this study was to analyse the outcomes for patients with STMs over an 11-year period in order to assess management strategy and malignancy rate. Secondary outcomes were factors influencing management decision.

### **P12-6 One-stop prostate clinic (OSPC) in a DGH: Does it deliver?**

**Mr Mohamed Mustafa<sup>1</sup>, Dr Marc Lyons<sup>1</sup>, Mr Peter Senada<sup>1</sup>, Mr Lokesh Suraparaju<sup>1</sup>, Mr David Manson-Bahr<sup>1</sup>, Dr Vinod Shenoy<sup>1</sup>**

<sup>1</sup>James Paget University Hospitals NHS Foundation Trust, Great Yarmouth, United Kingdom

**Background:** The diagnostic pathway for prostate cancer used to be longer as patients had to attend a clinic, MRI appointments, and biopsies on separate dates, up to 6 weeks. This creates areas of potential delays in diagnosis and early management of clinically significant prostate cancer. One stop prostate clinic was set up to hold all these appointments on the same day.

**Objectives:** To assess whether the one-stop prostate clinic is improving the waiting times for the Prostate cancer diagnostic pathway.

**Methods:** Prospective audit over a period of 4 months. This included 39 newly referred patients under the 2-week wait pathway. Our standards were adjusted from a recent systematic review and meta-analysis of studies assessing outcomes of Trans-perineal Prostate (TP) biopsy.

**Results:** 97% (38/39) of patients were seen within 2 weeks of triage by a urology cancer nurse (standard of 93%). 79% (23/39) received their results within 28 days of triage (standard 75%). 29 (74%) patients were biopsied, with no prophylactic antibiotics. MRI reported PIRADS 3,4, and 5 in 11,10, and 6 patients respectively. Desired cancer detection rates in these lesions were 30%,50%, and 70%. The detection rate for PIRADS 3 lesions was 27%, 70% in PIRADS 4, and 83% for PIRADS 5. The overall cancer detection rate was 41%.(standard 65%).36% (14/39) had significant cancer. No patient developed infective complications or readmission within 30 days post-procedure.

**Conclusion:** OSPC does improve service and diagnostic pathways.TP biopsies under local anaesthesia are relatively safe procedures without the need for prophylactic antibiotics.

### **P12-7 Is remote follow up using a Patient Reported Outcome Measure (PROM) feasible in urolithiasis? A prospective feasibility study using Urinary stones & Intervention Quality of Life (USIQoL) measure**

**Miss Ruth Jarvis<sup>1</sup>, Mr Phillip Pallmann, Mr Hrishikesh Joshi**

<sup>1</sup>University Hospital Of Wales, Cardiff, United Kingdom

**Introduction:** Patients with urolithiasis undergo regular follow-up which is resource intensive. Follow-up using stone specific PROM, USIQoL, can obviate this if it matches the outcomes of traditional follow-up. We undertook a study to assess the feasibility of using USIQoL as a tool to aid follow-up.

**Materials & Methods:** The study involved 2 phases. The 1st phase was the development of the USIQoL based model using existing data. The 2nd phase involved prospective, single-blind validation of the model for outpatients, over a 10-month period. We assessed correlation between the USIQoL domain scores with clinical (clinical outcome, symptoms) and global rating (EuroQoL 5D) anchors. We validated USIQoL cut-off scores which could be used to discriminate between need to intervene or not using Binomial Logistic regression (BLR), ROC curves and Youden Index.

**Results:** 455 patients [Mean age 56; M=298; F=147]. The relationship between USIQoL domain scores (Pain and Physical Health (PPH) & Psycho-Social Health (PSH)) and clinical outcomes were statistically significant [BLR: PPH exp(B) 1.148,  $p < 0.001$ ; PSH exp (B) 1.179,  $p 0.025$ ]. The ROC values were  $> 0.75$ . The optimum cut-off scores came to be 8 (PPH) and 10 (PSH). Application of this model to the validation phase demonstrated satisfactory sensitivities and specificities [PPH sensitivity 0.861, specificity 0.400; PSH sensitivity 0.861, specificity 0.420].

**Conclusions:** This novel feasibility study demonstrates good correlation between the clinical and USIQoL outcomes making it a valid aid for outpatients in urolithiasis. The cut off scores identify patients needing detailed evaluation and intervention. This could transform traditional outpatient care.

### **P12-8 Shockwave Lithotripsy (Swl) During The Covid-19 Global Pandemic In The Stented And Anticoagulated Patient Cohort**

**Dr Katherine Chin<sup>1</sup>, Mr Arjuna Brodie<sup>1</sup>, Mr Mohamed Elajaf<sup>1</sup>, Mr Jerry Raju<sup>1</sup>, Professor Masood A. Khan<sup>1</sup>**

<sup>1</sup>Urology Department, Leicester General Hospital, Leicester, United Kingdom

**Introduction:** COVID-19 has adversely affected health-care services worldwide. In the United Kingdom, non-cancer and elective procedures were mostly canceled or

delayed. Shock wave lithotripsy (SWL) is a cost-effective method of treating renal and ureteric stones, which is safe to use during the COVID-19 pandemic. We present the outcomes of SWL at one tertiary referral centre utilising an on-site lithotripter. We focused on outcomes of patients with ureteric stents in-situ and patients on long term anticoagulant medication, which was paused according to local protocol for treatment.

**Patients and Methods:** Retrospective analysis of all patients undergoing SWL over a nine-month period using the Storz Modulith SLX F2 lithotripter. Patient and stone characteristics were recorded, including skin-to-stone distance and Hounsfield Units (HU). Measured outcomes included success rate, need for surgical intervention, duration of treatment with stent in-situ and bleeding post treatment in patients on anticoagulants.

**Results:** 246 patients underwent SWL between 13th May 2020 and 15th January 2021. 37 patients had a ureteric stent in-situ with success rate of 68% and stent in-situ duration average of 74 days. Patients on anticoagulants comprised 7% of the study population and 88% had successful SWL. None of the patients on long term anticoagulant medication developed bleeding that required treatment.

**Conclusions:** SWL can be utilised as an effective, well-tolerated and first-line treatment option for urinary tract stones. It offers a chance of successful stone clearance in stented patients. Our study showed that SWL is safe in patients on anticoagulants, provided they are stopped appropriately before and after treatment.

### P12-9 Ketamine Uropathy: Clinical Experience in a High Prevalence Centre

**Mr George Sturgess<sup>1</sup>, Mr Ian Beckley<sup>1</sup>, Mr Robin Shepherd<sup>1</sup>, Ms Alison Downey<sup>1</sup>**

<sup>1</sup>Pinderfields Hospital, Mid Yorkshire Hospitals NHS Foundation Trust, Wakefield, United Kingdom

**Background:** Ketamine uropathy causes inflammatory changes to the urothelium, manifesting as significant lower urinary tract symptoms, small bladder capacity and suprapubic pain. Data from UK centres is limited and no formal treatment guidelines exist. We present our clinical experience managing patients with ketamine uropathy from a high-volume UK-centre.

**Methods:** All patients with ketamine uropathy presenting to our unit over a 10-year period were identified through operative and clinic lists, emergency presentations and a prospectively collected local database. Demographic data, biochemical findings, imaging techniques and both medical and surgical management were recorded.

**Results:** A total of 81 patients with ketamine uropathy were identified from 2011 to 2022 however a large

proportion presented from 2018 onwards. Average age at presentation was 26 years (IQR 27-34), 72.8% were male and average follow-up time was 34 (IQR 8-46) months. Longest follow-up time was 128 months. Therapeutic interventions included anticholinergic medication, cystodistension and intravesical treatments. Hydronephrosis was present in 20 (24.7%) patients and nephrostomy insertion was required in six. One patient underwent bladder augmentation surgery. Serum gamma-glutamyl transferase (GGT) and length of follow-up were significantly higher in patients with hydronephrosis. Adherence to follow-up was poor.

**Conclusions:** We present a large cohort of patients with ketamine uropathy from a small town in the UK which is unusual. The incidence appears to be rising, in-keeping with increasing recreational ketamine use and should be of concern to urologists nationally. Abstinence is a key aspect of management, and a multi-disciplinary approach works best. Many patients are lost to follow-up.

### P12-10 Setting up a regional local anaesthetic ureteric stent change service; suitability, safety and satisfaction

**Mr Sidney Parker<sup>1</sup>, Mr Kamran Haq<sup>2</sup>, Dr Ricardo Fernandes<sup>1</sup>, Mr Jonathan Broughton<sup>3</sup>, Miss Lauren Moore<sup>2</sup>, Dr Clare White<sup>2</sup>, Dr Natalie Bowes<sup>2</sup>, Mr Ashok Sakhivel<sup>3</sup>, Mr John Fitzpatrick<sup>2</sup>, Mr Alistair Rogers<sup>2</sup>, Mr Kanagasabai Sahadevan<sup>1</sup>**

<sup>1</sup>Sunderland Royal Hospital, Sunderland, United Kingdom, <sup>2</sup>Freeman Hospital, Newcastle, United Kingdom, <sup>3</sup>James Cook University Hospital, Middlesbrough, United Kingdom

**Aims:** Ureteric stent changes under general anaesthetic (GA) can be a significant burden to theatre waiting lists. We performed a regional study of these patients to assess; i) suitability ii) safety and iii) patient satisfaction of converting the GA stent changes to local anaesthetic (LA).

**Methods:** A retrospective cohort study from the Northern regions three urology centres was performed. Feasibility criteria for transition to LA stent change was determined on; comorbidities, indication for stent placement and operative factors. Two centres subsequently initiated regular outpatient LA stent change lists, outcomes and patient surveys were reviewed prospectively.

**Results:** 182 cases were included. Median age was 68 and sex ratio 1:1 (M:F). Indications for indwelling stents included; benign (44%), non-urological (29%) and urological malignancies (26%). LA stent changes were deemed feasible in 70 patients; 63 procedures were performed under LA with a 97% success rate. Complications (30d) included stent migration (2), haematuria (2) and infection (1). Of these, 16 patients completed the post-operative survey; 8 preferred the outpatient and 2 preferred the

theatre stent changes (6 had no preference). Only 2 (12.5%) patients had an increase in their pain score during the procedure. Overall satisfaction was high with a median score of 9 out of 10 for their experience (range 3-10, mean 8.33).

**Conclusion:** LA ureteric stent changes are safe in suitable patients. We propose a traffic light system to help identify those patients. Patients were mainly satisfied with LA stent changes and its utilisation can help to improve theatre capacity.

### **P12-11 Is Active Surveillance a Safe Option when Prostate Biopsies have Reported Low-Grade Disease?**

**Dr Ruairidh Taggart<sup>1</sup>, Mr Imran Ahmad<sup>2</sup>**

<sup>1</sup>Glasgow Royal Infirmary, Glasgow, United Kingdom, <sup>2</sup>Queen Elizabeth University Hospital, Glasgow, United Kingdom

**Background:** Many advocate an active surveillance approach in cases of low-grade prostate cancer (Gleason 3+3=6). The objectives of our study were to determine whether active surveillance is a safe option for our patients with biopsy-reported low-grade disease and demonstrate the contemporary utility of MRI staging and PSA level as prognostic indicators.

**Methods:** A database of all Robotic-assisted Laparoscopic Prostatectomies performed at the Queen Elizabeth University Hospital between December 2015 and May 2022 was analysed retrospectively. Patients with biopsies reporting Gleason 3+3=6 disease were selected. Pre-operative MRI T stages and PSA levels were recorded. Prostatectomy pathology reports were reviewed for Gleason upgrading. Post-operative PSA levels were recorded to calculate the biochemical recurrence rate.

**Results:** 339 patients had a biopsy reporting Gleason 3+3=6. 73.5% were upgraded post-operatively. 75.9% with T3 cancer on MRI were upgraded post-operatively. 66.5%, 78.1% and 89.3% of patients with a pre-operative PSA level of  $\leq 10$ ng/ml, 10-20ng/ml and  $>20$ ng/ml respectively were upgraded post-operatively. 68.6% with Gleason 3+3=6 on biopsy, MRI T1/2 and PSA  $<10$ ng/ml were upgraded post-operatively. Biochemical recurrence rate was 7.2% and 87.5% of these patients were upgraded post-operatively.

**Conclusions:** A majority of patients were upgraded to clinically significant disease post-operatively. Upgrading was associated with a higher risk of biochemical recurrence. Both higher MRI stage and pre-operative PSA level was associated with a higher likelihood of upgrading, demonstrating their prognostic value. Approximately two thirds of patients were upgraded despite biopsy, MRI and PSA all suggesting low-risk disease. Patients need to be counseled on this when considering active surveillance.

### **P12-12 Diagnostic evaluation of upper tract urothelial carcinoma: can we safely omit diagnostic ureteroscopy?**

**Mr Matthew Trail<sup>1</sup>, Mr Muhammad Sajid Waheed Rahman<sup>2</sup>, Mr William J Broadhurst<sup>2</sup>, Mr James P Blackmur<sup>1,3</sup>, Mr Abhishek Sharma<sup>1</sup>, Mr Etienne Chew<sup>2</sup>, Dr Marie O'Donnell<sup>4</sup>, Dr Julian Y Keanie<sup>5</sup>, Dr John Brush<sup>5</sup>, Dr John Taylor<sup>5</sup>, Mr Simon Phipps<sup>1</sup>, Mr Ben Thomas<sup>1</sup>, Mr Edward AA Mains<sup>1</sup>, Professor S Alan McNeill<sup>1,2</sup>, Mr Steve Leung<sup>1</sup>, Mr Mark L Cutress<sup>1</sup>, Mr Alexander Laird<sup>1,3</sup>**

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**Objective:** To identify clinicopathological or radiological factors that predict a diagnosis of UTUC to inform which patients may proceed directly to radical nephroureterectomy (RNU) without the delay for diagnostic ureteroscopy (URS).

**Patients and Methods:** All consecutive patients investigated for suspected UTUC in a high-volume UK centre between 2011 and 2017 were identified. Details on clinical presentation, radiological findings and URS/RNU histopathology were evaluated. Multivariate regression analysis was performed to identify predictors of a final diagnosis of UTUC.

**Results:** In all, 260 patients were investigated of whom 230 (89.2%) underwent URS. RNU was performed in 131 patients (50.4%),

of whom 25 (9.6%) proceeded directly without URS – all of whom had a final diagnosis of UTUC – and 15 (11.5%) underwent RNU after URS despite no histopathological confirmation of UTUC. URS permitted major surgery to be avoided in 77 patients (33.5%). 14 patients (6.1%) underwent nephron-sparing surgery. Overall, 178 patients (68.5%) had a final diagnosis of UTUC confirmed on histopathology. Visible haematuria (HR 5.17, CI 1.91–14.0;  $p = 0.001$ ), a solid lesion on imaging (HR 37.8, CI = 11.7–122.1;  $p < 0.001$ ) and a smoking history (HR 3.07, CI 1.35–6.97;  $p = 0.007$ ) were predictive of a final diagnosis of UTUC. 51 (96.2%) of 53 smokers who presented with visible haematuria and had a solid lesion on CTU had UTUC.

**Conclusion:** We identified factors which select patients who may proceed to RNU without the delay of URS. This may inform a prospective multicentre analysis including additional variables such as urinary cytology.

## P12-13 MRCS part B Preparation Courses: Improving access in Northern Ireland

**Ms Susan Cull<sup>1</sup>, Miss Rosemary O'Donoghue<sup>2</sup>**

<sup>1</sup>Craigavon Area Hospital, Portadown, United Kingdom, <sup>2</sup>Royal Victoria Hospital, Belfast, United Kingdom

**Introduction:** Northern Ireland (NI) has the lowest first attempt MRCS part B Examination pass rates in the United Kingdom (Ellis et al., 2021). NI Core Surgical Trainees must travel to the Mainland UK or the Republic of Ireland to avail of face-to-face MRCS part B Preparation Courses incurring significant travel and accommodation expenses in addition to course fees.

Our aim is to run a local, affordable and curriculum-based MRCS part B Revision Course in NI.

**Method:** A revision evening consisting of a short teaching segment, mock OSCE and feedback session was organised. All examining faculty had successfully completed their MRCS. Two MRCS part B revision evenings have been held so far in Craigavon Area Hospital in NI.

**Results:** Candidates' confidence in attempting the MRCS part B increased by 20% after attending the course and they felt the session was overall engaging, helpful, and interesting. Qualitative feedback was very positive. 100% of candidates passed the MRCS part B examination on their subsequent attempt.

**Conclusion:** It has been possible to run a local affordable curriculum-based MRCS part B Preparation Course in NI. This has enhanced local learning opportunities for surgical trainees and improved confidence at attempting the MRCS part B examination.

### Reference

Ellis, R. et al. (2021) "A cross-sectional study examining MRCS performance by core surgical training location," *Medical Teacher*, 44(4), pp. 388–393. Available at: <https://doi.org/10.1080/0142159x.2021.1995599>.

## P12-14 A Prospective Multicentre Audit Evaluating the Incidence of Iatrogenic Urethral Catheterisation Injuries

**Ms Leah Hayes<sup>1</sup>, Ms Stefanie Croghan, Ms Aisling Nic an Riogh, Ms Aideen Madden, Mr Shane Considine, Mr Mark Rochester, W Finch, A Carrie, W Mahmalji, W Elhadi, H Thursby, I Pearce, V Modgil, H Noweir, C Cunnane, Subhasis Giri, Mr Niall Davis, J Mulvihill, M Walsh, Mr Hugh Flood**

<sup>1</sup>Beaumont Hospital, Dublin, Ireland

**Introduction:** Limited data exist on frequency of iatrogenic catheter-related urethral trauma. Previously, an injury rate of 3.2/500 catheterisations was identified by our group within 2 Irish hospitals in 2015. Our objective was to further investigate this on a larger scale.

**Methods:** A prospective, multi-centre, observational study, including 7 hospitals across Ireland (n=4) and the UK (n=3) was performed. Data from catheter related

injuries encountered on-call was collected and anonymised pre-analysis. All reported urethral trauma incidents due to attempted catheter placement leading to urology referral were recorded over a predefined period (3-4 months). Monthly catheter insertion rate was previously found to approximate hospital bed number. Collected data was analysed and interpreted in the context of historical data.

**Results:** A total of 66 urethral catheterisation injuries (all male) were identified (7 centres; mean 3.43 months). The average injury rate was 3.08/500 catheterisations (range 1.59 – 7.21/500). This is markedly similar to the 3.2/500 incidence recorded in 2015. Some variability within figures from each site may reflect heterogeneity in data collection methods. Based on our previous figures, at least 70% of injuries are related to balloon inflation, 80% (53/66) have a Clavien-Dindo morbidity  $\geq$  Grade 2, and incur costs for initial management predicted in the range of €598,240 (not including long-term and medicolegal costs).

**Conclusions:** Iatrogenic, catheter-related, urethral trauma, mainly related to balloon inflation injury, is a recurring, universal medical error resulting in significant patient morbidity with a substantial financial burden to healthcare services. This data emphasizes the need to design and test technology to prevent accidental balloon inflation during urinary catheterisation.

## ePoster Session 13 Bladder Cancer: Muscle & Non-Muscle Invasive, Wednesday 21 June, 1400-1500, Hall 10

### P13-1 Global variation in early recurrence after TURBT surgery in the RESECT study (NCT05154084): There is significant inter-site variation that is independent of differences in tumour factors

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**Introduction:** The aim was to determine if there is significant variation in early recurrence (first check



cystoscopy) after first transurethral resection (TURBT) surgery between sites taking part in the RESECT study (NCT05154084) after accounting for tumour characteristics.

**Patients/Methods:** An international, multi-centre, observational study. A mixed effects logistic regression model with tumour size, tumour number, tumour grade, tumour stage as fixed effects and site as a random effect was fitted. Cases with first, presumed non-muscle invasive bladder cancer (NMIBC) undergoing TURBT were included. Cases were excluded if first check follow up had not been completed.

**Results:** After exclusions, 186 sites (UK: 80; Europe: 59; North America: 18; Asia: 17; Africa 7; South America: 3; Oceania: 2), contributing a total 4597 cases (mean: 25 cases) were included. Median recurrence rate per site was 12% (IQR 0-22) for low grade tumours and 27% (IQR 13-42) for high grade tumours (figure 1). After controlling

for tumour size, number, stage and grade (all significantly and independently associated with early recurrence) there was significant residual variation attributable to site ( $p < 0.0001$ , intra-class correlation, 0.1). Adjustment for sites improved the regression model from an area under the receiver operating characteristic curve of 0.66 to 0.74.

**Conclusion:** There is significant variation in the early recurrence rate of NMIBC after TURBT surgery between sites that could not be explained by currently understood tumour features. This may be related to site-specific surgical technique or perioperative practice. Further investigation is warranted to understand the influence of these factors.

### P13-2 A Protocol for Placement of 24K Gold Fiducial Markers in the Bladder to Optimize Targeting and Decrease Collateral Radiation with Bladder Preserving Multi-Modal Therapy, and Strategies to Optimize Inter-Disciplinary Collaboration

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**Table 1.** Patient characteristics of development and validation cohorts.

	Development cohort (n=10,282)	Validation cohort (n=3,575)
Mean age in years $\pm$ SD	64.3 $\pm$ 14.6	65.2 $\pm$ 16.1
Visible haematuria (%)	69.3	68.8
Non-visible haematuria (%)	30.7	31.2
Male (%)	62.5	64.8
Female (%)	37.5	35.2
Smoker (%)	19.7	19.0
Ex-smoker (%)	31.5	30.9
Never smoked (%)	48.8	50.1
Family history urothelial cancer (%)	2.20	3.66
Previous negative haematuria evaluation (%)	10.1	15.5
Single UTI (%)	12.3	11.4
Recurrent UTI (%)	10.0	10.5
Catheter use (%)	3.28	7.05
Pelvic Radiotherapy (%)	1.98	2.91
Dysuria/Suprapubic pain (%)	21.3	26.4
Anticoagulation (%)	26.3	26.9
Flank pain (%)	9.17	13.0

**Introduction:** Bladder preserving multi-modal treatment (MMT) for muscle-invasive bladder cancer has been shown to be effective for well-selected patients (unifocal, non-bulky T2 disease amenable to maximal endoscopic tumor resection). Despite this, many surgeons remain skeptical of MMT, and it is a challenge to accrue patients.

Use of 24K gold fiducial markers (GFM) to outline tumor resection sites unequivocally improves targeting. Yet, very few centers appear to regularly use bladder fiducial markers. We developed a bladder GFM protocol and received NIH R01 funding (1R01CA201709-01) for a multi-center trial to assess feasibility and safety.

We also reviewed technical and “systems” challenges identified in providing MMT in collaboration with RadOnc, Radiology, Urology specialists.

**Methods:** Retrospective review of our personal and institution’s experience initiating this R01 funded study across 3 sites.

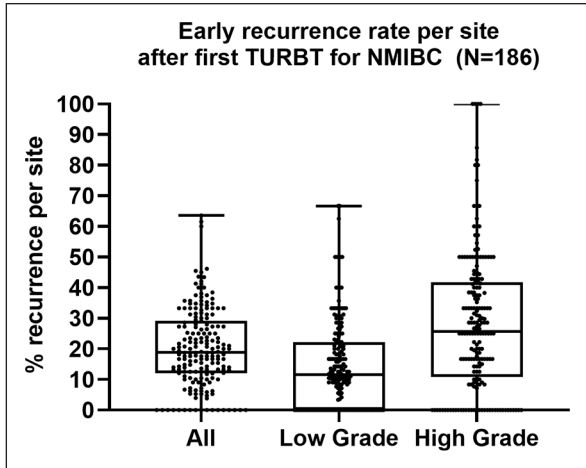
**Results:** To date, 7 subjects have completed GFM placement and MMT.

An average of 7 fiducials were implanted to outline resection sites and at least one anatomic border of the bladder. No fiducial placement-related complications occurred. In all cases, the area of resection was smaller with fiducial placement.

Urologists found placement simple.

The most challenging aspect of MMT is the degree of communication required across multiple disciplines. Bladder mapping and volumetric cystogram images (Figure 1) are especially helpful, as is having a core team of collaborators from each specialty.





**Conclusions:** Bladder GFM placement is technically simple to perform, and early data suggests that it is safe and improves targeting. Centers should focus on strategies to optimize inter-provider clinical communication of clinical data.

**PI3-3 External Validation of the IDENTIFY Risk Calculator for patients with haematuria referred with suspected urinary tract cancer**

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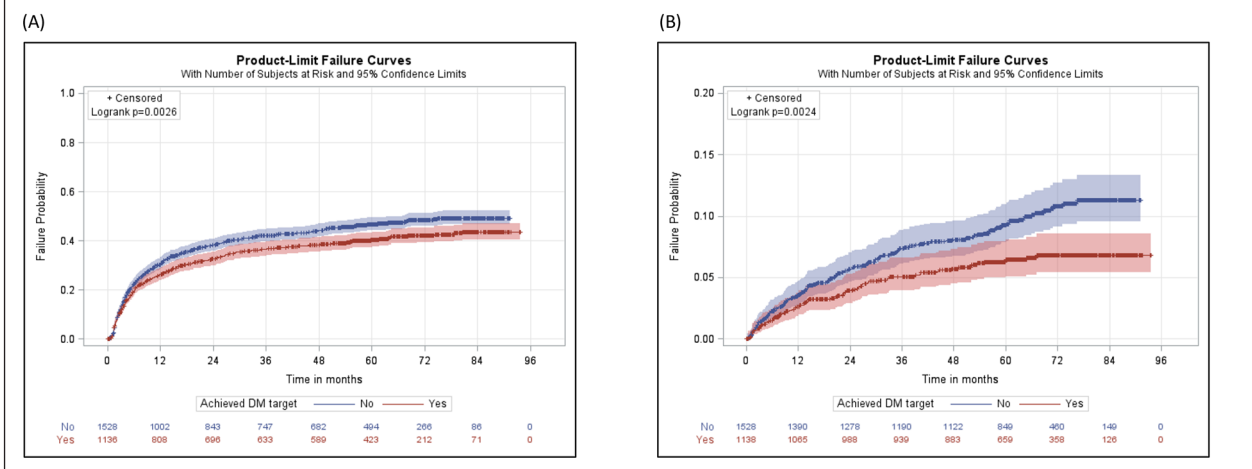
**Introduction:** Risk-stratification for patients referred with haematuria is important in diagnosing cancer early and for health resource efficiency. A recent prediction model developed from the IDENTIFY study created a cancer risk calculator that aimed to help clinicians with their decision-making in the investigation of patients with haematuria. We aimed to externally validate this model in a separate cohort from the development population.

**Materials & Methods:** Data were collected on patient characteristics used for the risk calculator, and the cancer outcome recorded. Patients with a previous or existing urological malignancy were excluded. Development and validation cohort demographics were compared. The area under the receiver operating characteristic curve (AUC), calibration slope, calibration-in-the-large (CITL), and Brier's score were used to assess external validation.

**Results:** There were 3483 patients from 111 hospitals across 27 countries. 12 countries were new countries not used in the development cohort. The development and validation cohorts were well matched (Table 1). When comparing the observed vs predicted outcomes of the prediction model on the validation cohort, the calibration slope was 0.97 and CITL was 0.33. AUC was 0.79. Brier's score was 0.15.

**Conclusions:** External validation of the IDENTIFY risk calculator shows good accuracy and discrimination for predicting urinary tract cancer in patients referred with haematuria. The model underestimates the risk slightly and this can be recalibrated by adjusting the intercept of the regression equation. The recalibrated risk calculator can be introduced into diagnostic haematuria pathways to improve risk stratification and health resource allocation.

Figure 1: Time to (A) Recurrence and (B) Progression comparing centres achieving the Detrusor Muscle (DM) sampling target and those who did not.



### P13-4 Perception of a non-invasive urinary biomarker test for the detection of bladder cancer among patients referred to a Rapid Access Haematuria Clinic with suspected urological malignancy

**Mr Nicholas Bullock<sup>1,2,4</sup>, Mr Mohamed Mubarak<sup>2</sup>, Dr Ceri Morris<sup>3</sup>, Ms Collette Clements<sup>4</sup>, Ms Clare Geere<sup>4</sup>, Ms Elizabeth Bois<sup>4</sup>, Mr Jonathan Featherstone<sup>2</sup>, Professor Ian Weeks<sup>5</sup>, Mr Krishna Narahari<sup>2,4</sup>, Professor Howard Kynaston<sup>1,2,4</sup>**

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**Introduction:** Whilst urinary biomarker tests have the potential to avoid the risks associated with conventional flexible cystoscopy, few have explored the perceptions of such tests among those for whom they are being developed. This questionnaire based study therefore sought to determine attitudes towards use of a urinary biomarker for the diagnosis of bladder cancer among patients referred to a Rapid Access Haematuria Clinic (RAHC) with suspected urological malignancy.

**Patients and Methods:** Patients attending a RAHC were recruited to a prospective observational study evaluating a novel urinary biomarker (URO17™) for the detection of bladder cancer and invited to complete a two-part structured questionnaire. Questions related to demographics, attitudes towards conventional cystoscopy and the minimal acceptable sensitivity (MAS) at which a urinary biomarker would be considered an alternative to flexible cystoscopy.

**Results:** A total of 250 patients completed the survey; the majority of whom were referred with visible haematuria (75.2%). While 171 (68.4%) would be willing to accept a urinary biomarker in place of cystoscopy, 74 patients (29.6%) would not, regardless of its sensitivity. A significant number reported a change in MAS after undergoing cystoscopy, with the greatest change seen in the proportion of patients unwilling to accept a urinary biomarker (increasing from 29.6% to 38.4%).

**Conclusions:** Although some patients attending a RAHC were willing to accept a urinary biomarker test in place of conventional cystoscopy, effective patient, public and clinician engagement will be necessary at all stages of implementation if it is to become an established component of the diagnostic pathway.

### P13-5 Cutaneous ureterostomy – Vintage or Vantage Urinary Diversion?

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**Introduction:** Cutaneous ureterostomy (CU) offers quicker operation, less bowel morbidity, faster recovery and also allows relatively easy access to the upper urinary tracts. In spite of this it is an underutilised urinary diversion.

**Materials and Methods:** We retrospectively reviewed all patients who underwent radical cystectomy (RC) with CU at a single institution between January-2008 and December-2022. CU were fashioned with T or U spatulation and managed with self-dilatation or permanent ureteric stents. All relevant parameters were collected and analysed.

**Results:** Of the 295 RC, 41 had CU. Median age was 71 (39-83); 26 (63%) were male. Thirty-nine (95%) patients were ASA 2/3. Pre-operative histology was muscle invasive in 22 (53%) and non-muscle invasive with carcinoma in situ in 6 (14.6%). Seven patients had solitary kidney and 14 had synchronous nephroureterectomy. CU was performed for easier monitoring of solitary upper tract in 20 (49%), comorbidities in 7 (17%) extensive intraoperative disease in 5 (12%) and intra-operative complications in 2 (6%). Surgical approach was open in 22 (53%), robotic in 19 (47%) and hybrid in 2 (6%) patients. Median length of stay was 13 days. Median follow up was 21 (0-165) months. Median creatinine declined 18%. Recurrent UTI occurred in 16 (39%) patients. Stomal patency was managed through self-dilatation in 15 (37%) and stenting in 26 (63%). Stomal stenosis occurred in 0 stented and 10 (24%) non-stented patients; 2 (6%) required formal revision and 8 (20%) stenting.

**Conclusion:** CU is a viable urinary diversion with a few significant intra and post-operative complications.

### P13-6 Phase IV Translational Research by outcome audit confirms relevance of and informs changes to national Quality Performance Indicators (QPIs) for NMIBC

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**Mr Rehan S Khan<sup>7</sup>, Mr Konstantinos Dimitropoulos<sup>8</sup>, Dr Catriona Graham<sup>13</sup>, Mr David Hendry<sup>3</sup>**

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**Introduction:** To improve outcomes and reduce variation, Scotland implemented a national Quality Performance Indicator (QPI) programme for Bladder Cancer (BC) in April 2014. Within a robust governance framework, including prospective audit and feedback, health boards are accountable to achieving benchmarks. To ensure QPIs remain relevant and responsive to developing evidence, they are formally reviewed after 3-year cycles, and modifications made accordingly.

As part of a series, this analysis describes clinical outcomes consequent to BC QPIs and their utility in informing changes to the NMIBC QPIs.

**Materials and Methods:** QPIs expected to influence outcomes in NMIBC are: (a) sampling Detrusor Muscle (DM) at initial TURBT; (b) Single immediate instillation of Mitomycin-C (SI-MMC); (c) early re-TURBT in High Grade NMIBC.

Health Boards collected data prospectively, while clinicians recorded follow up variables. Both were pooled from 12 collaborating centres.

Data is available from 8,032 new BC patients: 3,899 diagnosed April 2014-March 2017 (QPI cycle 1) and 4,133 diagnosed April 2017-March 2020 (QPI cycle 2).

**Results:** A total of 2,688 NMIBC patients from QPI cycle 1 had a median 63-month follow up. Key findings included:

1. Achievement of DM (Figure 1) and SI-MMC targets were associated with reduction in recurrence and progression;
2. SI-MMC was most effective in low grade Ta cancers;
3. Re-TURBT could be avoided in patients with solitary and small High Grade Ta cancers.

**Conclusions:** Whilst the QPIs remain relevant, outcome-informed modifications have been made to ensure they are applicable to select NMIBC patients in cycle 2. Further validation is on-going.

### **P13-7 Outpatient en-bloc resection of new and recurrent bladder tumours at local anaesthetic flexible cystoscopy**

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<sup>1</sup>Univeristy Hospitals Plymouth, Devon, United Kingdom

**Introduction:** Bladder cancer remains a common cancer with a high recurrence rate. Initial diagnosis or recurrence typically requires a general or spinal anaesthetic transurethral resection of bladder tumour (TURBT). Certain bladder tumours can be safely managed at flexible cystoscopy negating the risk of general anaesthetic, stopping anticoagulation or occupying theatre time. Some tumours can be resected en-bloc using laser under local anaesthetic with suggested histopathological and oncological benefits.

**Patients:** Cases from a tertiary centre local anaesthetic flexible cystoscopy clinic were reviewed between January 2021 and May 2022. 27 patients were deemed suitable and underwent en-bloc resection of bladder tumours. Variables were reported on patient, operation, disease & outcomes.

**Results:** 85% of patients were male with a median age of 75.

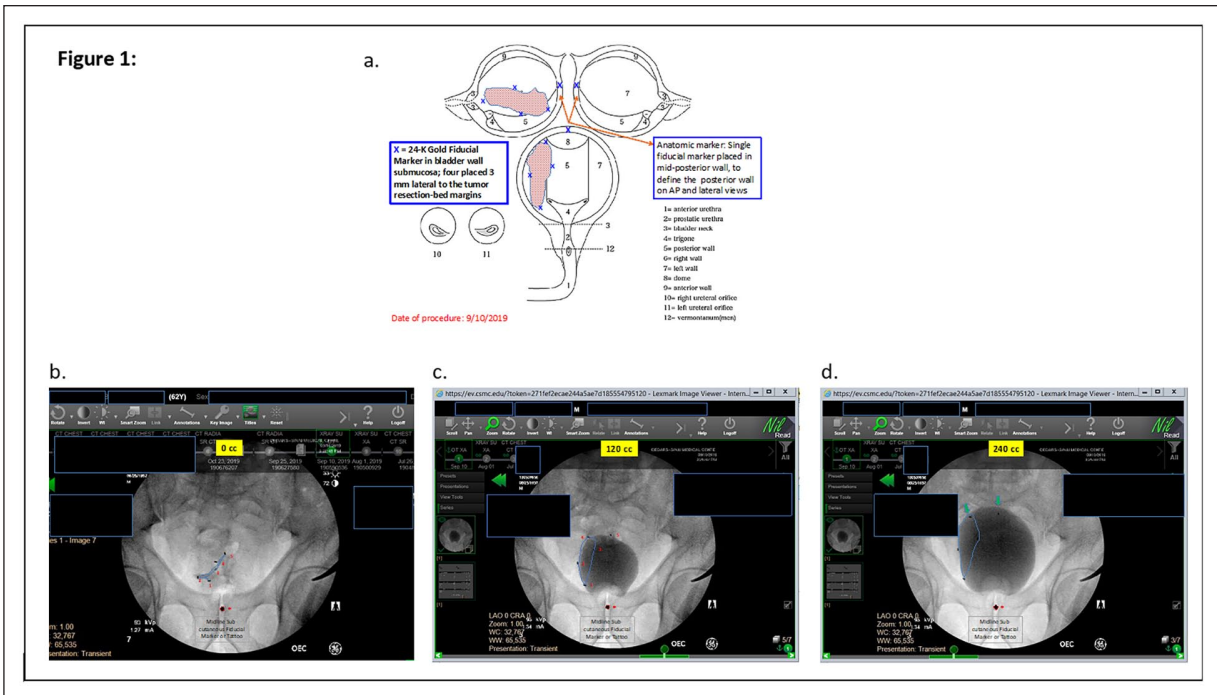
33% of patients had a Charlston co-morbidity index of  $\geq 6$ .

44% were anticoagulated.

59% of cases were for recurrent tumours

Final histology was proven to be urothelial carcinoma in 89% of cases with 73% being G1/ G2 (low). All tumours were non-muscle invasive. Muscle was sampled in 58% of urothelial carcinoma cases, whilst in those cases without muscle sampled, a re-resection was not deemed necessary. Median time from referral to procedure was 34 days. All patients found the procedure tolerable. There were no cases of hospital re-admission, conversion to general anaesthetic or recurrence at 3-month cystoscopy.

**Conclusions:** Our data demonstrates local anaesthetic en-bloc bladder tumour resection at flexible cystoscopy is a feasible alternative to TURBT in certain tumours. It has a favourable safety profile and may have cost saving benefits.



### P13-8 Predicting bladder cancer disease progression risk using tumour and urinary immune profiling

**Miss Madhavi Natarajan<sup>1</sup>, Mr Tyler Wooldridge<sup>2</sup>, Dr Nicola Annels<sup>2</sup>, Dr Ben Haagsma<sup>1</sup>, Mr Matthew Perry<sup>1</sup>, Professor Hardev Pandha<sup>2</sup>**

<sup>1</sup>Royal Surrey Hospital, Guildford, United Kingdom, <sup>2</sup>University of Surrey, Guildford, United Kingdom

**Introduction:** A quarter of newly diagnosed bladder cancers are muscle-invasive (MIBC) (45% 5-year disease free survival). 30% patients with apparent non-muscle-invasive cancer (NMIBC) have MIBC on histology following cystectomy (RARC). Tumour associated macrophages (TAMs) polarise into an immunogenic 'M1' phenotype or immunosuppressive 'M2' phenotype. This study assesses accuracy and validity of quantifying urinary macrophages for earlier recognition of treatment resistant bladder cancer.

**Methods:** Urine-derived cells and tumour and adjacent normal bladder derived cells were collected from 18 RARC patients between May-October 2022. Flow cytometry performed for immune cell profiling (MACSQuant).

**Results:** The urinary immune cell profile closely reflected the tumour immune profile. Females had higher CD206+CD163+ M2 phenotypic cells in urine and in tumour ( $p < 0.05$ ). In adjacent normal bladder and in males we identified higher CD3+CD8+ T cells expression in tumour tissue ( $p < 0.05$ ) despite non-significant difference in distribution of male and female disease stage at final histology. NMIBC demonstrated an immunogenic urinary and tumour profile with more M1 macrophages (CD68+CD80+) ( $p < 0.05$ ) vs. MIBC. The 3 males upstaged from NMIBC to MIBC on final histology had

lower representation of CD68+CD80+ M1 phenotypic cells in urine and tumour ( $p < 0.05$ ).

**Discussions and Conclusions:** The TAM immune cell profile is reflected accurately in urine sampled at RARC: a higher proportion of M2 phenotypic macrophages and lower proportion of M1 macrophages in the tumour and urine is predictive of more aggressive disease. This study highlights the potential application of urinary derived TAM analysis for disease outcome prediction and early consideration of adjuvant immune checkpoint therapy.

### P13-9 Objective measurement of physical recovery using wearable devices in open vs intracorporeal robotic cystectomy: analysis of the secondary outcomes of the iROC randomized trial

**Mr Pramit Khetrapi<sup>1</sup>, Prof James Catto, Prof Muhammad Shamim Khan, Mr Imran Ahmad, Mr Philip Charlesworth, Mr Sanjeev Kotwal, Mr John McGrath, Prof Nikhil Vasdev, Mr Vishwanath Hanchanale, Prof John Kelly, N.A. . iROC collaborators**

<sup>1</sup>Barts Health, London, United Kingdom

**Introduction:** Radical cystectomy (RC) is associated with extended recovery time. No previous randomized trials have measured recovery in mobility using objective measures such as fitness trackers.

**Patients & Methods:** The iROC randomized trial (ClinicalTrials.gov:NCT03049410) compared recovery following intracorporeal robot-assisted RC (iRARC) vs open RC (ORC). Physical activity levels were measured by collecting mean and maximum daily steps over 7-day periods using a wrist-worn pedometer, and number of



chair-to-stands (CTS) in 30 seconds at baseline, 5 days, 5 weeks and 12 weeks post-operatively. Complications were measured using the Clavien-Dindo (CD) classification at 30 days (early) and 90 days (late) post-operatively.

**Results:** Among 260 patients, there was no difference in average (iRARC 6429.8 (SD 3188.7) vs ORC 6550.4 (SD 2863.7)) or maximum (iRARC 9658.7 (SD 5238.1) vs ORC 9525.3 (SD 4039.1)) step-counts at baseline. There was no difference in step-counts between iRARC and ORC at any timepoint, but a significant difference in recovery of average steps (iRARC 34.7% vs ORC 24.6%,  $p=0.042$ ) favoring iRARC at the 5-day timepoint only. Recovery of CTS was significantly different at 5 weeks only (iRARC 84.6% vs ORC 74.0%,  $p=0.013$ ) favoring iRARC. Early and late major complications ( $CD\geq 3$ ) were associated with delayed recovery of maximum steps at 5 weeks ( $p=0.014$ ) and 12 weeks ( $p=0.019$ ) respectively.

**Conclusions:** Major complications were associated with a delayed recovery in step-counts. Step-counts may have utility in measuring differences in activity between iRARC and ORC in the earlier post-operative period, and CTS counts may be useful later in the peri-operative period.

### **P13-10 Prediction of stage, grade and bladder recurrence patterns in Upper Tract Urothelial Cancer : Our experience using a machine learning approach**

**Mr Kamran Haq<sup>1</sup>, Mr Robert Geraghty<sup>1</sup>, Mr Karthick Rajan<sup>1</sup>, Mr Harneet Khanuja<sup>2</sup>, Mr Nithesh Naik<sup>2</sup>, Mr Rajan Veerratterapillay<sup>1</sup>, Mr David Rix<sup>1</sup>, Mr Bhavan Prasad Rai<sup>1</sup>**

<sup>1</sup>Freeman Hospital, Newcastle, United Kingdom, <sup>2</sup>Manipal Institute of Technology, Bangalore, India

**Introduction:** Decision making in the treatment and follow up of upper tract urothelial cancer (UTUC) is influenced by multiple factors. This study presents our ongoing experience with machine learning models developed to predict disease stage ( $\geq T1$ ) and grade as well as bladder recurrence patterns.

**Method:** A retrospective analysis of all nephroureterectomy's performed in a single centre from 2016–2021 was undertaken ( $n=201$ ) using electronic records. Data points included patient demographics, risk factors, tumour characteristics and bladder recurrence patterns. A number of machine learning **methods** were used in analysis of the data, which was segregated into training (70%) and test (30%) sets. We report accuracy (95% CI), sensitivity and specificity for each model using test set data.

**Results:** Our model was able to achieve 69% accuracy in prediction of  $\geq T1$  disease, 95% CI:0.48-0.85; sensitivity 0.71; specificity 0.66. Accuracy in the prediction of grade was marginally better at 73%, 95% CI:0.52-0.88; sensitivity 1.0; specificity 0.63. In both cases random forest was the most effective model. Bladder recurrence prediction was more successful at 79.4% accuracy, 95% CI: 62.1-91.3, sensitivity 84.6%, specificity 62.5% with the recursive partitioning model most effective.

**Conclusions:** We present machine learning models with moderate discriminatory power for prediction of stage, grade and bladder recurrence. Expansion of the data set allowed refinement of the algorithm resulting in improved accuracy. Further validation will enable us to counsel patients on their individualized risk profile and inform treatment options such as the decision to undertake/offer nephron sparing approaches or perform ureteroscopy prior to radical treatment.