JCU

Journal of Clinical Urology
2022, Vol. 15(1S) 3–95

DOI: 10.1177/20514158221077479
journals.sagepub.com/home/uro
SAGE

Abstracts of the BAUS 2022 Scientific Meeting, Birmingham 13-15 June 2022

EPoster Session 1: Stones, Imaging and Upper Tract Disorders 1, Hall 9, June 13, 2022, 14:00 - 15:30

P1-1 The quality of life (QoL) impact of acute ureteric colic – a prospective pilot study using a QoL and the Cambridge ureteric stone PROM assessment

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Introduction: Acute ureteric stone (AUS) disease significantly impacts the patients and NHS. We seek to define the QoL and direct/indirect impact of AUS.
Patients/Methods: We undertook a 20-month prospective study of patients admitted with AUS. Weekly QoL data (EQ-5D-5L and CUSP PROM (CUSP) questionnaires) was collected for 12 weeks.
Results: 89 patients were recruited. Median age was 42(19-84) years (65 male: 24 female). Mean stone size was 5(2-12) mm. The majority (65/89) were in employment/full-time education. 30/89(33.7%) returned the questionnaires. EQ-5D-5L data confirmed that AUS had a significant detrimental impact on QoL scores. Though pain was the main presenting feature, the 6-domain CUSP data demonstrated significant negative impact on fatigue levels, ability to undertake normal activities, sleep patterns, anxiety levels and LUTS. QoL was superior in patients with spontaneous passage and those undergoing definitive primary treatment compared to emergency stent insertion. Mean number of AUS-related unscheduled/scheduled hospital/GP visits was 3.4(1-8). Mean number of patient sick leave days was 35 days for those requiring intervention and 9 days for those managed conservatively. Average number of days taken off by the patient's caregiver was 3 days.
Conclusions: This is the first study to attempt to ascertain the direct and indirect impact of AUS using the EQ-5D-5L and CUSP questionnaires. AUS mostly affects the working-age population; has a significant negative impact on patient and caregivers QoL, NHS resources and the wider economy. QoL recovery appears quicker in those undergoing primary/definitive treatment in favour of emergency stent insertion/delayed treatment. Large-scale studies are urgently needed.

P1-2 Analysis of UK BAUS PCNL database: A Machine/Deep Learning Study for predictive modelling

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Introduction: Machine (ML) and Deep learning (DL) are subsets of artificial intelligence that can be used to predict specific outcomes. To date there have been a few small studies on post-PCNL outcomes. We aimed to build and internally validate ML/DL models for post-PCNL transfusion and infection using a comprehensive national database.
Materials and Methods: We used data from the BAUS PCNL registry, which details patient/stone demographics, intra-operative characteristics and post-operative outcomes. 43 pre/peri-operative factors were selected as predictors. 6 ML and 2 DL models were built for each of the 11 outcomes, including logistic regression for comparison to traditional statistics. Data was randomly segregated into training and test sets (70% and 30%, respectively). Models were 'complete-case' analyses.

Results: 4412 patients were included, with 3088 in the training set and 1324 in the test set. The models predicted need for transfusion and post-operative infection with a very high degree of accuracy (see figure). Post-operative length of stay and Clavien-Dindo complication classification were the next highest accuracy. Unfortunately, the remainder of the outcomes did not achieve the same high levels. These four outcomes were therefore included in the provisional web-based application. Assuming funding is secured to host it, this will be launched at #BAUS22.
Conclusion: This is the largest machine learning study on post-PCNL outcomes to date. These models can predict the need for post-PCNL transfusion and post-PCNL infection at an individual level with excellent accuracy. This will revolutionise patient counselling, consenting and operative planning. Future work will focus on model tuning.

P1-3 Central adiposity increases risk of kidney stone disease in part through effects on serum calcium concentrations

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Introduction: Serum calcium (SCa) and obesity are associated with kidney stone disease (KSD). We used conventional and genetic epidemiological approaches to increase understanding of these relationships.
Methods: Waist-hip ratio (WHR), a marker of central adiposity, SCa and KSD data from UK Biobank participants were analysed using adjusted linear regression. Univariable, multivariable and mediation Mendelian randomisation (MR) were performed using 316 and 246 genetic instruments for WHR and SCa, respectively.
Results: Observational analyses of 3,466 KSD cases and 489,944 controls demonstrated that participants of normal BMI (20-25kg/m²) but in the fifth quintile for WHR are at increased risk of incident KSD compared to the first quintile (HR=1.39 (95%CI=1.18-1.63)). Following adjustment for sex, age, serum vitamin D, and phosphate, increased WHR was positively associated with SCa (ß=0.04, 95%=CI 0.04-0.05, P<0.001).
Univariable MR demonstrated that relative risk of KSD is increased by increasing WHR and SCa; 1 standard deviation (SD) increases relative risk by 46% (95%CI=1.27-1.67, P=5.9e-8) and 63% (95%CI=1.37-1.93, P=2.0E-8), respectively. A 1 SD increase in WHR increases SCa by 0.11mmol/L (95%CI=0.07-0.14, P=1.8e-8). Multivariable MR demonstrated that SCa and WHR independently increase relative risk of KSD (OR=1.71, 95%CI=1.49-1.96, P<0.001 and OR=1.41, 95%CI=1.17-1.69, P<0.001 respectively). Mediation MR demonstrated that 14% of the effect of WHR on KSD risk is mediated via alterations in SCa (Figure 1).
Conclusions: Central adiposity is causally linked to KSD, partly by raising SCa. Mechanisms by which central adiposity increases KSD risk, independent of and via SCa, remain to be elucidated and may identify novel therapeutic approaches for KSD.

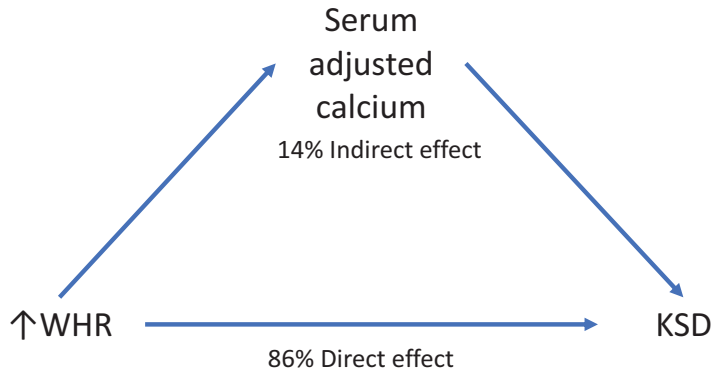

Figure 1: A 1 standard deviation higher WHR increases the relative risk of KSD by 46% (total effect). Mediation MR identifies that 14% of the total effect of WHR on increasing risk of KSD is mediated via an effect on serum calcium concentration

EPoster Session 1: Stones, Imaging and Upper Tract Disorders 1, Hall 9, June 13, 2022, 14:00 - 15:30

P1-4 Establishing outpatient ureteric stent changes under local aesthetic in the Northeast region; a safety and feasibility study

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Introduction: The COVID19 pandemic has led to unprecedented pressures on theatre waiting lists. The numbers of patients requiring regular ureteric stent changes under general anesthetic (GA) can be significant. We performed a regional study of these patients to assess; i) suitability for procedures under local anaesthetic (LA) and ii) outcomes for those then having LA rather than GA procedures.

Patients and Methods: A retrospective cohort study from 3 urology centres was performed. Feasibility criteria for transition to LA stent change was determined on; comorbidities, indication for stent placement and operative factors. 2 centres subsequently initiated regular out-of-theatre LA stent change lists and outcomes were reviewed.

Results: 216 cases were included. Median age was 68 and sex ratio 1:1 (M:F). Commonest indications for indwelling stents included benign strictures (37%), non-urological malignancy (24.1%) and urological malignancy (22.2%). 34 patients were suitable for/awaiting definitive procedures. Average number of changes was 2.4/year with 49% of patients being ASA3 or higher. LA stent changes were deemed feasible in 70 patients. 63 procedures were performed under LA with a 98% success rate. Complications (30d) included stent migration (2), haematuria (2) and infection (1).

Conclusion: Innovation is required to deal with significant COVID-19 related problems. LA ureteric stent changes are safe and tolerable in appropriately selected patients. Performing these outside of the theatre environment increases capacity on surgical waiting lists. Patient benefits include reduced risks of multiple GA procedures in elderly and co-morbid patients. This data encourages expansion of this initiative.

P1-5 Intra-renal pressure during pyeloscopy correlates with post-operative pain

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Introduction: Flexible ureteropyeloscopy (FURS) is used for treatment of proximal ureteric and renal calculi. Intrarenal pressure (IRP) may vary greatly during FURS. Elevated IRP may lead to significant adverse effects. We investigated the relationship between IRP and post-operative pain.

Methods: Patients admitted for FURS and laser lithotripsy at a tertiary hospital were prospectively enrolled. A Laborie® urodynamics transducer and analytics system was used to measure the baseline IRP via a 4Fr Cook® ureteric catheter. A 7.5Fr Karl-Storz® flexible pyeloscope was advanced via a 12/14Fr Flexor® ureteric access sheath and laser lithotripsy was performed with a 30W Dornier® Holmium laser. Fluid irrigation was delivered with a gravity-driven arthroscopy irrigation set, attached to a 20mL hand-operated pump. The transducer was used to measure IRP at commencement, 5-minute intervals and conclusion of surgery. Hand-operated pumping was ceased at the time of IRP measurements. Post-operative pain questionnaires were administered by nurses who were blinded to the surgery. Patients were grouped based on whether they reached a maximum IRP of $\geqslant$40cmH2O.

Results: Twenty patients were included in our study. Mean stone size was 8.8$\pm$4.3mm and mean laser time was 13.9$\pm$7.5min. There was a strong, positive correlation between mean intra-operative IRP and both numeric pain (r=0.63, p=.003) and verbal pain score (r=0.58, p=.007). Numeric and verbal pain scores were significantly higher for patients with maximum IRP $\geqslant$40cmH2O compared to patients with maximum IRP $<$40cmH2O (r=0.45, p=.045 and r=0.57, p=.01, respectively).

Conclusion: In patients undergoing FURS and laser lithotripsy, greater IRP correlates with greater post-operative pain.

P1-6 Cost-effectiveness of quality improvement project by reducing CT detection-to- ureteroscopic laser fragmentation interval in managing acute renal obstruction by urolithiasis

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Background: A service quality improvement (QI) project that included developing care pathways and streamlining the management of acute renal obstruction caused by stones led to a significant reduction in median CT detection-to-laser fragmentation time (several weeks to 24 hours). Cost effectiveness was assessed.

Methods: Costs for implementing and sustaining QI were assessed using established frameworks for economic evaluations. 100 consecutive patients with a median age 58.5 ($\pm$ 18) years of and median stone size of 7.5mm ($\pm$4) between October 2018 and December 2021 formed the study cohort. Primary outcome was single procedure

stone free rate. The secondary outcomes were complications, re-admission and re-intervention. A decision analysis model was constructed to compare the cost-effectiveness of emergency (unscheduled) laser ureteroscopic fragmentation and stenting followed by delayed ureteroscopic laser fragmentation using our **Results** and success rates for modelling.

Results: Single procedure stone-free rates (SFR) for unscheduled ureteroscopic laser fragmentation and emergency stenting,and delayed (scheduled) ureteroscopic laser fragmentation were 68.% and 70% respectively (p =0.065). The re-intervention rate, re-admission and complication rates of the study cohort were 15.7%, 21.10% and 5.2% respectively. The Decision analysis modelling demonstrated cost-effectiveness of unscheduled laser fragmentation by £1877/patient. Total cost of delayed intervention was £6266 in contrast to £4389 for unscheduled ureteroscopic laser fragmentation.

Conclusions: The study has shown that a QI project aiming to reduce CT detection-to-laser fragmentation time interval in acute renal obstruction caused by stones at our centre can be implemented and sustained at a relatively low cost

P1-7 Memokath 051-Short term Outcomes in refractory ureteric obstruction

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Introduction: Memokath (MMK-051) is a Nickel-Titanium alloy stent. Manufacturer of the stent and the National Institute for health and care excellence (NICE) state, there is no time limit for planned stent change. We evaluate the outcomes of Memokath 051 (MMK-051) in patients who are dependent on JJ stent

Patients and Methods: A retrospective analysis of a prospectively maintained database of MMK-051 insertions between February 2020 to July 2021 was conducted. Inclusion criteria :1) Stent dependant 2) Anticipated life expectancy >1year 3) Unsuitable for reconstructive procedures 4) Minimum follow-up 6 months. Patients were followed up for stent position and patency with EGFR, MAG3, ultrasound, X-ray, and CT based on the function of the renal unit. Outcomes measures 1) Stent function rates 2) Migration rates 3) Adverse effects.

Results: Thirty-one consecutive MMK-051 were inserted in 24 patients. Eighteen unilateral and 6 bilateral stents were inserted in 14 women and 10 men. Eleven had benign and 13 had malignant etiology. The median follow-up was 15 months (range 6-23 months). 6-, 12- and 18-month stent function rates were 71%, 70%, 61.5% respectively. There were 6 (19.4%) migrations of which 4 did not require reinsertion of stent. There were 1 encrustation, 1 perforation, and 1 urosepsis.

Conclusion: Our pilot study suggests that MMK 051 has a role in the management of refractory ureteric obstruction. Further research with long term follow-up and quality of life assessment is warranted

P1-8 Ethnic variations in urinary stone composition: Is there a difference in stone constituents between Caucasians and South Asians patients in the United Kingdom?

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Introduction: Kidney stone disease (KSD) has a multifactorial aetiology with ethnicity-related issues playing a significant, but poorly understood role. Little is known about patterns in stone composition in South Asian (SA) patients in the UK.

Patients and Methods: Stone composition Results from 3 large stone centres in an ethnically diverse part of the UK were analysed retrospectively (5-year period from November 2015-December 2020)

Results: Data was available for 2279 patients (1488 male;791 female). Caucasian patients comprised 1847 (81%;1225 male;622 female), while SA patients constituted 432 (18.9%;263 male;169 female). Mean age was similar in the Caucasian (53.2(15-91) years) and SA group (58.2(8-90) years). Calcium oxalate (CaOx) was the predominant component in both groups (79.1% Caucasians; 67.1% SA) but SA patients were more likely to have CaOx majority composition stone ($p<0.01$). Calcium phosphate (CaPO) stones were more common in Caucasian patients (68.9% versus 59% $p<0.01$). Proportion of uric acid in both groups were similar (8% vs 8.1%) but magnesium ammonium phosphate (MAP) stones were more common in the SA group (2.3% vs 3.0%). Males more likely to have CaOx stones compared to women (62% vs 42% $p<0.01$), while CaPO and MAP were more commonly found in women ($p <0.01$).

Conclusions: This is the first study to report on patterns in stone composition for SA patients in the UK, and hints at small but significant differences in composition, but also the underlying pathophysiology of stone formation in different ethnic groups. This will benefit from multicentre collaborative efforts to help understand these underlying mechanisms.

P1-9 Why are patients re-admitted after ureteroscopy for kidney stone disease?

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Introduction: The progressive development of Ureteroscopy (URS) has led to numerous publications quoting 80-90% day-case surgery rates. The procedure is increasing in favour as a vital strategy for stone disease. Recent data suggests 1:10 re-attendance rates after URS. Using local and national data, our aim was to investigate causes for this.
Methods: National data: NHS Hospital Episode Statistics (HES) HES was interrogated (April 2013-March 2020) for procedure codes relating to ureteroscopic stone treatment (M27.1, M27.2, M27.3). Treatment episodes relating to the first URS ('index ureteroscopy') with a minimum of 30 days post-operative follow-up were included.
Local data: Retrospective cohort study utilising electronic patient records of patients undergoing ureteroscopy for stone disease June-November 2019 from a single tertiary referral centre.
Results: 71305 index ureteroscopy procedures from HES data revealed 8833 (12%) re-attendances to A+E. Diagnosis codes were only available for the 5752 patients (8%) patients admitted from A+E. Urinary tract infection (21%), stent symptoms (11%) and abdominal pain (17%) were the commonest indications for admission. 235 cases from local audit showed similar demographics with a median age 58yr, 80% elective URS and a median 2.5day length of stay for re-admissions. Median time to re-admission was 7 days (range 1-17). Admission for UTI was slightly higher (47%) with other causes similar (Table 1).
Conclusions: These data showed reasonable corroboration and provided insights into causes for re-admission following ureteroscopy, which require further investigation. Understanding of the post-operative course after day-case URS is vital for patient expectations, consent, and improvement of the patient journey.

P1-10 Does the Mineral Content of Tap Water Correlate with Urinary Calculus Composition?

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Introduction: Investigating the association between drinking water quality and urinary calculus composition could shed light on new aetiological factors implicated in urolithiasis and lead to novel prophylactic strategies. The purpose of this study is to investigate whether the mineral constituents of tap water affect calculus composition.
Patients and Methods: All patients with biochemically analysed urinary calculi between November 2015 and December 2020 at two urological centres were included. Calculus composition was assessed in relation to patient demographics, serum calcium and urate, and water quality variables obtained from the local water supply company using patient postcodes.
Results: 1801 calculi from 1644 patients living in 87 water supply zones were included. Age and sex independently predicted certain calculus types over others. Looking at factors predicting one calculus type over others, water sodium concentration was a negative independent predictor of calcium- and calcium oxalate-predominant calculi (OR 0.92, $p < 0.001$ and OR 0.95, $p = 0.002$ respectively) and an independent predictor of urate-predominant calculi (OR 1.09, $p < 0.001$). Total water hardness, concentrations of calcium and magnesium and magnesium/calcium ratio did not predict calculus type. Magnesium water concentration inversely correlated with percentage calcium oxalate within calculi ($r = -0.05$, $p = 0.042$).

Table 1. Causes for re-admission following ureteroscopy. Key: Heam=haematuria, UL=urolithiasis, HN=hydronephrosis.

Study	Proc N=	URS as elective	Median age	Re-attendance (%)	Re-admission (%)	Causes of re-admission (main causes only)						
						UTI	Pain / stent	AKI	Other	Haem	UL	HN
HES data	71305	81%	55	8833 (12.4%) (to A+E)	5752 (8%) (from A+E)	21%	28%	4%	14%	6%	10%	6%
Local data	235	80%	58	17 (6.8%)	10 (4%)	47%	35%	6%	6%	-	-	-

Conclusions: Many factors are implicated in formation of urinary calculi. This study presents an approach for investigating the impact of water quality on calculus composition utilising patient postcode data. Though water hardness did not independently predict calculus composition, the interesting findings relating to water sodium and magnesium concentrations are worthy of closer scrutiny in larger studies.

P1-11 The Development of a Virtual Acute Stone Clinic in a District General Hospital

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Introduction: Patients presenting to the Emergency Department (ED) with renal colic are typically managed symptomatically and discharged to a dedicated Stone Clinic to ensure passage of stone. Due to COVID-19 and reduction in Consultant clinic capacity, it became apparent there was an increasing and significant delay in stone patients being reviewed, imaged and referred for intervention. To reduce this delay and associated patient morbidity, a new virtual acute stone clinic (VASC) was developed.
Patients and Methods: The VASC involves a Nurse Specialist and Consultant. A new referral pathway from ED was created to ensure baseline imaging, metabolic screen and performance status completed. ED referrals are triaged within 1 week and follow up imaging arranged prior to virtual review (telephone or video consultation) at 4-6 weeks with the SNS.
Results: Over three months, 105 patients were reviewed in the VASC, with mean age 52.2 years and 74% men. Time to review was reduced significantly with the mean time being 5.22 weeks. Only 31.4% of patients required Consultant review, primarily for radiolucent, complex stones or medical co-morbidities. After full evaluation, 12 patients were discharged, with 14 listed for stone intervention (ESWL or Ureteroscopy).
Conclusion: The VASC has reduced treatment delays, time to be seen and associated morbidity from obstructing ureteric stones. Clinic pressures have been eased and consultant clinic capacity increased by the development of the VASC. The VASC has allowed training and development of the Nurse Specialist skill set with scope to evolve the clinic in the future.

P1-12 Is Endoscopic Combined Intra Renal Surgery (ECIRS) ready for primetime in endourology? Outcomes from a systematic review and meta-analysis

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Introduction: Percutaneous nephrolithotomy (PCNL) is still the gold-standard treatment for large and/or complex renal stones >2 cm. Endoscopic Combined Intra Renal Surgery (ECIRS) allows two surgeons to synchronously maximize the antegrade and retrograde access with flexible and semirigid instruments. We look at the outcomes of conventional PCNL vs ECIRS in terms of intra, peri, and postoperative outcomes including differences in stone-free rate (SFR) and retreatment rate.
Methods: An extensive literature search was performed on 8th November 2021, using EMBASE, MEDLINE, and CENTRAL on studies comparing ECIRS vs PCNL.
Results: There were 2054 patients included in 17 studies (800 ECIRS and 1254 conventional PCNL). Meta-analysis from 12 studies showed a trend for a shorter surgical time with ECIRS (p=0.20). Further 9 studies showed a similar length of stay (p=0.69), 4 studies showed that mean hemoglobin drop was significantly lower in ECIRS (p=0.03), 5 studies showed that blood transfusion rate did not differ between groups(p=0.15), 7 studies showed lower incidence of postoperative fever in ECIRS group (p=0.08) and 4 studies no difference in postoperative sepsis (p=0.25). While the SFR in 15 studies favored PCNL group (p<0.0001), the need for completion or secondary procedure was significantly lower for ECIRS (p=0.002).
Conclusions: Our study has identified direct evidence of shorter operative time and lower complication rates with ECIRS. While the initial SFR was lower for ECIRS group, the need for secondary procedures and retreatment favored this group.

P1-13 Impact of COVID-19 on the management of ureteric stones in the UK: the COVID Stones study

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Introduction: In the COVIDStones study, we aimed to determine how management of ureteric stones changed during the COVID-19 pandemic in the United Kingdom.
Materials and Methods: The COVID Stones study was a multi-centre retrospective study of consecutive adults diagnosed with CT-proven ureteric stone disease at 19 UK sites. We compared a pre-pandemic period (23/3/19

to 22/6/19) to a period during the pandemic (the 3-month period after the first SARS-CoV-2 case at individual sites). **Results:** 3755 patients were included (pre-pandemic = 1963 patients; pandemic = 1792 patients). Patients during the pandemic had significantly lower hospital admission rates (pre-pandemic = 54.2% vs pandemic = 46.6%, p<0.001), shorter length of stay (mean = 4.0 vs. 3.2 days, p=0.01), and higher rates of use of alpha-blockers (16.1% vs. 23.3%, p<0.001). In the cohort of patients who received interventional management (n=790 [44.1%] vs. n=686 [34.9%]), rates of ESWL (22.8% vs. 33.9%, p<0.001) were significantly higher; rates of ureteroscopy (56.7% vs. 47.7%, p<0.01) and stent insertion (67.9% vs. 54.5%, p>0.001) were lower; and there was no difference in rates of nephrostomy (p=0.76) during the pandemic. During the pandemic, there was no difference in success of primary treatment overall, including both non-interventional and interventional modalities (pre-pandemic=73.8% vs. pandemic=76.2%, p=0.467), nor when stratified by treatment modality or stone size.
Conclusions: Despite fewer invasive procedures performed during the pandemic, we demonstrated no difference in success of treatment, without an increase in adverse outcomes. This leads us to question whether the management of ureteric stones can be optimised further.

P1-14 Post-ureteroscopy Infections are linked to pre-operative stent dwell time over 2 months: Outcomes of 3 European Endourology centres

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Background: To investigate outcomes of pre-operative stent dwell time on infectious complications following ureteroscopy and stone treatment to identify a time cut-off.
Material and **Methods**: Three tertiary referral centres in Europe retrospectively collected outcomes of ureteroscopy and laser fragmentation (URSL) for all patients with pre-operative indwelling ureteric stents over a period of up to 5 years. Data was collected on patient details, stone demographics, stent dwell time, complications, and stone free rate (SFR). Matching for age, sex, operative time, stone size, and post-operative stent insertion.
To examine for a threshold effect, monthly cut-offs were used to compare post-ureteroscopic febrile UTIs. Binomial logistic regression was used (SPSS v.24) with a significance level set at 0.0036. Risk ratio (RR) with 95% confidence interval (CI) and number needed to harm (NNH) are reported.
Results: There were 467 patients with a pre-operative stent for analysis. These patients (n=315) were matched to non-stented controls after excluding 152 patients to achieve adequate matching. There was a significant difference in rates of post-ureteroscopic febrile UTI between stented vs non-stented patients (RR=2.67, 95% CI: 1.10-6.48, p=0.03). Stent dwell time more than 2 months was associated with an increased risk of post-ureteroscopic febrile UTI on adjusted analysis (RR=3.94, 95% CI: 1.30-12.01, p=0.02; NNH=19), this increased risk rose with longer dwell time [see table].
Conclusions: Overall infectious complication rates from URSL are low. Two months of stent dwell time the risk of post-operative UTI is nearly quadrupled compared to less than two months.

P1-15 Evaluating the Accuracy of Point-of-Care Ultrasound by the Urologist in Diagnosing Hydronephrosis

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Introduction: It is important and useful to have an early diagnosis of hydronephrosis in patients presenting with

Table. Risk of post-ureteroscopic febrile UTI. Adjustments for age, sex, maximum stone diameter, operative time, positive pre-operative urine culture and stone free status. RR=Risk ratio, CI=confidence interval. Significance level=0.0306.

Cut-off Month	Febrile UTI, n (%)		Number Needed to Harm	Unadjusted		Adjusted	
	< Specified month cut-off	> Specified month cut-off		RR (95% CI)	P	RR (95% CI)	P
1	2 (4.3%)	35 (8.5%)	24	2.08 (0.48-8.93)	0.33	3.59 (0.47-27.72)	0.22
2	7 (4.5%)	30 (9.9%)	19	2.35 (1.01-5.47)	0.05	3.94 (1.30-12.01)	**0.02**
3	15 (5.7%)	22 (11.2%)	18	2.11 (1.06-4.18)	0.03	3.15 (1.36-7.30)	**0.007**
4	18 (5.4%)	19 (15.0%)	10	3.09 (1.56-6.10)	**0.001**	3.84 (1.73-8.50)	<**0.001**
5	19 (5.1%)	18 (21.2%)	6	5.05 (2.52-10.12)	<**0.001**	6.01 (2.66-13.55)	<**0.001**
6	21 (5.3%)	16 (23.9%)	5	5.57 (2.73-11.37)	<**0.001**	7.36 (3.23-16.78)	<**0.001**

loin pain and acute kidney injury (AKI). Point-of-care ultrasound (POCUS) for renal obstruction has been trialled and implemented in emergency departments as a quick and affordable means of evaluating such patients. We assessed the ease and accuracy of diagnosing hydronephrosis using a portable ultrasound; and how this could result in an early discharge or avoid admission.

Patients and Method: Between November 2020-2021, 91 patients with loin pain or AKI were scanned at the bedside. The ease of visualising the kidney and presence of hydronephrosis was documented. The grade of bedside operator was noted. The patients subsequently had either a CT or radiology performed ultrasound scan.

Results: Eighty-one patients subsequently had a radiological scan, and the median wait was 4.5 hours. 13 hydronephrotic kidneys were found on the POCUS (16%). Radiological imaging identified 18 hydronephrotic kidneys (22.2%). The sensitivity of the bedside ultrasounds was 72% and specificity was 90.5%. The most accurate scans were registrar operated (92.6%) followed by core trainees (85.2%) and advanced nurse practitioners (80%).

Conclusion. This study suggests POCUS has the potential to reduce waiting time for patients. A larger patient cohort would be needed to assess the safety of forgoing formal departmental ultrasound in low-risk patients where POCUS has shown the absence of hydronephrosis. The cases of hydronephrosis missed in this study were all 'mild' cases and hopefully with the ongoing use of this technology the sensitivity will improve.

EPoster Session 2: Female Urology and Bladder Dysfunction 1, Hall 10, June 13, 2022, 14:00 - 15:00

P2-1 Male synthetic sling vs AUS for men with urodynamic stress incontinence after prostate surgery: 2-year outcomes of the MASTER RCT

Dr Lynda Constable[1], Prof Paul Abrams[2], Dr David Cooper[1], Prof Chris Harding[3], Prof Marcus Drake[2,4], Prof Graeme Maclennan[1]

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Introduction: SUI is common after prostate surgery (PS) and 12 months later may remain bothersome. AUS is the most common device used to improve persistent symptoms, though new approaches are emerging. MASTER was designed to provide robust comparison of sling vs AUS for persistent post prostatectomy UI.

Patients and Methods: Across 28 UK hospitals, MASTER included men with USI after PS. Exclusion criteria included previous sling/AUS and unresolved bladder neck contracture/urethral stricture after PS. MASTER was a non-inferiority RCT, with men randomised to male synthetic sling or AUS. Surgeons and participants were unblinded to treatment received. Primary outcome was men's reports of continence (ICIQ-UI SF) at 12 months (15% non-inferiority margin) and cost effectiveness (incremental cost per quality-adjusted life year) at 2yrs.

Results: RCT included 380 men (n=190 in each group). In terms of continence, sling was non-inferior to AUS (ITT estimated absolute risk difference -3.4%, 95% CI(-11.7, 4.8); non-inferiority p-value=0.003, indicating lower success in those randomised to sling but with a CI excluding the non-inferiority margin of -15%). SAEs were low (n=6 and n=13, sling and AUS (one man had 3 SAEs), respectively). Overall, secondary and post-hoc analyses favoured AUS, including satisfaction, effect of incontinence on everyday life and need for further surgery. The sling cost less but had fewer QALYs.

Conclusions: Continence rates improved from baseline with sling non-inferior to AUS. Although secondary outcomes were better for AUS, men were generally satisfied with both procedures.

Trial registration: ISRCTN49212975.
Funding: NIHR HTA, project 11/106/01

P2-2 Peri-operative pain following surgery for male urodynamic stress incontinence after prostatectomy: outcomes of the MASTER RCT

Mr Christopher Harding[1,2], Prof Paul Abrams[4], Dr Lynda Constable[3], Dr David Cooper[3], Prof Graeme Maclennan[3], Prof Marcus Drake[4], Prof Anthony Mundy[5], Dr Kirsty McCormack[3], Dr Alison McDonald[3], Prof John Norrie[6], et al

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Introduction: Surgery for SUI after prostate surgery is largely confined to artificial urinary sphincter (AUS) or sub-urethral sling procedures. As part of the Male synthetic sling versus Artificial urinary Sphincter Trial (MASTER) RCT, we aimed to assess the levels of reported peri-operative pain.

Patients and Methods: MASTER recruited men from 28 UK hospitals with USI after prostatectomy. MASTER was a non-inferiority RCT, with men randomised to male synthetic sling or AUS. Surgeons and participants were unblinded. Primary clinical outcome was patient-reported continence status at 12 months. Secondary outcomes included pain during the peri-operative period.

Results: 380 men (n=190 in each group) were randomised to AUS or sub-urethral sling. 1 patient in each group suffered with a chronic pain condition prior to randomisation. Immediately following surgery 140 men in the AUS arm and 139 men in the sling arm required analgesia but only 13 men in each group required parenteral pain relief. During follow-up peri-operative pain data covering the first 2 weeks following surgery was obtained from 117 men in the AUS group and 111 men in the sling group. High levels of pain (A lot/severe pain) was reported by 44 men in the sling arm and 30 men in the AUS arm.
Conclusions: Significant levels of pain are experienced in the initial post-operative period following both AUS and sling procedures. Further work is planned, specifically focussed on pain-related outcomes over the longer-term given the reports of pain as a significant complication of mesh surgery for SUI in females.

P2-3 Post-prostatectomy incontinence is not related to pelvic floor muscle displacements

Dr Cecile Pham[1], Prof Manish Patel[1,2], Mr Sean Mungovan[3,4]
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Introduction: Post-prostatectomy incontinence (PPI) is common but the underlying mechanisms are not well-understood. One study has suggested that dynamic pelvic floor muscle (PFM) function as seen on transperineal ultrasound may predict PPI. We investigated the relationship between pre- and post-operative PFM function and PPI using a more robust and reliable measure of incontinence.
Materials and Methods: This is a prospective study of 40 patients who underwent robotic-assisted radical prostatectomy (RARP) between February and November 2019 by a single surgeon at a high volume robotic centre. Patients completed a 24-hour pad test, assessing pad weight and number, and underwent a transperineal ultrasound (TPUS) to record sagittal images of pelvic structures during maximal voluntary PFM contraction pre-operatively and at post-operative three and six weeks. TPUS images were analysed using InteleViewer software to calculate displacement of striated urethral sphincter, bulbocavernosus and puborectalis muscles from the static pubic symphysis. PFM displacement was analysed to determine whether displacement differs between men who are continent and incontinent. PFM displacement was also categorised into tertiles based on amount of displacement (low, medium, high) to determine whether degree of displacement influences PPI.
Results: Continence status was defined by pad weight of 0g or no pad use. There was no statistically significant correlation between either definition of continence status and displacement of striated urethral sphincter, bulbocavernosus and puborectalis muscles at post-operative three or six weeks.
Conclusion: Pelvic floor muscle displacement is not a reliable predictor of PPI. Mechanisms of continence control remain poorly understood and further research is warranted.

P2-4 Outcomes of intravesical Botulinum Toxin Treatment for Post-Prostatectomy Detrusor Overactivity

Mr Nataniel Tan[1], Mr Zhi-Yang Low[1], Mr Luis Ribeiro[1], Ms Mikaela Carey[1], Mr Davendra Sharma[1], Mr Jai Seth[1]
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Introduction: Long-term post-prostatectomy urinary incontinence affects between 3-10% of patients who have undergone a radical prostatectomy. This can either be urodynamically-proven stress urinary incontinence (SUI), detrusor overactivity (DO), or mixed urinary incontinence (MUI). This study evaluates the efficacy of intravesical Botox for patients with Post-Prostatectomy incontinence from Overactive Bladder (OAB).
Materials and Methods: A retrospective review was conducted from January 2018 to December 2021 at a Tertiary London Hospital. Urinary incontinence was confirmed on urodynamics. ICIQ-OAB questionnaires and 24-hour pad usage were quantified before and after the procedure. PG-II scores were collected to assess patient satisfaction. Patients were followed-up at 3-months post-procedure. T-tests were used to assess for significance.
Results: 35 patients with OAB symptoms had intravesical Botox in this time. The mean age was 69.4years. 45.8%(16) had pure DO, whilst 51.4%(18) had MUI. Mean 24-hour pad use was 3.5 per-day pre-operatively and 2.8 per day post-operatively at 3-months. 45.8%(16) of patients had further Botox treatment. Average PGII score was 3.21.
Table 1 shows a breakdown of scores per patient group.
Conclusion: This is the largest reported series of the efficacy of intravesical Botox in this cohort. Significant improvements in patient satisfaction, QoL, incontinence symptoms, and pad use were noted for patients with pure DO treated with Botox. They also opted for repeat treatment. There is no significant effectiveness in patients with MUI. A larger cohort of patients is required for greater evaluation. For MUI in males, initial treatment of the SUI component could be considered before the DO component.

Table 1

	DO		Mixed UI	
PGII score	2.3		3.5	
Pads	Pre-op	Post-op	Pre-op	Post-op
	3	1.75	3.8	3.7
	41.6% decrease (p=0.001)		2.6% decrease (p=0.98)	
ICIQ-OAB (symptoms)	Pre-op	Post-op	Pre-op	Post-op
	9.3	6.0	8.9	7.7
	35.5% improvement (p=0.000)		13.5% improvement (p=0.753)	
ICIQ-OAB (bother)	Pre-op	Post-op	Pre-op	Post-op
	26.9	19.9	26.7	24.1
	26% improvement (p=0.013)		9.7% improvement (p=0.311)	

P2-5 How useful are urodynamics prior to artificial urinary sphincter insertion for male stress urinary incontinence?

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Introduction: An artificial urinary sphincter (AUS) can transform the quality of life of men with stress urinary incontinence (SUI). There is a concern that pre-operative detrusor overactivity (DO) may lead to poorer outcomes. The aim of our study was to evaluate the outcome of patients with DO on pre-operative urodynamics (UDS).
Patients and Methods: We performed a retrospective analysis of all AUS insertions at a single institution between 2012 and 2021. We identified patients undergoing a primary AUS insertion that had pre-operative UDS.
Results: 29 patients with a mean age of 69.9±4.8 years were included. 27 (93.1%) patients had post-prostatectomy incontinence and 2 (6.9%) developed incontinence after external beam radiotherapy (EBRT) or brachytherapy and TURP. In total, 11 (37.9%) patients had been treated with EBRT or brachytherapy.
Median length of stay was 1 day (range 1–5). There were no early complications and 6 (20.7%) late complications (4 revisions, 1 removal for erosion, 1 removal for infection).
Pre-operative UDS demonstrated SUI in 22 (75.9%) patients and DO in 13 (44.8%). In the patients with DO; 7 (24.1%) had no or significantly improved symptoms, 4 (13.8%) had their device removed or a revision and 2 (6.9%) had persistent SUI. In the 16 patients with no DO, 1 (3.4%) had persistent post-operative incontinence.
Conclusions: In this preliminary study there does not appear to be any evidence that patients with pre-operative DO on UDS are at an increased risk of UUI after AUS insertion. Further work is required with a larger patient number.

P2-6 Predictors for intermittent self-catheterization following intravesical botulinum toxin therapy

Mr Luis Ribeiro[1], Mr Nataniel Tan[1], Mr Zhi-Yang Low[1], Mr Brett Dawson[1], Miss Mikaela Carey[1], Mr Samer Katmawi-Sabbagh[1], Mr Davendra Sharma[1], Mr Jai Seth[1]
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Introduction: Intermittent self-catheterisation (ISC) plays a large role in discontinuation of intravesical botulinum toxin A (BTX-A) therapy. ISC rates have been reported between 6% and 45% and there is limited information regarding predictive factors to appropriately counsel patients.
Patients and Methods: We retrospectively collected data on patients undergoing their first intravesical BTX-A therapy from 2017 to 2021 in a high volume, tertiary center. Patients were excluded if they had a long-term catheter or ISC prior to therapy.
Results: A total of 109 patients were included in the study (55 male, 54 female) with a median age of 64. There were 28 patients with neurogenic bladder dysfunction. Amongst the male cohort, 24 men had urge incontinence secondary to radical prostatectomy. Overall rates of ISC were 41.3% (Male: 41.8%, Female: 40.7%). Predictors for ISC included a baseline post-void residual (PVR) $\geqslant$50 ml (OR 8.0, 95% CI 3.1 – 20.6, $p<0.001$), BTX-A dose $>$100 units (OR 5.9, 95% CI 2.0 – 17.8, p=0.002), and bladder outflow obstruction on urodynamics (OR 3.5, 95% CI 1.2 – 10.1, p=0.02). Stress urinary incontinence was protective against ISC (OR 0.31, 95% CI 0.13 – 0.76, p=0.01). A multivariable logistic regression model with these factors yielded an AUC-ROC score of 0.80.

Table

	Univariable			Multivariable		
	Odds Ratio	95% CI	P-value	Odds Ratio	95% CI	P-value
Age ⩾ 65	1.24	0.56 - 2.76	0.592			
Gender	1.05	0.49 - 2.24	0.909			
Detrusor overactivity	1.19	0.48 – 2.94	0.703			
Bladder outflow obstruction	3.45	1.19 – 10.1	0.023	3.58	1.08 – 11.9	0.037
PVR ⩾ 50 ml	8.00	3.11 – 20.6	<0.0001	6.13	2.21 – 17.1	<0.001
Neurogenic	2.39	1.00 – 5.74	0.051			
Mirabegron	0.72	0.26 – 1.98	0.528			
Anticholinergics	1.32	0.47 – 3.74	0.599			
Qmax	0.95	0.90 – 1.00	0.055			
Incontinence surgery	1.78	0.51 – 6.26	0.365			
Dose > 100	5.90	1.96 – 17.8	0.002	3.55	1.00 – 12.6	0.049
Stress incontinence	0.31	0.13 – 0.76	0.010	0.47	0.17 – 1.27	0.138
Urge incontinence	0.56	0.24 – 1.32	0.185			

Conclusions: Amongst our cohort, high PVR, high dose, lack of stress urinary incontinence and bladder outflow obstruction on urodynamics were all predictors of requiring ISC after BTX-A. These factors can be used to generate a predictive model to assist in counselling patients regarding individual risk for ISC.

P2-7 The Importance Of Retrograde Leak Point Pressure In Men With Urinary Incontinence Following Prostate Cancer Treatment

Mr Richard Axell, Miss Helena Gresty[1], Ms Habiba Yasmin, Ms Kristina Aleksejeva, Ms Maria Thommyppillai, Mr Anthony Noah, Ms Mahreen Pakzad, Mr Jeremy Ockrim, Ms Tamsin Greenwell
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Introduction: We perform video-urodynamics (vUDS) and retrograde leak-point pressure (RLPP) in men with urinary incontinence following prostate cancer treatment. We aimed to determine the incidence of urge incontinence (UUI) and stress incontinence (SUI) in this cohort when assessed by vUDS and RLPP to determine the added value (or not) of RLPP.
Materials & Methods: We retrospectively reviewed vUDS studies of 313 consecutive men (median age 68 IQR:61-73) who presented post-prostate cancer treatment between June 2016 and November 2020. 227 had isolated SUI symptoms, 13 had isolated UUI symptoms and 74 patients had mixed UI symptoms. Following vUDS we determined if UI was due to detrusor overactivity (DO) and UUI, urodynamic SUI (uSUI) or a combination. RLPP was performed to assess sphincter competence.
Results: DO was demonstrated in 150 (48%) patients (median pressure:45cmH2O,IQR 33-63) with subsequent UUI in 104 (33%), median volume leaked 70ml (IQR 25–170). SUI was demonstrated in 144 (46%) patients (median volume leaked 11ml,IQR 5–42), with 62 (20%) having mixed UI. No UI was demonstrated in 128 (41%) patients. The sphincter closure pressure was compromised (<70cmH2O) in 94% of patients (median 39cmH2O,IQR 31-49). There was no difference between patients with SUI and UUI (median pressure 36cmH2O,IQR 29-42 vs.36cmH2O,IQR 29-44,p=0.51).
Conclusions: Sphincter function measured by RLPP was compromised in 94% of patients whilst UI was demonstrated in 59% during vUDS (33% had UUI, 46% had SUI). Assessment of sphincter function with RLPP allowed for definitive diagnosis of SUI, patient progression to definitive UI management without needing further ambulatory-urodynamic assessment.

P2-8 Long-term Complications of Bulking Agents in the Treatment of Stress Urinary Incontinence: Results of a National Survey

Miss Sana Patel[1], Mr Henry Lazarowicz, Miss Rebecca Hamm
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Abstract
Introduction and Objectives: Bulking agents have been used for decades as an alternative treatment for patients with stress urinary incontinence who are not appropriate for surgery. Despite this their long-term complications are poorly documented and can be misdiagnosed. This paper presents a literature review and the results of a national survey of members of the Section of Female, Neurological and Urodynamic Urology (FNUU) of the British Association of Urological Surgeons (BAUS) identifying the common long-term complications of widely used bulking agents in clinical practice.
Methods: Following a comprehensive literature review an electronic survey was sent to members of the BAUS Section of FNUU. Data included hospital trust, use of urethral bulking agents (including type), the approximate number of procedures performed and whether any long-term complications had been observed and managed in their practice. Long-term complications were defined as those arising more than 12 months after treatment.
Results: The literature review revealed multiple case reports of complications secondary to bulking agent injection but no high-level evidence regarding frequency or severity. The survey revealed complications including granulomas, erosions, abscesses and misdiagnoses of urethral diverticula and calculi formation. 88% of urologists who responded to the survey had performed a urethral bulking agent injection and 51% of urologists had observed or treated a long-term complication, some many decades after injection.
Conclusion: Patients should be made aware of possible long-term complications of what appears to be a minimally invasive procedure in order for them to make an informed choice about treatment options.
Level of evidence: Not applicable

P2-9 Chronic Idiopathic Urinary Retention: A Retrospective Review of Comorbidity

Mr Fintan Milligan[1], Professor Jon Stone[1], Dr Charlotte Whittingham[1], Ms Helen Simpson[1], Miss Voula Granitsitotis[1], Dr Julie Woodfield[1], Professor Alan Carson[1], Dr Ingrid Hoeritzauer[1]
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Introduction: Chronic idiopathic urinary retention is understudied and poorly understood. Research suggests these patients suffer from higher-than-expected rates of comorbidity, including functional neurological disorders, chronic pain, and psychiatric conditions. This study is the first to provide in depth investigation of the comorbidities, triggers to retention, medication use and management of these patients.
Patients and Methods: A consecutive retrospective electronic notes analysis of 102 patients with chronic idiopathic urinary retention presenting to a secondary care urology clinic Jan 2018-Jan 2021, with follow up to their most recent medical appointment.
Results: 102 patients were identified (mean age of 41.9 years, 98% female). 25% had functional neurological disorder (N=26), most commonly limb weakness (N=19, 19%) and dissociative attacks (N=16, 16%). Surgery was the most identified trigger (N=23, 23%), although a trigger to urinary retention was found in under half of patients (N=49, 48%). 81% underwent urodynamic assessment (N=83). Most frequently no specific abnormality was reported (N=30, 29%). Hypertonic urethral sphincter was the most identified urodynamic abnormality (N=17, 17%). Psychiatric diagnoses (N=51, 50%) and chronic pain (N=58, 57%) were common. 63% had undergone a surgical procedure (N=64). We noted high levels of opioid (N=50, 49%) and benzodiazepine (N=27, 26%) use. Patients' idiopathic urinary retention rarely resolved (N=17, 17%) and those with unresolved retention had a mean follow up of 68 months.
Conclusion: High levels of comorbidity were observed. A quarter of patients with idiopathic urinary retention had evidence of a functional neurological disorder. More than half had comorbid psychiatric illness or chronic pain.

P2-10 Intravesical Gentamicin for prevention of Recurrent Urinary Tract Infections

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Introduction: Recurrent urinary tract infections have devastating effects on affected patients and their quality of life. Antimicrobial resistance leads to complications in the management of recurrent urinary tract infections. In some patients with recurrent urinary tract infections who have limited treatment options, intravenous therapy with reserve antibiotics is often required. In this study we assessed the effectiveness and safety of prophylactic treatment with intravesical gentamicin in patients With refractory recurrent urinary tract infections
Methods: We conducted a retrospective review analysis of prospectively acquired database of patients who received intravesical Gentamicin for prevention of recurrent urinary tract infections after failing all conventional treatment lines. Data were collected for number of UTI episodes for one year prior and one year after commencing intravesical gentamicin prophylaxis.

Results: Thirty-eight patients were included in the study. 35 females and 3 males with a mean age of 60.6 (SD=15). Weekly Intravesical Gentamicin significantly reduced risk of recurrent infections in 55.3 percent of patients. The median number of UTIs per year decreased significantly after IVG treatment compared to before the treatment (3 vs. 7 episodes, respectively; $P<0.001$)

Conclusion: Intravesical Gentamicin is safe and effective modality for prevention of recurrent UTIS in patient who failed multiple modalities.

There is a window for better therapeutic effect by increasing the dose as well administering daily dosage.

A RCT investigating daily versus weekly intravesical instillation with various doses is recommended.

EPoster Session 3: Renal Cancer / Testis Cancer / Sarcoma, Hall 11A, June 13, 2022, 14:00 - 15:00

P3-1 99m Tc-Sestamibi SPECT/CT in the diagnosis of kidney tumours: A pilot diagnostic test accuracy study

Miss Hannah Warren[1,2], Miss Anna-Rita Boydell[2], Miss Joana Neves[1,2], Dr Abbas Reza[3], Mr Nicholas Campain[2], Mr Faiz Mumtaz[2], Professor Axel Bex[2], Mr Ravi Barod[2], Mr Prasad Patki[2], Dr Deborah Pencharz[4], et al.

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Introduction: Contemporary imaging cannot reliably distinguish benign from malignant kidney tumours resulting in diagnostic uncertainty and overtreatment of benign lesions with partial or radical nephrectomy.

99mTc-sestamibi SPECT/CT (MIBI) has shown high diagnostic accuracy for renal oncocytoma-chromophobe spectrum tumours due to high concentrations of cellular mitochondria. We report initial experience and diagnostic accuracy in the first UK MIBI-kidney pilot.

Patients & Methods: May-October 2021 patients with cT1 tumours were invited to undergo MIBI-kidney as an additional test to biopsy or surgery. Patients attending clinic for active surveillance of previous biopsy-proven oncocytoma were also recruited.

MIBI-kidney and pathology reporting were conducted blinded to the result of the other.

Results: Twenty patients were included (60% male, median age 64 years, median tumour size 4.5cm). Biopsy/surgical pathology was available for 19 patients. One patient proceeded with active surveillance following two non-diagnostic attempts at biopsy.

Eight MIBI-kidney scans showed radiotracer uptake (6 oncocytomas, 1 oncocytic RCC and 1 chromophobe RCC), and 12 showed no radiotracer uptake (of which 11 had evaluable histology: 9 CCRCC, 2 PRCCs). The sensitivity and specificity of MIBI-kidney to detect oncocytic-chromophobe spectrum tumours from other RCCs was 100% (95% CI 74-100%) and 100% (95% CI 63-100%), respectively. Sensitivity and specificity to detect benign versus malignant tumours was 100% (95% CI 54-100%) and 86% (95% CI 57-98%), respectively.

Conclusions: This study adds to the growing evidence base for non-invasive risk-stratification with MIBI-kidney and the feasibility of performing a larger, definitive diagnostic test accuracy study in the NHS setting.

P3-2 A review of adrenalectomy for incidental adrenal masses: Is it all about size?

Miss Melissa Gabriel[1], Dr Olivia Prankerd-Smith[1], Dr Janak Saada[1], Mr Neil Burgess[1]

[1]Norfolk And Norwich University Hospital, Norwich, United Kingdom

Introduction: Current local guidelines recommend surgical intervention for lesions with either a diameter greater than 40mm, hormonally active or suspicious features. We present an 18 year review of patients undergoing adrenalectomy for incidental adrenal masses detected on imaging at a single centre.

Materials and Methods: Patients were identified retrospectively from hospital records between 2001 and 2019. Adrenal incidentalomas (AI) were defined as any adrenal lesion >10mm in the absence of known malignancy or symptomatic adrenal disease. All patients had biochemical assessment, clinical assessment and multidisciplinary team (MDT) discussion.

Results: A total of 170 patients underwent laparoscopic adrenalectomy and 11 (6%) were converted to open. Mean age was 61 years and male to female ratio 1.36:1. A total of 50 (29%) of adrenalectomies were performed for AI. Mean adrenal mass size on histology was 44mm (range 13 to 90mm). Pathology of all lesions revealed benign adenoma (42%), pheochromocytoma (32%), metastatic pheochromocytoma (2%), haemangioma (4%) and other (16%). 31 (62%) of all AI had a diameter greater than 40mm and 22 (44%) were removed for size only. All AI removed for size were benign and one was cortisol-secreting.

Conclusion: Adrenal incidentalomas remain increasingly common and the decision for surgery should be based on clinical and biochemical assessment. All patients should be discussed in MDT with the involvement of endocrinologists, urologists, radiologists and specialist nurses. We conclude that size should not be the only indicator for surgical intervention but should be part of a multi-factorial evaluation.

P3-3 Patient Satisfaction for Renal Cancer Nurse-Led Follow Up

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Introduction: For many patients with non-metastatic renal cancer, surgery followed by surveillance imaging is the mainstay for management. Although Specialist Nurse (SN) follow up is established for prostate cancer, there is a lack of evidence for renal cancer patients. At this tertiary centre, SN follow up is a well-established service and we aimed to assess patient satisfaction.
Patients and Methods: This study was registered with the Research and Development Department. The validated Consultation Satisfaction Questionnaire (CSQ) was modified to make it relevant to measure satisfaction with our service and used for the project. 100 patients followed up in SN led clinic between January 2020 and May 2021 were invited via postal letter. 69 patients consented and completed the questionnaire over the telephone guided by a clinician not involved in their care to minimise bias.
Results: The study revealed that 97.1% of patients felt totally satisfied with their consultation and 94.2% felt that they had continuity of care. 95.6% of patients stated they would follow the SN's advice as they trust them. 69.56% of patients preferred seeing the SN versus seeing the doctor and 21.74% felt neutral regarding seeing a SN versus a doctor.
Conclusions: SN led follow up for post-surgery renal cancer patients was found to have high levels of patient satisfaction. This supports the implementation of this service in other hospitals and adds to the body of evidence to support SN led follow up for cancer patients in general.

P3-4 Long-term high-volume experience of robotic retroperitoneal and transperitoneal partial nephrectomy in the management of renal masses – what should be the default approach?

Dr Dharmender Aggarwal[1], Mr Denosshan Sri[1], Miss Anna Walsh[1], Mr. Amr Emara[2], Mr. Pieter Le Roux[1], Mr. Manar Malki[2], Mr Muddassar Hussain[2], Mr. Neil Barber[2], Mr. Christopher Anderson[1]
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Introduction: Although RP-RAPN demonstrates quicker recovery it remains proportionally infrequent. We present tertiary centre experience, exploring its feasibility as standard of care in the management of small renal masses(SRMs).
Materials and Methods: From a prospective database of 932 robotic partial nephrectomies(2009-2020), 356 TP-RAPN and 576 RP-RAPN were evaluated. Patient, tumour and operative characteristics were assessed and both oncological outcomes and trifecta and pentafecta achievements were determined.

Table

Variable	Retroperitoneal RAPN	Transperitoneal RAPN	P Value
Tumour Size(mm)	31.34±13.31	31.04±11.64	0.349
PADUA Score	7.61±1.77	8.08±1.57	*0.02*
Operative Time(minutes)	134±42.81	188±42.9	*<0.001*
Blood Loss (Median)(ml)	30	150	*<0.001*
Warm Ischaemia Time (minutes)	22.05±7.51	19.99±6.78	*0.007*
Open Conversion	2.3%	1.7%	0.549
Length of Stay (Median)(Days)	1	2	*<0.001*
Complication rate (CV ⩾3)	2.25%	5.61%	*<0.001*
Positive Margin	5.6%	2.8%	0.052
Transfusion rate	1.7%	1.4%	0.696
30-day Re-admission rate	2.3%	1.4%	0.358
CKD Progression rate	3.3%	9.6%	*<0.001*
Trifecta achieved	66.8%	69.9%	0.338
Pentafecta achieved	49.1%	58.4%	*0.006*
Recurrence rate	2.3%	0.8%	0.106
All-cause mortality rate	3%	2%	0.354
Recurrence free survival (Months)	116.49	112.14	0.237
Overall survival (Months)	111.1	111.51	0.687

Results: There was no significant difference in pre-operative characteristics. Mean tumour size was 31.34±13.31 mm in RP-RAPN group and 31.04±11.64 mm in TP-RAPN group(p=0.349). Mean PADUA score for RP-RAPN group was 7.61±1.77 and 8.08±1.57 for TP-RAPN. 50.3% of cases in the RP-RAPN were posterior tumours whilst 57.6% in TP-RAPN were anterior. Mean operative time was shorter by 54mins in the RP-RAPN group ($p<0.001$). Median blood loss was significantly lower for RP-RAPN ($p<0.001$). RP-RAPN had a shorter median length of stay (LOS) of 1 day compared to 2 days for TP-RAPN ($p<0.001$). Complication rates were significantly lower in RP-RAPN group; however, WIT was higher in the RP-RAPN group (22.1±7.5 Vs 19.9±6.8 minutes, p=0.007). No difference in, positive margins, 30-day readmission and trifecta achievement were noted. We demonstrate similar RFS (116.49 Vs 112.14 months) and OS (111.1 vs 111.5 months). Propensity matched analysis favoured RP-RAPN for LOS, operative time, post-operative complications and achievement of trifecta outcome.

Conclusions: Both approaches are oncologically and functionally equivalent. In high-volume centers that are skilled in RP-RAPN, the advantages in LOS, convalescence and complications can be conferred even to challenging tumors.

P3-5 Oncological and nephrological outcomes following partial nephrectomy for T3 renal cell carcinoma

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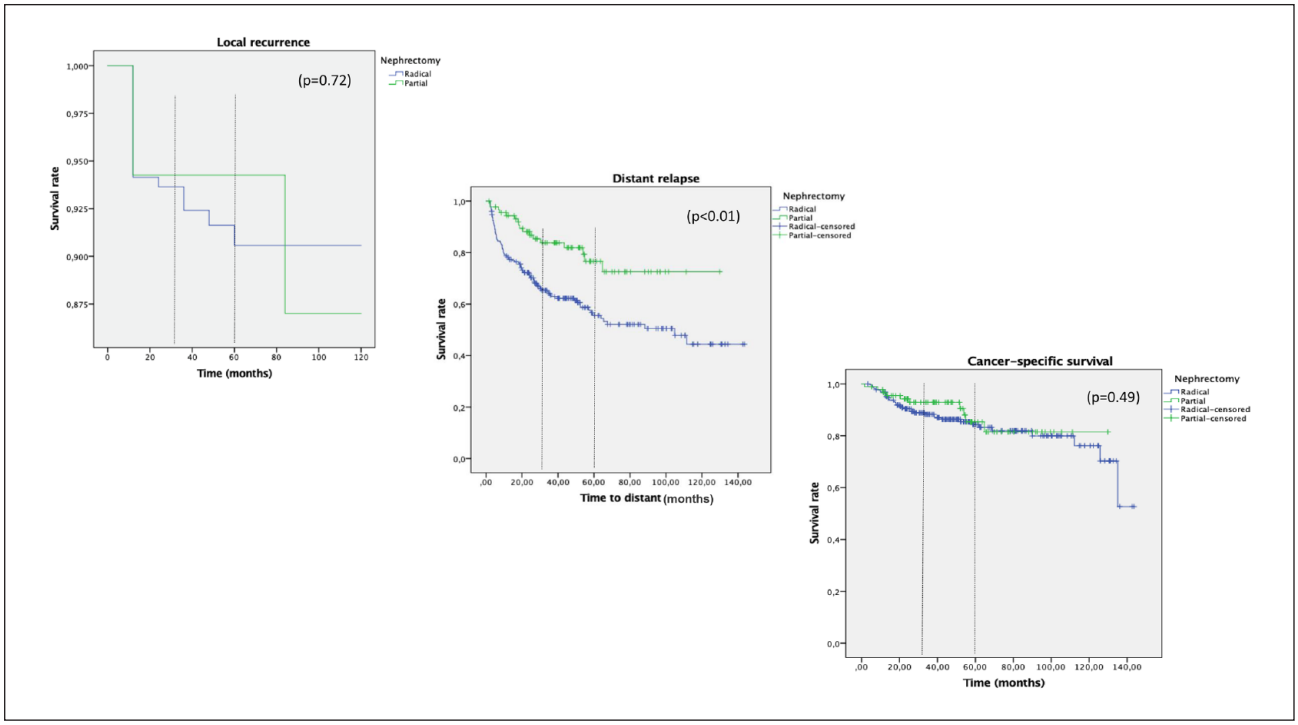
Introduction: Partial nephrectomy (PN) is widely practiced in the management of small renal malignancies and is considered the gold-standard therapy in EAU guidelines for T1 renal tumours in patients suitable for surgery. The same guidelines advise that PN should be offered to patients with T2 disease who have adverse nephrological factors, such as chronic kidney disease (CKD) or a solitary kidney. However, the role of nephron sparing surgery (NSS) in the management of T3 tumours remains a matter of debate. There is scant literature describing outcomes for patients with T3 disease managed with PN.

Patients and Methods: Here we present our ten-year experience of partial nephrectomy performed in patients with pathologically staged T3 disease. This represents a heterogenous patient group including those with solitary functional kidneys, CKD and cancer syndromes predisposing to recurrent renal malignancies. We identified 90 patients with T3 disease who underwent PN.

Results: Overall, there were 9 cancer related deaths (11%) and 17 (18.8%) instances of distant and/or local disease relapse. For patients with adequate follow up data, the 3- and 5- year cancer-specific survival rates were 93.3% and 88.9% respectively. The 3- and 5-year relapse-free rates were 83% and 81% respectively. Only 2 (2.2%) patients in this high-risk cohort proceeded to renal replacement therapy (RRT).

Conclusion: In conclusion, PN for T3 disease in selected high-risk patients is a safe treatment option and is associated with a low risk of progressing to RRT.



P3-6 Robot-assisted Retroperitoneal Lymph Node Dissection for testis cancer: moving from feasible to mainstream

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Introduction: In the field of testis cancer robotic retroperitoneal lymph node dissection (R-RPLND) is emerging as an alternative to open surgery but is recognised as highly complex surgery. Lateral and supine approaches to R-RPLND have been described. The supine approach allows bilateral dissection without the need to reposition the patient.
Patients and Methods: Retrospective review of R-RPLND operations undertaken between Jan 2017-December 2021. All operations were performed by one of two consultant surgeons (AF/BC) using a da-Vinci Xi System.
Results: 32 patients (2017: 2, 2019: 3, 2020: 8, 2021: 19), aged 21-61 years. Cases 1-5 were performed lateral and cases 6-32 supine. 21/32 (65%) had residual mass post-chemotherapy & 11/32 (35%) were chemotherapy-naïve. Mean preoperative PET/CT lesion size was 27mm. Mean nodal yield was 13 for lateral and 25 for supine. Mean operative time was 280 minutes (range 120-420) and estimated blood loss was 128mls (range 20-600). There were no open conversions, major vascular injuries or returns to theatre for bleeding. Complications included one secondary haemorrhage (day 15) managed by embolisation and 5 lymph leaks - 1 requiring radiological drain, 2 needing readmission. Mean length of stay was 2 days (range 1-4). 3/32 cases had a positive margin. Histology: 12 differentiated teratoma, 8 necrosis/benign, 10 active tumour, and 2 mixed teratoma/active tumour. Functional and medium-term oncological outcomes are awaited.
Conclusion: R-RPLND is a very challenging technique but appears feasible with excellent nodal yields & manageable complication rates. It requires detailed pre-operative planning, pragmatic case selection, and advanced robotic skills.

P3-7 How the COVID-19 pandemic has affected the presentation of testicular cancer in the West Midlands Deanery

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Results

	Pre-COVID (n=753)		COVID (n=77)		Statistical significance
Mean duration from referral to clinic (days)	14.0		27.0		No (p=0.324)
Mean duration from clinic to theatre (days)	20.6		21.4		No (p=0.799)
Sperm banking performed (%)	10.3		25.7		Yes (p<0.05)
Mean duration to post-operative tumour markers (days)	86.5		77.0		No (p=0.61)
Pathological stage (%)	**pTx**	2.5	**pTx**	1.3	No (p=0.07)
	pT0	0.8	**pT0**	2.6	
	pTis	0.5	**pTis**	0	
	pT1	64.5	**pT1**	60.5	
	pT2	21.3	**pT2**	32.9	
	pT3	10.1	**pT3**	2.6	
	pT4	0.3	**pT4**	0	

Introduction: There are approximately 2,400 new cases of testicular cancer in the UK annually. NICE guidelines recommend all suspected patients to be referred on the 2 week-wait pathway, with a 31 day target to commence treatment following decision to treat. The COVID-19 pandemic has decimated routine hospital service provision and led to the cancellation of 36,000 cancer operations in the UK during the first wave. Our aim was to assess the impact of the pandemic on our testicular cancer patients.

Patients and Methods: Eleven trusts in the West Midlands deanery performed a retrospective analysis of all testicular cancer patients between January 2015 to December 2020. The pre-COVID cohort (January 2015-February 2020) were compared to the COVID cohort (March 2020-December 2020). Parameters assessed included date of referral, first clinic appointment, operation, and post-operative tumour markers. Sperm banking and pathological stage was also compared.

Results: A total of 830 patients were included. Pre-COVID n=753, COVID n=77.

Conclusions: There was statistically no significant difference in time from initial referral to first clinic appointment, duration from clinic to theatre, timeliness of post-operative tumour markers and pathological stage of tumour. Sperm banking was performed significantly more in the COVID era (25.7 vs 10.3%). This reflects consistency in the management of testicular cancer patients during the COVID period. Of note less patients were assessed on average during the COVID era (92 v 146/year) implying that we may experience an increase in patients with later presentations and advanced disease; further analysis will be required to confirm this.

P3-8 Impact of Body Mass Index (BMI) on robotic partial nephrectomy outcomes

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Introduction: Partial nephrectomy (PN) is the gold standard for the surgical management of small renal masses. However, the technical challenge and potential associated morbidity, means that appropriate patient selection is important. Worldwide obesity is rapidly increasing. Data regarding the association of obesity with perioperative outcomes in PN are mixed and the role of Body Mass Index (BMI) in patient selection is contentious.

Patients and Methods: All RAPN from 2010 to 2019 at single institution, with ⩾ 90 days follow-up were included. Patients were classified as normal weight, overweight or obese (by BMI). Two underweight (BMI<18.5) patients were excluded. "Trifecta" comprised negative surgical margins (SM), warm ischaemia time (WIT)<25 min and no surgical complications.

Results: 325 patients with available BMI and Trifecta data were included; 78 (24%) were normal weight, 122 (37.5%) overweight and 125 (38.5%) obese. Trifecta outcome was achieved in 88.5%, 82% and 76.6% of patients, respectively. Obesity was not associated with WIT or SM (p=0.96, 0.82, respectively). BMI however, was independently associated with complication rate (p=0.029), after controlling for age, tumour complexity (PAUDA score >10), clinical stage and location on multivariate analysis. Complications included infection (42.5%) bleeding (12.5%) and cardiopulmonary related issues (15%).

Conclusions: Although BMI was associated with perioperative complications, it was not associated with WIT or SM which may be more important for long-term functional and oncological outcomes. As obesity is often associated renal cancer as well as metabolic syndrome and chronic kidney disease, these Results may support expanding the indications of PN in this population.

P3-9 Patterns of recurrence (either locally in bladder or distant metastases) in cases of Upper tract urothelial carcinoma of urinary tract who underwent radical nephroureterectomy

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Introduction: For most cases of urinary upper tract urothelial carcinoma(UTUC), radical nephroureterectomy(RNU) with bladder cuff excision is treatment of choice, however, risk of recurrence is still high. The study aimed to examine risk factors for local(bladder) and distant(metastases) recurrence, which may help in tailoring more specific follow-up protocol.

Methods: RNU between November 2017 and February 2020 were included. Follow up protocol (European Urology Association(EAU) guidelines) recommended Computed Tomography(CT) of urography and chest every 6 months for two years and Cystoscopy at three months and subsequently. Patients underwent cystectomy at time of RNU were excluded.

Results: 87 patients were included; Median age: 71 years, follow up: 24 months. Bladder cancer (BC) was previously diagnosed in 32.2%; 40% re-presented with metastases, 69.2% with bladder recurrence. Overall recurrence rate was 27.3% and distant metastases: 15.2% (commonest in pulmonary:80% to rarely in brain:6%). 50% of patients with metastases had evidences of bladder recurrence.

On multi-variant analysis, strongest predictor for distant metastasis was microvascular invasion and tumor necrosis (hazards ration [HR]: 5.2, P<0.01 and 2.1, P<0.05) whereas for bladder recurrence: tumour necrosis and previous BC (HR: 3.2, P<0.05 and 2.35, P<0.01).
Out of 66 patients with available data, 46(69.7%) had post-operative intra-vesical Mitomycin (MMC) treatment; associated with reduced risk of local recurrence (HR: -4.5, P<0.05).
Conclusions: Local and distant recurrence of UTUC is common following RNU. Microvascular invasion, tumor necrosis and history of BC are important prognostic variables associated with oncologic outcomes. The need for adjuvant systemic and intra-vesical treatment is reinforced in patients.

P3-10 Indications for and Techniques of Native Nephrectomy in Autosomal Dominant Polycystic Kidney Disease

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Introduction: We review the clinical indications, timing, and surgical techniques for native nephrectomy (NN), together with the associated pathological findings in patients with ADPKD at our institute.
Methods: A retrospective review of ADPKD patients who received a kidney transplant was performed. NN was performed via a midline or rooftop open incision or hand-assisted laparoscopic (HAL) approach with an 8-10cm infra-umbilical incision.
Results: 348 kidney transplants were performed for ADPKD from 1998 to 2018; 184(52.9%) were male and 89(55%) were deceased donor transplants. NN was performed on 93(26%) patients of whom 51(54%) were male. Mean-age at time of NN was 49±9yrs; significantly younger than age at transplantation 52±12(P=0.043). Unilateral NN was performed in 37(39%) patients of whom 11(30%) went on to have a staged contralateral NN. NN timings were pre-transplant(n=47,50.5%), simultaneous(n=3,3.3%) and post-transplant(n=43,46.3%). Indication for NN were pain(n=36,38.7%), infections(n=33,35.4%), haematuria (n=11,11.8%), space(n=4,4.3%) and tumour suspicion (n=3,3.3%). Histology revealed renal cell carcinoma in 6 specimens from 4(4.3%) patients. NN was performed via open surgery in 44(47.3%) and laparoscopic assisted in 49(52.7%) patient. The length of hospital stay post-NN was significantly longer with open compared with laparoscopic techniques (12±6V5±5 days; p=0.003).NN did not influence patient survival or graft survival when compared to non-NN ADPKD patients(p=0.17 and p=0.54 respectively)
Conclusions: In our experience, 26% of ADPKD patients required NN that was approximately equally performed pre- and post-transplant. There has been a shift from bilateral to unilateral NN in ADPKD. HAL NN is feasible and safe in these large kidneys with decreased morbidity and shorter length of hospital stay than open surgery

EPoster Session 4: Benign Andrology, Genitourethral Reconstruction and Male Infertility, Hall 7, June 13, 2022, 14:00 - 15:00

P4-1 Should infertile men undergo a Urological assessment?

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Introduction: The aim of this study was to determine the clinical-pathological findings in a contemporary series of infertile men undergoing Urological evaluation.
Patients and Methods: A single-centre analysis of all patients presenting with male-factor infertility between January 2015 and December 2020. Demographic data, clinical risk factors, SA, testicular ultrasound findings, hormone profile, and genetic testing were collected.
Results: 855 patients with male-factor infertility were identified; median age 36 (IQR 32-41), mean duration of fertility; 2 years (range 2-4). Abnormal sperm concentration was reported in 71.2%, abnormal sperm morphology 30.4% and sperm motility <40%, in 21.7%. Azoospermia was present in 358 (47.2%). Associated risk factors for infertility identified: varicocele (27.4%), cryptorchidism (10.1%), erectile dysfunction (7.0%), orchidopexy (4.3%), mumps (4.3%), hydrocele (3.0%), and testicular cancer (3.5%). Hypogonadism was present in 33.22% of patients. Unexplained infertility was reported in 396 (46.3%). A significant negative correlation was found between FSH, LH and testicular volumes (p=0.01).
Karyotype testing was performed in 292; 253 (86.6%) had a normal karyotype, 26 (8.9%) XXY, 8 (2.7%) Robertsonian translocation, 3 (1.0%) 46XX karyotype, and 2 (0.6%) 45XO karyotype. Y chromosome microdeletions were present in 27 (10.3%). For cystic fibrosis, 255 patients underwent genetic testing; 29 (11.4%) of patients were heterozygous, and 2 (0.8%) were homozygous for the ST variant.
Conclusions: This contemporary study highlights that a significant proportion of men presenting with infertility will harbour underlying pathologies. The male partner in

all couples presenting with infertility should undergo Urological evaluation prior to embarking upon ART.

P4-2 Pre-operative imaging for diagnosis of suspected penile fracture

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INTRODUCTION: Penile fracture (PF) is commonly diagnosed by clinical examination only but may be inaccurate in 15%. Despite this, penile ultrasound (US) and magnetic resonance imaging (MRI) remains poorly utilised. This study correlates, for the first time, imaging suggestive of PF with intraoperative findings as the gold standard comparator to calculate the sensitivity and specificity.
PATIENTS AND METHODS: Retrospective analysis of all men referred for imaging querying penile fracture over ten years at a single centre. All men with suspected PF on US and/or MRI were included. Imaging findings were correlated with intraoperative findings.
Results: 114 men underwent surgical exploration for PF over 10 years with a median age of 39 years (range 16-74). Most men had a pre-operative doppler US (92.6%, n=112) with subsequent MRI in 13 men (11.6%). Table 1 summarises the strong correlation between imaging and intraoperative findings. PF was not identified on US in 8 (7.1%) men. MRI upgraded equivocal US findings to PF or showed a greater extent of injury in 76.5% (n=13). MRI identified all PF apart from one false positive. Imaging identified 10 out of 28 urethral injuries.
Conclusion: Penile US has a high sensitivity and PPV for PF when compared to the gold standard of intraoperative findings. MRI has excellent specificity for both PF and urethral injury and should be considered in equivocal cases. The combination of US and MRI is useful to avoid unnecessary surgery and can characterise complex/atypical injuries to guide choice of incision and surgical planning.

P4-3 Men with Infertility have a high prevalence of hypogonadism and cardiovascular risk: Results from a diverse UK cohort

Miss Vina Soran[1], Miss Abigal Knell[1], Dr Tharu Tharakan[2], Dr Axel Alberto Cayetano-Alcaraz[2], Dr Channa Jayasena[3], Professor Suks Minhas[2]
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Background: The aim of this study was to investigate the prevalence of hypogonadism and cardiovascular risk in a cohort of UK infertile men.
Patients and Methods: Patients presenting with male infertility and biochemical hypogonadism. Semen analysis and Total Motile Count (TMC) were compared between hypogonadal and eugonadal males. Biochemical and anthropometric data including lipid-profile, Hba1c and BMI were also compared. Charlson Comorbidity Index (CCI) and QRISK3 scores were determined.
Results: In 855 patients (median (IQR) age 36 (32-41)), hypogonadism was present in 284 (33.22%). The median testosterone level in eugonadal males was 15.5 (12.7-20.68), compared to 7.3 (5.25-8.60) in hypogonadal males ($p<0.0001$). Eugonadism was more prevalent than hypogonadism in patients from a White Background (30.8%, vs 20.1%, <0.0001), but hypogonadism was more common in patients from an Asian Background (22.5% vs. 12.6%, $p<0.0001$). TMC was greater in eugonadal males compared to hypogonadal males, (20.1 vs. 12.4, p=0.650). A higher BMI was observed in hypogonadal males compared to eugonadal males (28.9 vs. 26.4, $p<0.0001$) and significantly higher serum cholesterol (5.00 vs. 4.7, p=0.031), triglycerides (1.73 vs. 1.09, $p<0.0001$), non-HDL cholesterol (3.90 vs. 3.49, p=0.001) and HbA1c (36 vs. 39, p=0.00106) compared with eugonadal males. Median QRISK3 scores were significantly higher in hypogonadal males (1.40% vs. 1.10%, p=0.0004).

Table 1. summarises the strong correlation between imaging and intraoperative findings.

		n	Sn	Sp	PPV	NPV
Penile #		114				
	US	106	92.4	90.7	94.2	88.0
	Same-day MRI	24	100	83.3	95.2	100
Urethral inj		28				
	US	21	57.6	93.2	71.4	87.9
	Same-day MRI	5	50	100	100	87.5

**US, Ultrasound Scan; MRI, Magnetic Resonance Imaging; Sn, Sensitivity; Sp, Specificity; PPV, Positive predictive value; NPV, Negative predictive value.*

A significantly greater proportion of hypogonadal males had a CCI score of 1 compared to eugonadal males (15.1% vs. 7.2%, p=0.0002).
Conclusions: There is a high prevalence of hypogonadism in UK infertile men and health screening is advocated to mitigate the long-term risk CVD.

P4-4 Video tuition of Intracavernosal Alprostadil injection for management of erectile dysfunction

Mr Piotr Śluzar[1], Mr Findlay MacAskill[2], Mr Patrick Gordon[4], Ms Karen Briggs[3], Ms Amy Sandher[3], Ms Sarah Hewson[4], Ms Emma Barron[4], Mr Tet Yap[2], Mr Ian Eardley[4], Mr Majed Shabbir[2]
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Introduction: Intracavernosal injections (ICI) are the second line treatment of erectile dysfunction (ED). To reduce the risk of complications, primarily priapism, the first administration has traditionally required face-to-face appointments. With a move to remote working, the safety and feasibility of an instructional video for the first self-administration of ICI was assessed.
Patients and Methods: Two centres recruited patients, with participants receiving a pack comprising a written instruction leaflet and a Viridal Duo prescription, followed by an email with our instructional video. Patients were given a specific time to self-administer their ICI (Alprostadil 2.5 micrograms), when our CNS was available for support. The same CNS would follow up two hours later via telephone to assess the experience using a Likert scale semi-structured interview.
Results: Thirty-nine patients were recruited between two centres, with 35 continuing to injection. The median age was 63 years (range 34-78). The most common ED aetiology was post-prostatectomy (18/35). Thirty-four (97%) recruits found the video instructions clear, with it being watched a mean 2 (range 1-8) times. Only 1 patient (3%) required telephone support. At the 2.5mcg dose, the mean erection hardness score was 2 (range 1-4) after an average of 5 minutes. No patients reported significant bruising at the injection site and there was no priapism. Thirty-three patients (94%) were 'very' or 'extremely' likely to recommend this method for starting ICI therapy.
Conclusions: Our study shows ICI tuition does not require direct supervision, thereby reducing face-to-face contact and will tackle significant waiting lists by increasing productivity.

P4-5 Outcomes of hypospadias retrieval surgery in adults

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Introduction: Hypospadias retrieval surgery performed with the aim of improving functional and cosmetic **Results** in adults that have complications of multiple previous operations represents a significant challenge. Here we evaluate up to 13 years of follow-up data looking at the outcomes of such reconstruction.
Patients and Methods: Data was collected on 103 adult patients that underwent hypospadias retrieval surgery between 2006 and 2019. These patients underwent reconstruction for the following problems: stricture (72), fistula (19), poor cosmesis (13), chordee (12), hair/diverticula/stone (6). A third of these patients had 2 or more problems.
Results: Mean (range) follow-up was 5.4 years (3months-13.5years). Mean (range) intra-operative stricture length was 4.5cm (1.5cm-13cm). A single-stage repair was performed in 31 patients. Of the 72 patients that underwent a two-stage procedure, 10 (9.7%) required augmentation of the first-stage. Buccal mucosal graft was used in most cases (85). The remainder utilised: lingual (8); prepuce (6); or both buccal and lingual (4). Penile straightening surgery was performed in 5 cases.
In total, 23 (22.3%) patients had a complication or residual problem following reconstruction: fistula (11), bothersome spraying/prominent neo-meatus (7), stricture (4), chordee (1).
Overall, 11 (10.7%) patients required re-operation. Of the 11 fistula: 4 underwent revision surgery; 7 closed spontaneously or patients declined repair. Meatoplasty was performed for 3 patients with spraying/prominent neo-meatus. Of the 4 cases of re-stricturing: 3 underwent urethroplasty; and 1 had urethral dilatation.
Conclusions: Hypospadias retrieval surgery can achieve good long-term
Results. Although, this remains a reconstructive challenge with a significant rate of reoperation.

P4-6 Surgical sperm retrieval and assisted conception outcomes in patients with Klinefelter Syndrome (KFS), with and without hormone stimulation

Miss Sophie Rintoul-Hoad[1], Mr Abishek Reekhaye[1], Alex Murray[2], Karen Briggs[1], Dr Paul Carroll[1], Dr Awatuf ElShirif[1], Dr Yulia Kopeika[1], Ms Raveen Sandher[1], Mr Maj Shabbir[1], Mr Tet Yap[1]
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Introduction: Klinefelter Syndrome (KFS) is a chromosomal condition associated with azoospermia. MicroTESE (MT) is the preferred option for Surgical Sperm Retrieval (SSR); success is wide-ranging, but appears enhanced with hormone stimulation (HS).
We aimed to understand MT and fertility outcomes in our KFS cohort.
Patients and Methods: KFS Multi-Specialty Clinic patient database (2015-2021) identified those undergoing MT, plus: age; testosterone level (Tnmol/l); HS (if T<12); response to HS (>2nmol/l increase), SSR success (viable sperm found); pregnancy +/-live birth (LB).
Results: 32 KFS patients underwent MT; mean age 34.7yrs. 94%(n=30) proceeded with assisted conception.
7 had SSR success (22%); 5 couples underwent ICSI, 3 became pregnant, with 2 LB (6%).
Mean age of successful SSR: 29.8yrs, unsuccessful: 36.1yrs; reaching statistical significance (P-value 0.014).
Overall, mean pre-operative T-level was 11.4 (3.1-20.7). 25 (78%) received HS prior to MT, 71% received Clomiphene. Mean pre-stimulation T was 6.0 (1.7-11), post-stimulation: 10.4 (3.1–20.7). 17 (71%) responded to HS; 5 (29%) had successful SSR, with 1 LB. 7 (29%) did not respond and none had successful SSR. 1 was excluded from sub-analysis. Statistical analysis of HS response vs.SSR was not significant (P-value 0.137), reflecting small numbers.
Testicular biopsy Results: Leydig Cell tumour: n=2; tubular sclerosis: n=1; mean Johnson score 1.84 (R:1.6, L:1.53). 2/32 had mosaic KFS; 1 had successful SSR.
Conclusion: Successful SSR (22%) and LB (6%) seems low, but younger age and HS response appears to predict and improve SSR (29% vs 0). KFS patients should be counselled regarding fertility options with a multi-specialty approach.

P4-7 Does testicular sperm extraction improve ICSI outcomes in non-azoospermic infertile men with raised sperm DNA fragmentation? A systematic review and meta-analysis

Mr Axel Alberto Cayetano Alcaraz[1], Mr Ankit Desai[1], Razi Rashid[1], Mr Tharu Tharakan[1], Mr Tet Yap[2], Dr Channa Jayasena[1], Professor Suks Minhas[1]
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Introduction: Testicular sperm extraction in non-azoospermic men with raised Sperm DNA fragmentation (SDF) may improve outcomes from ICSI, although is invasive and controversial. The aim of this meta-analysis (MA) was to determine if testicular sperm (TS) improves outcomes from ICSI compared to ejaculated sperm (ES).
Materials & Methods: A SR was performed to October 2021 following PICO framework and PRISMA guidelines (Reg No-CRD42021239576). Primary outcomes were fertilisation rates (FR), pregnancy rate (PR), live birth rate (LBR) and miscarriage rates (MR). Secondary outcomes included SDF levels in TS and ES groups.
Results: Nine studies (737 participants) were included. PR were higher with TS compared to ES (OR=1.90, 95% CI 1.35-2.67, p<0.001 I2 27%), along with higher LBR (OR=2.29, 95% CI 1.57-3.36, p<0.001, I2 41.5%) and lower MR (OR=0.31, 95% CI 0.12-0.80, p<0.05). However, lower FR were seen with TS (OR=0.77, 95% CI 0.69-0.85; p<0.001). The certainty of the evidence was low for these outcomes.
The SDF levels analysed by the SDF assay, demonstrated conflicting **Results**. Using the SCSA assay the mean difference between the two groups was 10.1% (95%CI 6.19 to 13.98, p<0.001,) favouring ES. For the TUNEL essay mean difference was -14.16% (95%CI -16.75 to -11.57, p<0.001) and favoured TS.
Conclusions: Although significant improvements in PRs, LBRs and MR were seen with testicular sperm, there was considerable heterogeneity and a high risk of bias of studies. The current evidence is of low quality and TESE-ICSI should not be used in non-azoospermic men with raised SDF without appropriate clinical trials.

P4-8 The incidence of Peyronie's Disease following radical prostatectomy

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Background: Peyronie's Disease (PD) is defined as a fibrotic disease of the penis resulting in plaque formation and abnormal penile curvature. In the general population the incidence of PD is 0.7%, however, this increases to 16% after radical prostatectomy (RP).
Our aim was to document the incidence of PD after RP seen in a prostate cancer centre.
Methods: A prospective and a retrospective audit recruiting men undergoing RP was performed documenting demographics, operative details and PD risk factors.
The retrospective audit reviewed the notes of all men undergoing RP in 2018. The patients were contacted by telephone to identify any development of curvature after RP.
In the prospective audit all men had an IIEF, PD questionnaires and a penile examination performed immediately pre op, and then again at 6 weeks, 3 months and 6 months post-operatively.
This was then assessed using multi-variate analysis.
Results: For the retrospective audit; 511 men were identified, of which 194 were recruited. Of these 16% (n=31) described a new curvature with a mean angle of 20 degrees (range- SD = 8).

Table 1

	Retrospective	Prospective	Multivariate analysis to develop PD
n	194	87	
Mean age	62	62 (range 40-78)	
New PD	31(16%)	38 (44%)	p <0.001
Nerve sparing n (%)	Overall New PD	Overall New PD	
BNS	13	33 15(45.5%)	p=0.05
UNS	11	26 8(30.7%)	
NNS	7	28 13(46.4%)	
Satisfactory erections on PDQ		13 5(38.5%)	p=0.08
Not satisfactory erections on PDQ		74 33(44.5%)	

For the prospective audit; 382 men have joined the study of which 87 have had their 6-month review and 43.7% (n=38) had developed PD.
On multivariate analysis, patients were more likely to develop PD when erectile function was very poor (Table 1)
Conclusion: Peyronie's Disease commonly develops after RP and seems to be related to post-operative erectile function and therefore the ability to perform a nerve sparing technique.

P4-9 Low Testosterone on Hospital Admission with COVID-19 infection is associated with increased mortality

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Objective: Men appear at greater risk of poor clinical outcomes and death from Covid-19. This suggests that serum testosterone could be a mediator. The aim of this retrospective study was to evaluate the association between serum total testosterone (TT), other prognostic indicators, and mortality in men with COVID-19.
Methods: 110 men consecutively admitted to a district general hospital (with COVID-19 related symptoms) tested for SARS-CoV-2, 85 were positive and 27 of these men died. Serum TT was compared (rank-sum test) between men negative and positive for SARS-CoV-2. Factors associated with mortality in the latter group were analysed.
Results: No significant difference was found (p=0.12, rank-sum test) in serum TT between men positive and negative for SARS-CoV-2. Serum TT was lower (p=0.0011, rank-sum test) in men with COVID-19 who died (median TT 2.0nmol/L) compared with survivors (median TT 5.0nmol/L). Mortality (logistic regression) was associated with age and serum TT (odds ratio: 0.77, 95% confidence intervals (CI): 0.64, 0.91). Survival (Cox regression) was inversely associated with serum TT (continuous variable, hazard ratio (HR): 0.85 (95% CI: 0.74, 0.98), stratified by median, TT $\geqslant$ 3.9nmol/L (reference, TT $<$ 3.9nmol/L), HR:0.24, (95% CI: 0.089, 0.63).
Conclusions: Serum TT was inversely associated with mortality in men with COVID-19 and requires measurement at admission and whilst managing long COVID. Future research should establish whether low serum TT, possibly associated with negative acute phase response, contributes to a poorer prognosis and a role for testosterone therapy

P4-10 Can ultrasonographic haemodynamic parameters predict men with subclinical varicocele who may benefit from intervention?

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Introduction: This study aimed to evaluate the role of ultrasonographic indices in men with subclinical varicocele (SV) and possibly identify patients who may benefit from intervention.

Material & Methods: Men diagnosed with SV (absence of a clinical varicocele with ultrasonographic dilatation > 2 mm and reflux > 2s) were allocated in Group 1 (normospermia) and Group 2 (dyspermia; at least one abnormality on semen analysis). Men underwent a scrotal US and were re-assessed with new spermiogram and clinical examination at six months.

Results: 80 men (mean age 25.6 years-old, range 18-36) were included: 43 and 37 in group 1 & 2 respectively (29 with astheno- and 8 with oligo-asthenospermia). Bilateral SV was associated with dyspermia (RR 2.43, 95% CI 1.45 to 3.89, p=0.006). Comparison between groups is illustrated at Table 1.

At 6 months, a significant difference in Total Motile Sperm Count (TMSC, millions) was observed overall (Wilcoxon test, 39,93+/-37,9 vs 38,65+/-38,68, p<0.05). Normospermic men did not experience significant changes (unilateral, -0.54+/-5.95, p=0.36/bilateral, -2.5+/-6.24, p=0.23), whereas men in group 2 experienced a statistically significant deterioration in TMSC (unilateral, -2.7+/-2.33, p=0.002/bilateral, -0.93+/-1.67, p=0.014). Initial intratesticular Resistive Index (RI) in group 2 significantly correlated with TMSC deterioration at 6 months

Table 1. Comparison of continuous variables between groups [1].

	Normospermia (43)		Dyspermia (37)		P value
Age (years)	25		27		0,08
BMI	23,4		21,2		0,046 *
Total testicular volume [a] (ml)	27,7		30,10		0,24
Difference right – left testicular volume (ml)	2,1		1,7		0,11
Maximal diameter left [b] (mm)	2,97		3,25		0,013 *
Maximal diameter Right [b] (mm)	N=10		N=23		0,058
	2,56		2,94		
Mean [c] PSV (cm/s)	9,45		7,56		0,028 *
Mean [c] EDV (cm/s)	4,33		3,61		0,0001*
Mean [c] RI	0,51		0,6		0,0001*
RI (unilateral varicocele)	N=33	p=0,3	N=14	p<0,05	0,002*
	0,51		0,61		
RI (bilateral varicocele)	N=10		N=23		0,002*
	0,54		0,6		
FSH (mUI/ml)	2,6		3,9		0,0001*
Testosterone (ng/dl)	532		459		0,014 *
TMSC (number, 10^6)	44,55		12,92		0,0001*

[1]Mann Whitney test, the values correspond to the median.
[a]ellipsoid formula = 0, 53 × length × height × width.
[b]Measured in the relaxed, standing position.
[c]Mean reading between left and right measured in the intratesticular arteries; at least three reading (upper, middle, lower pole).
PSV: Peak Systolic Velocity.
EDV: End-Diastolic Velocity.
RI: Resistive Index.
FSH: Follicle-Stimulating Hormone.
*Statistically significant difference

(Slope -20.96, CI -32.39 to -9.5, R2 0.28, p=0.007). No progression to clinical varicocele was seen.
Conclusions: Dyspermia is associated with bilateral SVs and altered indices. In men with SV and dyspermia, initial RI correlates with deterioration at 6 months. These findings could stratify men with SV who may benefit from intervention.

EPoster Session 5: History of Urology, Hall 7, June 13, 2022, 16:30 - 17:30

P5-1 Who were the Founding Mothers of Urology?

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In 1739, Joanna Stephens received £5000 by the British Government for her recipe to 'cure' bladder stones. The role of women in Urology has since, evolved dramatically. Dating back to the 10th century, females were reportedly trained in lithotomy. A decade later, in Italy, Trotula devised prescriptions on UTIs and stone disease. Her efforts in describing what is now known as syphilis is recognised. In the early 20th century, Ann Brumall used innovative techniques to develop a lithotrite to treat bladder stones, but was pressured to become a gynaecologist instead. The 1920s welcomed various female pioneers in the world of Urology including Catherine Lewis who, at the age of 37 was the second woman to be admitted FRCS and later became the first female member of BAUS.
Mary MacGregor transformed the landscape of Urology after becoming one of the first practicing female Urologists in 1928.
She championed fellowship training for women and became the mentor that had for so long been craved. Her success drove the success of others and eventually led to AUA approving female membership in 1954.
The first academic female Urologist of the 20th century-Sofiya Lisovskaia, was the first female Professor of Urology in Russia in 1923. In 2018, Caroline Moore became the first female Urology Professor in the UK.
From being forbidden to operate and given castrated paper-mache models for learning, to being skilled enough to perform ground-breaking surgery, women in Urology seizing opportunities around them, are making up for missed moments of the past.

P5-2 Flexible cystoscopy: from candle light to fibreoptic to the future

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In 1804, Philipp Bozzini made the first significant advancement in endoscopy by devising the 'lichtleiter' for inspecting human orifices including the bladder. Despite generating interest it was ridiculed in certain quarters for 'undue curiosity'. Since, there have been numerous developments, leading to the modern flexible cystoscope used today.
Maximillian Nitze debuted his first "kystoskop" in 1877, using a dazzling platinum wire-loop to illuminate the bladder and a system of lenses to magnify its image. Pertaining to his rigid cystoscope he wrote: ". . .We are dealing here with a large new field of work which assuredly harbours untold treasures of knowledge. . .".
However, it took until 1957 for Hirschowitz to develop the first flexible fibreoptic endoscope, which he passed down his own throat and subsequently down that of a patient. In reference to this achievement, the urologist Victor Marshall(1964) hypothesised: 'Would it not be useful to look down a flexible tube and see clearly out the other end?'
Tsuchida and Sugawara(1973) are credited with the first use of a flexible cystoscope to examine the bladder neck; its ability to deflect at the tip provided superior views. Later in 1984, the flexible cytoscope, with the help of fibreoptics, became more accurate than a rigid scope in 94% of cases(Clayman et al). Digital scopes and Narrow band imaging further enhanced the detection rate of bladder cancer(2008).
Whilst flexible cytoscopes have limitations, their evolution lends us to believe that there are further developments to be made in terms of diagnosis, and procedures performed including tissue resection.

P5-3 The evolution of intravesical therapy for bladder cancer

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Introduction: Intravesical therapy is used to prevent disease recurrence following transurethral resection of bladder tumours for superficial non-muscle invasive bladder cancer (NMIBC). We review the history and development of these agents.
Methods: A systematic literature search using MedLine, Embase, and secondary historical sources was performed to identify key advances in intravesical therapy.
Results: Mitomycin-C was first conceived as an antibiotic derived from streptomyces species but was later found to have anti-neoplastic properties. This discovery by Hata and Wakagi of Japan in the late 1950s led to the first intravesical injections. Thiotepa, an alkylating agent and organophosphate, was first synthesised in 1952 after mutagenic effects of mustard gas were discovered in World War I. Bateman of the USA trialled its injections into cavities for breast and ovarian cancer, leading to intravesical use in

1961 by Jones and Swinney. However, the use of thiotepa was superseded by mitomycin-C after Shida et al. published their positive findings in 1967. Coe and Feldman (1965), and Bloomberg (1975) demonstrated the effect of Bacillus Calmette-Guerin (BCG) toxin on guinea pig and dog bladders, respectively. Following their success, Morales of Canada trialled intravesical BCG in humans in 1976. This revolutionised treatment of high risk NMIBC with one of the earliest forms of immunotherapy.
Conclusions: The rapid global development of intravesical therapy since the 1950s created agents that remain standard of care. While new therapeutic agents are being trialled, the importance of these discoveries should be reflected upon as we have the privilege to deliver these treatments today.

P5-4 The evolution of urodynamics

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Introduction: Urodynamics is the measurement of physiological parameters relevant to the function of the lower urinary tract. In understanding it's application, it is important to understand it's foundations. We review the evolution of urodynamics.
Methods: A systematic literature review was performed using MedLine, Embase, and secondary historical sources to identify the key advances in urodynamics.
Results: The beginnings of urodynamics can be dated as far back as 1876 when Dubois first measured intravesical pressure. Many pioneers developed instruments to measure bladder pressure and volume, however, Rose was the first to coin the term "cystometer" in 1927. In 1933, Denny-Brown and Robertson designed a double catheter and photographic recoding method to measure pressure in the bladder, urethra and rectum, showing that bladder pressure is independent of intra-abdominal pressure.
In 1948, Drake developed the uroflowmeter using a crude kymograph and Von Garrelts was the first to use a transducer to electronically measure micturition pressures in 1956. In 1962, Gleason and Lattimer reported the use of cystometry and uroflowmetry simultaneously.
During the 1950-60s, Lapides performed multiple investigations on the urethral sphincter mechanism and introduced many treatment strategies still used today. Lapides was the first to use anticholinergic medications during cystometry and proved the safety of clean intermittent catheterization, which led to its widespread use in the treatment of voiding dysfunction.
The 1970-80s saw the standardisation of urodynamic procedures and global recognition of their utility.
Conclusions: The rapid global development of urodynamics has fostered our understanding and treatment of lower urinary tract dysfunction.

P5-5 Squeezing the Glans gets a reaction from the Bulb

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Introduction: The bulbocavernosus reflex (BCR) traditionally involves contraction of the bulbo- and ischiocavernosus muscles in response to stimulation of the glans penis or clitoris. The BCR has fascinated clinicians since 1946, however the pioneer remains unknown. Bors, a US-based urologist interested in spinal cord injury (SCI) to war veterans, revolutionised the multidisciplinary care of patients with SCI, particularly focussing on bladder management. Bors modified the BCR in 1952, measuring anal sphincter (includes the bulbocavernosus muscle) contraction in response to glans penis/clitoris stimulation.
Materials and Methods: This review was conducted using PUBMED and evaluated journal articles, focussing on the evolution of the BCR and key historical figures.
Results: In 1956, Lapides and the University of Michigan Medical Center incorporated the BCR into their routine examination of patients with micturition difficulties. Interest surrounding the BCR continued and in 1957, Bors and Blinn identified that stimulation of detrusor muscle and urethral mucosa also activates the BCR. In 1997 Deletis and Vodušek successfully demonstrated the ability to carry out intraoperative neuromonitoring of the BCR, using it as a surrogate measure of sacral nervous structure function. This revolutionised lower pelvic and spinal surgeries and Skinner altered his practice in 2014, monitoring BCR as a test for spinal shock in the event of intraoperative motor evoked potentials conduction block. Despite these advancements, BCR assessment is not included in formal EAU, BAUS or AUA impotence guidelines.
Conclusions: Since initial discovery, multiple high profile clinicians have been involved in the evolution of BCR and its growing clinical applications.

P5-6 Alexander Johnston Chalmers Skene: A Gland Contribution to Gynaecology & Female Urology

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Born in Fyvie, Alexander Skene(1837-1900) was a Scottish Gynaecologist. At 19-years old, he immigrated to North America. He studied medicine at King's College, Toronto and then University of Michigan. Post-residency, he joined the Union Army as assistant surgeon and established the Ambulance Corps(1863). After discharge, he advanced to

become Professor of Gynaecology at Long Island College Hospital(1870) and then New York Medical School(1884). Skene wrote over 100-medical articles, devised surgical instruments and improved operative techniques. In addition, he performed the first successful Gastro-Elytrotomy(1883). In 1876, Skene co-founded the American Gynaecology Society along with J.Marion Sims. In 1884, he served as president.

Although primarily described by de Graaf(1672), Skene became synonymous with the paraurethral glands after he published, 'The anatomy and pathology of two important glands of the female urethra.'(1880). In the article he described the location of the glands and their duct openings. Although, he was unaware of their function, he recognised that they could become inflamed('Skenitis') and obstructed('Skene duct cysts').

Skene made his greatest contribution to Urology in his book 'Diseases of the bladder and urethra in women'(1887). Over 25-years before Hunner(1915) described 'Ulcers' in women with pelvic-pain and irritative voiding symptoms, Skene coined the term 'Interstitial Cystitis' to describe bladder "inflammation that partly or wholly destroyed the mucous membrane ".

Before Skene's untimely death(1900), he founded a hospital for 'self-supporting women'(1899). Posthumously Skene's colleagues erected a bust of him, which still stands, in Prospect Park, New York: a fitting accolade to his contribution to Gynaecology and Female Urology.

P5-7 Otto & Emil Zuckerkandl: Fascianating Contributions to Urology

Mr Piyush Sarmah[1], **Mr Iain Wharton**[1]
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Otto Zuckerkandl(1861-1921) was instrumental in the development of Austrian Urology. Born in Raab, Hungary, he graduated from Vienna. Under Leopold von Dittel's tutelage at Vienna General Hospital he progressed to become Professor of Surgery at the Rothschild-Spital(1912). He specialised in urethral, bladder and prostatic disease. Zuckerkandl published the "Atlas and Epitome of Operative Surgery"(1898) and the "Handbuch der Urologie"(1905). He undertook the first case of prostate brachytherapy(1909) and the perineal prostatectomy took his name(Zuckerkandl's operation). In 1919, he co-founded the Austrian Society of Urology and became its first president (the Zuckerkandlpreis is awarded annually for Urological achievement).

Otto's elder brother, Emil(1849-1910) was a renowned anatomist who gained many anatomical eponyms through his descriptive work. Whilst Professor at Graz, he described 'Zuckerkandl's fascia'(1883), the posterior renal fascia (not to be confused with Gerota's fascia which, when originally described, was purely the anterior renal fascia(1895)). Otto, himself, described the 'fascia of Otto', which is the rectovaginal fascia and analogous to Denonvillier's fascia in the male.

In 1895, Otto married Amalie Schlesinger. They had 3 children and divorced in 1919, 2-years before Otto's death. Amalie's portrait by family-friend Gustav Klimt became famous as it remains unfinished; Klimt began the painting in 1917, but unfortunately suffered a stroke and subsequently died of influenza(1918). The portrait gained notoriety as Amelie was a tragic victim of the Holocaust, being deported and dying with her daughter Nora at Belzac concentration camp(1942). The painting now resides as a stark reminder of the War in the Belvedere, Vienna.

P5-8 King Sejong's Stone – A Story of Cystolithiasis, Stone Axe and Blade, and Superstition

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Introduction: King Sejong is one of the most important figures in Korean history as the founder of modern Korean alphabet, Hangul. Unfortunately, he spent his life battling various diseases. The most debated, however, is of a mythical urogenital ailment that raised controversies amongst historians.

Methods: Korean-language web pages were used to conduct this historical research.

Results: According to the "Annals of King Sejong", Sejong made an entry on the 28th of April 1438, where he described an eleven-day history of "yimjil" – colicky lower abdominal pain on voiding, poor flow, and dysuria, which persisted over many years. For centuries, historians misinterpreted "yimjil" as gonorrhoea as per modern Korean language. In the past, however, it was used as an umbrella term for diseases leading to dysuria, especially cystolithiasis, which would explain his symptoms.

Desperate, Sejong sought help from his personal medic who, like most Koreans in this period, believed that stone relics, specifically knives and axes from the Neolithic and Bronze Ages, were descended from heaven and carried mythical powers. Finding and grinding these relics, rather than using as lithotriptors, to brew a potion would "cure any psychiatric diseases and urinary ailments".

Sejong the Great was convinced enough to provide substantial rewards for commoners who excavated these prehistoric relics. It is unclear, however, whether he followed through with his treatment, as he succumbed to diabetic complications in 1450.

Conclusions: King Sejong's perplexing urogenital illness and the unconventional proposed cure exemplify the practices of medical mysticism in Korea during the Sejong era.

P5-9 James Gow: A Forgotten Light of Modern Cystoscopy

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Introduction: Born in Liverpool, James Gow (1917-2001) was hugely influential in the development of the modern cystoscope. We explore how he used his enthusiasm for photography and dissatisfaction with the outdated technology of the time to inspire innovation.
Materials and Methods: A literature search was carried out via PubMed, Google Scholar and other online archives.
Results: James Gow graduated from Liverpool University and practiced as a consultant Urologist at Wrightington Hospital from 1953-1979 following a period serving in the Royal Army Medical Core during World War 2. During this service, on a campaign in Northern Africa, Gow apprehended a Leitz cystoscope from a German camp. Gow was a keen photographer, and as early research emerged around the rubber and dye industry as a determinant for bladder cancer Gow was keen to be able to photograph these tumours with the Leitz instrument. Unfortunately, he found both the quality and the lighting from cystoscopes of the time to be inadequate, as there had been little change since the 1870s. Gow won a grant from the Medical Research Council for £3,000 and approached Harold Hopkins, who had previously rejected the project. Together they created the rod-lens system to increase the light transmission and drastically improve image quality.
Conclusion: James Gow is often overlooked as a pioneer of modern urology in favour of his collaborator Harold Hopkins but his persistence contributed hugely to the modern design that allows high quality images to aid diagnostics.

P5-10 Dimitrie Gerota: A Legacy of Eponyms

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Dimitrie Gerota(1867-1939) was an anatomist, radiologist and urologist, born in Craiova, Romania. After graduating from the University of Bucharest(1892), he studied anatomy in Paris and Berlin(under Professor Waldayer) before returning to Bucharest. He taught anatomy at the National School of Fine Arts and with student Constantin Brâncuşi produced a carved muscles anatomical study entitled the Ecorché(1898). Displayed at the Romanian Athenaeum(1903), the work had casts created from it which were used to teach medical students.
Considered the first Romanian radiologist, Gerota introduced academic radiology and wrote the book, 'The Rōntgen Rays or the X-Rays'(1898). He subsequently abandoned the specialty, after he developed radiodermatitis of his hand, which required amputation. In 1907, he established a sanatorium where he practiced surgery. In 1913, he progressed to Professor of Anatomy at the University of Bucharest.
Gerota studied the anatomy of the bladder, and devised a method for injecting lymphatics("Gerota method"). 12-years after Zuckerkandl described the posterior renal fascia(1883), Gerota documented the presence of the anterior fascia, to which he became synonymous. In 1895, he also published his "Report and Discovery of the Attachment Apparatus of the Kidney". In it, he described the adipose body("Gerota's adipose layer") positioned between the posterior fascia and abdominal wall. Idiopathic inflammation of the retroperitoneal fibrotic tissue was also reported("Gerota's syndrome/Gerota's fasciitis).
In 1935, he submitted a newspaper article critical of King Carol II. It was censored and Gerota arrested. After student protests he was freed, but then re-arrested and sent to prison(1936). After release, he died in Bucharest(1939).

EPoster Session 6: Female Urology and Bladder Dysfunction 2, Hall 9, June 14, 2022, 11:00 - 12:00

P6-1 Medium to Long Term Outcomes in Female Urethroplasty for Urethral Stricture

Miss Elizabeth K Day[1], Ms Helena Gresty, Ms Mahreen Pakzad[1], Mr Jeremy Ockrim[1], Ms Tamsin Greenwell[1]
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Introduction.
Female urethral stricture (FUS) has traditionally been managed with repeated endoscopic procedures. Urethroplasty may be a more durable option. We report on the medium to long-term outcomes in a consecutive series from a single centre.
Patients and Methods.
A retrospective review of a prospective database of 59 women who underwent urethroplasty since June 2012.
Results.
The grafts used were buccal mucosa (BMG) (51 cases), vaginal mucosa (7 cases) and labia majora (1 case). Stricture aetiology could be proposed in 25 cases, with urethral surgery or catheterisation being the most common cause and the women had had a median of 5.0 previous urethral dilatations (range 0-33) prior to urethroplasty.
At last follow-up, 52/59 (88%) of women had not required further surgery for stricture disease (median follow up 27.5 months). The median improvement in flow rate at 24 months was 2.77 fold. The median patient global impression score at 48 months was 1, "Much Improved".

All recurrences were in the BMG group. The time to recurrence was 15.5 months (range 1-81). Three patients went on to have repeat urethroplasty, 3 dilatations and 1 repositioning of the martius fat pad for pain.

Conclusion: FUS should be suspected in all women with poor flow. Initial management with urethral dilatation +/- intermittent self dilatation is reasonable. Definitive treatment is by urethroplasty - with the medium to long term cure of stricture being 88% in this series with excellent patient satisfaction.

P6-2 Outcomes of Vesicovaginal fistula repair

Ms Rachel Barratt[1], Dr Alejandro Mercado Campero[1], Mr Jeremy Ockrim[1], Ms Tamsin Greenwell[1]
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Introduction: Vesicovaginal fistula (VVF) is a rare condition. We present the outcomes of our cohort of patients with VVF.

Patients and Methods Retrospective review identified 122 patients (2002-2021) who had surgical management of a VVF. Median age was 49 (range 16-88) and median follow-up 14months.

Data analysed included demographics, pre-operative status, fistula aetiology, fistula characteristics, operative records and outcomes.

Results: 114 patients underwent repair of VVF with 86.8% success (closure of VVF) after 1st repair. 13/15 failures had further surgical repair conferring an overall success rate of 96.5% after 2nd repair. 8 patients had primary urinary diversion.

Vaginal approach was successful in 92% (69/75) after 1st repair and 100% after 2nd(80% abdominally, 20% vaginally). Abdominal approach was successful in 76.9% (30/39) after primary repair. Of 9 failures, n=7 had a 2nd attempt abdominally with 71.4% successful, n=1 had a successful 2nd repair vaginally, n=1 had a diversion.

14 patients had symptomatic incontinence after successful VVF closure. All patients with incontinence after vaginal repair (n=10) achieved continence with conservative/medical intervention. 75% of patients with incontinence after abdominal repair required surgical intervention.

On statistical analysis of patient and fistula characteristics, a vaginal approach (vs abdominal approach) gave a statistically significant increased chance of successful closure ($p<0.05$).

Conclusions: Vaginal approach for repair of VVF is a successful procedure and, in expert hands, gives excellent Results with good functional outcomes. It is possible that its superiority over an abdominal approach is influenced by other factors that may be identified on maturation of the data.

P6-3 Local anaesthetic intra-detrusor OnaBotulinum Toxin A tolerability study

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Introduction: Intra-detrusor OnaBotulinum Toxin A (BoTA) injections, often performed under local anaesthetic (LA), are highly effective at treating refractory overactive bladder in patients with and without neurogenic lower urinary tract dysfunction (NLUTD). This study aims to quantify pain perceived by patients during this procedure and detect risk factors for poor tolerance.

Table 1: Mean Visual Analogue Scales scores

Mean VAS	*Scope insertion*	*1st injection*	*Final injection*	*Overall*
All	2.37	2.74	2.68	2.75
Male	3.12	3.36	2.85	3.27
Female	1.64	2.15	2.52	2.25
p	0.023	0.008	0.518	0.094
Idiopaths	2.97	3.33	3.21	3.41
Neuropaths	1.78	2.17	2.19	2.21
p	0.025	0.05	0.027	0.059
Under 50	2.40	3.35	3.28	2.94
Over 50	2.36	2.46	2.45	2.67
p	0.956	0.141	0.149	0.643
Instillagel only	2.43	2.74	2.81	2.83
Instillagel + bupivacaine	1.91	2.73	1.82	2.23
p	0.509	0.988	0.190	0.601
First injection	2.86	2.32	2.86	2.64
Repeat injections	2.27	2.82	2.65	2.77
p	0.42	0.50	0.76	0.85

Methods: Data of all patients undergoing LA Botox across two centres was gathered prospectively and analysed using SPSS version 27.0. Collected demographics included age, sex, underlying bladder pathology, catheterisation status and dosing. Patients used visual analogue scales (VAS) from 1-10 (1 = no pain, 10 = unbearable pain) to quantify pain at cystoscope insertion, first and last Botox injection and post-procedure (overall score).
Results: 44 (50%) male and 44 (50%) female patients were identified. One (1.1%) male with idiopathic disease could not tolerate LA cystoscopy. Of the 88 patients, 44 (50%) had NLUTD, 47 (53.4%) did not require catheterisation post-injections, 30 (34.1%) intermittently self-catheterised, 2 (2.3%) had indwelling urethral catheters and 9 (10.2%) had suprapubic catheters. Urethral lidocaine gel was used in 77 (87.5%) patients. A combination of urethral lidocaine gel and 0.25% bupivacaine mixed with Botox was used in 11 (12.5%) patients.
Conclusions: The mean overall VAS pain score for LA Botox was 2.75 out of 10. One patient (1.1%) had subsequent injections under GA due to LA intolerance. Females and NLUTD patients found the procedure less painful than males and idiopaths. Age over 50, injecting bupivacaine alongside Botox and being Botox-naive did not demonstrably impact perceived pain.

P6-4 Quality-of-life outcomes following endoscopic excision of female stress urinary incontinence mesh and pelvic organ prolapse mesh

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Introduction: Extrusion/erosion of transvaginal mesh into the urinary tract is a serious complication. Endoscopic partial mesh removal is an option in those who desire a less morbid procedure than full mesh removal with shorter operating room time, less blood loss, and faster recovery time. However, the long-term quality-of-life (QoL) and functional outcomes for this approach are poorly studied.
Patients and Methods: Patient-reported quality-of life outcomes of women who underwent partial mesh removal via transurethral laser excision or bipolar resection from April 2013 to August 2021 were collected via telephone survey using a composite questionnaire (UDI-6, EQ-5D-5L, ICIQ-S, and questions regarding sexual function).
Results: Twenty-seven women underwent transurethral mesh removal surgery. Median age was 61. Mesh erosion into the urethra or bladder caused pain (43%), calcification (41%), recurrent UTIs (36%), urinary urgency (23%), or voiding difficulties (9%). Median hospital post-operative stay was 1 day. Thirty-day complication rate was 10% (all were Clavien-Dindo 1).

Table 2. Mesh excision intra-operative information.

MESH TYPE (n=39)*	
Prolapse	10% (4)
Transobturator mesh tape (TOT)	28% (11)
Retropubic tension-free vaginal tape (TVT)	59% (23)
Unknown	2% (1)
EROSION LOCATION (n=33)	
Bladder	42% (14)
Urethra	33% (11)
Both bladder & urethra	21% (7)
Unknown	3% (1)
CONCOMITANT SURGERY (n=33)	
None	33% (11)
Cystolitholapaxy	48% (16)
Transurethral resection of the bladder	9% (3)
Cystodiathermy	3% (1)
Ureteroscopy	3% (1)
Injection of urethral bulking agent	3% (1)

*6 patients had >1 mesh in place at time of excision surgery

Long-term outcomes from 20 patients (mean follow-up of 33 months) showed that mesh removal was rated successful by 75%, 85% were at least moderately satisfied with their surgery, 85% would recommend the surgery to others, and 95% would have the surgery again if in the same situation.
Conclusions: Trans-urethral endoscopic surgery for removal of eroded transvaginal mesh is associated with high patient satisfaction and low morbidity in appropriately selected patients.

P6-5 Diagnostic Accuracy of Magnetic Resonance Imaging and Transrectal/ Transvaginal Ultrasound for Pelvic Mesh Complications

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Introduction: Pelvic synthetic mesh implants can be associated with vaginal exposure or extrusion into the urinary or gastrointestinal tract. MRI and transrectal/ transvaginal (TRUS/TVUS) ultrasound are commonly used for assessment. However, there is limited evidence regarding the efficacy of these imaging modalities.
Patients and Method: A retrospective analysis was performed of women who had surgical removal of continence mesh from 2018 to 2021. MRI and TRUS/TVUS imaging were

compared to intra-operative findings to determine the accuracy of imaging detection rate of vaginal exposure, bladder and urethral extrusion.
Results: Forty-eight patients had mesh removal surgery; 8 women had vaginal mesh exposure whilst 16 had urethral and 7 bladder extrusion. Thirty-seven women had MRI imaging, 25 TRUS/TVUS and 24 both. The detection rate for vaginal exposure was 2/6 (33.3%) for TRUS/TVUS and 2/8 (25%) for MRI. For bladder extrusion TRUS/TVUS detection rate was only 1/5 (20%) whilst MRI detected 5/6 (83%) cases. TRUS/TVUS and MRI had similar detection rates of 5/7 (71.4%) and 12/15 (80%) for urethral extrusion. There were no false positive findings.
Conclusions: TRUS/TVUS and MRI had similar detection rates for urethral extrusion. MRI performed better than TRUS/TVUS in the detection of bladder extrusion. Neither modality could replace cystoscopic evaluation or was reliable in the detection of vaginal exposure. The utility of TRUS/TVUS and MRI in assessing mesh configuration and tissue inflammation is the subject of prospective study.

P6-6 Sacral Nerve Stimulation Outcomes for Voiding Dysfunction in patients with Ehlers-Danlos Syndromes and associated Hypermobility Spectrum Disorders

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Introduction: Ehlers-Danlos syndromes (EDS) and hypermobility spectrum disorders (HSD) are connective tissue diseases associated with significant morbidity. Up to 40% of these patients suffer urological complications. Sacral Nerve Stimulation (SNS) therapy outcomes may be compromised in EDS/HSD patients due to slow/poor healing. This study aims to report SNS outcomes in EDS/HSD patients from a high-volume U.K. centre.
Patients & Methods: Retrospective review of all SNS cases performed in our institution between 2013-2020. All were performed as 2-stage procedures. Data collected included demographics, urinary symptoms, preoperative urodynamic findings, complications including wound infection and need for IPG/lead removal/relocation, treatment efficacy and pain.
Results: Nine EDS/HSD patients were identified (4 EDS and 5 HSD). All female, median age 25 years (IQR 23-28). All complained of voiding symptoms, 6 in chronic urinary retention. Two had concomitant OAB symptoms. Most common urodynamic findings: acontractile bladder (6/9); high MUCP (5/9); Median bladder capacity was 519 mL (IQR 485-600 mL). All patients reported initial efficacy; median follow up of 51 months (IQR 21-73). Two patients required IPG relocation with later whole device removal due to persisting pain. One patient required removal due to loss of efficacy related to lead migration.
Conclusions: SNS is an effective therapy for voiding dysfunction in EDS/HSD patients. Our **Results** indicate an explantation rate of 33%. This is higher than reported in non-EDS patients. Consequently, EDS/HSD patients should be carefully counselled regarding risks, as despite of initial efficacy, the risk of further surgical intervention may not warrant therapy.

P6-7 Sacral neuromodulation in patients with neurogenic lower urinary tract dysfunction

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Introduction: The understanding of the utility of sacral neuromodulation (SNM) for neurogenic lower urinary tract dysfunction (NLUTD) is limited, with only small series in the literature. The aim of this study was to evaluate the clinical outcomes of SNM for treatment of NLUTD.
Materials and Methods: A retrospective analysis of patients who received a permanent SNM implant between December 2014 and March 2021 was conducted. Patients completed a urodynamic test pre-operatively. They completed a 3-day bladder diary, uroflowmetry and post-void residual (PVR) measurement pre-operatively and at 6-monthly intervals post-operatively following SNM insertion. Urinary function, patient reported outcome measures and adverse events were assessed.
Results: A total of 36 patients received a permanent SNM implant. The mean follow-up duration was 25 ± 20 months, with the majority (89%, n=32) of patients reporting a $>50\%$ improvement on bladder diary evaluation. There was a significant increase in void volume ($p<0.001$), decrease in PVR ($p<0.001$), decrease in voiding frequency ($p<0.001$), decrease in incontinence episodes ($p=0.002$) and decrease in pad number ($p<0.001$). There was no significant difference in peak flow ($p=0.21$). There was no significant difference in SNM efficacy between patients with progressive or non-progressive neurological conditions.
Conclusions: SNM is a safe and effective therapy for NLUTD in the context of both progressive and non-progressive neurological conditions. It should be offered more readily to patients with NLUTD given it is a minimally invasive treatment option with potential to make clinically meaningful improvement to quality of life.

P6-8 Repeating SNS after previous infection: Outcomes from a high-volume UK centre

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Introduction: Infection complicates up to 10% of sacral nerve stimulators (SNS). We describe the outcomes after infection in order to identify the rate of and factors associated with successful re-implant.
Patients and Methods: A retrospective review of all patients undergoing SNS implantation for overactive bladder or non-obstructive urinary retention in a single centre over a 10-year period (2010-2020). All patients with a clinical diagnosis of an infected implant were included.
Results: 41 of the 797 patients were reviewed suffered an infection. All required explantation. 5 patients had two infections. The median time from implant to infection diagnosis was 20 days (5-2591 days).
Of the infected devices, 28 were efficacious. Of these, 22 patients had a repeat implant, with 15 (68%) being successful. 2 implants failed because of lack of efficacy and 5 (23%) due to repeat infection.
Of the 22 repeat implants, 9 were positioned on the same side at the previous infected device, of which a third were re-infected. The risk of a re-infection was higher if the same side was used compared a repeat implant that used the contralateral, not previously infected, side (RR 2.5, 95% CI 0.98-6.5).
Conclusions: Patients undergoing a repeat SNS implant following infection should be counselled for a 1 in 5 risk of re-infection. Repeat implantation using the same side as the previous infected implant appears to increase the risk of repeat infection. It is our recommendation that clinicians should strongly consider using the contralateral (non-infected) side for SNS implantation for repeat procedures.

P6-9 Long-term effect of sacral neuromodulation on nocturia for patients with refractory overactive bladder

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Introduction: Sacral neuromodulation (SNM) has been found to be effective for refractory overactive bladder (OAB) symptoms/detrusor overactivity (DO). There is a paucity of research regarding the effect of SNM on nocturia (a symptom of OAB).
Patients and Methods: A retrospective chart review of patients who underwent SNM implantation for refractory DO between July 2016 and July 2021 was done. All patients underwent a temporary peripheral nerve evaluation (PNE) and completed both pre-test and test phase bladder diaries. Long-term follow-up of nocturia after SNM implantation was gleaned from clinic letters and bladder diaries.
Results: During the 5-year time frame, 111 patients with refractory DO underwent SNM implantation. Of those patients, 95 reported nocturia. 81% (77/95) were female (mean age: 53 years; range: 19 – 83), and median nocturia frequency was 3 times (1 – 7). SNM resulted in a statistically significant decrease in nocturia episodes during the PNE phase with 78% (73/93) reporting $\geqslant$50% improvement in nocturia (median nocturia = 1; Z = -8.333, $p<0.001$). Long-term follow-up data after full SNM implant was available for 82 patients (median follow-up: 25.5 months (1 – 63 months)). 62% (50/82) reported $\geqslant$50% improvement in nocturia at long-term follow-up.
Conclusions: In patients with refractory OAB/DO, SNM was found to significantly decrease nocturia. Prospective studies are needed to better assess the impact of SNM on nocturia in patients with and without DO.

P6-10 FLUOROSCOPIC IMAGES ACQUIRED DURING VIDEO-URODYNAMICS STUDIES CAN SUCCESSFULLY IDENTIFY URETHRAL DIVERTICULUM

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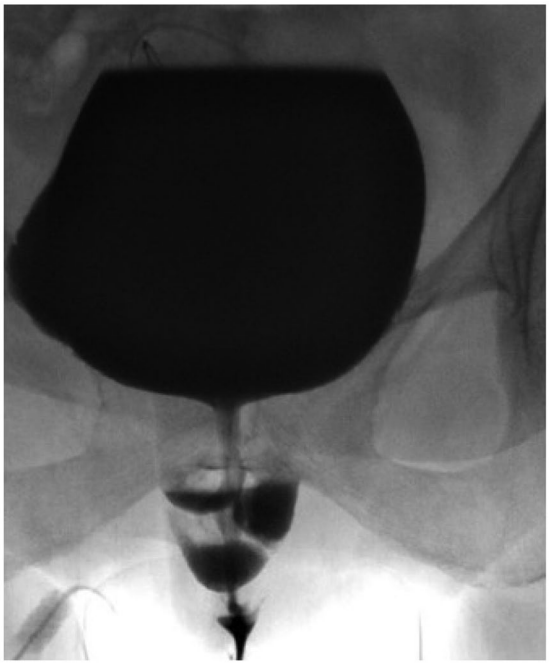
Introduction: At our centre patients presenting with suspected urethral diverticulum routinely have a pelvic MRI, urethrogram and video-urodynamics (VUDS) to assess bladder function prior to urethral diverticulectomy surgery to aid counselling for surgical outcomes. The aims of this study were to determine if fluoroscopic images acquired during a VUDS could be used to identify patients with suspected urethral diverticulum.
Materials & Methods: One hundred and forty-four consecutive female patients had urethral diverticulectomy surgery at our tertiary referral centre between April 2004 and November 2020 were identified from our



prospectively acquired database and retrospectively reviewed. Their median age was 46 years (range 17-77). Twenty-five patients were excluded where urethral diverticulectomy surgery was performed following an MRI and urethrogram without a VUDS.

Results: Following VUDS studies a urethral diverticulum was clearly identified in 89 patients (74%) voiding fluoroscopic images (Figure 1). Of the remaining 32 patients, 26 patients were identified with a normal voiding fluoroscopic appearance and 6 patients did not have voiding or post-void fluoroscopic images.

Conclusions: This is the first study to show that fluoroscopic images taken during VUDS studies identified urethral diverticulum in 74% of patients. A VUDS is a useful tool in the work up of patients requiring urethral diverticulectomy surgery. We were able to identify a urethral diverticulum in 3 out of 4 patients.

EPoster Session 7: Andrology: Male Genital Cancers - Penile, Urethral, Testis, Hall 7, June 14, 2022, 11:00 - 12:00

P7-1 Completion radical orchidectomy following excision of small testicular masses (STMs) for malignant disease- incidence of residual tumour and GCNIS

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Introduction: Testis-sparing surgery is indicated in synchronous bilateral tumours, or for lesions in a solitary testicle. The aim is to preserve endocrine and reproductive function. Indeterminate small testicular masses (STMs) require excision if there is a change in size, increased vascularity or other risk factors. We retrospectively reviewed the outcomes of completion radical orchidectomy in patients diagnosed with malignant STMs.

Methods: A total of 292 patients with STMs were identified from an institutional database covering a 10 year period. Cases of malignant STMs undergoing USS guided excision were identified and formal histology reviewed.

Results: From this cohort, 24 patients with malignant STMs were identified. The median age at completion orchidectomy was 31 (14-41). Analysis of the orchidectomy samples showed that only 8% of patients had no evidence of residual tumour or GCNIS. 79% had a background of GCNIS. Of the 19 patients with background GCNIS, 5 patients (4 with seminoma, 1 mixed GCT in the original STM) had no evidence of residual tumour.

The histological subtypes of the original 24 STMs were predominantly classical seminoma (n=17), NSGCT (6), mixed sex cord tumour (1).

There was no impact on surgical margins or disease progression or complications by waiting 4-6 weeks to perform the completion orchidectomy.

Conclusion: This series supports the need for completion orchidectomy following excision of malignant STMs. Less than 10% had no evidence of GCNIS or residual tumour. Patients with a solitary testicle will inevitably require long term hormone replacement.

P7-2 The effect of testicular carcinoma and its treatments on long term hormonal status and semen parameters

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Introduction: It is thought that testicular cancer and its treatments can interfere with hormonal homeostasis resulting in impaired androgen function. This may cause fertility, sexual, cognitive, and metabolic disorders. Here we describe the effects of testicular cancer and its treatments on testosterone and luteinising hormone levels and semen parameters.

Patients and Methods: 175 patients had their hormonal status analysed at three time points after orchidectomy: (a) within a month, (b) 1 to 12 months, and (c) greater than 12 months. 51 patients underwent semen analysis.

Results: The median age of the cohort was 35 (17-66) years and median follow up of 17.4 (0-275) months. 23 patients (11.4%) were on testosterone therapy post orchidectomy. Hormone levels at the timepoints are summarised in Table 1. There was a significant difference in testosterone levels between timepoints a and c ($P<0.002$).

Table 1. Patient demographics and tumour markers.

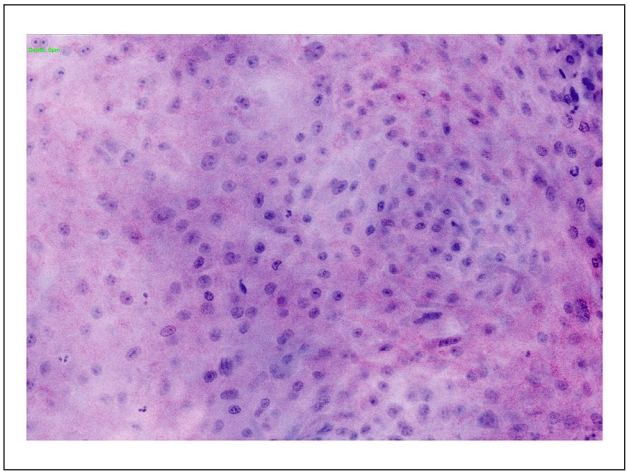
	Median	Range	Reference range
Patient age at time of surgery (yrs)	39	17 – 72	N/A
Pre-operative LDH* (IU/L)	192.5	162 – 650	135 – 225
Pre-operative HCG*(IU/L)	<1.0	<1.0 – 5.4	0 – 3
Pre-operative AFP*(kIU/L)	3.95	1.1 – 92	0 – 6

*where data available; post-chemotherapy values.

Table 1. Summary of hormone levels at time points (a) up to 1 month (b) 1-12months (c) greater than 12 months. Normal values taken as >10.4nmol/L testosterone <7.8IU/L for luteinising hormone (LH).

		Timepoint		
		< 1 month	1- 12 months	> 12 months
Testosterone (nmol/L)	**Mean (SD)**	10.3 (4.8)	12.0 (4.2)	14.5 (6.9)
	% normal	38.5%	65.5%	75.6%
LH (IU/L)	**Mean (SD)**	6.7 (3.4)	6.6 (4.7)	5.9 (3.1)
	% normal	70.6%	77.6%	80.2%

Tumour subtype and adjuvant treatment did not significantly affect hormone levels.
48 patients produced semen for analysis, 23 before and 25 after orchidectomy; sperm concentration (58.3% normal) and morphology (58.5%) were most affected. There was no statistically significant difference by timing of orchidectomy or tumour subtype.
Conclusion: Testicular cancer survivors are at high risk of developing low testosterone and its consequences. Adjuvant treatment and tumour subtype do not appear to influence this. Additionally, abnormal spermatogenesis is present in patients prior to adjuvant treatment. Patients and clinicians should be aware of the diagnosis and risks particularly as follow up is generally not under the care of a urologist.



P7-3 Ex-vivo fluorescence confocal microscopy analysis for penile cancer biopsies

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Introduction: Organ preserving surgery for penile cancer (PC) requires the use of frozen section analysis (FS) to decrease the rate of positive surgical margins. However, FS increases operating time and requires extensive human and material resources. Ex-vivo fluorescence confocal microscopy (Ex-FCM) produces digital high-resolution images reminiscent of H&E stained slides without interfering with subsequent analysis. This technique has not yet been validated to analyse PC biopsies. Therefore, we aim to describe the technique of processing penile cancer tissue for Ex-FCM and evaluate the concordance with frozen section and final paraffin analysis.
Materials and Methods: 6 patients who underwent primary lesion excision surgery for PC with planned FS were included in the study. Clinical pathway was not altered before or after tissue analysis, and all patients consented beforehand. Confocal analysis was made using the Mavig Vivascope 2500-G4. After confocal imaging, the tissue was processed in the usual way for FS and final analysis. All images were reviewed by 2 certified Uropathologists.
Results: Tissue processing required less than 5 minutes for 1 operator to perform, 19 specimens generated 20 Ex-CLM images. All images were deemed acceptable for cancer diagnosis, and all were classified as squamous cell carcinoma. Cancer grading was possible in 10% and staining quality was acceptable in 85%. Diagnoses were concordant to final analysis in all cases.
Conclusions: Processing PC tissue with Ex-CLM is feasible and fast. While these initial **Results** are promising, further studies and refinement of the technique are needed to define if Ex-CLM can replace FS.

P7-4 Comparing complications of lymph node dissection in different age groups of men with penile cancer

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Background: Penile cancer is a rare urothelial malignancy which may have a poor prognosis in men with lymph node involvement. However lymph node dissection (LND) may be associated with high morbidity.
Aim: To assess and compare the complication rates of lymph node dissection in different age ranges of men presenting with penile cancer.
Method: Men who were referred to our institution from October 2013 and December 2018 were analyzed. Baseline parameters were recorded. Men were split into 3 groups. Group 1 $<$ 60 years old, Group 2 –60-75 years and Group 3 – $\geqslant$75years.
Outcomes: 179 men were included in total. The median age was 68.4 years.
Either bilateral or unilateral LND was performed in 50% in group 1, 37.8% in group 2 and 47.1% in group 3.
Complications were recorded in 60.8% in group 1, 37.8% in group 2 and 71.9% in group 3.
Conclusions: Groups 1 and 3 had the highest overall complication rate. Complication rates were similar to that in other studies. Further analysis is required to fully understand which risk factors are associated with higher complication rates. There is an argument that we should perhaps risk stratify patients prior to offering LND.

P7-5 Prospective study comparing Robot assisted radical Inguinal Lymph node dissection (RAILND) with Open radical inguinal lymph node dissection (OILND) for penile cancer

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Introduction: Survival in penile cancer is closely linked to the lymph node metastasis status. Open radical inguinal lymph node dissection (OILND) is the current standard treatment option for patients with suspected groin lymph node metastasis, but with reported complication rate of more than 50% from high volume centes. Robot assisted radical Inguinal Lymph node dissection (RAILND) is a minimally invasive alternative to traditional OILND. Our aim was to compare oncological outcomes and morbidity between RAILND and OILND in a tertiary centre.
Materials and Methods: RAILND was done as a four port, 3 arm technique with side docking. Robotic Pelvic lymph node dissection (RPLND) was performed in the same sitting as the RAILND in 5 patients. A high volume robotic surgeon performed both techniques. Prospectively

Parameter	OILND	RAILND	P Value
Baseline Characteristics			
Number of inguinal basins	35	20	Not significant (NS)
Number of patients	22	14	NS
Age	69.3	69.4	NS
Stay (mean No of days)	7.95	1.7	0.0001
Mean Operative time (minutes)	94	97	NS
Complications			
Wound related complications	24	1	0.0001
No of readmission 90 days	8	1	0.13
No of pts with Permanent Lymphoedema	13	1	0.009
Oncological safety			
Mean No of Lymph nodes per groin	7.11	8.15	0.07 (NS)
Mean positive lymph nodes	0.57	1.94	0.0001
Recurrence at f/u	6	1	na
Follow-up in months	71 (30-99)	10.3(1-19)	na

collected data was statistically compared between the RAILND and OILND cohorts (T-test).
Results: RAILND (n=20) was technically feasible, with no reported open conversion, intraoperative or immediate peri-operative complications. (Table 1). Baseline characteristics were comparable between the two cohorts. RAILND had a statistically significant reduced length of stay, immediate and short-term complication rate with comparable lymph node retrieval and operative time to OILND.
Conclusion: Our data shows RAILND maintains an oncologically sound dissection of lymph nodes whilst minimising wound-related morbidity. It confers the advantage of performing RPLND in the same sitting with limited additional morbidity. Hence it is a safe minimally invasive approach in experienced hands. Further longer term follow-up studies are necessary to check long-term morbidity and oncological safety of this technique.

P7-6 Completion orchidectomy post chemotherapy: A single-centre 10-year retrospective

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Introduction: European Society for Medical Oncology (ESMO) consensus guidelines for the management of patients with advanced testicular germ cell tumour (TGCT) recommend upfront chemotherapy prior to radical orchidectomy in patients with supra-elevated alpha fetoprotein (AFP) or human chorionic gonadotropin (HCG). Previous retrospective studies have found persistence of viable tumour in the testis following chemotherapy in 36-64% of patients. A partial blood-testis barrier provides a degree of sequestration from chemotherapy, supporting the need for subsequent surgical resection of the tumour-harbouring testicle. Neoadjuvant chemotherapy is now standardised with a different regimen to older published series. We have analysed a contemporary single centre series to investigate the proportion of patients with viable tumour following completion orchidectomy.
Patients & Methods: We conducted a 10-year retrospective review of patients undergoing post-chemotherapy completion orchidectomy. Patient demographics and histopathology was recorded on an institutional database.
Results: 21 patients with metastatic TGCT were identified (Table 1). Patients were treated with a combination of Bleomycin, Etoposide and Cisplatin. Of the specimens examined, 11 cases (52%) showed scarring/treatment effect with no viable tumour seen on histological analysis. 8 cases (38%) showed residual TGCT with 7 (33%) comprising mature teratoma and 1 (5%) showing seminoma. 2 (10%) patients' histology revealed persistent germ cell neoplasia in situ (GCNIS).
Conclusions: This series shows that 38% of patients with TGCTs undergoing chemotherapy have viable tumour remaining. Mature teratoma is the commonest subtype found in our series. Therefore, although chemotherapy should not be delayed in patients with advanced disease, completion orchidectomy should still be performed.

P7-7 Sperm-banking in our testicular cancer patients: a pan-deanery review

Miss Abi Kanthabalan[1], Miss Madeline Moore[2], West Midlands Urology Research Collaboration[3], Mr Iain Wharton[4]
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Testicular cancer and its subsequent treatments affect fertility. NICE Guidelines therefore state that all patients should be offered sperm banking prior to undergoing radical treatment. A pan-deanery assessment was performed to examine how well this is achieved.
Methods: 11 trusts throughout the West Midlands Deanery retrospectively analysed, over a 7-year period(2015-2020), patients who were diagnosed with testicular cancer. Parameters assessed in this study included patients who were offered sperm banking, reasons for not offering sperm banking and those who underwent sperm banking
Results: A total 850 patients were included, 21.6% (n=184) were offered sperm banking; 18.5% (n=157) were not; 58.2% (n=495) had no documentation, and for 1.5% (n=13) it was unclear.
Reasons for not offering sperm banking included: elderly age 26.1% (n=41), completed family 28.6% (n=45), severe mental health 5.7% (n=9), insufficient time pre-operatively 3.2% (n=5), not considered essential 0.6% (n=1), offered post-operatively 4.5% (n=7) and no reason recorded 24.8% (n=39).
For those aged 16-50years (n=594) 24.0% (n=144) were offered sperm banking, 13.3% (n=79) were not offered sperm banking, unclear documentation occurred in 1.5% (n=9) and not recorded occurred in 60.9% (n=362).
Of all patients offered sperm banking 46.7% (n=86) took up the offer.
Conclusion: This study demonstrates significantly high numbers of patients who had no clear documentation of offering sperm banking prior to radical treatment in the outpatient setting. Those who were not offered sperm banking also had poor documentation as to the reason for this. The commonest reasons that were recorded included elderly age and completed family.

P7-8 Are we doing a good enough job at offering our testicular cancer patients' testicular prosthesis?

Miss Abi Kanthabalan[1], Miss Madeline Moore[2], West Midlands Urology Research Collaboration[3], Mr Iain Wharton[4]

[1]Queen Elizabeth Hospital Birmingham, Birmingham, United Kingdom, [2]Royal Wolverhampton Hospital NHS Trust, Wolverhampton, United Kingdom, [3]West Midlands Urology Research Collaboration, West Midlands Deanery, United Kingdom, [4]University Coventry and Warwickshire Hospital, Coventry, United Kingdom

Background

Testicular cancer represents 1% of male cancers and 5% of urological tumours. Current NICE guidelines state that all patients should be offered prosthesis insertion at the time of their radical inguinal orchidectomy. We assessed the clinical practice regarding offering testicular prosthesis to patients within a pan-deanery setting.

Methods: 11 trusts performed a retrospective analysis over a seven-year period (2014-2020) on patients aged >16 years referred for suspected testicular cancer. Parameters assessed included whether a prosthesis insertion was offered in clinic, and if a prosthesis was subsequently inserted at the time of orchidectomy.

Results: 850 patients were included in the analysis. A total of 42.4% (n=360) patients were offered prosthesis; 12.4% (n=105) were not offered prosthesis; there was unclear documentation in 0.7% (n=6) and for 44.6% (n=379) it was not recorded. Reasons for not offering prosthesis included: concern about infection 7.6% (n=8), prosthesis not available 1% (n=1), patient factors 4.8% (n=5), elderly age of patients 14.4% (n=15), and no reason recorded 70.4% (n=70). Of all patients offered prosthesis, 40.8% (n=147) had a prosthesis inserted.

Conclusion: This study demonstrates the poor documentation regarding the offering prosthesis in the outpatient setting and at the time of consent for radical orchidectomy. In addition, there was a relatively low uptake on prosthesis insertion (17.3% of included patients).

P7-9 Testicular cancer: age, histology and stage, what's the current relationship? A pan-deanery experience

Miss Madeline Moore[1], Miss Abi Kanthabalan[2], West Midlands Urology Research Collaboration[3], Mr Iain Wharton[4]

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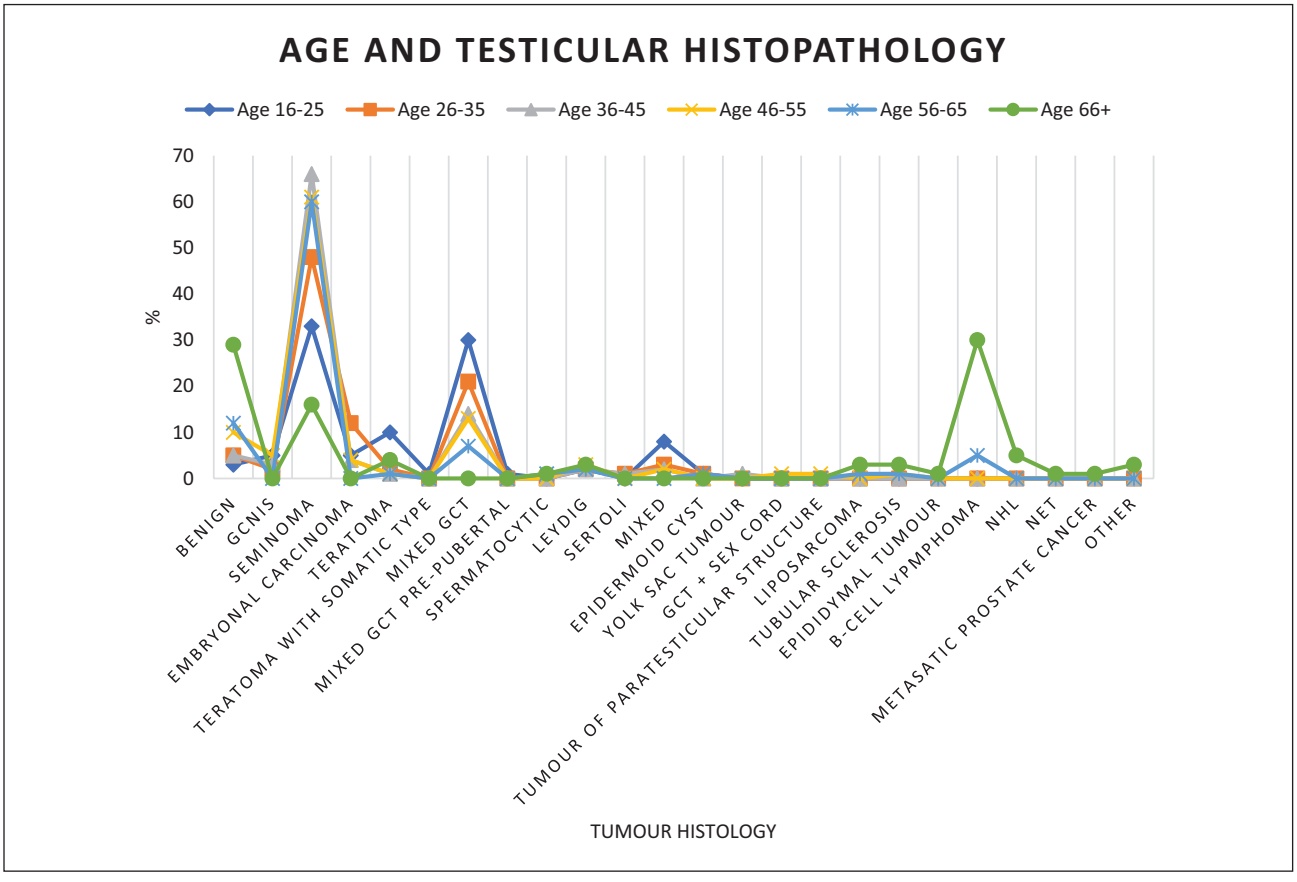

Background: Although testicular cancer is rare it remains the most common malignancy in young men. Germ cell tumours are reportedly commonest in men under 40. We report a pan-deanery experience in treating men with testicular cancer and provide an updated review on histology and stage at diagnosis compared with age.
Methods: 11 trusts throughout the West Midlands Deanery retrospectively analysed, over a 7-year period (2015-2020), patients who were diagnosed with testicular cancer. Parameters assessed in this study included age at diagnosis, histological diagnosis and pathological staging.
Results: A total 850 patients were included. Seminoma was the commonest pathology except those >66-years where B-cell lymphoma was the commonest (30%). Commonest stage per group; 16-25: I 54%, 26-35: I 63%, 36-45: I 71%, 46-55: I 68%, 56-65: I 62%, >66: I 26%. The majority of patients in those >66 was not staged as the commonest pathology was lymphoma.
Conclusion: The perception that seminoma is a cancer of the young patient is not evident here as it is the commonest tumour up to 65 years. Staging at presentation overall remains low throughout all ages. This data demonstrates a wide variety of rare testicular cancers.

EPoster Session 8: Prostate Cancer 1 Hall 10, June 14, 2022, 14:00 - 15:30

P8-1 Artificial intelligence in prostate multidisciplinary team meetings: a validation study

Mr Jonathan Aning[1], Miss Sam Kearley[1], Miss Helen Dunderdale[2], Mr Anthony Koupparis[1], Mr Edward Rowe[1], Mr Raj Pal[1], Mr Ioannis Chronakis[3], Mr Gareth Butt[3], Mr Raj Persad[1], Mr Vivek Patkar[3]
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Introduction: Contemporary multidisciplinary-team meetings(MDTMs) are challenged by the volume and complexity of cases referred. There is a need to better define which cases are discussed and which can be safely managed by protocol. We studied Artificial Intelligence(AI) ability to perform this role in Prostate MDTMs.
Patients and Methods: An AI based algorithm was developed using EAU and NICE guidelines. A customised web-based application was designed to facilitate data input and outputs. Anonymised real-life prostate MDTM data at a single centre were prospectively entered into the application and outcomes recorded, December 2021-January 2022. The data entry team were separate and blinded to official MDTM discussion, which occurred in parallel. The application and MDTM outcomes were compared.
Results: In total 210 men, median age 69 years were reviewed at MDTMs. Of these 152/210(72%) could be entered into the application and an outcome generated. There was agreement between the application and the official MDT in 96/152(63%). There was nuanced minor outcome differences in 34/152(22%). Most of these differences were due to factoring in patient age rather than performance status and in the weighting of Active surveillance. There was only true discordance in 22/152(15%), largely due to missing information on performance status or a change in imaging review assessment at the MDTM. Clinicians perceived the application outcomes to be clearer and more consistent than the routine MDTM.
Conclusions: AI can be safely used in prostate MDTM to determine management options provided that information quality is robust and the limitations of guideline interpretation are understood.

P8-2 PROSAIC-DS: Artificial Intelligence and the Future of Prostate Cancer MDT's

Mr Ahmed Khattak[1], Mr Jonathan Makanjuola, Dr Danny Ruta, Dr Martha Martin, Miss Kate Dodgson, Dr Brojeswar Purkayastha
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Introduction: The concept of Multidisciplinary cancer meetings (MDM) has been key to cancer care UK since the 90's. However, MDMs are over-burdened.
The development of Clinical Decision Support systems (CDSS) based on Artificial Intelligence marks a new era of MDM. We present Results from a retrospective cohort study and the first phase of a two-phase trial to assess the concordance of CDSS with national and international guidelines.
Methods: We evaluated differences in MDT concordance with guidelines in the primary treatment of localised/locally advanced prostate cancer using CDSS software. 50 paper cases were provided to the CDSS for evaluation. Simultaneously, two physicians assessed each patient case and provided treatment recommendations. The Results were assessed for concordance with UK, European and American guidelines.
Results: Overall clinician concordance with guidelines was 76%, while total concordance with all three guidelines was 28%. Overall concordance was highest with NICE guidelines, while total concordance was highest for NCCN guidelines. Inter-rater reliability was highest for the NCCN guidelines. Age < 75 ($p < 0.001$; odds ratio [OR], 35.000), prostate volume < 46.5ml ($p = 0.047$; OR, 4.909), and a Gleason score ≠ 8 ($p = 0.013$; OR, 12.333), were all significantly associated with increased guideline concordance in this study.
Conclusion: We identified that human concordance with clinical guidelines needed to be improved in certain patient groups. We attributed this to potential bias, cognitive overload or conflicting guidelines. This has prompted a two-phase single blinded randomised control trial that will elicit the true value of CDSS in prostate cancer MDM.

P8-3 Will I have recurrence of my high risk prostate cancer? A multicentre analysis of biochemical recurrence post radical surgery according to pre-operative risk stratification

Mr Conor Devlin[1], Mr Andrew Deytrikh[2], Mr Raslan Mutie[3], Dr Shacheesh Sinha[4], Dr Samuel Murgatroyd[3], Mr David Yates[2], Mr Mohantha Dooldeniya[3], Mr Nicholas Smith[4], Mr Chidi Molokwu[5], Mr Rohit Chahal[5], et al.

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Introduction: Not all high-risk prostate cancer (PCa) patients are equally at risk of biochemical recurrence (BCR) post-surgery (and subsequent salvage treatment). We aimed to identify which D'Amico high-risk patients would suffer BCR, providing them with a personalised risk of BCR at the time of initial consultation. This would assist them to understand the role of surgery in a potential multi-modality approach to their disease.

Patients and Methods: Prospective data was collected 2013 to 2019 on patients undergoing radical surgery for high-risk PCa in 4 institutions. We categorised patients according to their high-risk factors into 7 groups (Table 1). Risk of positive surgical margin and BCR rate were analysed between groups.

Results: 850 patients were in the study. The median follow-up period was 48 months.

The overall rate of BCR was 19.2%, with a median time to recurrence of 19 months.

When combined multiple risk factors (groups 4 – 7) were compared to those with a single factor (groups 1 – 3), the risk of positive surgical margin (37% vs 29%, p= 0.01) and rate of BCR (29% vs 16%, p = 0.006) was significantly increased.

When comparing groups 1 – 3, those in group 2 had a significantly increased relative risk of BCR than group 3 (p=0.05).

Results are summarised in Table 1.

Conclusions: This study highlights that 20% of high-risk patients will develop BCR at 4 years, those with multiple risk factors have a significantly increased risk. This can assist the patient and the clinician in the initial consultation.

P8-4 Ex-VIVO Confocal Microscopy Margins Analysis Study In Robot-Assisted Radical Prostatectomy (RARP)

Mr Tarek Al-Hammouri[1], Dr Ricardo Almeida-Magana[2], Dr Sarah Toomey[3], Dr Aiman Haider[3], Dr Alex Freeman[3], Mr Jack Grierson[1], Mr Eoin Dinneen[2], Mr Greg Shaw[1]

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Background: Nerve sparing (NS) during radical-prostatectomy (RP) is key to erectile function recovery post-surgery. However, when there is concern of oncological extra-prostatic extension, NS maybe inappropriate. Intra-operative frozen section (IFS) for margins assessment helps guide decision making. Nevertheless, the limitations such as transport and processing of samples, remain a concern. Ex-vivo fluorescence laser confocal microscopy (Ex-FCM) is a rapid, non-tissue destructive digital imaging technique that can provide high-quality microscopic images of prostate margin with H&E reminiscent stained slides. The aim was to report our experience with Ex-FCM compared to paraffin sections for reference standard.

Methods: Two histopathology consultants (A, B) have independently reviewed 34 specimens in both techniques, ex-FCM images of prostate margins (Ac, Bc) and then

Table 1

Risk group	*Risk factor(s)*	*No. of patients*	*% BCR risk*	*% +ve surgical margin*
1	⩾T2c	395	16.5%	31%
2	PSA ⩾ 20ng/ml	57	24.6%	39%
3	Gleason score (GS) ⩾ 8	176	13.6%	23%
4	⩾T2c & PSA ⩾ 20	60	30%	59%
5	⩾T2c & GS ⩾ 8	111	27%	45%
6	PSA ⩾ 20 & GS ⩾ 8	16	31.3%	57%
7	⩾T2c, PSA ⩾ 20 & GS ⩾ 8	25	32%	60%

scored the same specimens on standard formalin-fixed, paraffin-embedded, H&E stained sections of prostate margin. Parameters reviewed included image completeness, overall staining and nuclear clarity. Both pathologists were blinded to final histology whilst they provided a diagnosis for the ex-FCM images. The inter-observer agreement was also studied.

Results: The margin status agreement between ex-FCM and paraffin section was 97.3% for both pathologists. The 'overall staining quality' and 'image completeness' scoring 89.7% and 82.4% respectively in ex-FCM images. The Gleason-score agreement was 100% for pathologist B and 89% for A, between both techniques.

Conclusions: Ex-FCM showed high concordance with paraffin section when assessing the Gleason-score and the margin status. Greater experience and technique fine-tuning will help improve concordance with paraffin sections. This technique shows potential to change clinical pathways, though further experience and evidence are required.

P8-5 Clinical outcomes of predominantly anterior prostate cancers treated with RARP: a prospective comparative cohort analysis with 2 years follow up

Dr Reyan Saghir[1], Miss Francesca Kum, Mr Noman Saghir, Mr Raef Darwish, Mr Jude Deane, Mr Christopher Allen, Ms Hira Rizwi, Ms Beth Russell, Mr Paul Cathcart, Mr Ben Challacombe, Mr Nikhil Mayor, Mr Rick Popert, Mr Christian Brown, Mr Prokar Dasgupta

[1]Guy's Hospital, Huddersfield, United Kingdom

Introduction: A prospective cohort study comparing peri and postoperative outcomes for patients with predominantly anterior prostate cancer (APC) identified preoperatively against non-anterior prostate cancer (NAPC) treated via robotic-assisted radical prostatectomy (RARP).

Patients and Methods: Of 757 RARP's completed between January 2016 to April 2018, two comparative cohorts for anterior and non-anterior prostate tumours each consisting of 152 patients were compared against each other. Data was collected on the following variables: patient age; operating consultant; preoperative PSA, ISUP grade, degree of nerve-sparing; tumour staging; presence and location of positive surgical margins; PSA density, postoperative ISUP grade; treatment paradigm and postoperative PSA, erectile function, and continence outcomes with 2-year follow-up.

Results: APCs were found to have significantly lower ISUP grading postoperatively; increased diagnosis via active surveillance over new diagnosis; more frequently undertaken bilateral nerve-sparing and long-term poorer continence outcomes at 18 and 24 months postoperatively ($p<0.05$). Pre- and post-op PSA levels, erectile function, PSA density, positive surgical margins (PSM), age and tumour staging showed no significant differences between the APC and NAPC cohorts ($p>0.05$).

Conclusion: Overall, this study provides useful information on the growing literature of anterior prostate cancer, in particular emphasising the less aggressive nature and poorer continence outcomes compared to non-anterior. Being the largest comparative cohort study to date on APC post-RARP these **Results** indicate the true characteristics of anterior tumours and their functional outcomes to help improve education, patient expectations and management.

P8-6 Pelvic floor mobility aids continence recovery in post-prostatectomy incontinence as assessed by serial dynamic perineal ultrasound (the ProsPUR study)

Dr Anna Colarieti[1], Dr. Nadeem Shaida[2], Dr. Tristan Barrett[2], Dr. Nikesh Thiruchelvam[2]

[1]San Raffele University Hospital, Milan, Italy, [2]Addenbrooke's Hospital, University of Cambridge, Cambridge, UK

Introduction: Assess the feasibility of transperineal ultrasound (TPUS) pre/post robot-assisted radical prostatectomy(RARP), during pelvic floor contraction (PFC) and Valsalva(VS) manoeuvre, and identify imaging parameters potentially predictive of PPUI at pre and post-operative time points comparing two groups of patients:the continent and incontinent one.

Patients and Materials: 98 patients undergoing RARP for prostate cancer were scanned with TPUS pre-operatively and four times post-operatively. TPUS images and real-time video were acquired at rest, during PFC and VS manoeuvre in both the supine and standing positions.The technique's feasibility was assessed and TPUS urodynamic measurements were evaluated, including MUL, the bladder neck angle at rest and following PFC/VS, and the degree of bladder neck ascent/descent, which was recorded as a resultant vector.The ICIQ-UI SF was used to measure continence outcomes.

Results: Pre-operative measurements for the proposed parameters were technically feasible in more than 85% of patients. At post-operative scans, the technical feasibility pre- and post-PFC and VS manoeuvre was superior to 90%.The MUL's average reduced at 12 months post-operatively, however, there wasn't a significant difference between the two groups. Post-operatively there was a general trend for an increase in the average bladder neck angle change, and a trend for greater bladder ascent post PFC and greater bladder descent post-VS with increasing post-operative time.At 12 months, the average bladder neck vector of ascent and descendant was significantly greater for the continent group.

Conclusion: is a reliable, accurate,non-invasive, cost-effective modality for the evaluation of post-operative continence and may be a useful adjunct for guiding pelvic floor exercises to preserve continence.

P8-7 A feasibility study of the therapeutic response and durability of short-term androgen targeted therapy in early prostate cancer managed by surveillance: The Therapeutics in Active Prostate Surveillance (TAPS01) study

Professor Vincent Gnanapragasam[1], Dr Tristan Barrett[1], Mrs Kelly Leonard[2], Dr Jerome Wulff[2], Dr Ionnis Funingana[2], Dr Simon Pacey[1]

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Introduction: Modern Active Surveillance (AS) provides a unique opportunity for therapeutic strategies to prevent or delay disease progression in early prostate cancer. Here we explored image-based tumour response to short-duration androgen targeted therapy (sATT) during AS.

Materials and Methods: Men on AS with MRI visible lesions were recruited into an open-labelled Phase II single centre feasibility study and treated with apalutamide 240mg for 90 days. MRI tumour volumes (TV), gland volumes (GV) and tumour-gland volume ratios (TGVR) were calculated at baseline, Day 90 and at 6- and 18-months follow-up. Quality of life metrics were measured at Day 0, 90 and at 6 weeks after treatment.

Results: 11 patients (40% of eligible approached men) agreed to participate with 9/11 completing treatment. At day 90, median GV, TV and TGVR percentage reductions were -38.2% (range -51.8% to -23.5%), -54.2% (-74.1% to -13.8%) and -27.2% (range -61.5% to -7.5%) respectively ($p<0.0001$ for all). At 6 months while GV had returned to baseline (p=0.95) both TV and TGVR remained significantly reduced (-31.9% and -28.7% respectively, p=0.0007 and p=0.0009). This reduction was sustained at 18 months (-18% and -23.8% respectively, p=0.01). EORTC QLQ-C30 recorded reduced scores in global, physical, role and social functioning during treatment but all were recovering by 6 weeks. EQ-VAS scores were unchanged compared to baseline.

Conclusion: TAPS01 has demonstrated feasibility for the concept of short-term ATT in AS and suggests a selective and durable tumoricidal effect in the short term. This supports a formal randomised trial which is in set up.

P8-8 Primary focal cryotherapy for non-metastatic prostate cancer: oncological outcomes from 195 patients

Miss Deepika Reddy[1], Dr Max Peters[2], Mr Taimur Shah[1], Dr Marieke van Son[2], Dr Mariana Bertoncelli Tanaka[1], Dr Philipp Huber[3], Dr Derek Lomas[4], Dr Arnas Rakauskas[4], Mr Manit Arya[1], Professor Hashim Ahmed[1], et al et al

[1]Imperial Prostate, London, United Kingdom, [2]Utrecht Medical Centre, Utrecht, the Netherlands, [3]Urologie St Anna, Switzerland, [4]Mayo Clinic, United States of America

Introduction: Focal cryotherapy for the treatment of clinically significant non-metastatic prostate cancer aims to better preserve genitourinary and rectal function compared to whole gland therapy. We report the cancer control outcomes and adverse events following focal cryotherapy.

Patients and Methods: 259 consecutive patients with non-metastatic prostate cancer reported in a multicentre UK registry (ICE) treated with focal cryotherapy between June 2004- August 2020 were evaluated. The primary outcome, for patients (n=195) with $\geq$ 6months follow up, was failure-free survival (FFS), defined as transition to radical, whole-gland, or systemic therapy, or metastases/prostate cancer-specific death. Log rank analysis evaluated differences in Kaplan-Meier estimated failure free survival between pre-treatment characteristics. Complications were reported using the Clavien-Dindo scale.

Results: Median (IQR) follow-up was 23.9 months (14.5-31.7), age was 68 years (63-74), and PSA was 8.6ng/ml (6.1-12.8). Overall, 121/259 (46.7%) and 131/259 (50.6%) were classified as intermediate and high-risk. 219/259 (84.6%) had anterior $\pm$ posterior cancer. Overall, 3-year FFS (95%CI) was 90% (85-96%) [Figure 1]. No statistically significant difference was identified when stratified for D'Amico risk; 3-year FFS (95%CI) was 92% (83- 100%) in intermediate risk and 89% (83-96%) in high risk (p=0.40). Only pre-treatment PSA ($\leq$10ng/ml vs $>$10ng/ml) reported significant

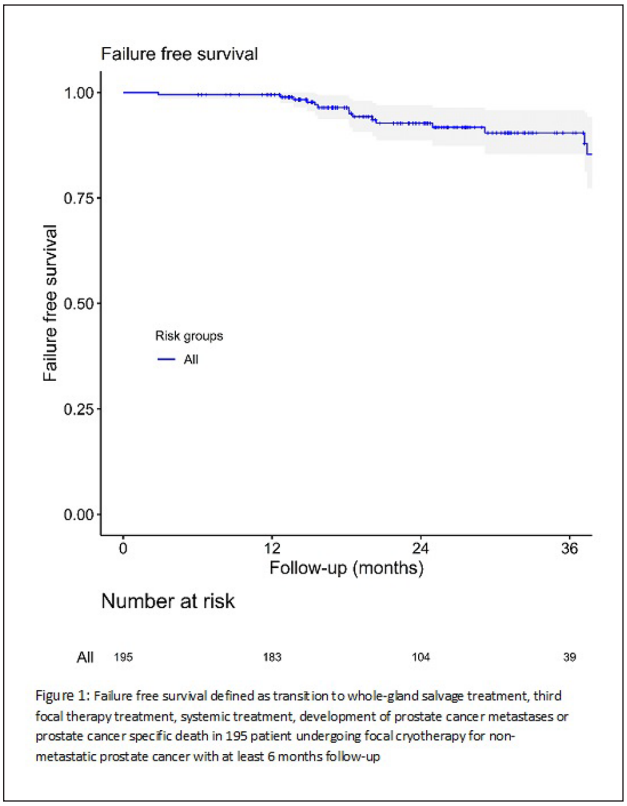

Figure 1: Failure free survival defined as transition to whole-gland salvage treatment, third focal therapy treatment, systemic treatment, development of prostate cancer metastases or prostate cancer specific death in 195 patient undergoing focal cryotherapy for non-metastatic prostate cancer with at least 6 months follow-up

differences in 3-year FFS. 1 Repeat focal therapy was delivered in 16. 21 patients underwent salvage radical or systemic treatment. Clavien-Dindo grade >/=2 complications were reported in 9/259 (3.5%).
Conclusions: Focal cryotherapy, in this study used predominantly for anterior lesions, offers acceptable disease control in the early to medium-term.

P8-9 'Living With' prostate cancer: A digital health intervention to support patients and healthcare professionals

Dr Patricia Schartau[1], Professor Elizabeth Murray[1], Professor Greg Shaw[2], Professor Ann Blandford[1], Professor Mike Kirby[3], Dr Shoumik Choudhury[1], Mr Chris Robson[4]
[1]University College London, London, United Kingdom, [2]University College London Hospital, London, United Kingdom, [3]The Prostate Center, London, United Kingdom, [4]'Living with' company, London, United Kingdom

Background: In the UK, prostate cancer is the most common cancer. Whilst novel care models have improved clinical outcomes, the new approaches have left healthcare professionals (HCPs) with less time to support patients' complex needs. We aimed to develop a digital health intervention (DHI) to support prostate cancer patients' needs, thereby supplementing their care pathway.
Patients/Methods: A theory based, multi-disciplinary, iterative co-design approach was used for DHI development. Key user needs were elicited from our systematic review, patient focus group data (n = 24) and HCP interviews (n=7). Using qualitative analysis, patient needs were grouped into overarching themes and translated into digital solutions by a team of prostate cancer patients, patient and public involvement (PPI), HCPs (Urologists, CNSs, GPs, psychologist), researchers and computer scientists.
Results: We developed a patient facing mobile app which connects to a clinician dashboard for direct messaging (appointments; relevant articles/videos) and collation of patient reported outcome measures (PROMS) inputted into the app. The app contains an up-to-date multi-reviewed content library covering a wide range of topics surrounding prostate cancer; a guided programme to support sexual wellbeing and pelvic floor exercises; a symptom tracker; shared experience from patients for patients; an appointment diary; and a programme to manage and graph PSA (prostate-specific antigen) blood test appointments and Results.
Conclusion: The multidisciplinary co-design process of a DHI with the potential to decrease HCPs' workload whilst leading to improved patient experiences and outcomes was described. A pilot study has started to explore feasibility, acceptability and impact of the DHI.

P8-10 Comparative outcomes of salvage robotic-assisted radical prostatectomy after focal therapy (fSRARP) and whole gland therapy (SRARP): a multi-national, high-volume analysis

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Introduction: Radical prostatectomy is a treatment option for patients who fail focal or whole-gland non-surgical treatment for prostate cancer (PCa). We present mulit-national comparative outcomes of radical prostatectomy after whole gland therapy (SRARP) and focal gland therapy (fSRARP).
Methods: The study included 339 patients who underwent salvage RARP, 145 patients had primary focal therapy and 194 patients had primary whole gland treatment. All patients were treated at two high-volume centres from the US and UK.
Results: We observed more nerve-sparing in fSRARP compared to SRARP (bilateral – 15.2% vs 9.3%; unilateral 49% vs 28.4%; p <0.001). The fSRARP group had higher rates of positive surgical margins (PSM) (26.2% vs 10.3%; p <0.001). The SRARP group had higher grade disease. Cox regression proportional hazard model for biochemical recurrence (BCR) showed a trend towards higher postoperative BCR probability in patients who had SRARP compared to fSRARP, however, this difference was not statistically significant (p= 0.534). Additionally, the probability of postoperative continence recovery was higher and faster in patients who had fSPARP compared to SRARP (p=0.013). There was no difference in postoperative potency between both groups.
Conclusions: We present the largest multi-institutional analyses of SRARP and fSRARP. More nerve sparing is carried out after focal therapy, but this may result in a greater PSM rate without the additional benefit of better potency. Though the fSRARP group had higher rates of continence, this difference was not statistically significant.

P8-11 Single tertiary cancer centre experience on the management of pT3b Prostate Cancer After Robot- assisted Laparoscopic Prostatectomy

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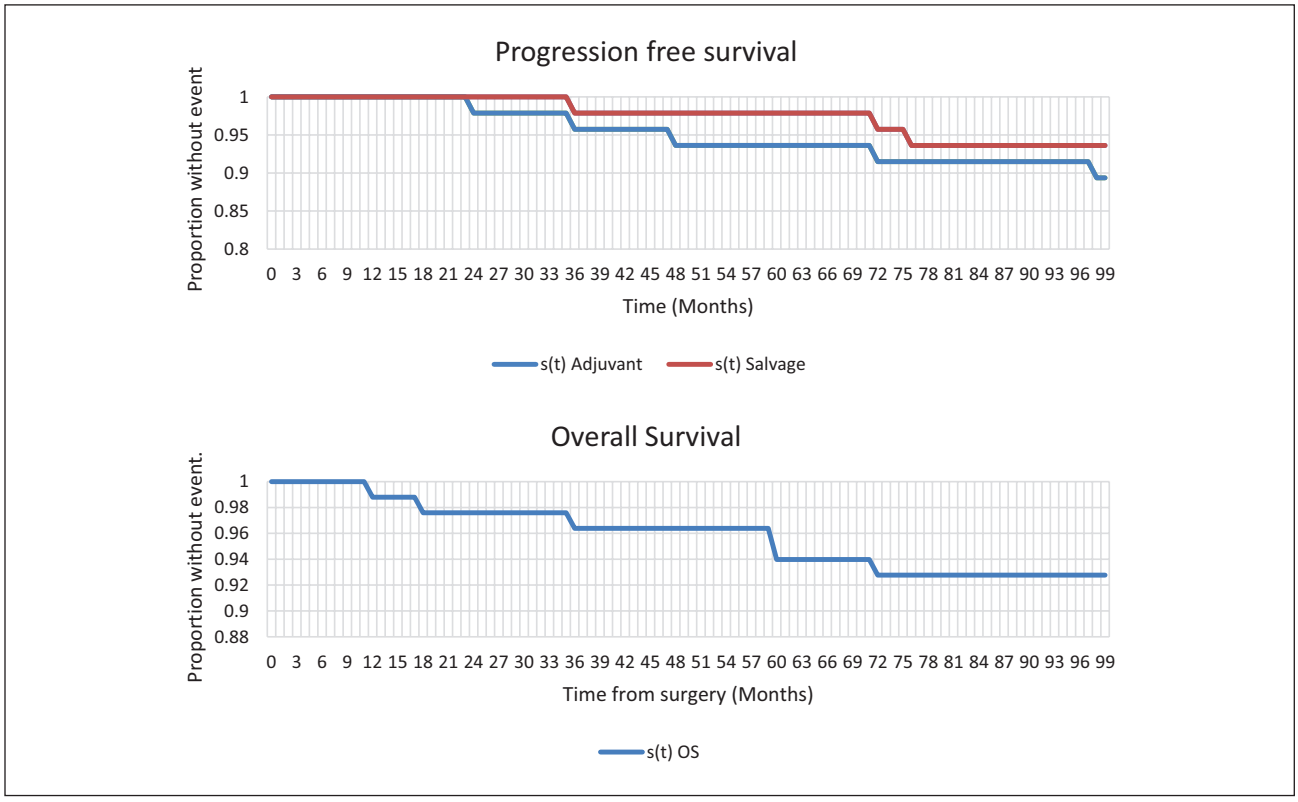
Background
Pathological involvement of seminal vesical poses a treatment dilemma following robotic prostatectomy. We aim

	No Radiotherapy n=36	Adjuvant Radiotherapy n=26	Salvage Radiotherapy n=21
Age (Range)	63 (55-74)	62 (46-72)	60 (51-72)
PSA at presentation (S.D)	11.4 (± 6.2)	14.4 (± 8.2)	13.1 (± 7.1)
Gleason Score			
<7	0 (0%)	1 (0.04%)	0 (0%)
3+4	16 (44%)	14 (54%)	8 (38%)
4+3	11 (31%)	8 (31%)	6 (29%)
>8	9 (25%)	3 (12%)	7 (33%)
Positive Margin			
Absent	23 (64%)	13 (50%)	11 (52%)
Present	13 (36%)	13 (50%)	10 (48%)
Lymph nodes			
Node Positive	1 (0.03%)	1 (0.04%)	1 (5%)
Node Negative	11 (31%)	10 (38%)	13 (62%)
No Dissection	24 (67%)	15 (58%)	7 (33%)



to audit the incidence, margin status and management of T3b cancer cases in our centre.

Methods: A retrospective analysis of all patients diagnosed with pT3b prostate cancer following robotic assisted laparoscopic prostatectomy from January 2012 to July 2020 was conducted.Chi-square and two tailed t tests were used to determine the relationship amongst categorical and continuous variables, respectively. Kaplan–Meier survival curves were generated to assess overall survival in patients with pT3b prostate cancer and used to

compare the unadjusted progression free survival between those who underwent adjuvant and salvage radiotherapy. All statistical analysis was conducted using Prism 6 (GraphPad Software, Inc., San Diego, CA).

Results: A total of 83(5%) patients out of 1665 patients who underwent robotic prostatectomy were diagnosed with a pathological T3b prostate cancer between January 2012 and July 2020. Among these,36 (44%) patients did not receive any radiotherapy during follow up compared to 26 (31%) patients who received adjuvant radiotherapy and 21 (25%) who received salvage radiotherapy.Positive margins were seen in 36 (43%) of patients however, there was no statistical significance between treatment groups (p=0.49). The median overall survival was 96%. There was no significant difference between the adjuvant and salvage groups in terms of bPFS (p=0·66). 5-year bPFS was 94% for those in the adjuvant radiotherapy group and 97% for those in the salvage radiotherapy group.

Conclusion: In keeping with the conclusion of RADICALS-RT, salvage radiotherapy may be preferable to adjuvant radiotherapy.

P8-12 MRI-derived Preoperative membranous urethral length predicts urinary continence outcomes in men undergoing salvage radical prostatectomy for radio-recurrent prostate cancer: a multicentre study

Mr Luis Ribeiro[1], Miss Anna Walsh[1], Dr Samuel Withey[1], Dr Caio Pasquali Dias dos Santos[2], Dr Seth Peiris[1], Dr Giles Rottenberg[1], Dr Rafael Sanchez-Salas[2], Mr Rick Popert[1], Mr Paul Cathcart[1]

[1]Guy's Hospital, London, United Kingdom, [2]Institut Mutalist Montsouris, Paris, France

Introduction: Predictors of urinary continence after salvage radical prostatectomy (S-RP) are rarely reported. Pre-operative membranous urethral length (MUL) measurements have been shown to predict continence outcomes after primary prostatectomy. We aimed to evaluate pre-operative Magnetic Resonance Imaging (MRI) derived MUL measurements to predict urinary continence outcomes after S-RP.

Patients and Methods: 100 men undergoing S-RP at two multi-national high-volume institutions from 2007 to 2019 were retrospectively reviewed. Overall, 52 patients received previous External Beam Radiotherapy or brachytherapy (RT) while 48 received focal treatment (FT). All patients incontinent prior to salvage surgery were excluded. Urinary continence was strictly defined as a patient-reported requirement of no continence pads.

Results: Overall urinary continence at 3, 6 and 12 months was 29, 49 and 65%. Increasing MUL was associated with improved urinary continence at 3, 6, and 12 months (OR 1.20, 95% CI 1.06-1.36, p=0.005). There was a significant association between 12-month continence outcomes and MUL (OR 1.20, 95% CI 1.02-1.40, p=0.02) and FT (OR 4.16, 95% CI 1.19-14.57, p=0.03) on multivariable analysis. 12-month continence following S-RP after RT was 46% compared with 85% after FT. Increasing MUL was associated with continence in the RT group (OR 1.20, 95% CI 1.00-1.44, p=0.05) compared with the FT group (OR 1.17, 95% CI 0.92–1.48, p=0.20) on subgroup analysis.

Conclusions: MUL is associated with better urinary continence outcomes after S-RP for men with radio-recurrent prostate cancer and could be used to personalise counselling prior to S-RP. No such relationship was found for men undergoing S-RP after FT.

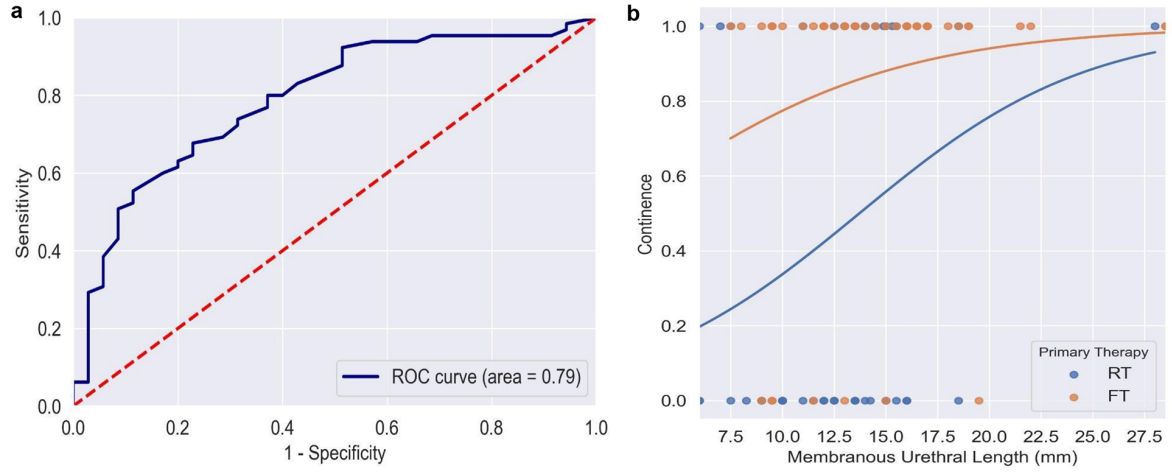


Figure 2a. Receiver operating characteristic curve for continence at 12 months following S-RP based on membranous urethral length and primary treatment modality. Area under ROC curve = 0.79 **b.** Distribution of MUL by continence. Logistic regression lines represent probability of continence at 12 months following S-RP. Points represent continence outcomes for patients in the current study. RT = Radiotherapy, FT = Focal Therapy

P8-13 Comparative effectiveness analysis of oncological and functional outcomes after salvage radical treatment with surgery or radiotherapy following primary focal or whole-gland ablative therapy for localised prostate cancer

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Introduction: Ablative therapy, such as focal therapy, aims to treat clinically significant prostate cancer with reduced treatment-related toxicity. Up to a third of patients may require further local salvage treatment after ablative therapy failure. We compare oncological and functional outcomes after salvage robot-assisted radical prostatectomy (SRARP) and salvage radiotherapy (SRT).
Patients and Methods: Data were collected prospectively and retrospectively on 100 consecutive SRARP cases and 100 consecutive SRT cases, after ablative therapy failure, in a high-volume tertiary centre.
Results: High-risk patients were over-represented in the SRARP group (66.0%) compared to the SRT group (48.0%) (p=0.013). Median (IQR) follow-up after SRARP was 16.5 (10.0-30.0) months and 37.0 (18.5-64.0) after SRT.
SRT appeared to confer greater biochemical recurrence (BCR)-free survival at one, two and three years compared to SRARP in high-risk patients, but BCR-free survival was similar for intermediate-risk patients.
There was no statistical difference in pad-free continence at 12- and 24-months between SRARP (77.2% and 84.7%) and SRT (75.0% and 74.0%) (p=0.724, 0.114). After SRT, cumulative bowel and urinary Radiation Therapy Oncology Group toxicity grade I were 25.0% and 45.0%, grade II were 11.0% and 11.0%, and grade III or IV complications were 4.0% and 5.0%, respectively.
Conclusions: We report the first comparative analyses of surgical and radiotherapy salvage treatment following ablative therapy. Men with high-risk disease appear to have superior oncological outcomes after SRT; however, treatment allocation does not appear to influence oncological outcomes for men with intermediate-risk disease. Treatment allocation was associated with a different spectrum of toxicity profile.

P8-14 Evaluating the efficacy of combined inhibition of Poly ADP Ribose Polymerase (PARP) and Ataxia telangiectasia and Rad3-related protein (ATR) in castrate resistant prostate cancer

Mr Nicholas Bullock[1,2], Dr Daniel Turnham[2], Dr Manisha Dass[2], Professor Richard Clarkson[2], Professor John Staffurth[1], Dr Helen Pearson[2], Professor Howard Kynaston[1]
[1]Division of Cancer and Genetics, Cardiff University, Cardiff, United Kingdom, [2]European Cancer Stem Cell Research Institute, Cardiff University, Cardiff, United Kingdom

Introduction: Inhibitors of the key DNA damage repair (DDR) enzyme Poly ADP Ribose Polymerase (PARPi) have demonstrated promise in castrate resistant prostate cancer (CRPC) patients with pre-existing aberrations in other DDR pathways. However, responses remain poor in those without such aberrations. We therefore sought to determine the benefit of combining PARPi with inhibitors of another key DDR protein, Ataxia telangiectasia and Rad3-related (ATRi), in the setting of DDR proficient CRPC.
Materials and Methods: DDR proficient CRPC cell lines were treated with vehicle (DMSO), PARPi (olaparib), ATRi (ceralasertib) and combined PARPi and ATRi, and responses characterised using a series of in-vitro molecular assays. Efficacy of combined PARPI and ATRi was then evaluated ex-vivo using a newly developed patient-derived xenograft (PDX) explant model and in-vivo through conduct of a pre-clinical trial using the PC-3 subcutaneous xeograft model of CRPC.
Results: Whilst CRPC cells demonstrated limited PARPi sensitivity, treatment led to increased activation of the ATR substrate checkpoint kinase 1 (CHK1), indicating increased dependency on ATR/CHK1 signalling. Combined PARPi and ATRi abrogated PARPi-induced CHK1 activation and resulted in a synergistic reduction in cell viability compared to monotherapy with either agent. Superior efficacy of combined ATRi and PARPi therapy was observed both ex-vivo and in-vivo, with treatment being well tolerated and leading to enhanced tumour growth inhibition as a result of reduced proliferation and neovascularisation in PC-3 subcutaneous xenograft tumours.
Conclusions: Combined PARPi and ATRi appears to be a promising treatment option in DDR proficient CRPC, supporting its evaluation in early phase clinical trials.

P8-15 Interventions for upper tract obstructive uropathy in men with locally advanced and metastatic prostate cancer: a national population-based study

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Introduction: Upper tract obstructive uropathy (UTOU) is a complication of advanced prostate cancer (PCa) that may require urinary tract decompression. We developed a coding framework using national population data to investigate the management of UTOU in locally advanced and metastatic PCa.

Patients and Methods: Patients were identified via the National Prostate Cancer Audit between April 2014 and March 2019 using English cancer registry data linked to administrative hospital data. A dedicated coding framework based on the International Classification of Diseases, and Office of Population, Censuses and Surveys codes was used to identify patients receiving an intervention for UTOU.

Results: 77,010 patients newly diagnosed with locally advanced and 30,083 patients with metastatic PCa were identified. 1,951 (1.8%) patients underwent an intervention for UTOU, of whom 830 (42.5%) had locally advanced disease and 1,121 (57.5%) metastatic disease. 844 (43.3%) had a percutaneous nephrostomy (PCN), 473 (24.2%) a PCN with antegrade stent and 634 (32.5%) a retrograde stent. Mean follow-up time from date of diagnosis to last hospital encounter was 43.2 months. Cumulative intervention at one-, three- and five-years was 2.5%, 3.6% and 4.2% in men with metastatic disease compared to 0.5%, 0.9% and 1.4% in men with locally advanced disease.

Conclusions: This is the largest longitudinal study of hospital interventions for UTOU in men with advanced PCa. An important proportion of men require interventions to resolve UTOU. Men with metastatic disease had a greater cumulative incidence of intervention compared to men with locally advanced disease.

EPoster Session 9: Management/ Governance/Education/Quality Improvement, Hall 7, June 14, 2022, 11:00 - 12:00

P9-1Urological 'GMC Referrals for Fitness to Practice in the UK': an analysis over the last 14 years (2007-2021) based on trends, ethnicity and outcomes

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Introduction: General Medical Council (GMC) is a regulatory body for doctors in the United Kingdom. Referrals can be lengthy and cause a doctor significant distress and anxiety, and can impact work performance, reputation and their emotional and mental wellbeing. Understanding the process of referral and the proportion of doctors whose referrals proceed to an investigation is essential, therefore we present the number and outcomes of urological referrals over the last 14 years, and provide a breakdown of the doctors' demographics.

Methods: Data was requested and collected from the GMC under the Freedom of Information Act 2000 for all complaints of urologists between 2007-2021.

No. Doctors involved in referrals		635 (734 referrals)	
Top 10 reasons for referral		Demographics of Urologists referred to the GMC (2007-21)	
Substandard treatment	223	**Ethnicity**	
Suitable action not taken	110	**Asian or Asian British**	183 (29%)
Failure to provide appropriate info	69	**Black or Black British**	25 (4%)
Rudeness to patient	66	**Other Ethnic Groups**	23 (4%)
No consent	66	**White or White British**	356 (56%)
Dishonesty with patient/colleague	55	**Ethnicity Data Not Held**	48 (8%)
Inadequate follow up	53	**Location of Primary Medical Qualification**	
Lack of further investigation	53	**European Economic Area Qualification**	78 (12%)
Failure to diagnose	42	**International Medical Graduate**	171 (27%)
Inaccurate medical records	38	**UK**	386 (61%)
		Gender split	
		Female	32 (5%)
		Male	603 (95%)

Results: Between 2007 and 2021 a total of 635 doctors were referred to the GMC totalling 734 referrals (1.15 referrals/doctor). 50% of these (364) were closed following a provisional enquiry (1 month), another 43% were investigated but no action taken. Only 7% (49) urologists had actions taken; given advice, required to do extra training, suspended from practice, or erased from the medical register. Over this 14-year period 2 doctors were erased from the medical register.

Conclusion: For Urologists who feel they have been unfairly referred to the GMC it is reassuring to know that half of cases are closed at a provisional enquiry. Of those investigated, only 7% of urologists have further actions taken. Only 2 urologists were erased from the medical register, demonstrating a robust process of GMC investigation with most doctors going back into work following suitable complaints.

P9-2 Triaging urologic specialist referrals to identify vulnerable groups who do not attend appointments– a retrospective analysis

Dr Christian Robinson[1], **Dr Hazel Ecclestone**[1]
[1]*TDHB, New Plymouth, New Zealand*

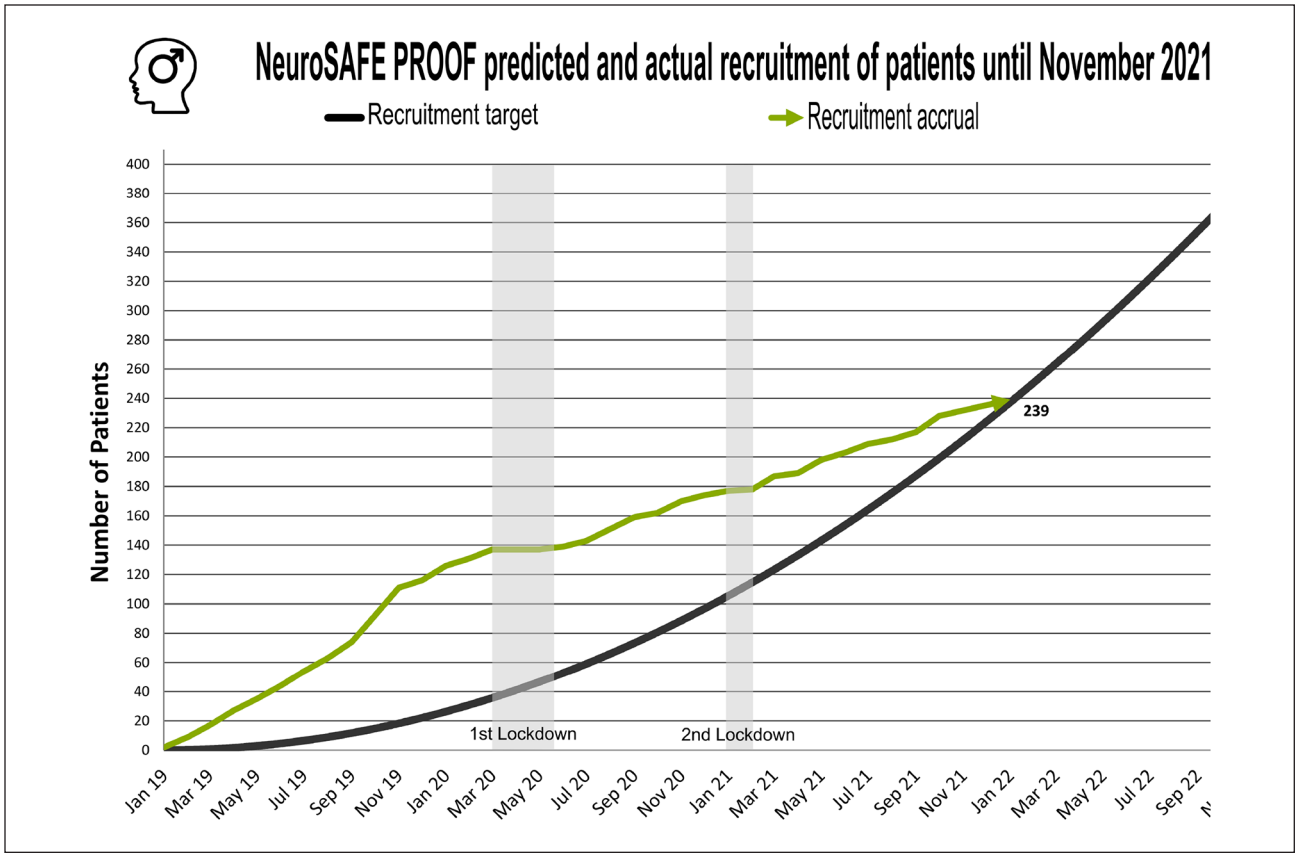
Introduction: Patients who did not attend (DNA) their specialist appointments reduce the efficiency of the outpatient clinic and exacerbate the strain on the under resourced health system. Studies have been shown that those who DNA are generally from vulnerable populations including low socioeconomic status and suffer mental health issues. Referral diagnosis to urology specialists may identify those likely to DNA, which could aid triage services to plan outpatient clinics and provide additional support to vulnerable patients.

Patients and Methods: This is a single-centre, retrospective observational study.

Eligible participants are patients who were referred to Urology outpatient services. Outpatient audit data over five years from 2016-2021 was analysed, comparing the referred presenting complaint and clinic attendance. The primary outcome is to identify an association between DNA appointments and specific presenting complaints in the urology outpatient clinic.

Results: 5559 patients were included for analysis. DNA patients were 11.5% of clinic appointments. Maori/indigenous patients were five times as likely to DNA. Scrotal and pelvic pain comprised 30% of DNA appointments, followed by urodynamic studies. Haematuria and prostate cancer referrals were unlikely to DNA.

Conclusion: High rates of DNA appointments can be attributed to specific presenting conditions at the time of specialist urologic referral. We propose ways of improving interaction with this vulnerable group to both reduce



service pressure generated by DNA appointments and ensuring optimum care of the more vulnerable service users.

P9-3 E-Consent – a guide to implement an innovative solution to maintain recruitment in clinical trials during the COVID-19 pandemic

Dr Ricardo Almeida-Magana[1], Ms Hanna Maroof[2], Mr Jack Grierson[1], Ms Rosie Clow[1], Mr Eoin Dinneen[2], Mr Tarek Al-Hammouri[2], Dr Nicola Muirhead[1], Dr Chris Brew-Graves[1], Prof John Kelly[1], Mr Greg Shaw[2]
[1]University College London, London, United Kingdom, [2]University College London Hospitals, United Kingdom

Introduction: The COVID-19 pandemic has posed daunting challenges for the conduction of clinical research. Adopting new technologies such as remote electronic consent (e-Consent) can help overcome them. However, guidelines for e-Consent implementation in ongoing clinical trials are currently lacking. The NeuroSAFE PROOF trial is a randomised clinical trial evaluating the role of frozen section analysis during RARP. In response to the COVID-19 crisis, recruitment was halted, and a remote e-Consent solution was designed. The aim of this study is to describe the process of implementation, impact on recruitment rate and patients' experience using e-Consent.
Methods: A substantial amendment of the protocol granted the creation of a remote e-Consent framework based on the REDCap environment, following the structure and content of the already approved paper consent form. A new pathway was developed which offered continuous support to patients through remote consultations.
Results: Before the first recruitment suspension, NeuroSAFE PROOF was recruiting an average of 9 patients per month. After e-Consent implementation, 63 new patients (4/month) have been enrolled despite a second lockdown, none of whom would have been recruited using the old Methods given restrictions on face-to-face consultations. Patients have given positive feedback on the use of the platform. Limited troubleshooting has been required after implementation.
Conclusions: Remote e-Consent based recruitment was critical for the continuation of the NeuroSAFE PROOF trial during the COVID-19 pandemic. The described pathway complies with ethical and regulatory guidelines for informed consent, while minimizing face-to-face interactions that increase the risk of COVID-19 transmission.

P9-4 Consent in Urological surgery: Informed or uninformed?

Mr Damiete Harry[1], Ms Oluwatobiloba Oyebanji[1], Dr Mazharuddin Shaikh[1], Mr Almostafa Badreldin[1], Mr Nagesh Biradar[1], Mr Tarek Aly[1], Mr Hugh Crawford-Smith[1], Mr Junaid Masood[1]
[1]Barking Havering and Redbridge University Hospitals, NHS Trust, London, United Kingdom

Introduction: In the post-Montgomery era consent should be viewed as a supported decision-making process that is tailored to the individual patient's expectations and priorities, with sufficient deliberation time and adjunct information. We assessed our current practice and the patients' understanding of their procedures.
Patients (or Materials) and Methods: A survey-based study was carried out shortly before discharge. Patients had one of three procedures:

- TURP
- Ureteroscopy for stone
- Endoscopic bladder operations (TURBT or bladder biopsies)

Results: 102 patients (63 females, 39 males, mean age 67 years) were surveyed. All were consented on the morning of their operation. 77% stated English was their first language. 8% did not know the procedure they had just undergone. 22% did not know their indication for surgery and 21% stated they did not understand the risks. 39% of patients did not know their follow up plans. Only 18% of patients were consented by consultants.
Conclusions: Consent on the day of surgery is inadequate. Information leaflets have been previously shown to be of limited value. In this age of social media, the consent process must include audio-visual information delivery that the patient can digest in their own time, in their first language. Our team is producing a series of these videos.

P9-5 Streamlining improves the effectiveness of the Uro-Oncology MDT

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Introduction: Multi-disciplinary teams (MDTs) remain the agreed gold standard for management of cancer patients. They ensure that the quality of diagnostic data is checked, and that best clinical practice is followed, however they place an increasing time burden on clinicians.
Patients and Methods: From April 2020, the South Thames Valley Uro-Oncology MDT implemented a streamlining process, following clinical agreement of Standards of Care, and organisation of diagnostic data so it was quality checked asynchronously. Before each meeting, the MDT Chair and Co-ordinator reviewed all patients, ensuring key data was available; demographics, performance status, breach dates, follow-up appointments, investigations, histology and a case summary. Using the agreed Standards of Care, selected patients were removed from formal MDT discussion. The process took 20-30 minutes each week. MDT members were recently surveyed for their views on the implementation and ongoing streamlining process.

Results: From April 2020 to December 2021, 86 MDT meetings took place. Of these, 68 (79%) underwent streamlining. Overall, 1011/2234 patients (45.3%) were streamlined and not discussed at the MDT. The proportion of streamlined cases within each sub-section were Prostate 62%; Kidney 12.9%; Testicular 32.7%; Bladder 40.7%.
14 MDT members responded to the survey. All agreed or strongly agreed that selected patients could be safely streamlined. 93% disagreed that streamlining introduces clinical risk to patients.
Conclusions: We propose that, using evidence-based Standards of Care, selected patients can be safely streamlined. This allows more productive use of clinicians' time, and enhances patient care by allowing complex patients to be discussed in detail.

P9-6 Full Stream Ahead: utilising streamlining to improve efficiency in the Urology Multi-Disciplinary Team Meeting (MDTM)

Dr Melika Moghim[1,3], Miss Rachel Oliver[2,3], Mr John Hines[1,3]
[1]University College London Hospital, London, United Kingdom,
[2]North Middlesex University Hospital, London, United Kingdom,
[3]North Central London Cancer Alliance, United Kingdom

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.

P9-7 Intelligent Triage: The first step to improving outpatient efficiency

Mr Robin Shepherd[1], Mr Przemyslaw Orawiec, Mr Ian Beckley, Ms Rebecca Phillips, Ms Stephanie Symons, Ms Alison Downey, Mr Simon Harrison, Mr Anthony Browning
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Introduction: The COVID-19 pandemic placed a strained NHS under further pressure, resulting in a significant backlog of work. Fundamental change is needed to improve efficiency and allow service re-establishment with a capability to deal with this backlog. Outpatient

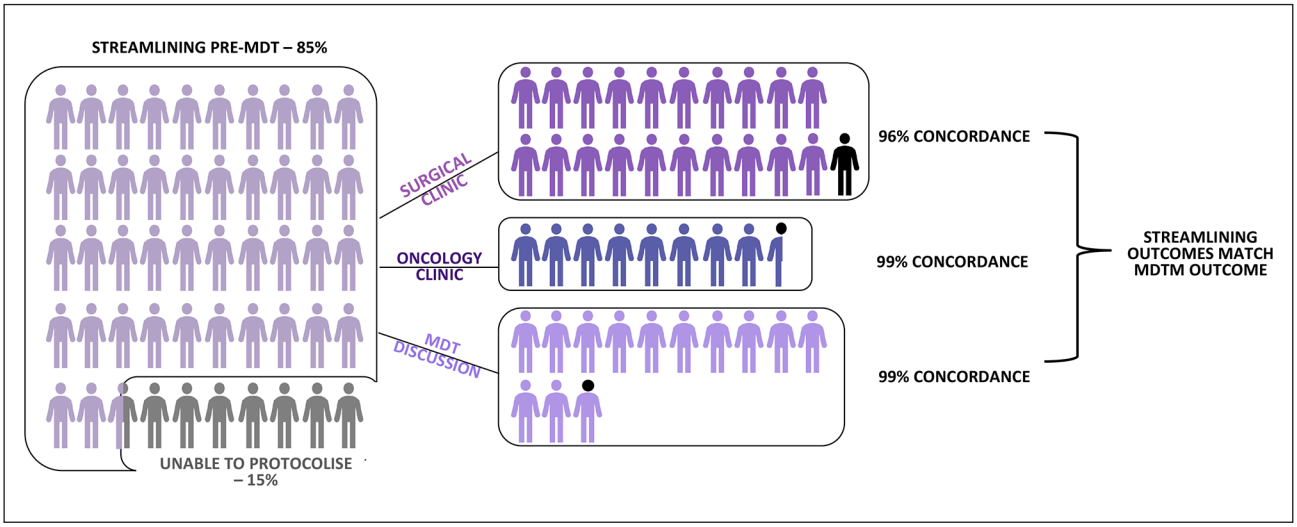

Table 1. Results by consultant.

Consultant	Total Adult e-RS triages	Adult e-RS acceptance rate	Total eConsult number (excluding Oct/Nov)	eConsult receiving OP %
1	827	72.2%	556	26%
2	734	75.5%	410	32%
3	606	82%	270	45%
4	720	77.4%	366	21%
5	471	84.3%	316	26%
Combined	3380	76.3%	1918	29%

service structure will be pivotal to the recovery. Within this, intelligent triage plays a key role. Our department has 5 triaging consultants for benign disease GP referrals, interdepartmental referrals, and electronic consultations with 4 departmental Programmed Activities weekly.

Patients and Methods: Data from the NHS e-referral system (e-RS) for the 12 months commencing December 2020 was accessed. Data from our E-consultation services was obtained for the same period. Data comprised total referrals, referrals accepted, and referrals managed with advice and guidance without consultation (AAG). E-consultation services were analysed for total volume, and the resulting outpatient consultations. AAG was streamlined using a library of standard guidance for common conditions.

Results: From 3380 e-RS referrals, 23.7% were managed with AAG. Some inter-consultant triage variability was observed but appeared unrelated to individual consultant years of experience. Similarly, with E-consultation there was some variability between clinicians in conversion rates to outpatient consultations.

Conclusions: Using senior clinicians in intelligent triage ensures appropriate use of outpatient consultations, with 23.7% of e-RS referrals managed with AAG. Whilst argument may be made for administrative staff fulfilling the triage role, we feel algorithmic triaging is suboptimal for patient safety. Appropriate AAG, red flag identification, appropriate timescales for outpatient review, and accurate direction to subspecialty clinics are all enhanced by consultant involvement.

P9-8 Enhancing Ambulatory Care - Caring through crisis and cancellations through Covid-19

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[1]Ulster Hospital Dundonald, Belfast, United Kingdom

Introduction: At a time of massive service downturn and heightened public anxiety, we sought to develop, enhance and maintain an ambulatory service to provide specialist care to Urology patients throughout the Covid-19 pandemic. The aim was to divert Urology patients from attending Emergency Departments (ED) and reduce inpatient stays. To allow patients access to specialist services and reduce multiple hospital attendances where possible.

Patients and Methods: Two Specialty Doctors and a Ward Manager re-opened an inactive ward with a new purpose, to respond to the growing need for an alternative route for patients who required Urology attention.

An outline of emergency urology pathways were devised as a guide for ED and on-call surgical colleagues disseminated by Trust email, initially providing a guide for referral to the service.

Results: Over 16 months, 1400 patients attended ambulatory appointments.

424 were diverted from attending ED, 160 hospital admissions were prevented and 382 patients removed from waiting lists for outpatients or day procedure.

Patient satisfaction was excellent and wholly positive feedback collected.

Conclusions: Despite particularly challenging circumstances, staff shortages and increasing pressure on the health system, we were able to rapidly put together a substantial and sustainable service.

With a patient-centered approach and considerable benefits to the hospital, came great professional satisfaction.

In a time of crisis came opportunity, which led to significant service development with a lot of team work and dedication.

P9-9 Evaluating and reducing carbon footprint in urological surgery

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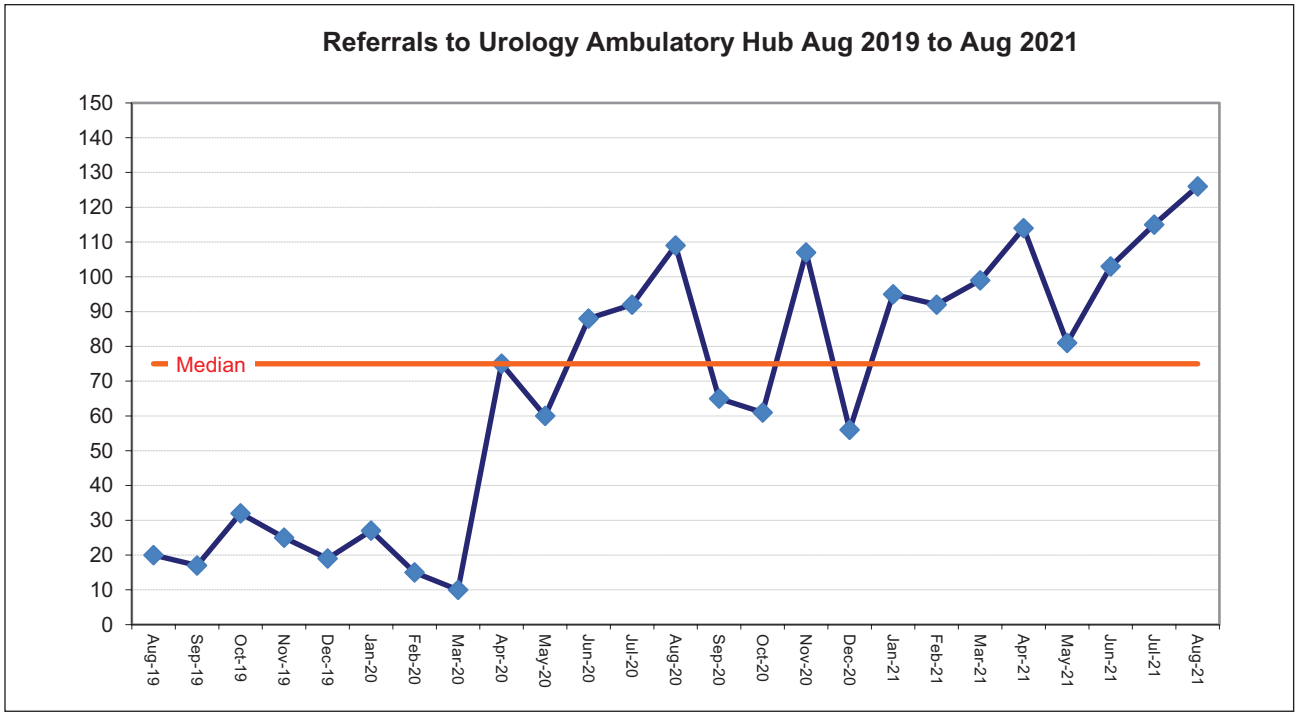
Introduction: Curbing the trajectory of global greenhouse gas emissions is a necessity to mitigate the effects of climate change on current and future generations. It is estimated that 4% of emissions are healthcare related so clinicians have an obligation to find ways to reduce their carbon footprint. By being aware of the carbon emissions



associated with different equipment in theatres and making changes, surgeons can affect reductions and strive for environmental sustainability.

Methods: A retrospective review of all the emergency and elective surgery performed by the urology department of a NHS trust serving a population of 750,000 accounted for all the equipment and supplies used. The price and weight of both disposable and reusable items were obtained to calculate their carbon footprint, measured in kilograms of carbon dioxide equivalents (kgCO2e).

Results: In one month, the urology department performed 280 operations (648 procedures). The carbon footprint ranged from 7.15kgCO2e for cystoscopy to 330.98kgCO2e for laparoscopic radical nephrectomy. Substituting disposable for reusable surgical drapes and gowns would have reduced CO2e from 56482 to 46203kg (18.2%). If extrapolated to the total number of urological cases performed in England in one year (HES data) the saving by using reusable gowns and drapes alone would be 5889 tonnes of CO2.

Conclusion: By the simple measure of reusing surgical gowns and drapes English urologists could reduce their CO2e by a significant amount, e.g. equivalent to that produced by 3000 cars in one year.

P9-10 Reducing the environmental impact of fluid waste disposal in urology

Miss Charlotte Gunner[1], Dr Ken Barker[1], Dr Sara Ramsey[1]

[1]Raigmore Hospital, Inverness, United Kingdom

Introduction: There is an urgent need for a move to more sustainable healthcare to reduce our impact on global warming. Operating theatres produce nearly a third of all hospital clinical waste and up to a third of this is surgical fluid, a large proportion of which is produced in urology theatres. This is typically collected in disposable plastic canisters, solidified and transported for incineration or landfill disposal. An alternative exists – the Neptune fluid waste management system which minimises unnecessary use and disposal of plastic and water and allows drainage of all urology irrigation fluid in the standard drain.

Materials and Methods: We reviewed our irrigation fluid waste data for a period of 8 months following procurement of the Neptune system. Calculations were made for total litres of fluid saved from clinical waste, CO2 savings and cost savings.

Results: 2240L were collected via the Neptune fluid waste management system over 8 months. This equates to a saving of 3203kg CO2 production or 64 trees grown for 10 years. 1114 plastic suction canisters were saved from production and 290 lengths of plastic tubing. Calculable cost savings were more modest at £769 for elective theatres, however the additional savings of staff time and convenience are arguably greater.

Conclusions: While the measures taken in this case were small, the environmental impacts are much bigger. We advocate universal use of fluid management systems that prevent the unnecessary transportation and incineration or landfill disposal of irrigation fluid.

P9-11 Virtual classroom proficiency based progression for robotic surgery training (VROBOT): a prospective, cross-over, effectiveness study

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Introduction: Robotic surgery is an established yet evolving surgical technique that requires specialist training. To date, training has lacked evidence-based standardisation. We aimed to determine the effectiveness of interactive, supplemental virtual classroom training (VCT) in concordance with the self-directed fundamentals of robotic surgery (FRS) curriculum.
Patients and Methods: 11 novice robotic trainees were randomly allocated to two training groups. Both cohorts completed a one-week robotic skills induction. In week two, Group A undertook training under the FRS curriculum and VCT; Group B only received access to the FRS curriculum. In week three, the groups received the alternate intervention. Objective performance scores (R-OSAT) were collected post-intervention (timepoint 1: end of week two and timepoint 2: end of week three).
Results: Both cohorts demonstrated significantly improved proficiency upon completion of the training programme. Participants attained higher mean proficiency scores with both the FRS and VCT programme, compared to the FRS curriculum alone. At timepoint 1, Group A achieved a statistically significant greater mean proficiency score compared to Group B (44.80vs35.33 points, p=0.006). At timepoint 2, there was no significant difference in mean proficiency score in Group A from timepoint 1. In contrast, Group B showed significant improvement in mean proficiency by 9.67 points from timepoint 1 (95%CI 5.18-14.15, p=0.003) once they had received VCT.
Conclusions: VCT is an effective training adjunct to the FRS curriculum for the learning of basic robotic skills. With the steep learning curve in robotic surgery training, VCT offers interactive learning that improves training effectiveness and accessibility.

P9-12 Quantifying the impact of the coronavirus pandemic on the basic laparoscopic skills of urology trainees

Miss Siri Gowda[1], Mr Gokul Kanda Swamy[2], Mr Rajan Veerattepillay[3], Mr Ramanan Rajasundaram[4], Mr Vishwanath Hanchanale[5], Mr Basavaraj Gowda[6], Miss Beverley Wilkinson[1], Mr Chandra Shekhar Biyani[7]

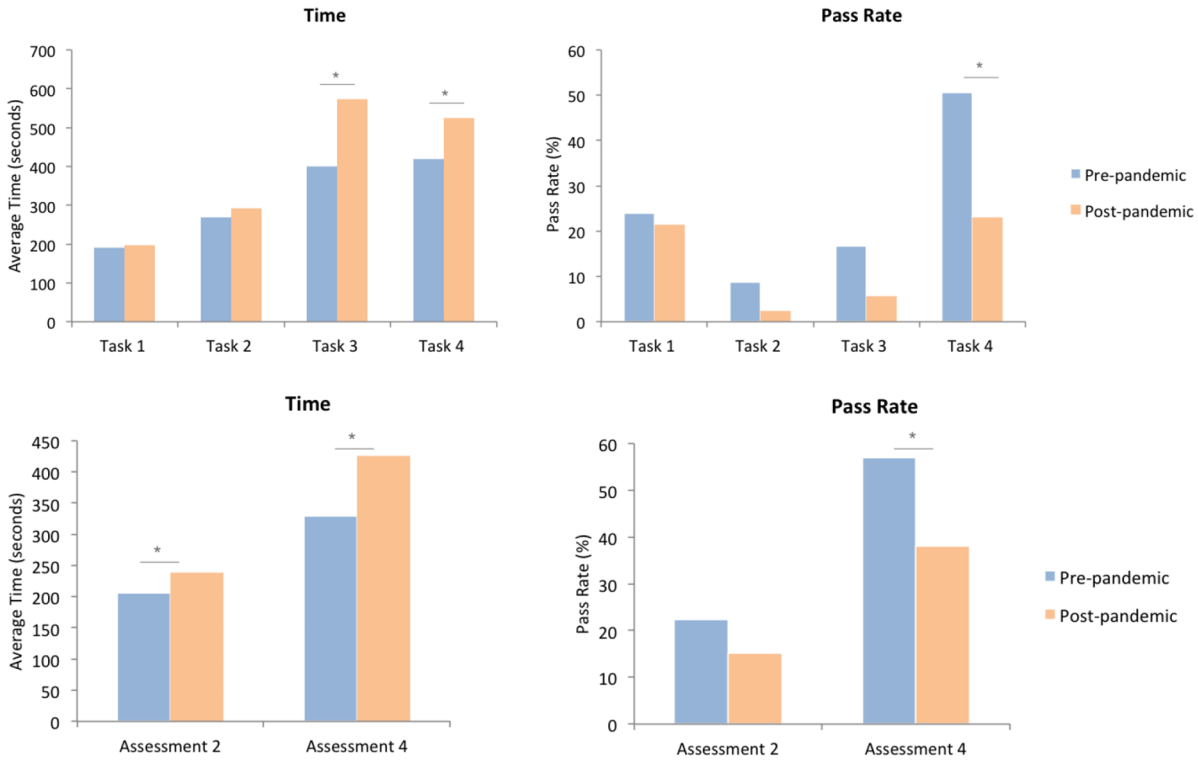

Figure 1. Comparison of pre- and post-pandemic performance in practice and assessment tasks.

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Introduction: Reprioritisation of workforce resources during the coronavirus pandemic has resulted in the cancellation of elective operating lists and redeployment of surgical trainees. The implications on the perceived confidence and capability of trainees have been reported in qualitative studies, while quantitative effects on dexterity are alluded to but are harder to qualify. Our aim was to provide an indirect measure of the impact of the pandemic on technical skills, by comparing pre- and post-pandemic outcomes on surgical simulators.

Methods: We analysed performance data of First year Urology registrars completing the European Basic Laparoscopic Urological Skills (E-BLUS) exercises as part of a course. Data from 2018 and 2019 were combined to measure "pre-pandemic group" performance, and data from 2021 used for "post-pandemic group".

Results: There were 103 and 48 trainees in the pre-pandemic and post-pandemic groups respectively. Pre-pandemic group performance was significantly better in 2 out of 4 E-BLUS tasks during the practice session. For Task 3 average time to completion was 175 seconds less ($p<0.001$) and for Task 4 the average time was faster by 107 seconds ($p=0.003$). During the assessment, pre-pandemic group performance was better ($p=0.017$) for Task 2 and significantly faster ($p=003$) for Task 4.

Conclusion: Our **Results** provide evidence to support the notion that the pandemic has had a tangible detrimental effect on the technical skills of urology trainees. Going forwards more resources should be dedicated to 'catching up' trainees who have had a compromised experience during this time, either through local interventions or widespread curriculum change.

P9-13 The Feasibility of assessing Non-Technical Skills (NTS) Learning using an Interactive 'Bingo'-Style Evaluation Technique

Dr Matthew Pears[1], MR Chandra Shekhar Biyani[2], MR Karan Wadhwa[3], MR Vishwanath Hanchanale[4], MR Sunjay Jain[2], MR Stephen R Payne[5], Dr Stathis Konstantinidis[1], MR Mark Rochester[6], Ms Ruth Doherty[6]

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Introduction: Simulated clinical scenario videos are commonly used to help acquire NTS and facilitate reflective practice. Reflection demands engagement from learners and is challenging to assess.

The aims were to create, trial, and receive feedback on novel NTS training videos, that allowed self-contained learning, and to evaluate learning efficacy using a novel game-playing assessment tool.

Materials and Method: High-quality 5k 360° recordings of simulated emergency urology scenarios were played to a group of urological trainees. Experts identified important teamworking, communication, decision-making, situational awareness, and leadership events throughout the training videos. Reflective learning was determined by an 'assessment' section of the video, using a "bingo"-style question grid (Table 1) derived from evaluated appropriate responses. A questionnaire to determine participant's acceptance of these learning and assessment techniques was developed containing 13 Likert-scale System Usability questions.

Results: Forty-five surgical trainees participated in 1-hour video sessions and completed the questionnaire (Cronbach's alpha = 0.8). Their ratings of the efficacy of this learning approach were between 55% and 91.1%, indicating moderate to strong participant acceptability. Qualitative feedback from two open response questions pinpointed format changes required in this educational model. The current

Table 1. Example of content for a Bingo style card used by trainees in identifying NTS events.

Demonstrating that they are paying attention to the Carer and patient	Asking open ended questions	Appearing Focused	Managing Interruptions
Introducing self and role clearly	Teamworking	Demonstrating Empathy	Building rapport
Summarising situation	Speaking clearly	Using appropriate language	Declaring Emergency/ Severity of situation

material was, however, viewed as having a positive effect on NTS skill acquisition by participants, which could be made accessible via a virtual platform.
Conclusions: This learning style for NTSs was well-accepted and the bingo-style assessment provoked positive feedback. The potential self-contained nature of this platform, with modified video material, could accelerate virtual NTS acquisition, with low cost and resource requirements.

P9-14 Artificial Intelligence: a future tool for clinical decision-making

Dr. Ko Ko Zayar Toe[1], Dr. Jonathan Charnock[1], Ms Olesya Kovyzhenko[1], Mr. Tet Yap[1], Ms Raveen Kaur Sandher[1]
[1]Guy's and St. Thomas' Hospital, London, United Kingdom

Introduction: Urology walk-in clinics (WIC) tend to be staffed by junior doctors and Nurse Practitioners of varying experience. The need for senior input can lead to longer patient wait times and diagnostic delay. DemDx, a digital resource, utilises artificial intelligence (AI) to support clinicians with diagnostics. This study aims to see if AI can improve efficiency, access, and diagnostic accuracy by capturing clinical decision-making pathways in WICs.
Materials and Methods: The DemDx tool was used on 20 consecutive patients presenting to WIC in a teaching hospital between September and October 2021. Baseline data including presenting complaint, time to diagnosis and treatment, and frequency of senior clinician contact were collected. Anonymised clinical pathways were retrieved and compared with patient's electronic medical record (EMR). 57 WIC patients from June – July 2021 prior to Demdx **Introduction** were used as controls.
Results: DemDx correctly diagnosed 14/17 patients (82%). Two pathways needed to be added to the algorithm, excluding these, diagnostic accuracy was 93%. There was no evidence of service delay (DemDX = 25 [20 - 33] min; Control 30[20 - 70] min; $p = 0.299$) and no increase in senior support required ($p = 0.128$). All of the pathways/actions on the DemDx server were captured and auditable.
Conclusions: This study shows potential role of AI assisting with diagnostics in a urological setting. Larger studies are in process using Dem Dx to refine diagnostic autonomy and improve patient experience.

P9-15 Virtual learning in the pandemic era of split site working - How to change a suprapubic catheter

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Introduction & Objectives: With the centralisation of urological services in the UK it is not always possible to have straight forward procedures such as exchange of suprapubic catheters (SPC) performed by a member of the urology team. Moreover, during the height of the COVID pandemic a significant number of urology junior doctors were redeployed to ITU, thus not available for changes of SPCs on the ward.
Materials & Methods: A questionnaire-based study of junior doctors was performed to ascertain their confidence level and knowledge surrounding catheterisation and exchange of SPCs. The **Results** of this study formed the basis for the production of an educational video on how to change an SPC.
Results: 45.8% of all core surgical trainees surveyed had never changed a suprapubic catheter; 35.4% felt this should only be performed by a member of the urology team. 86.6% foundation trainees had never changed a suprapubic catheter; 56.7% felt this should only be performed by a member of the urology team. After watching the video they were seen to have an increase in confidence with the post teaching feedback showing only 12.2% of those studied stating only the urology department should perform suprapubic catheter changes.
Conclusions:
The training video was created and it has been found that the confidence of the junior doctors was increased. This video has now been incorporated in the regional induction curriculum for foundation trainees. It is a useful tool for distanced learning and adequate for giving colleagues the confidence to perform this simple procedure

EPoster Session 10: Stones / Imaging / Upper Tract Disorders 2 Hall 11, June 14, 2022, 14:00 - 15:30

P10-1 Day case mini percutaneous nephrolithotomy (mini-PCNL): feasibility, safety, efficacy and patient acceptability study

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Introduction: The objective was to investigate the feasibility, safety, efficacy, and patient acceptability of performing mini-PCNL as a day case procedure. To our knowledge, this is the first reported series in the UK.
Method
Mini-PCNL data was prospectively collected between April- December 2021. Renal access was achieved by the operating surgeon under fluoroscopic guidance in the prone position. The MIP-M system (Karl Storz, Germany) was used. Stones were fragmented using holmium LASER and retrieved by the Vortex effect and basket. Drainage

was via a 6 Fr antegrade stent or 10 Fr nephrostomy tube. Patients suitable for same day discharge were identified using defined preoperative selection criteria. Stone related outcomes, duration of surgery, length of stay, readmission rate and complications were recorded.

Results: Fifty patients underwent mini-PCNL (34 male,16 female) with a mean age of 60 years. Mean stone size was 24 mm with a mean operating time of 90 minutes. Twenty patients were suitable for same day discharge. Thirty patients stayed overnight (15 for social reasons, 13 for medical comorbidities and 2 for complications). We recorded 1 case of post-operative sepsis and bleeding requiring embolization. The readmission rate was 0% and 85% were stone free on post-operative CT KUB.

Conclusion: Our study shows that day case mini-PCNL is safe, feasible and acceptable in selected group of patients. With the ever-rising pressures on stone services to drive efficiency particularly pertinent with the COVID pandemic, day case mini-PCNL represents an ideal therapeutic option in suitable cases.

P10-2 How can we improve access to ureteroscopy for upper tract stones? Analysis of Model Hospital data for all hospitals in England

Miss Jessica Gallagher[1], Ms Madeleine Connolly[2], Mr Simon Harrison[3], Mr William K Gray[3], Mr Kieran O'Flynn[3], Mr John S McGrath[3], Mr Joseph B John[1]

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Introduction: Ureteroscopy (URS) is one of the urological procedures where national guidance from British Association of Day Surgery (BADS) would suggest that daycase is the default pathway for the majority of patients. Daycase rate for URS currently represent one of the 'sentinel' Getting it Right First Time (GIRFT) metrics. This analysis summarises current practice across England.

Patients and Methods: Model Hospital (MH) is a data-driven improvement tool for English NHS trusts. It describes performance metrics for emergency stone presentations. Historic MH day case rate (DCR) trends were assessed, along with URS metrics for all 122 English NHS Trusts performing URS over 12 months to October 2021. Associations were tested between DCR, 30-day readmissions (30D), URS centre volume (CV), and time to treatment (TT).

Results: Between 2014/15 and 2020/21 the median DCR increased by 93%. Table 1 describes national Trust-level metrics for DCR, 30D, and TT. No association was identified between 30D and either DCR (Spearman rank correlation coefficient (rs)=0.149, p=0.133), or total centre volume (rs=-0.058, p=0.540). There was no association between DCR and TT (rs=-0.005, p=0.959). URS CV was associated with TT (rs=-0.252, p=0.0089).

Conclusion: URS DCR have increased considerably in recent years, however there is wide variation nationally. The absence of association between DCR and 30D suggests many trusts could increase DCR without increasing early complications. The lack of association between DCR and TT however, indicates that factors beyond inpatient bed availability influence access to treatment. The wide variation in TT across Trusts requires attention.

P10-3 Single centre experience of chelating agents in cystinuria; if at first you don't succeed, try again

Miss Nadia Bitar[1], Miss Niamh Foran[2], Mrs Hayley Wells[2], Dr Giles Rottenberg[2], Dr David Game[2], Mr Matthew Bultitude[2], Miss Kay Thomas[2]

[1]Kings College London, London, United Kingdom, [2]Guy's And St Thomas' Nhs Foundation Trust, London, United Kingdom

Introduction: Cystinuric patients can require long term medication with chelating agents to prevent recurrent stones. Significant side effects can limit tolerability with penicillamine reported to have a worse side effect profile than tiopronin.

Patients and Methods: Database of 218 cystinuric patients attending a single centre specialist clinic was used to identify patients who were/had been on either penicillamine/tiopronin at any point. These were categorised according to whether they were still taking/discontinued/had ever tried both medications and side effects.

Results: 61 patients identified, male 33 (54%) female 28 (46%). Two thirds had mutation in SLC3A1. 27/61 (44%) had penicillamine – 17/27 (63%) continued taking it but 10/27 stopped due to one or more side effects; nausea and dizziness (7), loss of taste and smell (2), hair loss (2),

Table 1. National median and range values for URS performance metrics by Hospital Trust.

	Median	Range	Interquartile range
Day case rate	56.7%	0 - 82.8%	41.0 - 68.6%
30-day readmission with complication	9.5%	0 – 18.1%	7.3 – 10.8%
Time on waiting list for surgery (days)	110	33 - 187	89 - 133

peripheral oedema (2), bruising (1), mouth ulcers (1) and nephrotic syndrome (1). 22/61 (36%) had tiopronin - 16/22 (70%) continued taking 6/22 stopped due to one or more side effects; nausea (2), rash (2), swelling of tongue (1), ulcers and diarrhoea (1), nephrotic syndrome (1). 12/61 had tried both: 8/12 had penicillamine then tiopronin - 5/8 tolerated tiopronin 2nd line. 4/12 had tiopronin then penicillamine - 2/4 tolerated penicillamine 2nd line, i.e 7/12 (58%) tolerated the second line.

Conclusion: Both chelating agents (pencillamine and tiopronin) have troublesome side effects leading to discontinuation of the medication, but the incidence of side effects is not markedly different between the two and we have shown benefit in trying the alternative if one medication is not tolerated.

P10-4 Developing follow-up protocols for patients after insertion of Allium metal ureteric stents

Mr Angus Luk[1], Mr Matthew Shaw[1], Dr Rob Williams[1], Dr Phil Haslam[1], Mr Thiru Suntharasivam[1], Mr David Rix[1], Mr David Thomas[1], Mr Trevor Dorkin[1], Mr Alistair Rogers[1]

[1]Freeman Hospital, Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom

Introduction: Endoluminal management of complex ureteric strictures and injuries can be challenging. The Allium expandable silicone coated metal stent is a useful recent addition to the endourology tool box. Due to the novel nature of these devices, optimal follow-up regimes are yet to be defined.

Methods: A retrospective cohort study was performed of all Allium ureteric stents inserted 2015-2020 for ureteric obstruction or leak. Stents were inserted retrogradely, antegradely or via rendezvous. We defined 3 follow up protocols for; malignant obstruction, benign obstruction, and ureteric leaks, based on our outcome data. (Table 1)

Results: 68 patients had 84 stents inserted with median follow up of 43 months. Indications were; malignant obstruction (24%), benign obstruction (57%) and ureteric leak (19%). Stent migration occurred in; 1 malignant obstruction (511 days post insertion), 13 benign obstruction (mean 127 days, range 8-387) proximal/distal) and 3 leaks (mean 77 days, range 29-84). Obstruction occurred below the stent in 4 patients (2-26 weeks post insertion) and within the lumen from encrustation in 1 patient (6 months post insertion). One patient has had the stent in situ for the licensed 3 years with no complications.

Conclusion: This is the largest series to date in the world literature in the use of these novel stents and provides excellent insights to aid developing optimal follow up strategies. Whilst individual patient and disease factors may determine bespoke follow up regimes, we believe that the described follow-up protocols provide adequate surveillance for this complicated group of patients.

P10-5 Renal Stone Analysis in Patients with Spinal Cord Injuries

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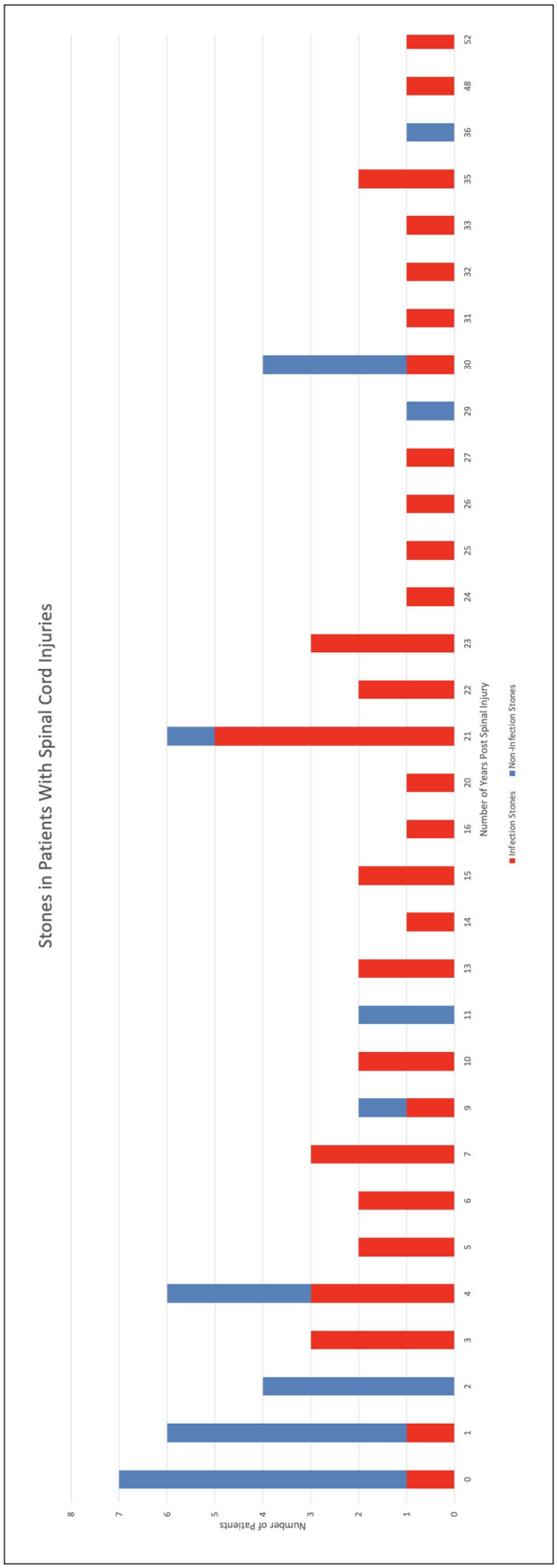
Introduction: Patients with spinal cord injury (SCI) are at increased risk of upper urinary tract calculi. This is due to multiple factors including metabolic and surgical factors including frequent use of catheters. However, the

Table

FOLLOW-UP PROTOCOLS FOR PATIENTS WITH ALLIUM URETERIC STENTS

	Abd Xray 6/52	USS/ Renogram & eGFR 3/12	GA Allium removal, RPG + JJ stent 6/12	USS/ Renogram & eGFR +/- xray (if abn) 9/12	GA RPG assessment +/- stent removal (renogram if removed) 9/12	CT or GA RPG +/- Allium stent removal/ change 12/12	USS/ Renogram & eGFR +/- xray (if abn) 18/12	GA RPG +/- Allium stent removal/ change 24/12
Malignant Stricture Protocol		✓		✓		✓	✓	✓
Benign Stricture Protocol	✓	✓		✓		✓	✓	✓
Ureteric Leak Protocol	✓	✓	✓		✓			

Key; RPG= retrograde pyelogram.



pathogenesis is incompletely understood. To try and gain an insight into the pathogenesis we reviewed stone composition in spinal cord injured patients and compared it with the time since the index injury.

Methodology

All patients with SCI and a urinary tract stone between June 2011 to July 2021 were identified by hospital coding data. Those who had biochemical analyses of upper urinary tract stones in this cohort were evaluated and subdivided into infection and non-infection stone groups.

Results: 88 stone analyses were collected on 75 SCI patients. 7 patients had 2 stone analyses and 3 patients had 3 stone analyses. 30.7% (27/88) were non-infection stones, 53.4% (47/88) were infection stones, 15.9% (14/88) had calcium phosphate stones but the subtype was not analysed. In the first 2 years after SCI non-infection stones occur significantly more than infection stones ($p<0.001$, Chi-squared), infection stones are more common after this.

Conclusion: Patients with SCI are more likely to develop non-infection stones in the first two years following their spinal injury. This supports the theory that the predominant pathological process in this early period involves hypercalciuria of immobility. However, both infection and non-infection stones can occur at any time after SCI so we continue to perform stone analysis in SCI patients.

P10-6 Renal angiography and selective arterial embolisation rates following Percutaneous Nephrolithotomy (PCNL); does size really matter?

Mr Angus Luk[1], Dr Alex Miller[1], Dr Rob Williams[1], Dr Phil Haslam[1], Mr John Fitzpatrick[1], Mr David Rix[1], Mr Trevor Dorkin[1], Dr Georgia Priona[1], Mr Matthew Shaw[1], Mr Alistair Rogers[1]

[1]Freeman Hospital, Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom

Introduction: Recent years have seen miniaturisation of PCNL with mini-PCNL (m-PCNL) and ultra-mini PCNL (u-PCNL) developed to reduce procedure related morbidity. Requirement for post-operative renal angiography and arterial embolisation provides a marker for bleeding issues after PCNL. We investigated the need for embolisation post-PCNL.

Method: PCNL in our tertiary referral unit is performed predominantly prone, with a 24-30f sheath (maxi-PCNL) and interventional radiologist guided punctures. A 10 year retrospective cohort study was performed (2010 – 2021), utilising departmental databases and ICD coding searches. A comprehensive literature review was performed for mini-PCNL.

Results: 1061 PCNL procedures were performed. 9 patients underwent renal angiography and selective arterial embolisation (0.85%). Median age, ASA and Guys Stone Score were; 63yr, 2 and 2 (range 1-3) respectively. M:F ratio 2:1 and laterality was L=6:R=3. Lower pole punctures

predominated (n=8) and 3 patients had 2 punctures. All patients were re-admitted with bleeding at a median of 7 days (range 2-23) after discharge. Re-admission LOS was 5 days (range 2-19). 6 patients received blood transfusion (median 2 units) and 1 patient required emergency cystoscopy/bladder washout. Embolisation rates quoted within identified mini-PCNL series were 0.5% - 0.8%.
Conclusion: There is conflicting data in the literature as to whether PCNL miniaturisation reduces bleeding complications. Our embolization rate after maxi-PCNL is low and compares favourably. There may be good indications for mini-PCNL, but our data from a large volume centre, suggests that for bleeding prevention, quality of the puncture is as important as the size of the tract.

P10-7 Outcome of Flexible Ureterorenoscopic Lasertripsy in the Treatment of Staghorn Stones

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Introduction: Percutaneous nephrolithotomy(PCNL) is a well-established treatment for staghorn stones. With improvement in technology and techniques of flexible ureterorenoscopic lasertripsy(FURS), it is increasingly used to primarily treat large stones including staghorn stones.
Materials and Methods: All patients with staghorn stones treated by FURS by a single endourologist were included. Outcome measures compared included duration of procedure, length of stay, retreatment rate, clinical success rates and complications.
Results: Out of 42 staghorns, 24 Complete and 18 Partial staghorn stone had FURS treatment. Comparatively, the Complete staghorn group were younger(mean 61.4 vs. 71.5 years), had larger maximum stone size (mean 39.5mm vs. 25.4mm), higher ASA scores(mean 2.8 vs.2.3), with similar BMI(mean 29.5 vs. 29.7), similar recurrent UTI incidence(62.5% vs 66.7%) and Hounsfield unit(mean 844HU vs. 865HU). MAP stone composition was found 36% of complete staghorn vs 11% of partial staghorn group.
Complete staghorn group took longer total operative time to clinical success(mean 109.5 mins vs.79.8 mins), lower primary procedure success(62.5% vs. 88.9%), higher number of repeat procedure(mean 1.8 vs 1.4); with similar hospital stay(mean 1.6d vs. 1.5d). The stone-free rate after 6 months was lower in Complete staghorn group(83.3% vs 94.4%); where 4 patients in Complete and 1 in Partial staghorn group had small intraparenchymal stone inaccessible to laser. If this was excluded, then both groups achieved 100% clearance.
There were 2 complications in each group: Complete(1fever and 1 steinstrasse) vs Partial(1 postop fever and 1 subcapsular haematoma requiring IR drainage).
Conclusion: FURS is efficacious and safe for primary treatment of staghorn stones.

P10-8 To ultrasound or not to ultrasound? Should we disregard the NICE guidance in women presenting with renal colic?

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Introduction: NICE advises ultra-low dose computed tomography (CTKUB) within 24 hours, for all adults presenting with suspected renal colic. Women have lower incidence of urolithiasis compared with men leading to concerns regarding significant percentage of negative CTKUB in women coupled with high radiation exposure; moving to ultrasound urinary tract (USKUB) 1st line has been suggested. Currently, our centre performs USKUB 1st line in women.
Methods: We retrospectively reviewed the findings for women presenting January 2020 - March 2021 with suspected renal colic.
Results: 117 women underwent USKUB; median age 30 (range 18-93). 4 patients had confirmed urolithiasis on USKUB; 9 hydronephrosis/ureter, 20 non-urological pathology and 85 no pathology. 40 patients subsequently underwent CTKUB; median age 32 (range 18-70). 7 patients had obstructing stone, 3 upper urinary tract sepsis, 9 non-urological pathology and 24 no pathology. Median time to CTKUB was 24 hours 20 min (range 7 hours 59 min - 63 hours 21min). In those with obstructing stone, most required intervention (4 primary ureteroscopy, 2 ESWL) and 5/11 managed conservatively.
Conclusions: Although only 11/117 (9.4%) women had obstructing stone, most (7/11, 73%) were missed on USKUB and most (54%) required subsequent intervention. Women with obstructing stone are more likely to have associated infection and require rapid decompression compared to men. Additionally, mortality associated with renal and ureteric calculi displays a female preponderance (1.7:1, female:male). USKUB 1st line leads to delay in diagnosis, intervention and possible worse outcomes - clinicians need to balance these risks with the risks associated with radiation.

P10-9 Correlation of Hounsfield units and stone volume with LASER time in stone surgery

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Introduction – Time taken for stone disease surgeries are variable and can be unpredictable. Appropriate planning of

cases and theatre lists improves efficiency, saves costs, and prevents cancellations. This study aims to determine if Hounsfield units (HU) and stone volume (SV) has a correlation with various factors, in particular LASER time.

Patients and Methods - Patients undergoing ureteroscopy for a ureteric or renal stone over a 10-month period were retrospectively collected and analysed.

Results – 41 patients' data were used for analysis. 19 (46.3%) female and 22 male patients were identified. Mean age was 60.7 years, age range 17-87 years. 24 (58.5%) stones were on the left side. 19 (46.3%) stones were present in the ureter and 22 in the kidneys. 18 (43.9%) patients were stented pre-operatively as an emergency. 39 (95.1%) patients were stented post-operatively.

Statistically significant correlations were identified between HU and LASER time, SV vs LASER time, and SV vs LASER energy ($p<0.01$). Sub-group analysis between SV $\leqslant$750mm3 and $>$750mm3 and LASER time was significant, $p<0.05$ (mean LASER time 26.9 minutes vs to 43.6 minutes respectively). Similar significance was noted in HU categorisation of $\leqslant$1000HU and $>$1000HU vs LASER time, $p<0.05$ (mean LASER time 26.5 minutes vs 44.1 minutes respectively).

Conclusion - HU and SV should be incorporated as planning for surgical time for any ureteric or renal stone surgery, and further audits performed after a period of time to ascertain the effects of better theatre utilisation and waiting list reductions.

P10-10 Safety and efficacy of the Coloplast Tumor Stent in managing patients with chronic ureteral obstruction

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[1]Imperial College Healthcare NHS Trust, London, United Kingdom, [2]Frimley Health NHS Foundation Trust, London, United Kingdom

Introduction: Patients with chronic ureteral obstruction (CUO) are traditionally managed with nephrostomy, polymer double-J stents, or metallic stents. The Coloplast Tumor Stent (CTS) is a novel reinforced double-J stent designed for drainage in ureteral compression which is licensed for 12 months. We assessed the efficacy and safety of the CTS in managing patients with CUO.

Materials & Methods: Records were reviewed of patients who underwent CTS insertion between Nov 2019 – Dec 2021. A stent insertion episode (SIE) was defined when a single ureter was disobstructed. Complete stent follow-up was one resulting in elective stent exchange, failure or death. Stent failure was defined as radiological obstruction or infection requiring early intervention (stent exchange or nephrostomy insertion). Primary outcome was duration of functional stent survival. Secondary outcomes included causes of failure and placement success.

Results: 37 SIEs were recorded for 15 patients; 29 malignant and 8 benign. Mean follow-up was 6.8 months. 51.3% (19/37) of SIEs had a complete follow-up period, of which mean functional stent survival was 7.3 months and stent failure rate was 47.3% (9/19). All 9 failed SIEs were due to stent blockage or disease progression. Intra-operative placement success was 100%. 1 SIE was complicated by peri-operative haemorrhage due to a pre-existing condition.

Conclusion

The CTS is a viable management option for patients with CUO with high placement success and comparable functional stent survival time and failure rates to existing long-term stents. Prospective studies could further compare the CTS and other ureteric stents in managing patients with CUO.

P10-11 Urological stone disease: A snapshot of current trends in management; A Five-year update using hospital episode statistics

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[1]Churchill Hospital, Oxford, United Kingdom

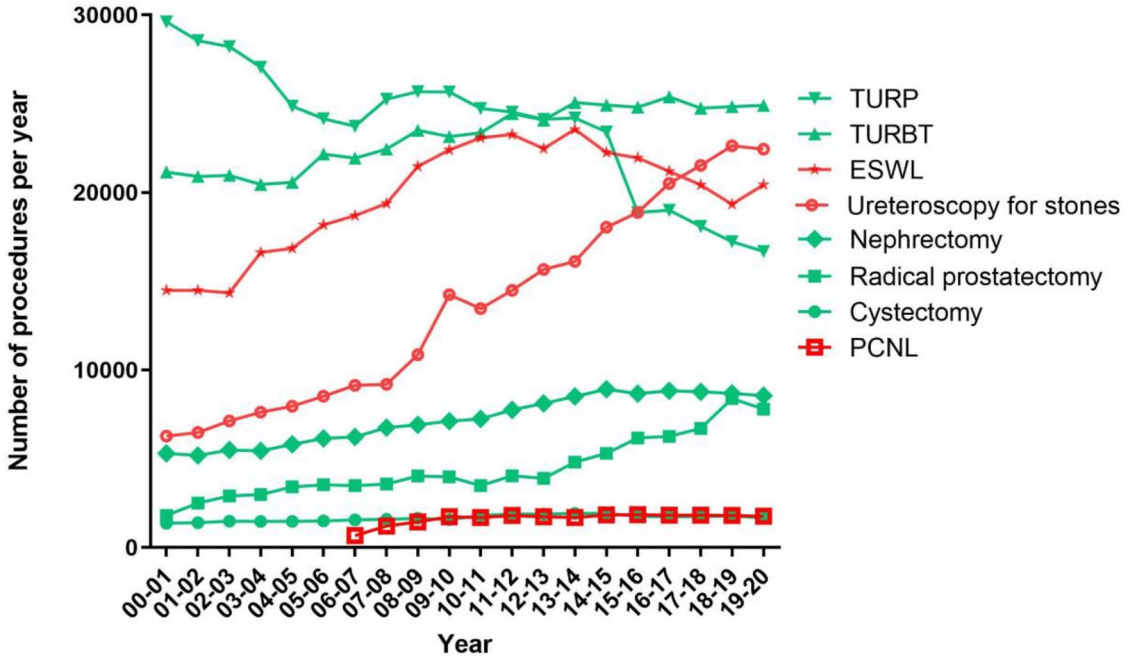
Introduction: The purpose of our study is to re-assess the trends in upper urinary tract stone (UUTS) disease burden and management in the United Kingdom during the last five years.

Methods: The present paper is our third analysis of trends in the management of renal stones in England. Data was collected using hospital episode statistics (HES) database for the years 2015-2020 then was analysed and presented.

Results: UUTS episodes increased by 2.2% but annual prevalence remained static at 0.14%. Number of episodes in those of a working age remained static but increased by 9% for patients above 60. Number of SWL (shockwave lithotripsy) treatments decreased by 6.8%. A further increase in URS (ureteroscopy) of 18.9% was seen between 2015-20. Within this subgroup, flexible ureteroscopy was the most rapid in use with a rise of 20.4%. Over the 20-year period from 2000-2020 there was a remarkable 257 % increase in URS. A further 40 % decline was seen in open surgery for UUTS. Stone surgery day case numbers have increased by 14.7% with a corresponding decline in the number of bed days by 14.3%. Emergency cases increased by 40% while elective cases increased by 1.9%.

Conclusion: Present study shows a plateauing in the prevalence of UUTS in England in the last five years with a move towards day case procedures and increase in the proportion of emergency work. For the first time, URS overtook SWL as the most common procedure for treating UUTS reflecting preference for more effective definitive treatment.

Fig. 1 comparison of the numbers of major and index urology procedures over the last twenty years. Red lines represent stone-related procedures and green lines are all other procedures.



P10-12 Is Electronic Stent Register The Solution For Preventing Forgotten JJ Ureteric Stents ? 2-year review

Mr Jaginkere Chiran[1]
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Introduction and Objectives- Ureteric JJ stents are inserted by urologists in the retrograde fashion and by radiologists in the ante grade fashion following interventions on the kidneys or ureters. Many of these stents are forgotten resulting in morbidity and litigation. Using electronic stent register is one way of preventing this problem.
Method- Electronic stent register was introduced in our department 2 years ago after explaining to all the staff how the register works. Over 900 jj stents were inserted in 2 years(2019- 2021). It was made mandatory for all staff to mention about JJ stent and plan (removal or replacement) in the electronic discharge summary. Data of patients with JJ stents is picked up electronically from the discharge summary and maintained in the stent register. Patients are explained that they have a stent and its likely removal date.
The electronic stent register high lights in red when the stent is due for removal and alerts staff in waiting list department. An urologist goes through the stent register fortnightly and arranges for stent removal of any patients with forgotten JJ stent. When the stent is removed or replaced the stent register is updated.
Conclusions- Using stent register has resulted in none of our patients having a forgotten stent in about 900 JJ ureteric stent insertions over a period of 2 years. Use of electronic JJ stent register is a safe, inexpensive and effective way in preventing forgotten JJ stents which we highly recommend for use in all the urology departments.

P10-13 Role and outcomes of different holmium lasers: 20W, 60W and 100W) for flexible ureteroscopy and stone fragmentation (FURSL) for renal stones >or=15mm: Tertiary endourology centre outcomes

Miss Amelia Pietropaolo[1], **Miss Mriganka Mani Sinha**[1], **Dr Thomas Hughes**[1], **Prof Bhaskar Somani**[1]
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Introduction: Laser lithotripsy is considered the gold standard for flexible ureteroscopic stone fragmentation (FURSL), however controversy still exists on the optimal power laser system. Outcomes of using 3 different Lumenis holmium laser systems (low power, 20W; high power, 60W Moses and 100W) for large renal stone (>or=15mm) treatments carried out by the same surgical team over 3 different time periods were compared.

	Group 1 (20W)	Group 2 (60W)	Group 3 (100W)
Number of patients	124	41	54
Age (mean+/-SD)	61 ± 11.5	50 ± 14.5	57 ± 12.5
Gender (Male:Female)	82:42	24:17	38:16
Single: Multiple stones	34: 90	18: 23	26:28
Pre-op stent cases (%)	48 (38.7%)	15 (36.5%)	24 (44.4%)
Post-op stent cases (%)	120 (96.7%)	28 (68.3%)	46 (85.2%)
Ureteral access sheath (UAS) (%)	80 (64.5%)	14 (34%)	26 (48.1%)
Cumulative stone length (mm)	18 ±8.3	20.8 ± 12.6	23.1 ± 8.5
SFR	108 (87%)	37 (90.2%)	50 (92.6%)
Operative time (min)	62	34.2	49
Length of stay (median)	1	1	1
Complications	7 (5.6%) Sepsis (n=4) UTI (n-2) Pain (n=1)	1 (2.4%) Sepsis (n=1)	3 (2.6%) Sepsis (n=2) Urinary retention (n=1)
Clavien Dindo grade	Grade I-II x 6 Grade III x 1	Grade I-II x 1 Grade III x 0	Grade I-II x 2 Grade III x 1

Methods: Patient cohorts across different time periods were divided into 3 groups: group 1 (20W laser), group 2 (60W laser with integrated Moses system) and group 3 (100W laser). Data was collected for patient demographics, stone characteristics, operative details and procedure outcomes for patients with >or=15mm renal stones with dusting and pop-dusting techniques used with high power lasers for treatment.

Results: 124, 41 and 54 in groups 1,2 and 3 respectively were included (total=219). The stone location, size, pre-op and post-op stent usage is as shown in the table. A ureteral access sheath (UAS) was used in 64.5%, 34% and 48.1% in groups 1,2 and 3 respectively. While the operative time was 62, 34.2 and 49 minutes, the stone free rate (SFR) was 87%, 90.2% and 92.6% for groups 1,2 and 3 respectively.

Conclusion: Compared to low power laser, the use of higher power laser for large renal stones with dusting and pop-dusting techniques significantly reduced the use of UAS and procedural time, with improved SFR even for relatively larger stone sizes. This was also reflected in a reduction of infection related complication rates with these lasers.

P10-14 Cost utility analysis of shockwave lithotripsy compared with ureteroscopy for adults with a ureteric stone

Dr Mary Kilonzo[1], Mr Ranan Dasgupta[2], Dr Ruth Thomas[1], Dr Lorna Aucott[1], Dr Sara MacLennan[1], Mr Thomas Lam[3], Mr Francis Keeley[4], Mr John Norrie[5], Professor Graeme Maclennan[1], Professor Sam McClinton[1]

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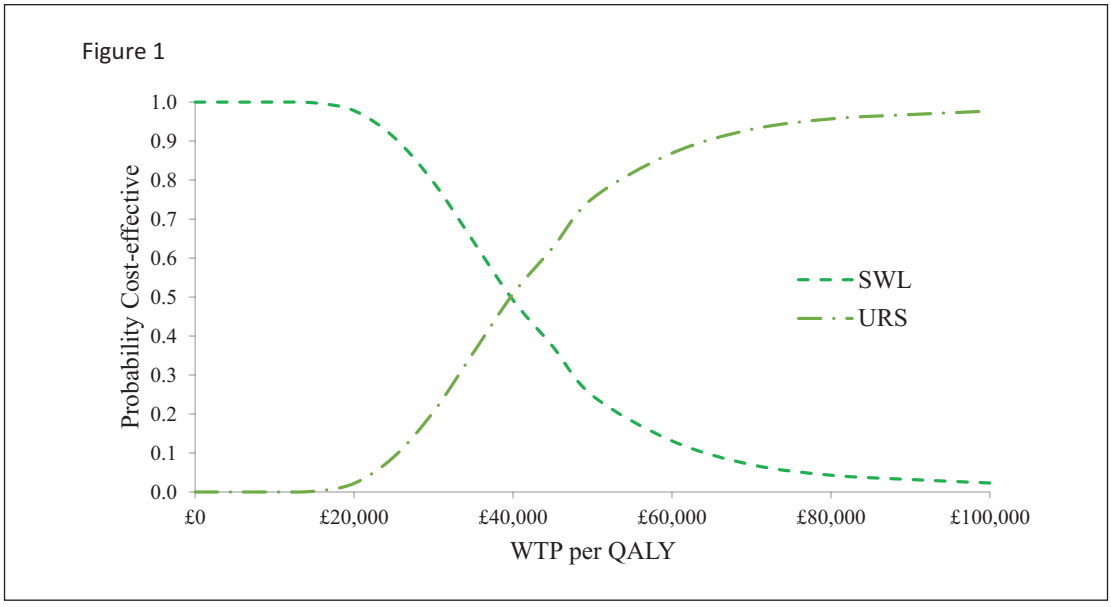
Introduction: Following recent clinical evidence regarding the respective outcomes for shockwave lithotripsy (SWL) versus Ureteroscopy (URS) for obstructing ureteric stones, the cost-effectiveness and resource implications of the modalities are compared in the context of a large multicentre randomised controlled trial.

Patients and Methods: Data on quality of life and resource use for 613 patients collected prospectively in the TISU randomised controlled trial (ISRCTN 92289221) were used to assess the cost effectiveness of two care



pathways for SWL and URS. Health provider (National Health Service, UK) perspective was adopted to estimate the costs of the interventions and subsequent resource use, with baseline and 6 month data entered by site staff. Quality of life data were calculated using a generic instrument EQ-5D-3L. **Results** are expressed as incremental cost effectiveness ratios and cost effectiveness acceptability curves.

Results: The mean QALY difference (SWL vs. URS) was –0.021 (95% confidence interval –0.033 to –0.010) and the mean cost difference was –£809 (95% confidence interval –£1061 to –£551). The probability that shockwave lithotripsy is cost-effective is 79% at a threshold of society's willingness to pay for a quality-adjusted life-year of £30,000. Figure 1 shows the cost-effectiveness analysis curves presented as willingness to pay per QALY.

Conclusion: The SWL pathway Results in lower QALYs than URS but costs less and therefore has a higher probability of being considered cost effective than URS in an NHS setting.

P10-15 Extra-Anatomical Detour Ureteric Stents: Our District General Hospital Experience of consecutive 50 Patients with a minimum follow up of 6 months

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Introduction: Extra-Anatomical Detour Stents offer a viable modality of decompression particularly in the context of malignancies; with the absent need for changes of stents, cosmetically better than nephrostomies and fewer admissions associated with blockages/infections. Our aim was to assess the safety and feasibility of performing detour stents in a district general hospital.

Materials & Methods: A review of prospectively collected data on patients undergoing detour stents between 2016 and 2021 was undertaken. This enabled a possible follow-up period of 6 months, provided the patients remained alive. A statistical package was utilised for the analysis of the collected data.

Results: Fifty patients were identified to have undergone detour stent insertion of which 70% (n=35) was bilateral with malignancy being the indication in 90% of cases. Seven patients required a further eleven procedures with the most common being due to repositioning of the stent (36%) or change of stent due to infection (27%). Four patients passed away within 60 days of their procedure. Four patients had their stents eventually replaced with nephrostomies and a patient no longer required the detour stent due to resolution of their obstructive pathology. Nine patients are currently being followed up and thirty-six patients from the original cohort passed away with functioning detour stents. Their median survival time post-procedure was 164 days.

Conclusions: Extra-Anatomical Detour Stents offers patients with obstructing renal tract secondary to malignancy a better quality of life when compared with nephrostomy. Continued caseload and refinement of surgical technique would lead to further optimised surgical outcomes.

EPoster Session 11: Prostate Cancer 2 Hall 10, June 14, 2022, 16:30 - 17:30

P11-1 Indeterminate mpMRI lesions: Evaluating the optimal PSA density threshold for prostate biopsy

Miss Deepika Reddy[1], David Eldred- Evans[1], Martin Connor[1], Mariana Tanaka Bertoncelli[2], Feargus Hosking- Jervis[1], Heather Bhola-Stewart[2], William Maynard[2], Christopher Khoo[2], Taimur Shah[1], Hashim Ahmed[1], et al et al

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Introduction: There remains uncertainty on the optimal approach to men suspected of prostate cancer who have an indeterminate multi-parametric(mp)MRI (score 3). Some use a PSA density(PSAd) threshold of ⩾0.12 whilst others use >/=0.15. In our current diagnostic pathway, a biopsy is advised for an mpMRI score 3 with a PSA-density (PSAd) threshold ⩾0.12, or <0.12 in the presence of risk factors. We compared the cancer detection rates of various PSAd thresholds, as possible predictive factors associated with prostate cancer detection.

Methods: Our multi-institutional cancer diagnostic registry who had pre-biopsy mpMRI identified 129 patients with an indeterminate lesion(PI-RADSv2= 3) who underwent a targeted +/- systematic biopsies prostate biopsy. One-way ANOVA analysis was performed to determine significant influencing demographic factors potentially associated with detection of clinically significant cancer(csPCa), defined as the presence of any Gleason 3+4=7.

Results: Median age(IQR) was 63.6years(49.3-77.9) and median PSA was 6.40ng/ml(2.65-10.15). Clinically significant cancer was detected in 27/129 (20.9%) men with PIRADS 3 lesions, only 8/129(6.2%) had PSAd ⩽0.15 had csPCa detected. No cancer was detected in 51/67(76.1%) patients with PIRADS 3 and PSAd <0.15. Median and IQRs for PSA and PSAd are demonstrated in Table 1, were found to have a significant predictive value for detection of csPCa(p=0.014 and p=0.001 respectively).

Conclusion: If the PSAd threshold to trigger biopsies increased from 0.12 to 0.15, for every 1000 men with indeterminate mpMRIs 190 men would avoid a biopsy, 109 additional men would avoid a diagnosis of insignificant cancer, and 39 men would have clinically important cancer missed.

P11-2 Normal PSA, Abnormal DRE – are we over investigating 2WW prostate cancer referrals?

Mr Manoj Ravindraanandan[1], Ms Kay Willard[1], Mr Robert Cotton[1], Mrs Sarah Dawson[1], Mr Pankaj Pankaj[1], Mr Biju Nair[1], Mr Christopher Luscombe[1], Mr Lyndon Gommersall[1]

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Introduction: Nationally, men are referred by GPs for suspected prostate malignancy using a cancer pathway proforma for an appointment within two weeks. Criteria include a PSA level above the age-specific range, or an abnormal DRE regardless of PSA. In this study, we analyse the number of cancers detected from patients referred with abnormal DREs and a normal PSA.

Patients and Methods: In a single major tertiary centre, data on patients referred with suspected prostate cancer was retrospectively collected over a 12-month period. Variables included those referred with a normal PSA but abnormal DRE, and were analysed using descriptive statistics.

Results: Over a 12-month period, 935 referrals were made by GPs for suspected prostate cancer. Of those, 15.3% (n=143) were referred due to an abnormal DRE but a normal PSA. The median age of our cohort was 73 (38-92, mean 70.15) with a median PIRADS score of 2, and a median PSA density of 0.04 (0.01-0.19, mean 0.05). From our cohort, 6.3% of men (n=9) had malignant histology. From those with malignant histology, 2.1% (n=3) had clinically significant prostate cancer with a mean age of 79. None of the three men were suitable for radical treatment. Only one man with non clinically significant prostate cancer went on to have radical treatment.

	Demographics		PSA density ng/ml/ml				
	Median (IQR) PSA ng/ml	Median (IQR) PSA density ng/ml/ml	<0.12 (%)	</= 0.15 (%)	</=0.2 (%)	>0.2 (%)	Total, n=129 (%)
Significant	6.4 (6.8)	0.20 (0.12)	3 (2.3)	8 (6.2)	12 (9.3)	15 (11.6)	27 (20.9)
Insignificant	7.4 (4.0)	0.15 (0.10)	6 (4.7)	8 (6.2)	13 (10.1)	4 (3.1)	17 (13.1)
No cancer	6.2 (3.5)	0.13 (0.11)	39 (30.2)	51 (39.5)	67 (51.9)	18 (14.0)	85 (65.9)

Conclusions: Significant time and resources are used for those referred with abnormal DREs and normal PSA Results, who for the overwhelming majority do not require any treatment. There may be scope to streamline referral criteria to reduce burden on services.

P11-3 Standardization of the mpMRI and transperineal prostate biopsy pathway

Miss Deepika Reddy[1], Dr David Eldred-Evans[1], Mr Martin Connor[1], Miss Mariana Bertoncelli Tanaka[1], Feargus Hosking- Jervis[1], Heather Bhola- Stewart[2], William Maynard[2], Christopher Khoo[2], Taimur Shah[1], Hashim Ahmed[1], et al et al

[1]Imperial Prostate, London, United Kingdom, [2]Imperial College Healthcare NHS Trust, UK

Introduction: There is currently a wide variation in prostate cancer diagnostic pathways in the UK, incorporating the use of either TRUS or transperineal prostate biopsy with or without the use of triaging MRI. Even when pathways are similar differences in outcomes are demonstrated. The pathway was designed to standardise this pathway, in order to reduce inter-site variability, and trialled across three sites in the UK.

Methods: Results of 1719 biopsy-naive patients who underwent triaging mpMRI between April 2017-July 2019 were prospectively entered into the registry. Patients with mpMRI

PIRADs v2 score of 4, 5 or 3 with PSA density ⩾0.12 were offered a biopsy. All 654 (38.0%) patients undergoing mpMRI and biopsy were analysed. Factorial ANOVA

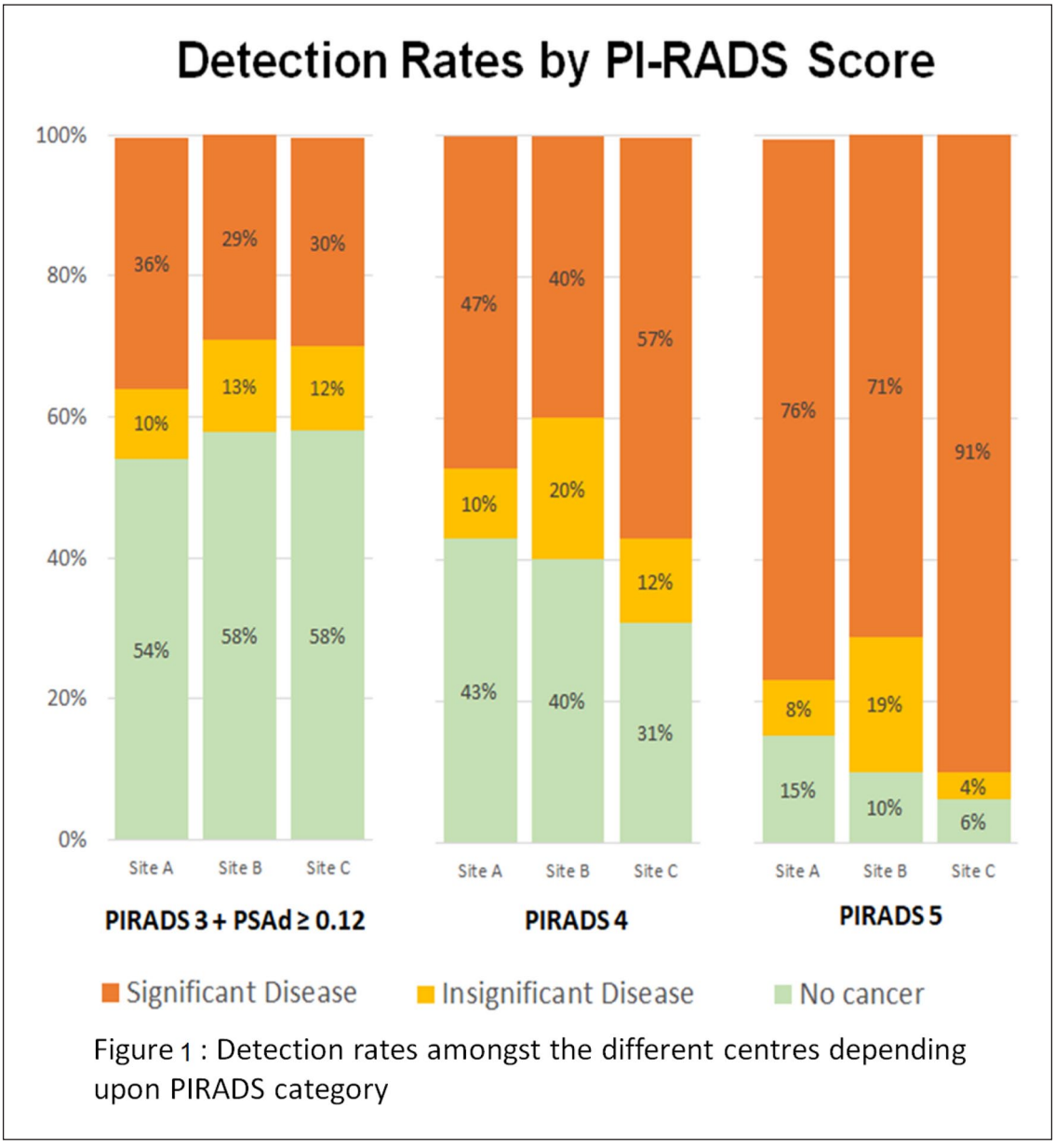

Figure 1 : Detection rates amongst the different centres depending upon PIRADS category

was used to determine if any significant difference in: overall clinically significant cancer detection rates between sites, cancer detection rates between MRI PIRADS v2 score & cancer detection rates between mpMRI PIRADS v2 score within sites.
Results: Overall, median age (IQR) was 66.2 years (59.8-71.8), median PSA was 6.7ng/ml(4.9-9.9). Median (IQR) time from referral to MRI was 9.0 (6-13)days. Statistically significant differences in clinically important cancer detection rates were observed between PIRADS v2 scores($p<0.001$). No differences in detection of clinically important prostate cancer were identified between rates between sites ($p=0.126$) or in detection of clinically important prostate cancer per PIRADS vs 2 score at each site was demonstrated ($p=0.63$).Figure 1 demonstrates the pathology per centre, per PIRADS score.
Conclusions: This pathway standardises prostate cancer detection rates between centres.

P11-4 Decision Regret in Patients Opting for Active Surveillance vs Surgical Treatment for Low-Risk Prostate Cancer

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Introduction: Patients with low risk prostate cancer and life expectancy >10 years are offered active surveillance (deferred treatment) or active treatment with curative intent (radiotherapy or surgery). Previous literature demonstrates that some men regret choosing active treatment due to impaired quality of life from urinary or sexual dysfunction. This is higher following radical prostatectomy compared to radiotherapy. This study assessed decision regret in patients following radical prostatectomy compared to those who opt for active surveillance.
Patients & Methods: Patients undergoing radical prostatectomy or active surveillance from a single health board in 2015-2020 were identified. Patients were defined as low risk if diagnosed with Gleason 6 (3+3) prostate adenocarcinoma on biopsy and had PSA <10 at diagnosis. All identified patients were surveyed using a validated decision regret scale.
Results: 101 patients were contacted. The response rate was 57.5% in the surgical group (N=42) and 46.4% in the active surveillance group (N=13). In the surgical group, the median regret score was 5/100 (mean 12.9, range 0-75) compared to a median regret score of 25/100 (mean 18.5, range 0-35) in the active surveillance group. Using unpaired T-test there was no statistically significant difference between the groups ($p=0.14$).
Conclusion: Overall both groups showed low levels of decision regret. Patients opting for active surveillance had higher decision regret scores than those undergoing surgery but no statistical significance was demonstrated between the groups. Ongoing work will aim to study a larger population to improve the power of this study and include comparison with eligible radiotherapy patients.

P11-5 Pre-operative imaging significantly underestimates size of prostate cancer in comparison to histopathology of radical prostatectomy: Implications for focal treatment

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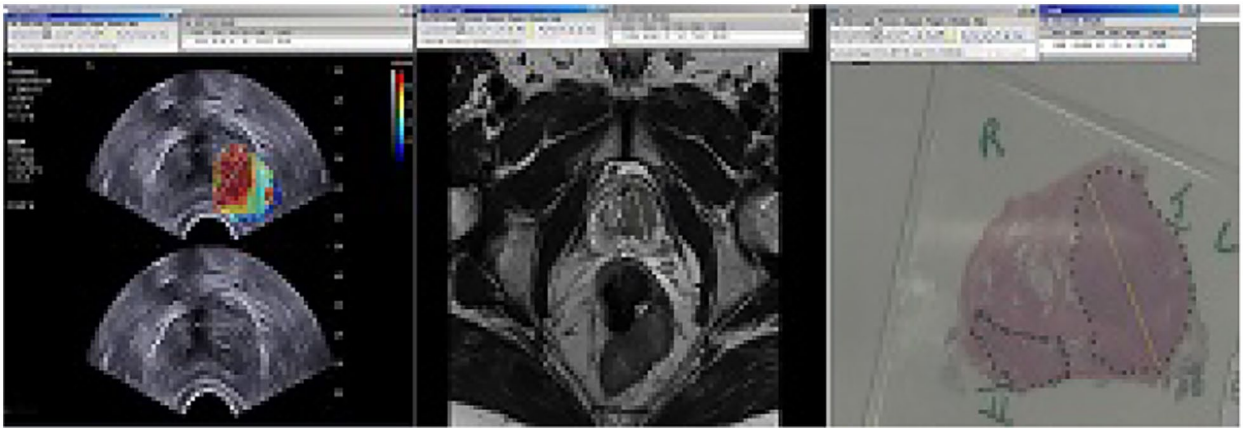
Introduction: Prostate cancer size assessment with pre-operative imaging is crucial for the staging of disease. Size of the primary tumour is a major prognostic indicator and the size of cancers seen on imaging is not only used for staging but also for risk stratification.



This study compared the accuracy of pre-surgical prostate cancer size measurements represented by the maximum linear extent of disease on pre-surgical multiparametric MRI (mpMRI) and ultrasound shear wave elastography (USWE) with radical prostatectomy histology.

Materials and Methods: The study population included 202 men with clinically localized prostate cancer opting for radical surgery. The study analysed images acquired during protocol-based two prospective studies between 2013 and 2018. There were 106 men with pre-surgical multiparametric mpMRI and 96 men with pre-surgical USWE imaging data. Men with both mpMRI and USWE in the same patient (n=48) formed a validation cohort. The histopathology of each participating man was reviewed by an experienced uro-pathologist (JW).

Results: A significant number of men had underestimation of prostate cancer using both mpMRI (82.1%; 87/106) and USWE (64.6%; 62/96). On average tumour size was underestimated by a median size of 7mm in mpMRI, and 1mm in USWE. Validation cohort data confirmed these findings; MRI had a nearly 20% higher underestimation rate than USWE

Conclusions: Size measurement of prostate cancers on preoperative imaging utilising maximum linear extent technique, underestimated the extent of cancer. In particular, preoperative imaging using mpMRI significantly underestimated the size of prostate cancer in men undergoing radical prostatectomy in comparison to USWE

P11-6 Acinar vs Ductal Adenocarcinoma of the Prostate: a single centre restrospective study

Dr Pinky Kotecha[1], Nikki Kerdegari[1], Jacob Clark[1], Dr Ashish Chandra[1], Professor Prokar Dasgupta[1], Mr Oussama ElHage[1]

[1]Guy's and St Thomas' NHS Trust, London, United Kingdom

Introduction: Prostate ductal adenocarcinoma (PDA) is a rare histological subtype of prostate cancer (PCa), with a varying incidence of 4-8%, associated with poor prognosis. These are classified by International Society of Urological Pathology (from 2014) equivalent to Gleason 8 Acinar Adenocarcinoma (AAC).

The current treatment for PDA is the same as high-grade (Gleason ⩾8), to reflect the advanced clinical staging that PDA often presents with. However, the biology of PDA is poorly understand and whether these treatments produce suitable outcomes is unknown.

Methods: We conducted a review of all patients with Prostate Cancer from 2005-2020 at a large tertiary centre on patients with PDA and comparative cohort of equivalent AAC (Gleason ⩾ 8).

The data included ethnicity, age, PSA, Gleason score, treatment, recurrence including local and metastatic, overall death and histopathological data from the histopathology report.

Table. Acinar vs Ductal adenocarcinoma characteristics.

	ACINAR	DUCTAL
Total number of patients	*843*	*200*
Age (SD)	75 (10.3)	72 (8.6)
Ethnicity		
White	333 (39.5)	127 (63.5)
Asian	18 (2.1)	5 (2.5)
Black	182 (21.6)	24 (12)
Mixed	8 (0.9)	4 (2)
Other	18 (21.4)	3 (1.5)
Not available	284 (33.7)	37 (18.5)
Median Presenting PSA (range)	19.05 (0.3-8900)	9 (0.82-426)
Gleason score		
3+4	0	8 (4)
4+3	0	22 (11)
3+4(+5)	33 (3.9)	0
4+3(+5)	120 (14.2)	0
3+5	9 (1.1)	1 (0.5)
4+4	233 (27.6)	69 (34.5)
4+4+5	9 (1.1)	0
4+5	271 (32.1)	81 (40.5)
5+4	111 (13.2)	8 (4)
5+5	57 (6.8)	1 (0.5)
Pure Ductal	-	10 (5)
NA	0	10 (5)
Treatment type		
No treatment	2 (0.2)	1 (0.5)
RP	161 (19)	132 (66)
Chemotherapy	66 (7.8)	11 (5.5)
Hormonal	556 (66)	39 (19.5)
Radiotherapy	413 (49)	83 (41.5)
Brachytherapy	13 (1.5)	0 (0)
Unknown	0	9 (4.5)
Recurrence		
Local	42(5)	46 (23)
Metastatic	196 (23.3)	45 (22.5)
Death		
Yes	159 (18.9)	55 (27.5)
Overall Survival at 10 years	80.6	64.3
Cancer-free survival at 10 years	76.2	49.6

Results: A total of 1043 patients were included in the study, 843 with acinar adenocarcinoma and 200 with ductal adenocarcinoma. The mean age was 75 and 72, respectively. A higher proportion of Caucasian (63.5%) compared to Black (12%) present with PDA. The presenting PSA was lower in those with PDA (9) compared to AAC (19.05). Median follow-up for both PDA and AAC is 10 years.
Overall survival for PDA and AAC at 10 years was 64.3% and 80.6%, respectively.
Conclusion: To the best of our knowledge, this is the longest follow-up study which shows PDA has a lower presenting PSA and poorer outcomes. Further studies are required to explore the causes for this.

P11-7 Axial Skeleton Magnetic Resonance Imaging for Detecting Bone Metastases in Patients with High-Risk Prostate Cancer: Diagnostic and Cost-Effectiveness from a Tertiary Referral Centre

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[1]Wirral University Teaching Hospital, Wirral, United Kingdom

Introduction: Current literature suggests that Axial Skeleton Magnetic Resonance Imaging (AS-MRI) is more sensitive than Tc 99m bone scintigraphy (BS) for detecting bone metastasis (BM) in high-risk PCa. Its diagnostic accuracy has been studied however its feasibility and cost implications are yet to be examined.
Methods: We prospectively reviewed all patients with high risk PCa undergoing AS-MRI over a 5-year period. AS-MRI was performed on patients with histologically confirmed PCa and, either PSA>20, Gleason ⩾8, or TNM Stage ⩾T3 or N1 disease. All AS-MRI studies were obtained using a 1.5-T AchievaPhilips™MRI scanner. We compared the AS-MRI positivity and equivocal rates with that of BS. Multivariate logistic regression analyses quantified the strength of association between positive scans and clinical variables. Feasibility and burden of expenditure was also evaluated.
Results: 503 patients with a median age of 72 and a mean PSA of 34.8 ng/ml were analysed. 88 patients (17.5%) were positive for BM on AS-MRI (mean PSA 99 (95% CI 69.1-129.9)). Comparatively 409 patients (81.3%) were negative for BM on AS-MRI (mean PSA of 24.7 (95% CI (21.7-27.7)) (p=0.007). 1.2% (n=6) of patients had equivocal Results (mean PSA of 33.4 (95% CI 10.5-56.3)). In comparison

Variables	All patients	Patients without BM	Patients with BM	P value	Patients with an equivocal AS-MRI	P value*
Patient No (%)	503	409 (81.3%)	88 (17.5%)	-	6 (1.2%)	-
Age, yr				**0.031**		0.122
Median	72	70	72		73	
Range	45-87	45-86	52-87		71-83	
Clinical T Stage, No (%)				**<0.001**		**0.006**
Organ Confined (<T3)	246 (48.9)	236 (57.7)	7 (7.6)		3 (50)	
Locally Advanced (⩾T3)	257 (51.1)	173 (42.3)	81 (92)		3 (50)	
PSA ng/ml				**<0.001**		**0.028**
Mean (95% CI)	34.8 (29.6-40.0)	24.7 (21.7-27.7)	99 (69.1-129.9)		33.4 (10.5-56.3)	
PSA, ng/ml, No (%)				-		-
<10	146 (29.1)	138 (33.7)	8 (9.1)		0	
10.1-19.9	147 (29.2)	135 (33)	9 (10.2)		3 (50)	
20-49.9	120 (23.9)	102 (24.9)	16 (18.1)		2 (33.3)	
>50	85 (16.9)	30 (7.3)	54 (61.4)		1 (16.7)	
Gleason Score, No (%)				**<0.001**		**0.023**
⩽ 6	26 (5.2)	26 (6.4)	0		0	
3+4	117 (23.3)	111 (27.1)	6 (6.8)		0	
4+3	35 (6.9)	23 (5.6)	9 (10.2)		3 (50)	
⩾8	325 (64.8)	249 (60.1)	73 (82.9)		3 (50)	

*Compared to patients with BM.

with BS, AS-MRI detection rate was equivalent or higher compared to the literature. Based on NHS tariff calculations there would be a minimum cost saving of £8,406.89. All patients underwent AS-MRI within 14 days.
Conclusion: The use of AS-MRI to stage BM in high-risk PCa is both feasible and Results in a reduced burden of expenditure.

P11-8 Improving bone health in prostate cancer patients starting androgen deprivation therapy: Does Fracture Risk Assessment Tool (FRAX®) enhance stratification and targeted management?

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[1]Royal Bolton Nhs Hospital, Bolton, United Kingdom, [2]Suez Canal university hospitals, Egypt

Introduction: NICE guidance for prostate cancer (2019) states that we should consider assessing fracture risk in patients starting ADT. We used FRAX® (NICE Osteoporosis 2017), an online questionnaire, to identify patients at risk of fragility fractures.
Patients: Between July 2020 and November 2021, 110 men filled in the FRAX® questionnaire with the cancer nurse just prior to starting ADT They were stratified into high-risk (> 20% probability of a MOF over the next 10 years), intermediate- and low-risk categories for fragility fractures. We also measured their serum vitamin D and calcium levels.
Results: The average age was 73.6 years (54 – 89). It took less than 10 min to complete the assessment. Only three patients were at high-risk, were started on bisphosphonates immediately, and referred for a DEXA scan. Six patients in the intermediate-risk category were referred for DEXA scans for bone mineral density measurements. 101 patients (92%), were in the low-risk category, were given life-style advice only. All had normal calcium levels but 61 (55%) patients, all in the low-risk category, had reduced vitamin D levels (< 50 nmol/l).
Conclusions: The FRAX® questionnaire is simple and immediately identifies patients who are at risk of fragility fractures. 92% of our cohort did not need an expensive DEXA scan. We were surprised that more than half of our patients had low vitamin D levels.

P11-9 Fluorine-18 (18F) prostate-specific membrane antigen (PSMA) positron emission tomography (PET) and the diagnosis and staging of secondary prostate cancer (PCa)

Mr Matthew Byrne[1], Nithesh Ranasinha[1], Claudia Mercader[1], Mutie Raslan[1], Francesca Lewis[1], Stefanos Gorgoraptis[1], Ganesh Sthanapally[1], Anna Catarina Lopes Vieira[1], Jedrzej Golebka[1], Alastair Lamb[1], et al.
[1]Oxford University Hospitals Nhs Foundation Trust, Oxford, United Kingdom

Introduction & objectives: Accurate diagnosis and staging of secondary prostate cancer is important for treatment decisions. To date, most PSMA-PET scans are performed using a Gallium-68 ligand. Our objectives were to quantify local recurrence and distant staging by 18F PSMA PET in secondary PCa.
Materials & Methods: We identified retrospectively a consecutive series of 18F PSMA-PET scans for staging of prostate cancer at a single UK tertiary referral centre, from the date of **Introduction** of PSMA PET in September 2019 until August 2021.
Results: We identified 466 PSMA PET scans for secondary staging. The index treatment was prostatectomy in 58.6%, radiotherapy in 27.5%, brachytherapy in 5.0%, and chemotherapy, hormonal or other treatments in 8.9% of men.
We observed 18F PSMA PET avidity in 40.4% of cases for local recurrence, 48.9% for nodal disease, and 42.3% for metastatic disease.
When evaluated by PSA range, using the PSA values of <0.2, 0.2-0.49, 0.5-0.99, 1-1.99, and ⩾2ng/ml, PSMA PET scans were positive for metastatic disease in 15.0%, 18.4%, 38.9%, 48.8%, 54.2% respectively.
In men who had PSMA PET and MRI (n=62), MRI Marrow or targetted MRI (n=60), or bone scan (n=47), PSMA PET identified 23.2% fewer local recurrences than MRI, 40.7% more nodal lesions than MRI, 23.3% more metastatic lesions than MRI Marrow or targetted MRI, and 23.9% more metastatic lesions than bone scan.
Conclusion: In this mixed cohort, 18F PSMA PET remains superior to conventional cross-sectional imaging with MRI or Bone scan in detecting nodal and metastatic disease.

P11-10 Fluorine-18 (18F) prostate-specific membrane antigen (PSMA) positron emission tomography (PET) and the diagnosis and staging of primary prostate cancer (PCa)

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Introduction: Recent studies have shown the superiority of PSMA-PET in staging of prostate cancer compared to conventional cross-sectional imaging, most often performed using a Gallium-68 ligand.
Materials & Methods: We identified retrospectively a consecutive series of PSMA-PET scans using a Fluorine-18 ligand for staging of primary prostate cancer at a single UK tertiary referral centre, from the date of **Introduction** of PSMA-PET in September 2019 until August 2021.
Results: We identified 354 PSMA-PET scans for primary staging. We observed PSMA PET avidity in 96.9% of cases for local disease, 33.1% for nodal disease, and 32.5% for

metastatic disease. PSMA-PET identified local disease similar to MRI (96.6% versus 96.9%, respectively), and identified 14.72% more nodal lesions than MRI, and 27.2% more metastatic lesions than MRI Marrow (Figure 1). 47 men underwent radical prostatectomy after both PSMA-PET and MRI, of which all had positive histology. The sensitivity of PSMA-PET was 97.8% versus 93.6% with MRI for any primary lesion. A total of 21 of these patients had lymph node dissection, of which two had positive histology. The sensitivity of PSMA-PET for any nodal disease was 50% versus 0% with MRI. Narrow slice MRI was used to corroborate skeletal lesions in 14 PSMA-PET scans. None of the PSMA-PET scans were positive on Narrow slice MRI, indicating an estimated false-positive rate of at least 6.7% (14 false positives versus 195 negative PSMA PET scans). **Conclusion:** 18F PSMA-PET adds value over MRI in identification of local disease as well as nodal and distant metastatic spread.

EPoster Session 12: General Urology (Male LUTS/Emergency/Trauma) 1

P12-1 Hydrocele aspiration and injection sclerotherapy under local anaesthetic: a viable alternative to open surgical repair

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Introduction: Hydroceles could cause discomfort, scrotal heaviness, cosmetic problems or adversely impact quality of life. Conventional treatment involves open surgical repair under general anaesthetic. Aspiration and injection sclerotherapy is however an attractive alternative since literature suggests it has comparable outcomes, lower complication rates and can be performed under local anaesthetic (LA) in timely manner.
Patients and Methods: Consenting patients were prospectively recruited following necessary approvals. The procedure was carried out under LA and ultrasound guidance at our urology clinic. The hydrocele was drained and sclerosant (3% sodium tetradecyl sulphate) immediately injected into the tunica vaginalis. Post-procedure follow-up ranged from 3-12months.
Results: Thirty-two patients with 35 procedures (2 re-do, 1 bilateral) were studied. Average volume drained was 283ml (18-1000ml). Overall success rate was 77.1% (complete resolution- 21 [60.0%], mild re-accumulation without need for re-intervention- 4 [11.4%], moderate re-accumulation successfully treated with re-do sclerotherapy- 2 [5.7%]). Large/significant recurrence was noted in 8 (22.9%) patients- they all had large (>200ml) hydroceles ab-initio and went on to have straightforward open surgical repair. One procedure was abandoned due to traumatic aspiration and was excluded.
Conclusions: Hydrocele aspiration and injection sclerotherapy under LA is safe, easy to set-up and effective, with trend towards better outcomes for smaller hydroceles. This treatment could ease waiting-list pressures occasioned by the COVID-19 pandemic and should be considered as part of informed consent process for all men with hydroceles. Further data is required to define most suitable patients and also to fully assess ease of hydrocele repair after failed sclerotherapy.

P12-2 A Comparison of Urological Cancer Stage and Diagnosis Rates Before and During the COVID-19 Pandemic in a District General Hospital

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Introduction: COVID-19 has caused disruption to medical services, which may have led to delayed cancer diagnoses. This study aims to compare the number and stage of new cancer diagnoses before and during the COVID-19 pandemic.
Methods: A hospital-based cancer registry of patients who were diagnosed with Urological (ie, Kidney, Upper-tract, Bladder, Prostate, Testis and Penis) between January 2019 and February 2020 Pre-COVID) and March 2020 and September 2021 (During COVID). Monthly numbers of patients with newly diagnosed cancer were compared in Pre-COVID and During-COVID groups.
Results: 849 patients (753 men [89%]; 96 women [11%]) (n = 385 Pre-COVID [45%]; n = 464 during-COVID [55%] were included. During-COVID there was a significant 11.2% reduction in monthly new cancer diagnoses (Monthly new diagnoses: Pre-COVID of 27.5 [SD 5.54]; During-COVID 24.4 [SD 6.97]; $p < 0.001$).
The number of cases & T-staging at diagnosis in the pre–COVID-19 period and the During-COVID period were compared (Figure 1)
There is a significant increase in the TNM stage at diagnosis of bladder cancer (Pre-COVID 0.85 [SD 1.0] vs During COVID 1.2 [SD 1.0]) and Upper Tract (Pre-COVID 2.5 [SD 1.1] vs During-COVID 3.5 [SD 0.7] in patients diagnoses during the COVID-19 pandemic compared to beforehand. No difference was found for Prostate, Kidney, Testicular or Penile cancers.
Conclusions and Relevance
There has been a significant 11% reduction in the total number of monthly urological cancers diagnoses during COVID. Patients with Upper tract and Bladder cancer were diagnosed at a significantly higher stage during the COVID-19 pandemic than beforehand.

Table 1. Comparison of the new urological cancer diagnosis per month before and during the COVID 19 Pandemic.

	Before COVID*	During COVID*	%Change	P value
Bladder (n = 241)	8.28 (3.26)	6.57 (2.89)	-26.0	< 0.001
Tis	0.42	0.01		
Ta	3.25	1.94		
T1	2.5	1.5		
T2	1.08	0.88		
T3	0.58	0.50		
T4	0	0.01		
Prostate (n = 475)	15 (2.75)	13 (5.32)	-15.3	< 0.001
T1	2.3	0.7		
T2	4.9	5.5		
T3	5.5	5.4		
T4	0.5	0.88		
Kidney (n = 91)	2.78 (1.86)	2.73 (1.48)	-1.8	NS
T1	1.1	0.7		
T2	0.1	0.3		
T3	0.5	0.7		
T4	0.0	0.1		
Upper Tract (n = 16)	0.43 (0.49)	0.52 (0.75)	17.3	NS
Testis (n = 18)	0.78 (0.67)	0.37 (0.58)	-110.8	NS
Penile (n = 5)	0.14 (0.35)	0.15 (0.36)	-6.7	NS

*Mean number per month (Standard Deviation).

P12-3 Negative Prostate MRIs: Are we discharging these men back to the community safely?

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Introduction: The clinical utility of multiparametric magnetic resonance imaging (mpMRI) to 'rule-out' a diagnosis of clinically significant prostate cancer is established. However, there is concern that discharging men with non-suspicious mpMRIs risks missing significant cancers. As part of a transformation of prostate cancer services, we performed a prospective analysis to determine if this is a significant problem in clinical practice.
Patients and Methods: We performed a prospective analysis of all men referred under the prostate cancer two-week wait rule. All men underwent mpMRI (T2, DWI, DCE), performed according to the European Society of Urogenital Radiology 2012/19 guidelines and scored by the PIRADS system. All men with PIRADS ⩽2 were not biopsied, but followed up in clinic with a PSA every 6 months. If there was a subsequent raise in PSA, a repeat mpMRI was requested and if warranted, a transperineal biopsy.
Results: Between 07/2016 and 07/2020, 82 men referred for investigations of a possible prostate cancer underwent 1.5 or 3.0T mpMRIs scored as PIRADS 2 or less. Median PSA at referral was 6.0 ng/mL [IQR 4.5-6.9]; median age was 68 [IQR 60-72]. During a median follow-up period of 18 months [IQR 13-24], all but 6/82 (7.3%) did not demonstrate PSA progression. These men then underwent repeat mpMRI, 3/82 (3.6%) underwent a transperineal biopsy. No significant cancers were detected.
Conclusions: These **Results** reflect the known high negative predictive value of mpMRI. Discharging men with a negative mpMRI, with no other risk factors that may prompt a template mapping biopsy, is safe.

P12-4 The implications when offering percutaneous nephrostomy for the management of obstructive uropathy secondary to prostate and bladder cancer: can we be more selective?

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Introduction: Percutaneous nephrostomy (PN) for malignant obstructive uropathy is increasingly accessible with high success rates. However, it is not without associated risks and morbidity, impacting quality of life, and may not improve survival. In two NHS Trusts, we investigated the outcomes of undergoing PN for malignant obstruction, to see if we can inform future patient selection for this intervention.
Methods: Analysis of electronic records of patients that received PN for bladder, and prostate cancer (PCa) between January 2015 and December 2018. Hospital 1 have a 24-hour nephrostomy service, while Hospital 2, a limited service, possibly resulting in careful selection for nephrostomy. Group A: PCa resistant to treatment, Group B: hormone naïve or single-therapy PCa, Group C: Bladder cancer.
Results: 261 patients (Hospital 1=186, Hospital 2=75), had a PN insertion. Seventy-eight had prostate or bladder cancer. Group A n=30, Group B n=12, Group C n=36. Median age=79(IQR=72-86).
Following PN insertion, 12-month mortality was 82% in Hospital 1, vs 52% in Hospital 2. Median mortality: Group A:177 days (IQR=80-266), Group B:209 days (IQR=77-352), Group C:145days (IQR=97-362). Group A had the greatest same-admission mortality at 17%. 69% of all patients received bilateral nephrostomies. Patients with bilateral vs unilateral PN had no difference in mortality or nadir creatinine.
Conclusions: Most patients with malignant obstruction secondary to prostate or bladder cancer lived less than 12 months after PN insertion. When offering PN, carefully consideration of disease prognosis should be made, and frank discussion of the implications of a life-long nephrostomy with patients and relatives.

P12-5 Urological cancer surgery during the first wave of the COVID-19 pandemic: analyses of short-term outcomes from the COVIDSurg-Cancer study

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Introduction: The COVID-19 pandemic has disrupted surgical services. We aimed to assess 30-day post-operative outcomes following urological cancer surgery during the COVID-19 pandemic.
Patients and Methods: All bladder, kidney, UTUC and prostate cancer patients from the COVIDSurg-Cancer Study who underwent elective, potentially-curative surgery during the COVID-19 pandemic until July 2020 were included. Univariable and multivariable logistic regression was performed to assess the association of patient factors with mortality, respiratory complications, and operative complications.
Results: 1,902 patients from 36 countries were included. 42 (0.2%) patients were diagnosed with COVID-19 during their inpatient stay. 21 (0.1%) mortalities were observed; of those, 8 (38.1%) were diagnosed with COVID-19. Mortality was more likely with concurrent COVID-19 infection (OR 31.7, 95% CI 12.4- 81.4, $p<0.001$), age >80 years, ASA grade $\geqslant 3$ and ECOG Grade $\geqslant 1$. 40 (0.2%) respiratory complications (acute respiratory distress syndrome or pneumonia) were observed within 30 days of surgery. Respiratory complications were more likely in patients aged with concurrent COVID-19 infection (OR 40.6, 95%CI 11.4-144.5, $p<0.001$), age >70 years, from an area with high community risk, or with a revised cardiac risk index $\geqslant 1$. There were 84 (4.4%) major complications (Clavien-Dindo $\geqslant 3$). Patients with a concurrent COVID-19 infection (OR 7.5, 95%CI 2.7-20.3, $p<0.001$), or aged $\geqslant 80$ years were more likely to experience major complications.
Conclusions: Our data can inform health services to safely select patients for surgery during the pandemic. Patients with concurrent COVID-19 infection have a higher risk of mortality and respiratory complications and should not undergo surgery if possible.

P12-6 Preventing catheter balloon inflation injury of the urethra: a prospective study utilising the Transurethral Catheterisation Safety Valve (TUCSV©) in the UK and Ireland

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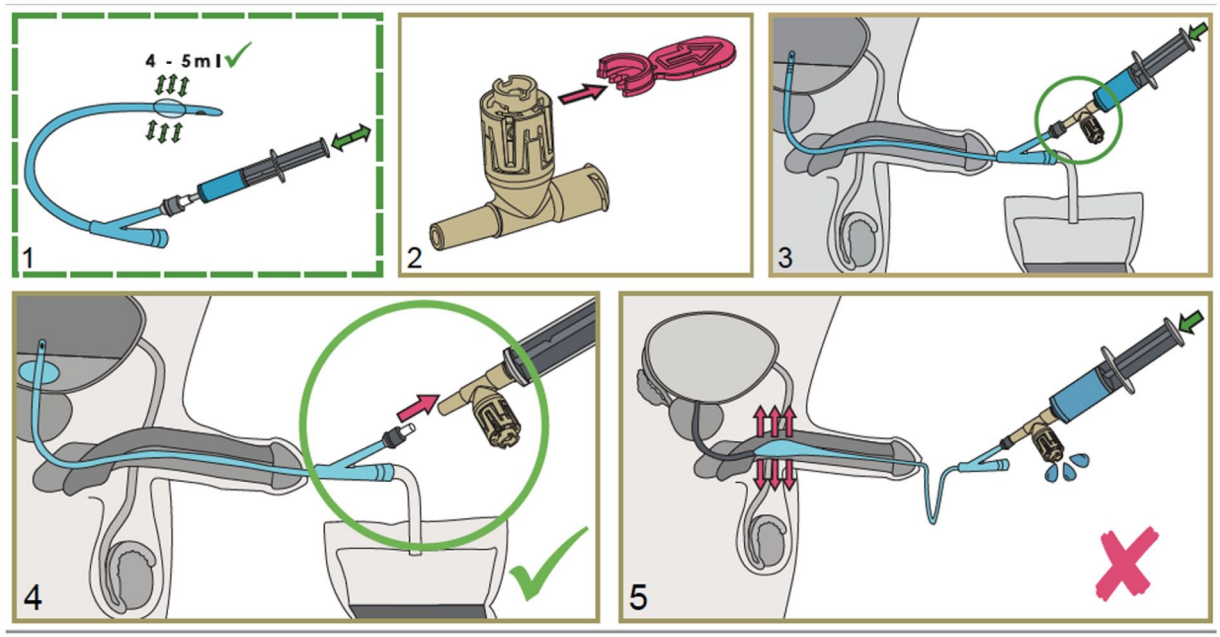
Introduction: Catheter balloon injuries (CBI) of the urethra are potentially devastating and avoidable iatrogenic injuries that occur in just over 1% of hospitalised male patients. The transurethral catheterisation safety valve (TUCSV©) is a novel safety device designed to prevent CBI. The safety device allows fluid in the catheter system to vent through a pressure relief valve when the catheter's anchoring balloon is inflated in the urethra.

Fig 1. TUCSV demonstration.



1) Pre-inflation testing – not essential but eliminates rare false positives due to adherent materials.
2) Tab removal for TUCSV activation.
3) Device attachment to the balloon port.
4) Successful catheterisation.
5) Incorrect placement.

This multi-institutional clinical study is a prospective analysis of the TUCSV's ability to prevent urethral CBI over a three month period.

Method: The incidence of CBI was recorded in two Irish hospital groups and one English hospital over three months. The TUCSV was then introduced in a variety of hospital settings in Ireland (April - July 2021) and England (August - October 2021). 'Venting' through the safety valve indicated prevention of urethral injury. CBIs referred to urology were recorded.

Results: 729 urethral catheterisations were documented using the TUCSV and 16 (2.2%) episodes of TUCSV venting were recorded. There were no urethral injuries in these patients. In the same period, 15 urethral CBIs were recorded where the TUCSV was not utilised. This suggests that the true incidence of CBI is 19% greater than documented cases.

Conclusion: Iatrogenic CBIs are a significant cause of patient morbidity. The TUCSV is a simple, effective and innovative solution to this recurring problem; compatible with all commercially available catheters and applicable to all patient cohorts and catheterisation settings.

P12-7 Multidisciplinary approach to manage patients with recurrent urinary tract infections – Initial experience from our complex UTI clinic

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Introduction: Urinary tract infections (UTIs) are the most common outpatient infections that are referred to the urologist. In April 2021, we established a multidisciplinary complex UTI clinic in collaboration with specialist nurses and microbiologists with the aim of improving these patients' symptoms and quality of life (QoL) with a holistic approach.

Materials and Methods: A prospectively maintained database of all 83 patients {(median age 54 years (16-85 year) and (M:F of 1:13) } who were referred to our clinic, within a 6 months period was reviewed. Patients' demographics, number of infections/year, urine culture result (causative bacterial organism and antibiotic sensitivities),

Table 1:

Patient Demographic	Total number of patients (N): 83 Gender: Male n: 6 (7.3%); Female n: 77 (92.7%) Age distribution Mean: 52.42 Median: 54 Minimum age:17 Maximum age: 85 (SD: 19.4) Significant comorbidities: 29 (36%) Post-menopausal females: 37 (44.5%)
Mode of referral	GP:44 (53%) Specialist: 39 (47%)
Frequency of UTI	<3 episodes in 12months: 7 (8%) > 3 episode in 12 months: 76 (92%)
Presentation[1]	Frequency: 80 (96%) Urgency: 68(82%) Nocturia: 3(3.6%) Dysuria: 18 (21.6%) Haematuria: 6 (7.2%) Abdominal pain: 12 (14.3%) Flank pain: 4 (4.8%)
Hospital admission with UTI	Yes: 4 (4.8%) No: 79 (95.2%)
Causative organism[1]	Escherichia Coli: 43 (51.8%) Klebsiella : (10) 12.2% E. fecalis: 5 (6%) Pseudomonas: 4 (4.8%) Others (including mixed growth): 13.4% Culture negative: 9 (10.8%)
Antibiotic sensitivities[2]	Nitrofurantoin:93% Cefalexin: 86% Trimethoprim:78% Co.Amoxiclav : 71% Amoxicillin: 38%
Investigation[3]	Abnormal findings Flexible cystoscopy: 7 (8.4%) Renal USS:7 (8.4%) CT Urogram: 8 (9.6%)
Treatment received before referral	Cystitis preventive measures: 11 (13.1%) Antibiotics: 83 (100%) Methanamine hippurate n: 5 (6%) Cranberry Juice n: 3 (3.6%) D Mannose n: 4(4.8%)
Treatment given at UTI clinic[4]	Cystitis preventive measure: 83 (100%) Low dose Antibiotics: 50 (60%) Methenamine hippurate: 31 (37%) Vaginal estrogen cream: 23 (28%) CISC: 13(15.5%) Intravesical gentamicin: 7 (8.4%) Intravesical GAG replacement therapy: 6 (7.2%)
Treatment response	UTI resolved at completion of treatment Yes: 48 (57.8%) Ongoing treatment: 35(42.2%)[5]
Pre- treatment impact on quality of life (QoL)	Significant: 42 (50.6%) Moderate: 12 (14.5%) Minimal: 29 (34.9%)
Patient global impression of improvement (PGI-I)	PGI-I 5 (Good improvement): 70 (84.3%) PGI-I 4 (Some improvement): 11 (13.3%) PGI-I 3 (No improvement): 2 (2.4%)

[1] Most patients had more than one symptom at presentation
[2]Some patients had more than one organism on urine culture result.
[3]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
[4]Patients had a combination of more than one treatment.
[5] This includes patient awaiting intravesical instillations

investigations performed and treatment outcome were recorded. Pre-treatment QoL and post treatment PGI-I (Patient global impression of improvement) Scale were measured. All clinics were supported by specialist nurses and microbiologists.
Results: Outcomes are detailed in Table 1.
Escherichia Coli (51.8%) was identified as the most common causative organism. Abnormal renal USS, CTU and cystoscopy were reported in 8.3%, 9.5% and 8.3% respectively including diagnosis of bladder (1) and renal cancer (2). All patients received verbal and written information on general cystitis prevention measures. 13 (15.6%) patients did not respond to oral treatment and hence received intravesical treatment. Pre-treatment 50% patients report significant impact on their QoL. Over 80% patients had good improvement on PGI-I scale after the treatment.
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.

P12-8 Management of radiation induced haematuria - a 5-year experience from a specialist referral clinic for radiation cystitis

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Introduction: Radiation induced visible haematuria (VH) is notoriously difficult to manage and often refractory to conservative management strategies. Management options include lifestyle modifications, Pentosan Polysulphate, hyperbaric oxygen therapy and surgery. We review outcomes of patients referred to a specialist radiation cystitis clinic over a five-year period.
Methods: Prospectively maintained data was extracted from a specialist radiation cystitis clinic between 2016-2021. Treatment efficacy was defined as VH resolution and avoidance of cystectomy.
Results:

- 94 patients (from 136 radiation toxicity patients) identified with VH as primary issue
- 74/94 (79%) demonstrated resolution of VH
- 20/94 (21%) succumbed to treatment failure - 6 with ongoing VH, 14 underwent cystectomy
- Holmium Laser with Pentosan Polysulphate demonstrated efficacy in 20/25 patients (80%)
- 5 patients did not respond to Holmium Laser with Pentosan Polysulphate: 3 underwent subsequent hyperbaric oxygen therapy with 2 having subsequent resolution of VH and the 3rd patient had continued VH and underwent cystectomy; 1 is awaiting cystectomy; 1 declined cystectomy
- Hyperbaric oxygen therapy demonstrated efficacy in 7/8 patients (90%) undergoing primary therapy
- 14 patients had refractory VH that required cystectomy – 1/14 (7%) following Holmium Laser with Pentosan Polysulphate; 1/14 (7%) following Holmium Laser with Pentosan Polysulphate and subsequent hyperbaric oxygen therapy; 12/14 (86%) following cystodiathermy only

Conclusions: A stepwise approach to managing radiation induced VH has achieved good overall efficacy in VH resolution. In particular, Holmium Laser with Pentosan Polysulphate and hyperbaric oxygen therapy have both been shown to be effective (individually and in combination).

P12-9 Guidance for diagnosis and management of bladder injuries – Is practice up to date?

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Introduction: To optimise outcome, bladder injury (BI) requires timely management, based on anatomical location and aetiology of injury. BI is uncommon and therefore guidelines are helpful for attending clinicians. Updated guidance in the BAUS 2021 Consensus Statement prompted us to review practice in our institution.
Patients and Methods: Patients with bladder injury were identified retrospectively from the Electronic Medical Record at a UK major trauma centre between January 2017 and January 2021. Management was compared to 'BOAST14, 2016' and EAU 2014 guidance as well as the BAUS 2021 consensus statement.
Results: 63 BI were identified: 16 traumatic (intraperitoneal n=11, extraperitoneal n=5); 47 iatrogenic (intraperitoneal n=40, extraperitoneal n=7). 4/14 traumatic BI with haematuria on presentation underwent recommended diagnostic cystogram, with injury missed by initial CT in another four (subsequently diagnosed intraoperatively). 36/42 iatrogenic BI recognised intraoperatively underwent recommended primary closure: 20 by open repair (length of stay (LOS) 10 days, IQR=6-28); 16 via minimally invasive approach including laparoscopic and robotic, (LOS 2 days, IQR=2-3). Five patients with identified, simple intraperitoneal injuries were managed successfully without surgical repair. 47/63 BI had a cystogram prior to catheter removal identifying two unresolved injuries.
Conclusions: Our data support recommended diagnostic retrograde cystogram to prevent missed traumatic BI (despite trauma CT), and show follow up cystogram can identify ongoing leak. Per the BAUS 2021 consensus

	Traumatic		Iatrogenic	
Cases (63)	**16**		**47**	
Aetiology	**Associated injury**		**Primary team**	
	13	Pelvic fracture	29	Gynaecology/ obstetrics
	3	No pelvic fracture	7	Urology/ urogyanecology
			4	General surgery
			7	Other
Diagnosis	**Haematuria on presentation**		**Timing and method**	
	14	Haematuria	43	During index operation
	1	Clear urine	4	Following index operation
	1	No documentation	2	Exploratory laparotomy
			1	Cystoscopy
			1	High drain fluid creatinine
	Method of diagnosis			
	6	CT alone		
	4	Diagnostic cystogram		
	4	CT alone - bladder injury missed		

Management				
Location	**Intraperitoneal 11**	**5 Extraperitoneal**	**Intraperitoneal 40**	**7 Extraperitoneal**
Conservative *LOS 2 (1-5); ICD 14 (12-19)**	2	2	5	4
Surgical	9	3	35	3
Primary repair	8	1	35	3
Delayed repair†	1	2	0	0
Open repair *LOS 9 (5-13); ICD 11 (7-20)**	9	3	20	2
Minimally invasive *LOS 2 (2-3); ICD 14 (7-11)**	0	0	15	1
			Laparoscopic 12	
			Robotic 2	
			Vaginal 1	1 **Vaginal**
Urology/urogynaecology‡	7	3	14	2
Gynaecology/obstetrics‡	0	0	16	1
General Surgery‡	2	0	2	0
Other team§	0	0	3	0
Follow-up – Cystogram prior to catheter removal?				
Yes	8	3	31	5
LOS 5 (2-9) ICD 15 (10-18) **<2 weeks**	1	0	15	2
2-3 weeks	2	1	11	2
LOS 11 (5-47) ICD 28 (35-39)¶ **>3 weeks**	5	2	5	1
No *LOS 6 (2-29); ICD 11 (7-16)*	1	2	6	0
Unclear due to transfer	2	0	1	1#
Planned long term catheter	0	0	2	1

Figure 1: Case series of bladder injuries at a single UK major trauma centre, Jan 2017-Jan 2021. *Italics* indicate median and, in brackets, interquartile range (IQR) for each row - LOS = Length of stay (days); ICD = number of days with indwelling catheter. *values for iatrogenic injuries only. ‡Team performing surgical repair. † Injuries were initially missed and repair was carried out on day 2 or more following injury. §2 performed by paediatric surgery, 1 performed by transplant surgery. ¶one patient with ongoing collections is yet to have catheter removed; LOS 88 days. #patient died of unrelated cause prior to attempted trial without catheter. CT = computed tomography. Conservatively managed patients are those who received no surgical repair at any time, but were treated with a urinary catheter.

statement, minimally invasive techniques can be a safe alternative to open repair, and are associated with reduced length of stay. Furthermore, selected intraperitoneal injuries may be managed safely without catheter.

P12-10 Evaluation and treatment in urology for nocturia caused by non-urological mechanisms: guidance from the PLANET study

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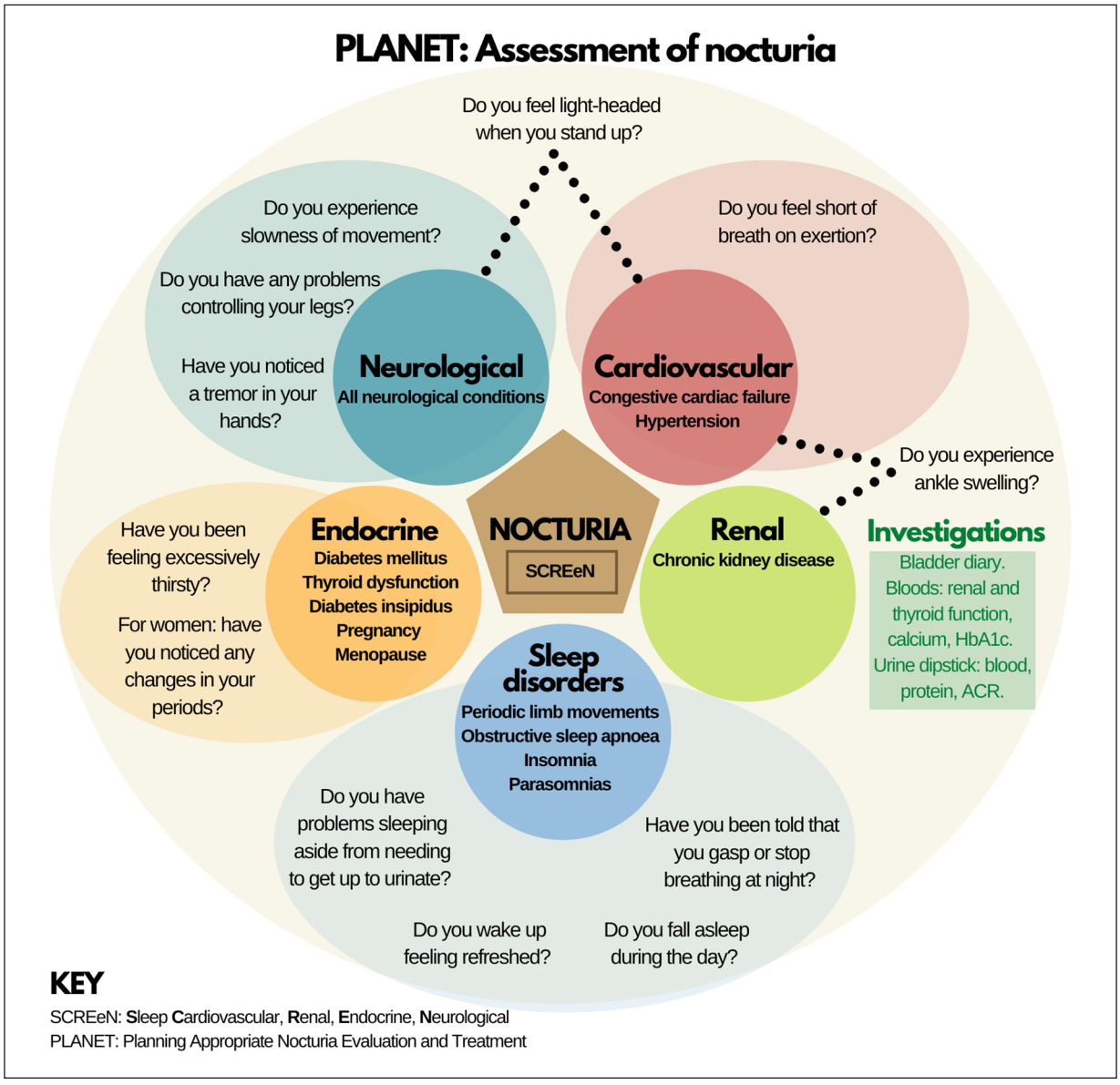
Introduction: Patients with nocturia are commonly referred to urology clinics, including many for whom a non-urological medical condition is responsible. The PLANET (PLanning Appropriate Nocturia Evaluation and Treatment) study was established to develop practical approaches for healthcare practitioners to deal with causes of nocturia outside their specialist practice area.
Materials and **Methods**: Systematic reviews were undertaken in five relevant medical areas, searching four databases from January 2000-April 2020 (PROSPERO CRD42019157821). Expert consensus was derived using Nominal Group Technique (NGT).
Results: Initial assessment and therapy needs to consider the possibility of one or more medical conditions in the "SCREeN" areas of Sleep medicine (insomnia, periodic limb movements of sleep, parasomnias, obstructive sleep apnoea), Cardiovascular (hypertension, congestive heart failure), Renal (chronic kidney disease), Endocrine (diabetes mellitus, thyroid disease, pregnancy/ menopause, diabetes insipidus) and Neurology. Medical and medication causes of



xerostomia should also be considered. Some key indicators for these conditions can be identified in urology clinics, working in partnership with the primary care provider. Therapy of the medical condition sometimes lessens the severity of nocturia. However, there is often a therapeutic conflict, in which case the medical condition generally takes priority on safety grounds. It is important to provide patients with a realistic expectation of therapy, and awareness of limitations of current therapeutic options for nocturia.

Conclusions: Several diseases can result in nocturia via varied salt and water regulation pathways, or sleep disruption. Management aims to identify and treat causative factors, but secondary effects can restrict improvement in nocturia.

EPoster Session 13: General Urology (Male LUTS / Emergency / Trauma) 2 Hall 7, June 15, 2022, 11:00 - 12:00

P13-1 Prostatic Urethral Lift (PUL) provides safe and durable improvements in lower urinary tract symptoms of BPH (LUTS/BPH) in patient cohorts with prostate cancer

Mr Mark Rochester[1], Mr Neil Barber[2], Mr. Oliver Kayes[3], Dr. Gregg Eure[4], Dr. Peter Chin[5]
[1]Norfolk And Norwich University Hospital, Norwich, United Kingdom, [2]Frimley Park Hospital, Frimley, United Kingdom, [3]St. James University Hospital, Leeds, United Kingdom, [4]Urology of Virginia, Virginia Beach, United States, [5]South Coast Urology, Wollongong, Australia

Understanding MIST performance in different patient subgroups may help BPH management in varied real-world patient cohorts. This analysis assesses performance and safety of the minimally invasive PUL in patients with prostate cancer.

A retrospective analysis of 3226 PUL patients across 22 sites - patient subgroups were prostate cancer (n=138), treated prostate cancer (n=90), and radiation-treated prostate cancer (n=74), and were compared with non-cancer (n=2174) patients through 36 months post-PUL.

Compared to non-cancer patients, cancer patients were older (74yo vs 69yo) with higher PSA levels at baseline (4.0 vs 2.3). Average time between cancer diagnosis and PUL was 5.2yrs. Post-PUL, all cohorts experienced significant improvements in IPSS (treatment: 40%; radiation: 41%; non-cancer: 37%). Improvements in Qmax, QoL, and PVR were consistent between groups at 24mo. Post-procedure, non-standard-of-care catheterization rates were similar between groups. Most adverse events occurred within 3mo post-procedure; rate of incontinence within 1yr was 7.8% for treated cancer patients (vs 2.6% for non-cancer patients), of which 4 cases resolved in an average of 64d, and 2 of 3 patients with urge incontinence ongoing at last contact. There was no difference between groups in rates of hematuria, stricture, and UTI. Retreatment rate per 100 patient-years was 8.1 for all subjects, 7.3 for cancer patients, 6.7 for radiation-treated patients, and 8.2 for non-cancer patients.

This real-world analysis of PUL outcomes in patients demonstrates that PUL can provide safe, effective, and durable relief of LUTS across a broad range of patient cohorts including prostate cancer patients.

P13-2 Evidence from real- world and controlled studies confirms the safety and effectiveness of the Prostatic Urethral Lift (PUL) in symptomatic BPH patients irrespective of prostate size and shape

Mr Neil Barber[1], Dr. Christian Gratzke, Dr. Mark Rochester, Dr. Karl-Dietrich Sievert, Dr. Steven Gange, Dr. Thomas Mueller, Dr. Gregg Eure
[1]Frimley Park Hospital, Frimley, United Kingdom

Introduction: The shape and size of the prostate are important in selecting the best treatment option for BPH.

Fig. 1 IPSS improvement is independent of previous oncologic therapy

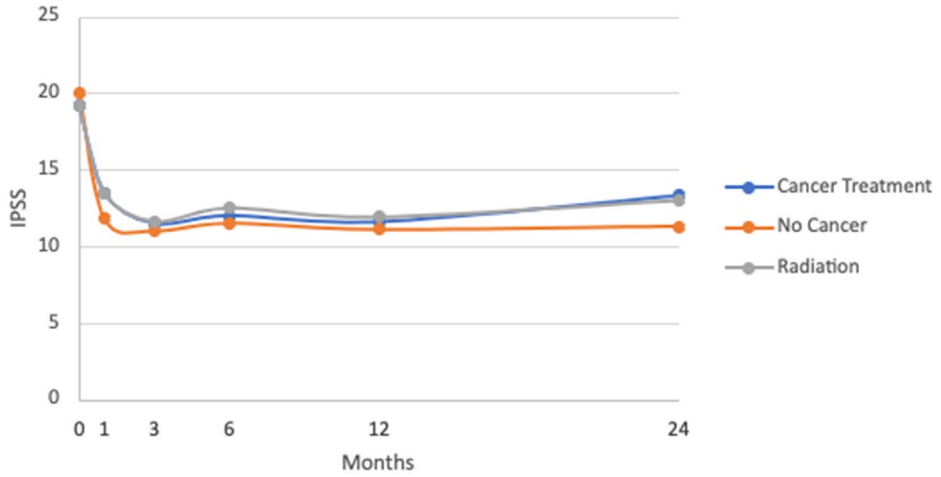
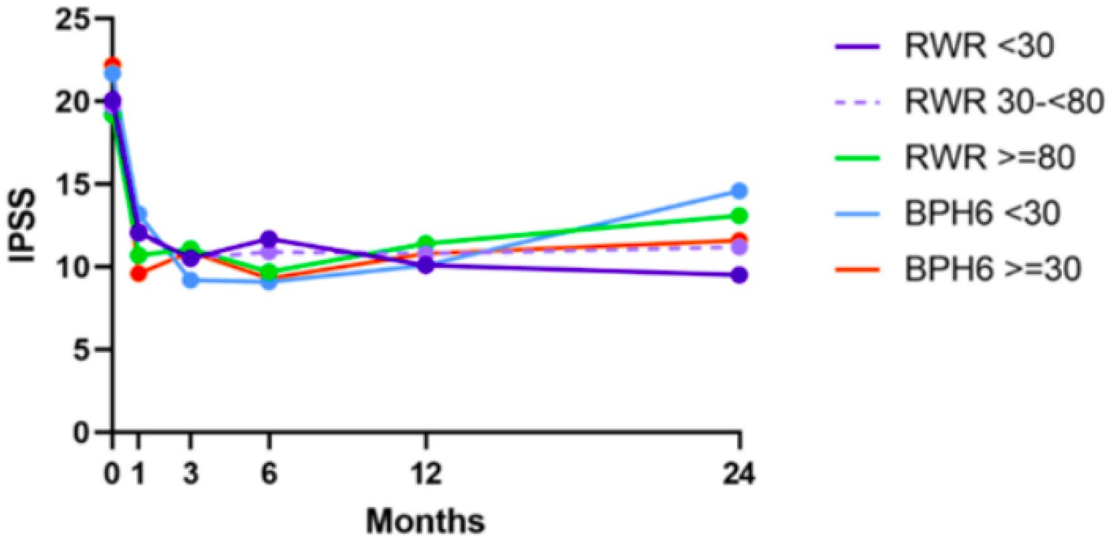


Fig. 1. Improvement in IPSS post-PUL in RWR subjects with prostate size <30cc, 30-<80cc, and ≥80cc compared to BPH6 subjects, and in subjects with OML compared with RWR LL and MedLift OML



This analysis evaluates the effectiveness of PUL relative to prostate size and shape in real-world settings and compares outcomes with PUL controlled trials.

Materials and Methods: A retrospective analysis of 3226 PUL cases across 22 sites after market clearance. Outcomes were compared based on prostate size [small <30 cc (n=256), vs medium 30-<80 cc (n=923), vs large ⩾80 cc (n=70)] and morphology [lateral lobe (n=1834), vs obstructive median lobe (OML; n=244)]. Patient characteristics, IPSS, QoL, adverse events and catheterization rates were assessed at baseline and through 24 months post-PUL. Outcomes for small prostates were compared between RWR and the BPH6 study. RWR OML outcomes were compared to the controlled MedLift study for OML.

Results: Post-PUL, IPSS significantly improved from baseline throughout follow-up across all volume groups. Compared to medium prostates, small prostates had significantly lower AE rates, while large prostates experienced no increase in AEs. RWR and BPH6 small prostate groups experienced similar IPSS scores throughout follow-up. AEs and catheterization rates were significantly lower in RWR vs BPH6 subjects. Outcomes for OML were comparable between RWR and MedLift with respect to symptom relief and non-standard of care catheterization rates. The overall AE rate for OML was significantly lower in RWR versus MedLift.

Conclusion: This comprehensive RWR analysis demonstrates that PUL is safe and effective in the treatment of BPH, regardless of prostate size and shape and corroborates outcomes from PUL controlled trials

P13-3 Day case Rezum TM Water Vapor therapy for urinary retention: A single centre real world experience

Mr Mohamed Noureldin[1], Dr Jake Pickard[1], Mr Yehia Abdelmotagly[1], Mrs Danielle Whiting[1], Mr Max Johnston[1], Mr Raj Kumar[1], Mr Amr Emara[1], Prof Richard Hindley[1,2]

[1]Basingstoke And North Hampshire Hospitals, Basingstoke, United Kingdom, [2]University of Winchester Department of Health and Wellbeing, Winchester, United Kingdom

Introduction: Rezum water vapor therapy is an effective day case minimally invasive surgical treatment (MIST) for men with troublesome LUTS due to benign prostatic obstruction. The potential place for MIST's in the treatment of patients with urinary retention is at present unclear.

Patients and Methods: 46 patients presenting with retention of urine (out of a total of 524 patients) over a 4-year period from 2017 underwent Rezum treatment. All patients were followed up at 3,6 and 12 months after the procedure. At each visit, flow rate, post voiding residual urine, and PROM's including IPSS were recorded.

Results: 34 patients had an indwelling catheter prior to treatment and 12 were self-catheterizing. The mean age was 69 years (std 8.6) with a mean prostate volume of 61 ml (std 24). The average number of injections per case was 9 (std 3), which included median lobe (ML) treatment in 31 of the patients with a mean of 2 (1 std) to the ML. 63% of the patients passed their initial post-treatment

TWOC, with 19% passing at the second attempt. IPSS improved from 21 to 7, 6 and 5 (p=0.001) in 3,6 and 12 months, respectively. Only 2 patients required an overnight stay.

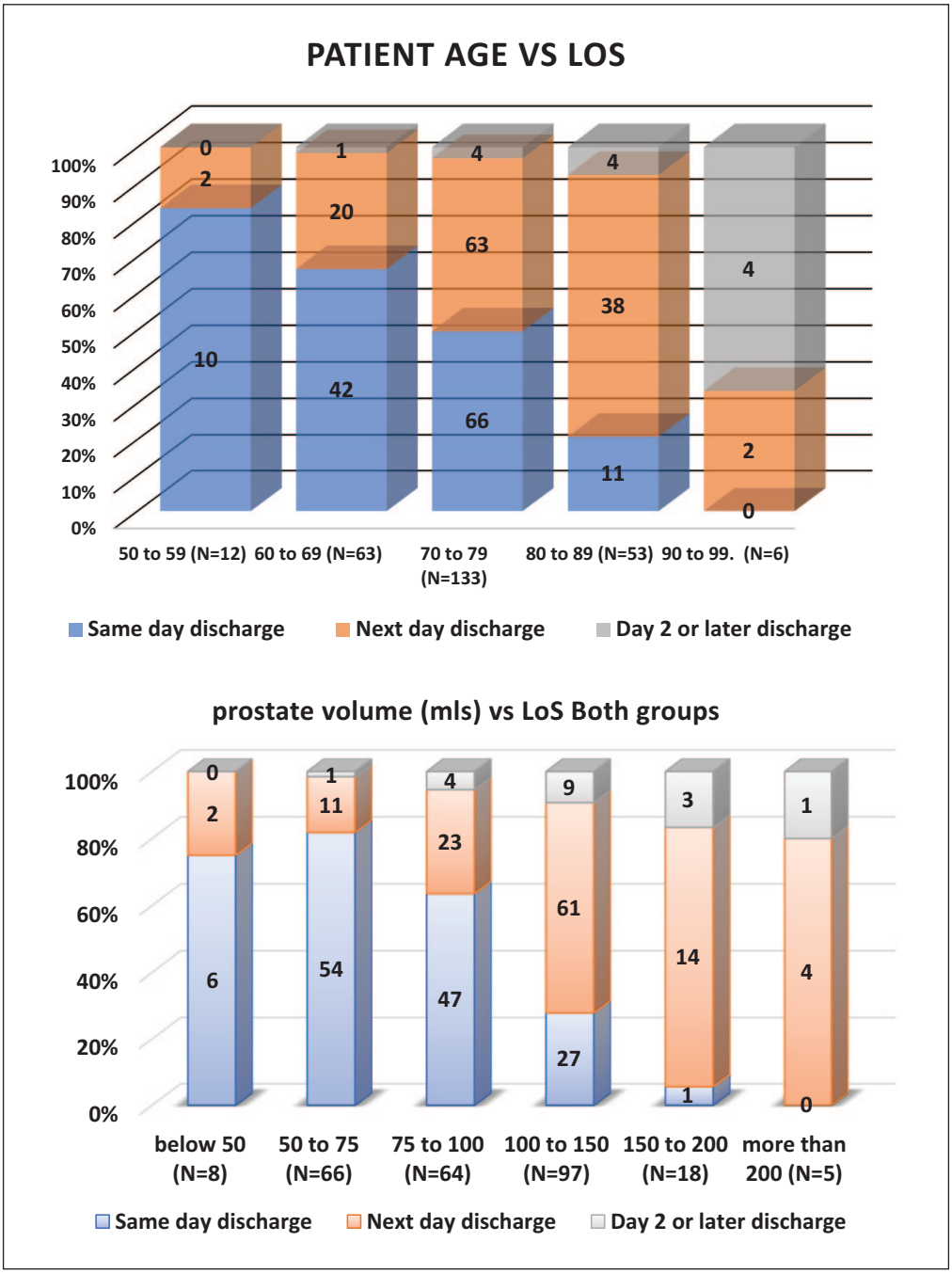
Conclusion: The **Results** from this cohort of patients are encouraging. Further evaluation with longer follow-up is required. The addition of MISTs to the portfolio of options for men with retention of urine may offer a welcome alternative to the conventional treatments and help to reduce the national waiting list burden.

P13-4 Length of stay after HoLEP, an analysis of the influencing factors

Ms Katherine Guest[1], Dr Anam Ijaaz[1], Miss Katherine Guest[1], Mr Mark Cynk[1]

[1]Maidstone And Tunbridge Wells Nhs Trust, Tombridge, United Kingdom

Objective: To assess the factors that influence the length of hospital stay (LoS) post Holmium Laser Enucleation of Prostate (HoLEP).



Materials and **Methods**: Prospectively collected data of 268 consecutive patients who underwent HoLEP were retrospectively analysed. The data was grouped by enucleation techniques. 215 had 2 lobes technique (LT), and in 53 using en-bloc enucleation (EBT). Evaluated were patient age, prostate volume, removed tissue weight and Loss.

Results: The average patients age was 74y (53-93), for the LT and 72y (53-90) for the EBT group.

For both techniques, a positive correlation was observed between patient age and LoS. Of the patients younger than 70 years, 69% were discharged on the same day of the surgery, 49.6% in 70 -79 and 17.7% in over 80-year-olds.

Prostate volume was measured pre-operatively on USS, CT, MRI and on DRE in 13%, 30%, 40% and 17% of the cases, respectively.

For both groups, average prostate volumes and average specimen weight were similar at 99.2mls vs 98.5mls and 71.7 g vs 69.3 g, for the LT and EBT enucleation, respectively.

Both enucleation techniques showed no statistical difference (p=0.4186) in the distribution of LoS per prostate volume. Men with prostates of $<$100mls, 77.5% (107/138) went home on the day of the surgery, comparing to 23% (28/120) with prostates of $>$100mls.

Conclusions: Our study shows that more than two thirds of men younger than 70 years with prostate size up to 100cc can be discharged home on the day of their HoLEP surgery.

P13-5 Impact of untreated pre-operative asymptomatic bacteriuria in patients undergoing Holmium laser enucleation of prostate (HoLEP)

Ms Divya Bheenick[1], Mr Jasper Bondad[1], Mr Peter Acher[1], Mr Daben Dawam[1], Professor Tony Young[1]
[1]Southend University Hospital, Westcliff On Sea, United Kingdom

Introduction: Treatment of pre-operative asymptomatic bacteriuria (ASB) prior to endoscopic surgery is recommended by EAU guidelines. UK practice varies however, due to the historic nature of the evidence behind the guidelines, risk of increased anti-microbial resistance, the paradoxical view that treatment of ASB leads to increased infection and inefficiencies in rescheduling.

We do not routinely treat ASB in our practice prior to Holmium enucleation of the prostate (HoLEP). We present our experience, focusing on the infective complications.

Patients and M**ethods:** Retrospective data collection was performed on consecutive patients undergoing HoLEP between 2015 and 2020. Indication, pre-operative urine cultures, and infective complications were recorded. No patients were pre-treated with oral antibiotics. All patients received intravenous antibiotics on induction and routine postoperative oral antibiotics at the surgeon's discretion.

Results: 443 patients were studied. No urosepsis occurred in the 125 patients with ASB compared to two of 318 patients (0.6%) with no growth on pre-operative urine culture.

29 (7%) patients were treated with oral antibiotics for symptomatic post-operative complications (UTI without fever, epididymitis and haematuria). ASB did not predict for infective complications (urosepsis OR: 0.50 p=0.66; oral antibiotics OR: 0.97 p=0.93).

Conclusion: Not treating ASB prior to a HoLEP procedure is safe. This supports the judicious use of anti-microbials pre-operatively. Other modalities of endoscopic surgery should be similarly assessed.

P13-6 Can we increase bladder outlet obstruction surgery day case rates to tackle the post-Covid Elective Recovery?

Miss Jessica Gallagher[1], Ms Madeleine Connelly[2], Mr Simon Harrison[3], Mr William K Gray[3], Mr Kieran O'Flynn[3], Mr John S McGrath[1], Mr Joseph B John[1]
[1]Royal Devon & Exeter Hospital, Exeter, United Kingdom, [2]The Model Health System, England, [3]Getting It Right First Time, United Kingdom

		ASB			No growth on culture		
Indication	Total n	Total n	Urosepsis n	Complication treated with oral antibiotics n(%)	Total n	Urosepsis n(%)	Complication treated with oral antibiotics n(%)
Urinary Retention	195	105	0	7(7%)	90	1(1%)	8(9%)
LUTS	248	20	0	1(5%)	228	1(0.4%)	13(6%)
Total	**443**	**125**	**0**	**8(6.4%)**	**318**	**2(0.6%)**	**20(7%)**

Table 1: Indications and infective complications.

Table 1. National Trust-level metrics for Hospital Trusts providing bladder outlet obstruction surgery. Day case rate (DCR), length of stay (LOS), 30-day readmission (30D), waiting list time (WLT), annual centre volume (ACV).

	Median	Range	Interquartile range
DCR (%)	6.7	0.7 - 76.9	2.6 - 15.3
LOS (days)	1.7	0.4 - 3.8	1.4 - 2.0
30DR (%)	9.2	0.8 - 28.2	7.9 - 13.2
WLT (days)	164	85 - 262	145 - 192
ACV (cases)	117	16 - 427	72 - 168

Introduction: There is growing recognition that bladder outlet obstruction (BOO) surgery can often be safely performed as a day case procedure. The BOO surgery day case rate (DCR) is a Getting It Right First Time (GIRFT) quality metric. Patients awaiting BOO surgery represent the largest group awaiting elective surgical treatment in urology. This unmet need has expanded considerably due to the Covid-19 pandemic.
Patients and Methods: Model Hospital (MH) is a data-driven improvement tool for English NHS trusts, which utilises routinely collected national level data. MH describes performance metrics for transurethral resection of prostate, laser prostatectomy, prostatic urethral lift, and bladder neck incision. MH data were analysed for all 115 trusts performing BOO surgery over 12 months to October 2021. Associations between service delivery and outcome metrics were tested.
Results: Table 1 shows national Trust-level metrics for DCR, length of stay (LOS), 30-day readmission rate (30D), annual centre volume (ACV), and waiting list time (WLT). Analysis indicated no significant association between any of the following; DCR and 30D (Spearman rank correlation coefficient (rs)=-0.085, p=0.37), ACV and 30D (rs=-0.019, p=0.84), DCR and WLT (rs=0.16, p=0.096).
Conclusion: There is wide variation in DCR and WLT nationally. The absence of association between DCR and 30D suggests that many trusts can safely increase DCR for BOO surgery. Optimising DCR could help to facilitate the post-Covid Elective Recovery for surgery. The lack of association between DCR and WLT, however, suggests that further resource constraints beyond elective inpatient bed availability influence the provision of BOO surgery.

P13-7 Role of Urodynamic study in the evaluation of Lower urinary tract symptoms in young men

Dr Vyshnavi Sathish[1], Ms Mehwash Nadeem[1], Miss Habiba Yasmin[2], Mrs Mahreen Pakzad[2], Mr Jeremy Ockrim[2], Miss Tamsin Greenwell[2], Mr Rizwan Hamid[2]
[1]James Cook Hospital, Middlesbrough, United Kingdom, [2]University College London Hospitals, London, United Kingdom

Introduction :The prevalence of lower urinary tract symptoms (LUTS) in men increases with age and is reported to be 51.3% in men of age <39 years. LUTS in men is often thought to be caused by obstructive etiology. In this study, we aim to quantify the symptoms in relation to the urodynamics (UDS) findings.
Material and Method: We performed a retrospective analysis of our prospectively maintained database to identify men with LUTS, who are younger than 50 years and had Video-urodynamic study for their symptom evaluation between 2019- 2020. We reviewed their clinical history, UDS traces, and reports. Patients who had any major urological surgery in past were excluded.
Results: We identified 99 patients based on inclusion criteria. The mean age was 39 years (18-49). Nearly 50% of these patients presented with voiding LUTS while 37.4% had mixed LUTS with poor flow (49.5%) and incomplete bladder emptying (47.4%) as the predominant presenting complaint. However, on a Urodynamic study of the men who presented with obstructive symptoms, 3 in 5 men were not obstructed. Overall, 50% of patients had detrusor overactivity while 43% of patients had an anatomical obstruction. Detailed Results are shown in the table.
Conclusion: Based on our findings, we conclude that younger men with LUTS should be carefully investigated with urodynamic study before any complex surgical procedure as the symptom presentation does not always represent the underlying etiology.

P13-8 A trans-ethnic genome-wide association study reveals new therapeutic targets for benign prostatic hyperplasia

Dr Michael Ng[1], Koichi Matsuda[2], Chizu Tanikawa[3], Chikashi Terao[4], Yoichiro Kamatani[2,4], Wei Wang[5], Adam Auton[5], Benjamin Turney[6], Professor Richard Bryant[6], Dominic Furniss[1]
[1]Nuffield Department of Orthopaedics, Rheumatology, and Musculoskeletal Science, University of Oxford, Oxford, United Kingdom, [2]Department of Computational Biology and Medical Sciences, University of Tokyo, Tokyo, Japan, [3]Human Genome Centre, University of Tokyo, Tokyo, Japan, [4]RIKEN Centre for Integrative Medical Sciences, Yokohama, Japan, [5]23andMe, Inc., Sunnyvale, United States of America, [6]Nuffield Department Of Surgical Sciences, University of Oxford, Oxford, United Kingdom

Introduction: Medical treatments for benign prostatic hyperplasia (BPH) comprise a small number of pharmacological agents, and patients often progress to require surgery. There is an unmet clinical need to identify genomic drivers of BPH progression requiring surgery, and to identify novel targets for pharmacological intervention.
Materials & Methods: We performed a genome-wide association study of BPH in 126,082 subjects from UK Biobank, with replication in 44,093 subjects from the RIKEN Japanese biobank, and 756,878 subjects from 23andMe (total 110,916 BPH cases and 816,137 controls).

Total number of patients (N) = 99							
Symptom % (n)		Symptom % (n)		Symptom % (n)			
Storage symptoms only - 13.1% (13)		Voiding symptoms only - 49.5% (49)		Mixed symptoms 37.4% (37)			
Urgency	13.1% (13)	Hesitancy	16.1 % (16)				
Urge incontinence	13.1% (13)	Poor flow	49.5% (49)				
Stress incontinence	3% (3)	Straining	34.3% (34)				
Frequency	13.1% (13)	Incomplete emptying	47.4% (47)				
		Urinary retention	17.1% (17)				
Recurrent UTI	13.1% (13)						
Pain	11% (11)						
Urodynamic findings							
Filling phase				Voiding phase			
Bladder capacity % (n)	Bladder sensation % (n)	Compliance % (n)	Urine leak % (n)	Detrusor overactivity % (n)	Obstructed-Anatomical cause % (n)	Obstructed-functional cause % (n)	Unobstructed % (n)
Reduced 28.2% (28)	Increased/early-18.3% (18)	Normal- 81% (81)	25.2% (25)	50.5% (50)	43.4% (43)	33.4% (33)	23.2% (23)
Large 25.5% (25)	Normal – 56.5% (56)	Reduced – 19% (18)		Whiteside trapping % (n)	13.8% (15)		
Normal 46.2% (46)	Reduced/absent-25.2% (25)			Stress incontinence	4.5% (5)		

We investigated candidate genes using differential expression between single cell subtypes in BPH samples versus normal prostate. A genetic risk score for BPH was constructed to assess its use for prognostication. Therapeutic targets were identified from the Open Targets platform.

Results: Seventeen BPH-associated loci were identified. Two loci were only associated with BPH in Western European or Japanese men, representing ethnicity-specific risk alleles. Differential expression of associated genes was identified in cells derived from BPH compared to normal prostate. The homeobox gene NKX3.1 was identified as playing a role in BPH in basal epithelial cells. Patients receiving BPH surgery had a higher genetic risk score than those managed conservatively or with non-surgical treatment. Several genes implicated in this analysis are tractable to therapeutic targeting or drug repurposing.

Conclusions: These Results identify important genes driving the pathophysiology of BPH, revealing candidates for therapeutic development. Our proof-of-principle that the genetic risk score correlates with BPH requiring surgery provides a first step towards personalised medicine for BPH.

P13-9 TREatIng Urinary symptoms in Men in Primary Healthcare using non-pharmacological and non-surgical interventions: a randomised trial of standardised and manualised care versus usual care

Professor MARCUS Drake[1], Dr Jo Worthington[1], Ms Jess Frost[1], Dr Stephanie MacNeill[1], Prof Athene Lane[1]
[1]University of Bristol, Bristol, United Kingdom

Introduction: Conservative therapies are initial treatment for male lower urinary tract symptoms (LUTS). However, there is limited evidence of effectiveness.

Patients and Methods: Cluster randomised controlled trial in 30 NHS GP sites. Sites were randomised 1:1 to deliver usual care or the TRIUMPH intervention, a

standardised advice booklet developed from BAUS patient information sheets with patient and expert input. Patients were directed to relevant sections by healthcare professionals after symptom assessment, providing the manualised element.

Results: 1,077 men were consented; 524 at sites randomised to the intervention arm (n=17) and 553 at sites in the usual care arm (n=13). 887 men (82%) were included in the primary analysis. The two randomised groups were similar for baseline characteristics (e.g. IPSS in intervention arm: 13.62; usual care: 14.59). IPSS scores reduced between baseline and 12 months in both arms, with greater improvement in the intervention group (-1.81; 95% CI: -2.66 to -0.95) after adjustment for baseline scores and variables used in the randomisation. This difference was slightly smaller than aimed for in the sample size calculation (IPSS change -2.0). Similar improvements were seen in secondary outcomes of incontinence (ICIQ-UI-SF; -0.74 (95% CI: -1.15, -0.33)), IPSS quality of life (-0.34 (95% CI: -0.50, -0.18)) and perception of LUTS (B-IPQ; -4.78 (95% CI: -6.31, -3.25)) in the intervention arm. No difference was seen in the proportion of urology referrals or adverse events between arms.

Conclusions: Manualised and standardised care gave sustained benefits for LUTS and quality of life across several patient-reported and clinical outcomes.

P13-10 Predictors of symptom outcome for prostate surgery in men with Lower Urinary Tract Symptoms in the UPSTREAM study

Dr Grace Young[1], Dr Amanda Lewis[1], Dr Hiroki Ito[2], Professor MARCUS Drake[1]

[1]University of Bristol, Bristol, United Kingdom, [2]Yokohama City University Graduate School of Medicine, Yokohama, Japan

Introduction: Anticipating operative outcome from standard pre-operative evaluations (symptom scores, flow rate, urodynamics) is needed when deciding whether to recommend surgery for male lower urinary tract symptoms (LUTS).

Patients and Methods: UPSTREAM (Urodynamics for Prostate Surgery: Randomised Evaluation of Assessment Methods, ISCTRN56164274) randomised 820 men to a routine care (RC) diagnostic pathway (n=393) or a pathway with RC plus urodynamics (UDS) (n=427). Men completed International Prostate Symptom Score (IPSS) and International Consultation on Incontinence Questionnaires (ICIQ), at baseline and 18 months. Regression models identified baseline clinical and symptom measures that predicted outcome (success defined as IPSS reduced by at least 3).

Results: The strongest predictor was the ICIQ voiding subscale, with an optimal cut-off point of >8. Surgery was more successful in those with age 16, IPSS QoL score >4, and ICIQ total score >18. The optimum multivariate model, with an AUROC of 0.78, for predicting a surgical decision in men receiving RC with data on all variables (n = 311) consisted of maximum flow rate (Qmax), age, ICIQ voiding subscale, and IPSS QoL. With UDS, surgery was most successful with BOOI of >47.6 and/or BCI of >123.0. The optimum model, with an AUROC of 0.69, for men receiving UDS with data on all variables (n = 220) included Qmax, PVR, ICIQ total score, and age. The addition of BOOI, raised the AUROC to 0.78.

Conclusions: Each element of diagnostics contributes to predicting surgery outcome. Selective use of UDS could detect obstructive pathology, missed by routine measures, in certain subgroups.

EPoster Session 14: Bladder Cancer: Non-Muscle Invasive Hall 7, June 15, 2022, 14:00 - 15:00

P14-1 Developing a risk calculator to predict cancer in patients with haematuria: The IDENTIFY Study

Mr Sinan Khadhouri[1], Mr Kevin Gallagher[2], Mr Kenneth MacKenzie[3], Mr Taimur Shah[4], Mr Chuanyu Gao[5], Miss Eleanor Zimmermann[6], Mr Thineskrishna Anbarasan[2], Mr John McGrath[8], Mr Arjun Nambiar[3], Mr Veeru Kasivisvanathan[7], The IDENTIFY Study group[7]

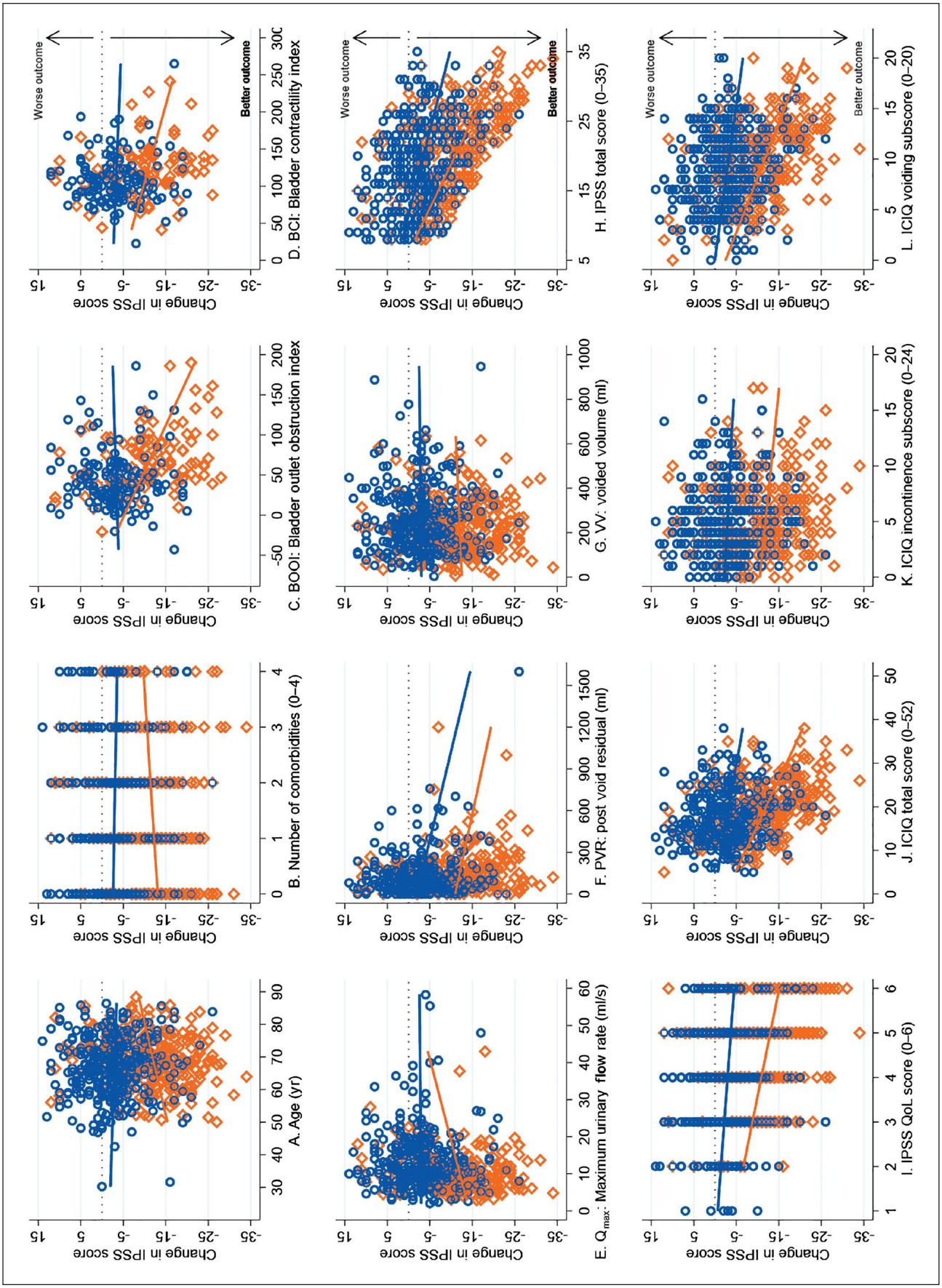
[1]Aberdeen Royal Infirmary, Aberdeen, United Kingdom, [2]Western General Hospital, Edinburgh, United Kingdom, [3]Freeman Hospital, Newcastle, United Kingdom, [4]Imperial College Healthcare NHS Trust, London, United Kingdom, [5]Addenbrookes Hospital, Cambridge, United Kingdom, [6]Torbay and South Devon NHS Foundation Trust, Torbay, United Kingdom, [7]University College London, London, United Kingdom, [8]Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom

Introduction: A diagnostic risk stratification tool for patients presenting with haematuria is important to prioritise investigations.

Patients and Methods: IDENTIFY was an international prospective observational study and included 10,282 adults from 110 sites in 26 countries, referred to secondary care with haematuria (visible or non-visible). Patients with a known or previous urological malignancy were excluded.

The primary outcomes were the presence or absence of urinary tract cancer (bladder, UTUC and RCC).

We performed a mixed effects multivariable logistic regression with site and country as random effects and clinically important patient-level candidate predictors, chosen a priori, as fixed effects. Predictors were selected primarily using clinical reasoning, in addition to backward stepwise selection.


A. Age (yr)
B. Number of comorbidities (0–4)
C. BOOI: Bladder outlet obstruction index
D. BCI: Bladder contractility index
E. Q_{max}: Maximum urinary flow rate (ml/s)
F. PVR: post void residual (ml)
G. VV: voided volume (ml)
H. IPSS total score (0–35)
I. IPSS QoL score (0–6)
J. ICIQ total score (0–52)
K. ICIQ incontinence subscore (0–24)
L. ICIQ voiding subscore (0–20)
Change in IPSS score
Worse outcome
Better outcome

Results: The unadjusted prevalence of bladder cancer was 17.2% (n=1763), UTUC 1.20% (n=123) and RCC 1.00% (n=103). The final model included predictors of increased risk (visible haematuria, age, smoking history, male sex, family history) and reduced risk (previous haematuria investigations, urinary tract infection, dysuria/suprapubic pain, anticoagulation, catheter use, previous pelvic radiotherapy). The final model's AUC was 0.86 (95% CI 0.85–0.87). The model is limited to patients without previous urological malignancy.
Conclusions: We developed a cancer prediction model and risk calculator using patient characteristics to predict urinary tract cancer in patients with haematuria. This can risk-stratify patients and aid the clinician's decision-making process, prioritising those with higher risk of cancer for prompt investigation. It is available as an app "IDENTIFY risk calculator". Further work will externally validate the model and evaluate diagnostic test accuracy to build a personalised diagnostic pathway.

P14-2 Global variation in quality of transurethral resection of bladder surgery, early Results from the RESECT study

Mr Kevin Gallagher[1], Miss Nikita Bhatt[2], Mr Keiran Clement[3], Mr. Sinan Khadhouri[4], Miss Meghana Kulkarni[5], Mr. Steven MacClennan[6], Professor Matthew Neilsen[7], Mr. Paramananthan Mariappan[1], Mr Tim O'Brien[5], Mr. Veeru Kasivisvanathan[9], . . RESECT_Global_Collaborators[10]
[1]Edinburgh Bladder Cancer Surgery (EBCS), Dept. Of Urology, Western General Hospital, Edinburgh, [2]Department of Urology, University Hospitals Cambridge, Cambridge, United Kingdom, [3]Department of Urology, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom, [4]Health Services Research Unit, University of Aberdeen, Aberdeen, United Kingdom, [5]Department of Urology Guy's and St. Thomas' NHS Foundation Trust, London, United Kingdom, [6]Academic Urology Unit, University of Aberdeen, Aberdeen, United Kingdom, [7]Department of Urology, University of North Carolina School of Medicine, Chapel Hill, United States of America, [8]Department of Urology, Western General Hospital, Edinburgh, United Kingdom, [9]Division of Surgery and Interventional Science, University College London, London, United Kinddom, [10]BURST, London, United Kingdom

Introduction: RESECT is an international observational study of transurethral resection of bladder tumour(TURBT). The aim of this analysis was to measure the global achievement of 4 TURBT quality indicators(QI) and determine if there is need for improvement .
Methods: Patients included were consecutive, first TURBT cases undertaken with curative intent. The QIs measured were: Detrusor muscle sampled(QI1-DM+) (eligible: tumours >5mm); Single instillation intravesical chemotherapy given within 24 hours(QI2-SI-IVC) (eligible: all cases unless patient allergic or SI-IVC not available); The completeness of resection is documented (QI3-ResDoc)(eligible: all); All of tumour number, size and location are documented(QI4-TumDoc)(eligible: all). To assess if variation was similar within the largest country in the study(UK, N=69) vs internationally, we displayed performance achievement variation, in the UK and non-UK(N=49) sites.

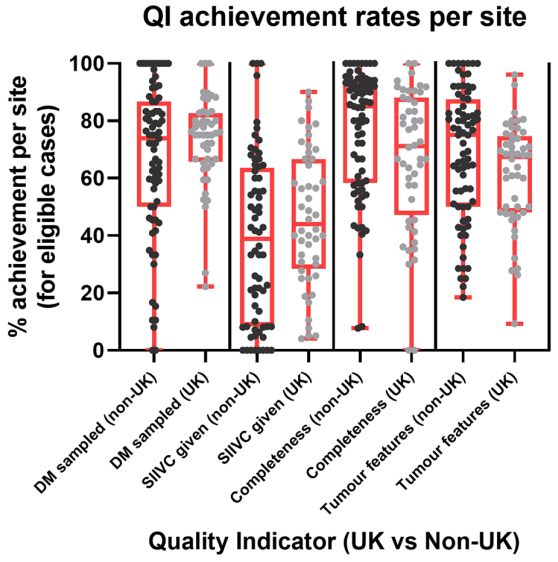


Figure 1: The variation in percentage achievement of each of the 4 QIs at each of 118 sites with ≥10 cases submitted split by UK (69) and non-UK (49) sites to display intra and inter-country variation with the largest represented country (UK) in the study. Each datapoint represents 1 site. Min, 25th, Median, 75th and Max shown on box plot in red. SIIVC given: SI-IVC given within 24 hours of surgery. Completeness: A statement of completeness of resection is included in the operative record. Tumour features: All of tumour number, size and location are documented in the operative record.

Results: 3193 patients undergoing TURBT from 175 sites in 40 countries were included.
The achievement of each of the TURBT quality indicators had wide variation between sites both within and between countries (Figure 1). All 4 QI's varied from <10% achievement to 100% achievement across sites. Median (25th, 75th) achievement rate across sites with > 10 cases for each QI was: QI1-DM+: 75% (59.5-85.0); QI2-SIIVC24: 41.7% (19.0-64.6); QI3-ResDoc: 80.0% (57.5-91.9); QI4-TumDoc: 68.4% (50.0-80.6).
Conclusion: There is significant variation in the achievement of TURBT QI within countries and internationally with room for improvement. Phase 2 of the RESECT study will investigate if it is possible to improve this performance and reduce recurrence rates using feedback.

P14-3 A more nuanced approach to repeat Transurethral Resection of Bladder Tumour (re-TURBT): Multicentre real world long-term outcomes from 1,219 primary High Grade Non-Muscle Invasive Bladder Cancer (NMIBC) patients managed within the Scottish Bladder Cancer Quality Performance Indicator (QPI) Programme

Mr Paramananthan Mariappan[1,2], Mr Allan Johnston[3], Mr Matthew Trail[4], Mr Sami Hamid[4], Mr Barend A. Dreyer[5], Ms Sara Ramsey[6], Mr Alasdair Boden[7], Mr Gianluca Maresca[8], Mr Rami Hasan[1,9], Mr Graham Hollins[9], Mrs Claire Sharpe[10], Mr Benjamin G Thomas[11,12], Dr Luisa Padovani[1], Ms Roberta Garau[1], Dr Julia Guerrero-Enriquez[2], Ms Helen Simpson[5], Mr Jaimin Bhatt[3], Mr Imran Ahmad[3], Mr Ghulam M Nandwani[4], Mr Altaf H Chaudhry[10], Mr Rehan S Khan[7], Mr Konstantinos Dimitropoulos[8], Dr Catriona Graham[13], Mr David Hendry[3]

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Introduction: The quality of initial interventions influence clinical outcomes in NMIBC. Scotland implemented a national Quality Performance Indicator (QPI) programme for Bladder Cancer (BC) in April 2014. As part of a series of analyses from a related, large clinical collaborative project, we aimed to describe the association between achievement of QPIs, tumour features and timing of re-TURBT with real world long term outcomes in High Grade NMIBC (HG-NMIBC) patients, supporting a more nuanced clinical management strategy.

Materials and Methods: BC QPIs were implemented within a robust governance framework. QPIs for NMIBC included: (a) standardised documentation/diagram during TURBT; (b) single post-TURBT Mitomycin C instillation; (c) sampling Detrusor Muscle (DM); (d) early re-TURBT in HG-NMIBC.

Health Boards collected data prospectively, while clinicians recorded follow up variables. Both were pooled from 12 collaborating centres.

Patients diagnosed with new NMIBC between April 2014 and March 2017 were included. Follow up endpoint was June 2021.

Results: From 3,759 new BC patients, 2,773 were NMIBC with 1,219 diagnosed with HG-NMIBC. Re-TURBT was performed in 811 (66.5%) patients.

The risk of residual cancer at re-TURBT in centres where DM sampling in HG-NMIBC was $<80\%$ and $>80\%$ (QPI target) were 237/531(44.6%) and 81/280(28.9%), respectively (OR= 2.0, 95%CI = 1.5-2.7, $p<0.001$). 5-year Recurrence and Progression Free Survival were related to re-TURBT as well as tumour characteristics.

Conclusions: Analysis of long-term outcomes consequent to standardisation of initial treatment provides vital contemporary real world prognostic information to develop a more nuanced approach in HG-NMIBC patients, including selection and timing of re-TURBT.

P14-4 The Management of T1 Bladder Cancer: An Audit of Practice Against Current Guidelines and Evaluation of Long-Term Outcomes

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Introduction: Up to 20% of all non-muscle invasive BCs (NMIBC) are stage T1. EAU guidelines advise re-resection is performed in all T1 tumours. This study audited the management of T1 BC and evaluated long term outcomes.

Patients and Methods: Patients diagnosed with T1 stage bladder cancer (BC) from transurethral resection of bladder tumour (TURBT) histology from 2014-2018 were included. Data was collected retrospectively.

Results: A total of 141 patients were included. The median (interquartile range [IQR]) follow up was 44 (34-65) months. The median (IQR) age was 72 (66-78). Detrusor muscle (DM) was present in 70% of initial TURBTs and 68% underwent a re-resection. Re-resection resulted in upstaging in 3% and residual disease was present in 29% (23% in patients with DM in their initial TURBT). Intravesical adjuvant treatments (BCG or Mitomycin) occurred in 65% and primary radical cystectomy in 28%.

Recurrence occurred in 36% and progression in 4%. Re-resection was associated with lower recurrence (33% vs 42%, p=0.3) and progression (2% vs 9%, p=0.07) but this was not statistically significant. There was also no significant difference in overall survival (Log rank p=0.08), recurrence-free survival (Log rank p=0.08) or progression free survival (Log rank p= 0.02, Cox Regression p=0.7).

Conclusion: Re-resection is an underutilised yet important aspect of T1 BC management. There remains a significant risk of residual disease if DM is present in an initial TURBT.

Re-resection did not lead to statistically significant improved recurrence, progression, or survival but this may be due to numbers and follow up duration.

P14-5 Reduced Dose BCG for Patients with Non-Muscle-Invasive Bladder Cancer in an Era of BCG Shortage: Real-World Experience from a Tertiary Cancer Center

Miss Niyati Lobo[1], Dr Kelly Bree[2], Dr Patrick Hensley[2], Ms Graciela Nogueras-Gonzalez[2], Dr Neema Navai[2], Dr Colin Dinney[2], Dr Ashish Kamat[2]
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Introduction: The global bacillus Calmette-Guerin (BCG) shortage has prompted the use of alternative treatment strategies for patients with intermediate- and high-risk non-muscle-invasive bladder cancer (NMIBC). One such strategy is split-vial dosing which allows several patients to be treated from a single vial of BCG. We evaluated the impact of one-third dose BCG on oncological outcomes in a large cohort of patients with NMIBC treated with adequate BCG in a real-world setting.
Patients: We performed an institutional review board-approved review of patients with NMIBC treated with adequate BCG at our institution between 2000 and 2019. BCG dose was recorded for each patient and patients were stratified according to whether they had received one-third dose (1/3D) BCG or full dose (FD) BCG. Time to recurrence, time to progression and cancer-specific survival were estimated using Kaplan-Meier Methods.
Results: Of 563 patients with NMIBC treated with adequate BCG, 150 (26.6%) received 1/3D and 413 (73.4%) received FD. The use of 1/3D BCG did not adversely affect time to recurrence (p=0.449) or time to progression (p=0.716). When stratified by 2021 EAU prognostic factor risk group, 1/3D BCG was not associated with worse time to progression. Cancer-specific survival was similar between patients receiving 1/3D and FD BCG (p=0.320).
Conclusions: The use of 1/3D BCG was not associated with adverse oncological outcomes in a large cohort of patients receiving adequate BCG for intermediate- and high-risk NMIBC. Based on this real world experience, risk-stratified split-vial dosing may represent a valuable approach for other institutions facing BCG shortages.

P14-6 A Never-ending Story? Non-muscle invasive bladder cancer (NMIBC) characteristics following Nephroureterectomy for Upper Tract Transitional Cell Carcinoma (UTUC)

Miss Yasmin Abu Ghanem[1], Prof Shamim Khan[1], Miss Natalie George[1], Mr Ko Ko Zayar Toe[1], Mr Akinlolu OluwoleOjo[1], Ms Elsie Mensah[1], Mr Ramesh Thurairaja[1], Mr Sachin Malde[1], Miss Kay Thomas[1], Mr Matthew Bultitude[1], Mr Rajesh Nair[1]
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Introduction: Recently, there is increasing evidence to suggest non-muscle invasive bladder cancer (NMIBC) occurring after radical nephroureterectomy(RNU) for UTUC carries a poorer prognosis. In the current analysis, we aim to examine whether new bladder tumours following RNU are more prone to metastatic progression and worse overall survival(OS).
Materials & Methods:Study included all UTUC patients who underwent RNU between 11/01/2017 and 01/02/2020. The association between prognosis and NMIBC was examined first by comparing the outcomes in patients with or without a history of NMIBC but no local recurrence, and second, in patients who had no history of NMIBC but did nor did not have newly diagnosed bladder tumour.
Results: Final cohort included 87 patients with a median follow-up of 24 months. NMIBC was previously diagnosed in 32.2% of the patients, with a median of 3-years between initial diagnosis of UTUC. On multivariant-analysis, a new diagnosis of NMIBC, but not primary NMIBC was associated with metastatic progression (HR:3.7,$p<0.01$) but not OS($p>0.05$). Mitomycin(MMC) treatment was associated with a reduced risk of local recurrence (HR:-4.4,$p<0.01$) in patients with previous diagnosis of NMIBC but did not reduce the risk of new bladder lesions (p=0.86).
Conclusions: Patients who had a new diagnosis of NMIBC following UTUC demonstrated a poorer metastatic free survival and reduced response to MMC. That may suggest that NMIBC post UTUC are inherently distinct from primary NMIBC and may be more similar to UTUC. An optimal treatment strategy and risk scoring model should be created in this subgroup of patients to allow better disease control.

P14-7 Delayed first recurrence in Low Grade pTa Urothelial Carcinoma precludes early cessation of surveillance: analysis of prospectively maintained data in 658 patients managed across 40 years in one centre

Mr Paramananthan Mariappan[1,2], Ms Sorna L Paramananthan[3], Dr Amy Forbes[4], Ms Grace Loy[3], Ms Serena C Baker[3], Dr Kenneth M Grigor[2,5], Mr Gordon Smith[4]
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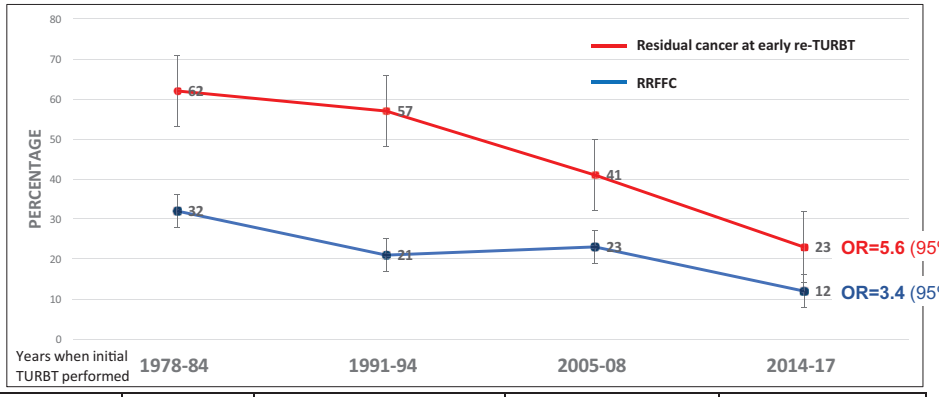
Introduction: With an observed higher risk of delayed first recurrence in patients with low grade (LG) pTa non-muscle invasive bladder cancer (NMIBC) from the 90's

Figure 1: Quality of initial TURBT in newly presenting bladder cancer patients over a 40 year period in one tertiary centre as snapshots in each decade and measured by:
Recurrence Rate at First Follow up Cystoscopy (RRFFC) in new G1 & G2 low grade pTa and Residual cancer at early re-TURBT in those with new High grade/G3 pTa/T1 Bladder Cancer.
(Cohorts included consecutive patients who underwent initial TURBT between 1978-84; 1991-94; 2005-08 and 2014-17)



Number of patients	New G1/G2 (LG) pTa	144	196	261	198
	New HG/G3 pTa/T1	109	110	151	153

compared with the 80's [DOI:10.1016/j.juro.2006.10.048], we sought to examine if the improving quality of initial Transurethral Resection of Bladder Tumour (TURBT) and increased use of single post-TURBT Mitomycin C instillation (SPI-MMC) in the 2000's altered long-term recurrence patterns in LGpTa patients allowing earlier cessation of surveillance.

Materials and Methods: Prospectively maintained data on patients with primary G1/G2/LGpTa NMIBC diagnosed and managed in one tertiary centre between 1978 and 2020 were analysed. Three separate cohorts, named 80's, 90's and 2000's cohorts comprised consecutive patients undergoing initial TURBT in 1978-84 (n=152), 1991-96 (n=196) and 2005-08 (n=310), respectively.

All pathology slides were reviewed by one specialist uro-pathologist.

Results: SPI-MMC use increased over the years. The quality of initial TURBT improved significantly over 4 decades (Figure 1).

Patterns of recurrence and progression appeared similar in the 90's and 2000's. In patients recurrence free for 5 years since initial TURBT (2000's cohort), the rate of future recurrence was 12.6%(14/111). The rate of future recurrence increased significantly to 34.2%(70/205) in those only recurrence free for 1 year. There was a commensurate increase in the risk of progression. One in three low risk NMIBC experienced first recurrence beyond 1 year.

Conclusions: Despite increased quality of initial TURBT and SPI-MMC use, delayed first recurrence and progression in patients with LGpTa NMIBC warrants surveillance up to 5 years, including those classified as low risk.

P14-8 The value of negative dipstick for haematuria in patients undergoing surveillance for Low Grade Ta Urothelial Carcinoma – a two-stage prospective clinical study in 524 patients

Mr Paramananthan Mariappan[1,2], Mr Chandrarajan P. Shah[3], Mrs Tanya Lord-McKenzie[1], Ms Narelle Gregor[1], Mr Antonios Makris[4], Mr Matthew Trail[4], Ms Jennifer Gray[1], Mr Gordon Smith[4]

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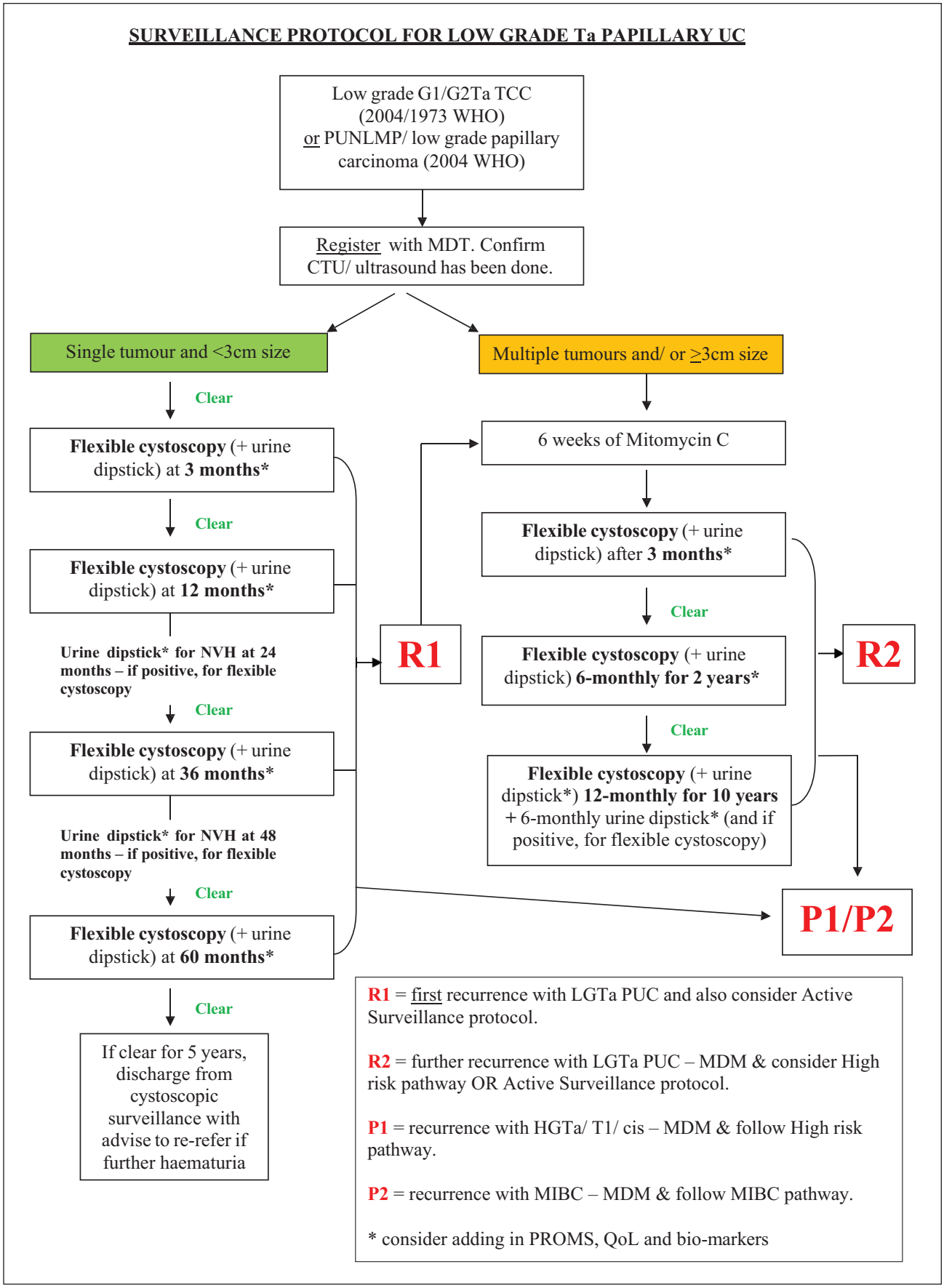
Introduction: The risk of first recurrence beyond 5 years in low grade Ta (LGTa) non-muscle invasive bladder cancer (NMIBC) patients is small, but delayed first recurrence appears higher in more contemporary cohorts (DOI: 10.1016/j.juro.2006.10.048). The association between urinary dipstick for haematuria (UDH) and absence/ presence of recurrence in LGTa NMIBC is also unknown.

We evaluated these association in 2008 and planned re-evaluation 10 years later. The primary objective was to assess the value of negative UDH (UDHN) in predicting absence of recurrence and inform surveillance protocols.

Patients and Methods: The evaluation was carried out prospectively in 2 cohorts of surveillance patients - (a) "Exploration" (2007-Mar 2008); (b) "Validation" (Nov 2017-Aug 2018).

UDH was done just prior to flexible cystoscopy. Patient, operative and surveillance details have been recorded


SURVEILLANCE PROTOCOL FOR LOW GRADE Ta PAPILLARY UC
Low grade G1/G2Ta TCC (2004/1973 WHO) or PUNLMP/ low grade papillary carcinoma (2004 WHO)
Register with MDT. Confirm CTU/ ultrasound has been done.
Single tumour and <3cm size
Multiple tumours and/ or ≥3cm size
Clear
Flexible cystoscopy (+ urine dipstick) at 3 months*
Clear
Flexible cystoscopy (+ urine dipstick) at 12 months*
Urine dipstick* for NVH at 24 months – if positive, for flexible cystoscopy
Clear
Flexible cystoscopy (+ urine dipstick) at 36 months*
Urine dipstick* for NVH at 48 months – if positive, for flexible cystoscopy
Clear
Flexible cystoscopy (+ urine dipstick) at 60 months*
Clear
If clear for 5 years, discharge from cystoscopic surveillance with advise to re-refer if further haematuria
R1
6 weeks of Mitomycin C
Flexible cystoscopy (+ urine dipstick) after 3 months*
Clear
Flexible cystoscopy (+ urine dipstick) 6-monthly for 2 years*
Clear
Flexible cystoscopy (+ urine dipstick*) 12-monthly for 10 years + 6-monthly urine dipstick* (and if positive, for flexible cystoscopy)
R2
P1/P2
R1 = first recurrence with LGTa PUC and also consider Active Surveillance protocol.
R2 = further recurrence with LGTa PUC – MDM & consider High risk pathway OR Active Surveillance protocol.
P1 = recurrence with HGTa/ T1/ cis – MDM & follow High risk pathway.
P2 = recurrence with MIBC – MDM & follow MIBC pathway.
* consider adding in PROMS, QoL and bio-markers

prospectively using standard proforma since 1978 in our institution.
Only patients presenting with primary LGTa pTa NMIBC were included for analysis.
Results: From 1161 surveillance patients, 231 (Exploration) and 293 (Validation) LGTa NMIBC patients were included. Recurrences were significantly lower in the Validation cohort. Specificity and negative predictive values were 64.2% and 82.8%, respectively in the Exploration cohort; which increased to 90.0% and 89.7%, respectively in the Validation cohort. These values increased further in patients with solitary primary tumours and those without recurrence for 3 years.
Conclusions: UDHN has a high probability of being associated with absence of recurrence in small, LGTa NMIBC and could be an in-expensive adjunct during surveillance. Validation is being performed in a protocol (Figure 1) since 2019.

P14-9 Patient-Derived Organoid Culture as a Model of Non-Muscle Invasive Bladder Cancer. A UK-based Experience

Dr Kelly Ward[1], Dr Yao Yiang[1], Dr Kassiani Skordilis[2], Mr Prashant Patel[2], Dr Farhat Khanim[1], Mr Rik Bryan[1]
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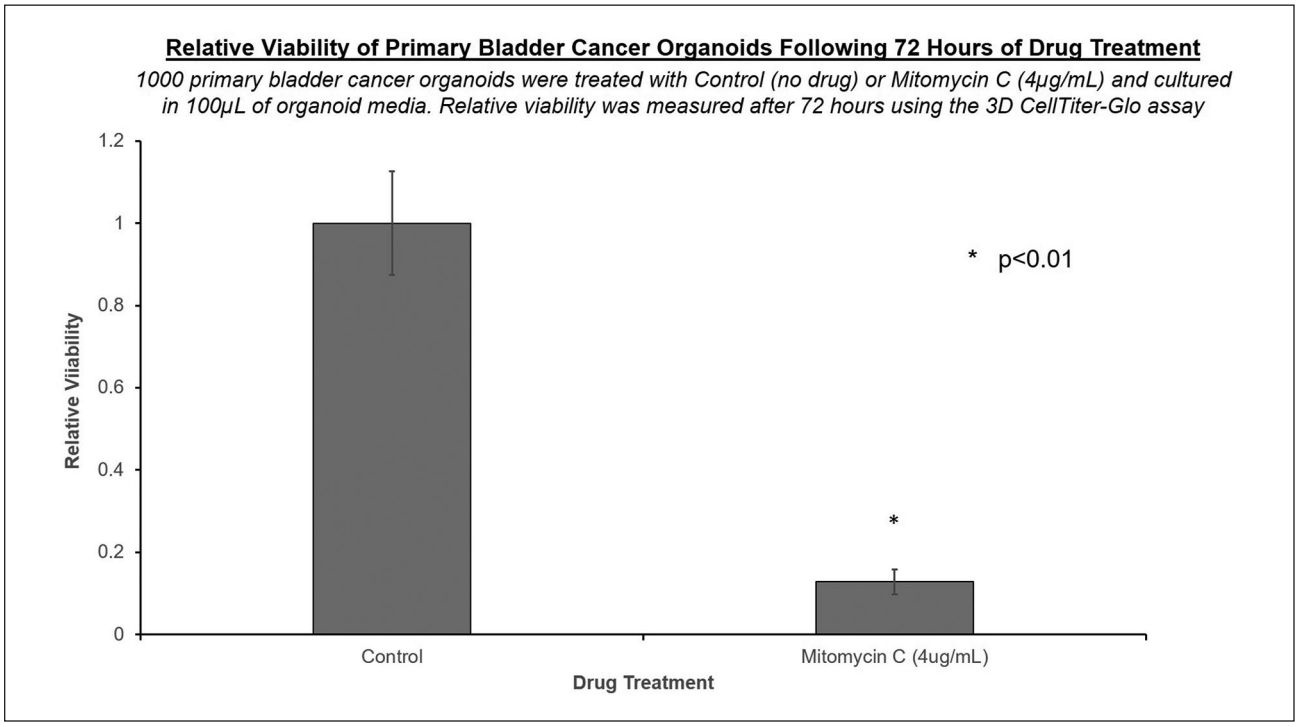
Introduction: Bladder cancer (BC) effects >500,000 new patients per year, with Non-Muscle Invasive Bladder Cancer (NMIBC) representing >75% of cases. Patient-derived BC organoids better capture the heterogeneous nature of this disease than immortal BC cell lines. Here we demonstrate how a patient-derived NMIBC organoid model can be established and used for therapeutic drug testing.
Materials & Methods: Surplus BC tissue from patients undergoing Transurethral Resection of Bladder Tumour was repurposed for this study. Ethical approval was in place (RG_HBRC21-387). Patients were consented per local protocols. BC specimens were processed through dissection and enzymatic digestion, and cultured in Matrigel at 37°C, 5% CO2. 1000 organoids were plated and treated with 4µg/mL of Mitomycin C or no drug. Organoid viability was assessed after 72 hours using the CellTiter-Glo Assay.
Results: 16 BC specimens were collected. Average specimen weight was 0.2g (range 0.02-0.8g). Average time from resection to culture was 107 minutes (range 20-300). Initial cell counts varied between 50,000 and 10,000,000. BC organoids were successfully cultured in ~50% of cases. BC organoids grew as regular spheroids, irregular spheroids or aggregates of cells. Cold-cut biopsy specimens tended to grow better than diathermy specimens. Organoids could be passaged. Treatment with Mitomycin C significantly reduced the relative viability of primary BC organoids compared to controls ($p<0.01$).
Conclusions: We have successfully demonstrated that patient-derived primary BC organoids can be cultured from surplus surgically-resected specimens. BC organoids responded to treatment with routinely-used intravesical drugs, so should be considered as a model for testing novel treatments for NMIBC.



P14-10 Epigenetic Modulation as a Novel Target for the Intravesical Treatment of Non-Muscle Invasive Bladder Cancer

Dr Kelly Ward[1], Dr Yao Yiang[1], Dr Claudia Simm[2], Dr Anna-Maria Caridis[1], Dr Kassiani Skordilis[3], Mr Prashant Patel[3], Dr Chas Bountra[4], Dr Farhat Khanim[1], Mr Rik Bryan[1]

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Introduction: Bladder cancer (BC) affects >500,000 new patients per year globally, with Non-Muscle Invasive BC (NMIBC) representing >75% of cases. 80% of NMIBC patients develop recurrent disease, with 10-20% progressing to Muscle-Invasive BC. Here we demonstrate a screening platform for identifying novel intravesical therapeutics for NMIBC, through testing in 2D immortal and 3D primary BC cell cultures.

Materials & M**ethods:** Over 200 novel, epigenetic modulators (1-10μM) were screened against immortal BC cell lines (MG-HU3, SW780, T24, VM-CUB1), both alone and in combination with Mitomycin C (4μg/mL). Drugs were applied continuously and as a 1-hour pulse to mimic intravesical delivery. Lead compounds were then screened against patient-derived, primary BC organoids (Ethical approval: RG_HBRC21-387). Cell viability was assessed after 72 hours using CellTiter-Blue and CellTiter-Glo assays.

Results: Six epigenetic modulators (BC1-6) significantly reduced cell viability of immortal BC cell lines, compared to controls ($p<0.05$). Drug BC6 was particularly promising and reduced cell viability of immortal cultures by up to 97%, even when delivered alone and as a 1-hour pulse ($p<0.01$). Treatment with BC6 significantly reduced the viability of primary BC organoids ($p<0.01$) and significantly enhanced the killing effects of Mitomycin C ($p<0.05$).

Conclusions: We have successfully developed a screening platform for identifying potential new intravesical therapeutics for the treatment of NMIBC. We have identified 6 novel epigenetic modulators that reduce BC cell viability. BC6 should be further explored as a novel intravesical drug to be used in the treatment of NMIBC.

EPoster Session 15: Bladder Cancer: Muscle Invasive, Wednesday 15 June, 1500-1530, Hall 7

P15-1 Results of the intracorporeal robotic vs open cystectomy (iROC) multi-centre randomised trial

Dr Pramit Khetrapal[1], Prof James Catto[2], Dr Federico Ricciardi[1], Prof Gareth Ambler[1], Mr Tarek Al-Hammouri[3], Prof Muhammad Shamim Khan[4], Mr Ramesh Thurairaja[4], Mr Rajesh Nair[4], Dr Andrew Feber[1], Prof Simon Dixon[2], Prof Norman Williams[1], Mr Senthil Nathan[3], Mr Timothy Briggs[3], Mr Ashwin Sridhar[3], Mr Imran Ahmed[5], Mr Jaimin Bhatt[6], Mr Philip Charlesworth[7], Mr Christopher Blick[7], Mr Marcus Cumberbatch[8], Prof Syed Hussain[2], Mr Sanjeev Kotwal[9], Mr Anthony Koupparis[10], Mr John McGrath[11], Mr Aidan Noon[8], Mr Edward Rowe[10], Mr Nikhil Vasdev[12], Mr Vishwanath Hanchanale[13], Mr Daryl Hagan[1], Ms Chris Brew-Graves[1], Prof John Kelly[1]

[1]University College London, London, United Kingdom, [2]University of Sheffield, Sheffield, United Kingdom, [3]University College London Hospital, London, United Kingdom, [4]Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom, [5]CRUK Beatson Institute, Glasgow, United Kingdom, [6]Queen Elizabeth University Hospital, Glasgow, United Kingdom, [7]Royal Berkshire NHS Foundation Trust, Reading, United Kingdom, [8]Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom, [9]Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom, [10]North Bristol NHS Trust, Bristol, United Kingdom, [11]Royal Devon and Exeter NHS Trust, Exeter, United Kingdom, [12]Lister Hospital, Stevenage, United Kingdom, [13]Royal Liverpool and Broadgreen University Hospitals NHS Trust, Liverpool, United Kingdom

Introduction: The role of minimal access surgery using a robotic platform to perform radical cystectomy and intracorporeal diversion is unclear.

Patients and Methods: The iROC trial is the first RCT comparing intracorporeal robot-assisted RC (iRARC) vs open RC (ORC). Nine centres in the UK recruited patients into the iROC trial with a 1:1 randomisation. The primary endpoint of the trial was days alive and out of hospital within 90 days following surgery (90DAOH). Secondary outcomes were survival, complications, physical activity, quality of life (QoL) and cancer recurrence.

Results: 338 patients were randomised, of which 317 had cystectomy and 21 did not have cystectomy. Of these, 301 (95.0%) received their allocated approach. Most participants were male (78.9%), the average age was 69 years (SD 8.2), 34% received neoadjuvant chemotherapy. Most patients underwent ileal conduit reconstruction (89%). Patients randomised to iRARC spent more days out of hospital (median 82 days (IQR 76 to 84)) than those receiving ORC (80 (IQR 72 to 83) for ORC ($p=0.012$); adj. $p=0.012$) within 90 days of surgery. This reflected shorter lengths of stay (iRARC median 7 days (6 to 10) versus ORC 8 (6 to 14)) and fewer readmissions. 6 (1.8%) participants died within 90 days of surgery (including 4 who received ORC). Differences were seen in the rate and type of post-operative complications.

Conclusions: In this trial, patients undergoing iRARC spent fewer days in hospital within 90 days of surgery, and may offer quicker recovery than ORC.

P15-2 Improvement in survival post radical cystectomy – the benefit of extended pelvic lymph node dissection and ERAS

Miss Mriganka Mani Sinha[1], Mr Julian Smith[1], Mr James Douglas[1]

[1]University Hospital Southampton, Southampton, United Kingdom

	Overall survival historical	Overall survival contemporary	Recurrence free survival historical	Recurrence free survival contemporary
Group 0	86%	86%	91%	95.3%
Group 1	58%	90.2%	90%	93.3%
Group 2	60%	64.1%	58%	84.2%
Group 3	41%	46.4%	49%	52%
Group 4	18%	35.7%	12%	64.3%
Group 5	0%	48.3%	0%	65.4%

Introduction: To determine survival in patients undergoing open radical cystectomy (RC) for urothelial bladder cancer in contemporary cohort with thorough standard pelvic lymph node dissection (PLND) or extended PLND along with our previously published enhanced recovery after surgery (ERAS) protocols and comparing to local institutional historic cohort.

Methods: From 2015 there was an incremental step change in operative technique and ERAS. One of two surgeons carried out all cystectomies. A prospective database from 2015-2019 was created with survival follow up(FU) till 01/06/2021 and compared to the historical retrospective database from 2001-2011 with FU till 01/06/2013.

Overall survival (OS) and recurrence free survival (RFS) was calculated via Kaplan-meier curves. Overall and sub-sectional post-operative histological groups were analysed as: Group 0=T0; Group 1= CIS and Ta/T1; Group 2= T2; Group 3= T3, Group 4= T4, Group 5= node-positive disease.

Results: 5-year OS was 48.8% in historic data (h) vs 65% for the contemporary cohort (c). RFS was 55.7% (h) vs 72% (c) respectively. The data for OS and RFS for the subgroups is described in further details in the table included.

Conclusion: Significant improvement in survival, complication rates and length of stay was seen with **Introduction** of meticulous PLND (+/- extended) and ERAS protocol with dedicated, experienced ERAS nurses. The survival benefits are most marked in muscle invasive groups and particularly node positive cohort.

P15-3 ICONIC: Impact of Covid-19 on Outcomes iN muscle Invasive bladder Cancer - preliminary Results from a prospective IBUS (International British Urological Society) led multicentre collaborative study

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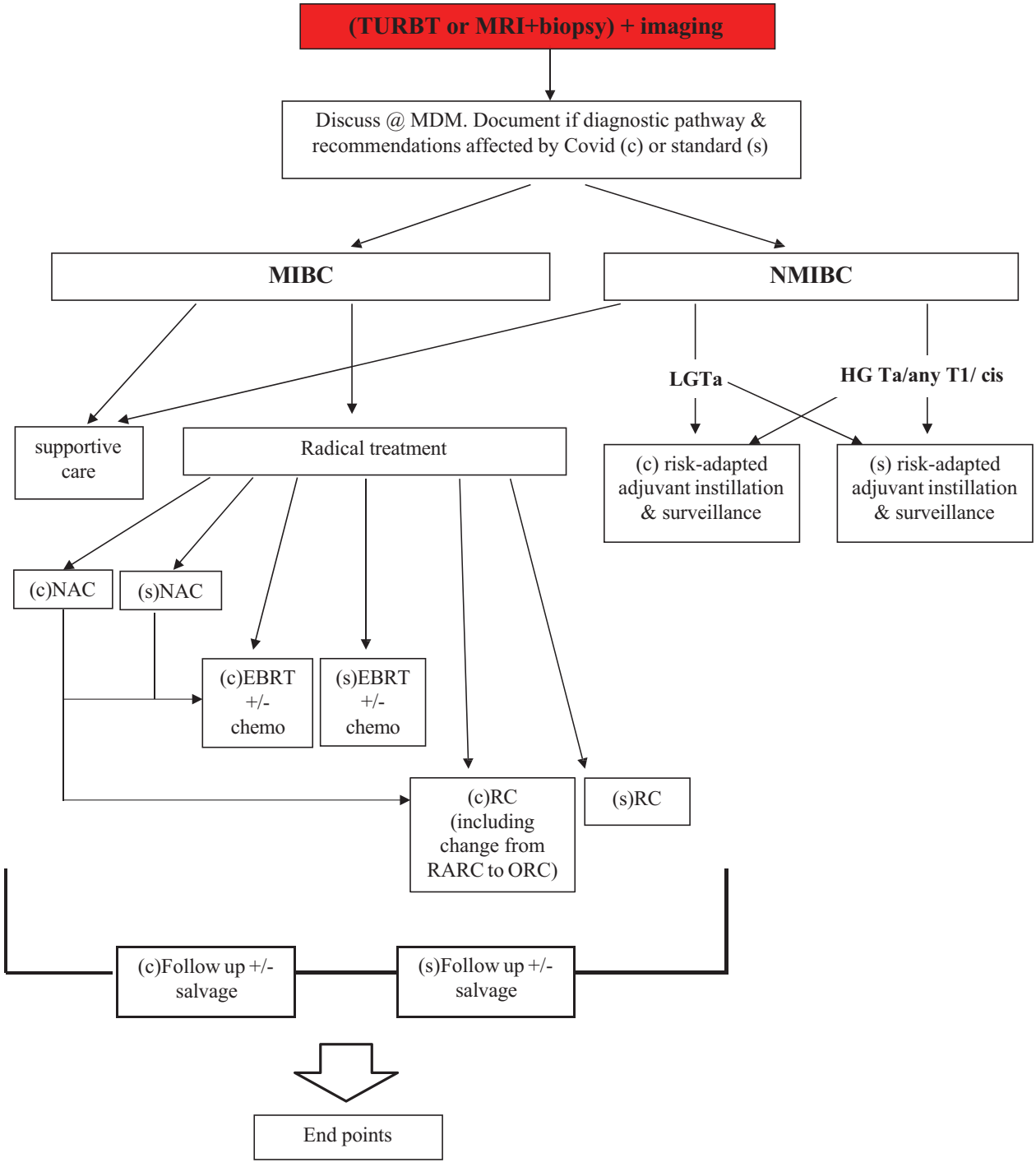
Introduction: The Covid-19 pandemic in the UK led to much un-certainty about the delivery of cancer services. A shift from established therapy (and its timing) in patients with Muscle invasive Bladder Cancer (MIBC) has potential deleterious consequences. To understand outcomes, we formed a collaborative to measure overall and disease-free survival at 3-years in patients with non-metastatic MIBC (Figure 1) treated during the UK's first wave of Covid-19. Secondary aims included comparison between treatment modalities and pre-Covid controls.

Patients and Methods: The collaborative included clinicians from 13 major centres, representing 3 UK nations. A prospective clinical audit, endorsed by the National Cancer Research Institute, was started to collect comprehensive data. MIBC patients discussed at the multidisciplinary meeting (MDM) between 1/3/2020-30/06/2020 were included.

Results: At submission, data were available from 12 centres for 299 patients. The mean age was 69.3 years (27-90), and there were 72 female and 227 male patients. Mean Charlson Co-morbidity Index was 5 (1-12). Preliminary analysis of available data indicate the following: MDM recommendations for (at least) 1 in 4 patients were deemed as being modified from standard practice. Twenty six patients received neoadjuvant chemotherapy. In total (from available data), 99 received radical radiotherapy and

Figure 1: **I**mpact of **C**ovid-19 on **O**utcomes i**N** Muscle **I**nvasive Bladder **C**ancer (ICONIC) flow diagram



146 underwent radical cystectomy (65 and 74 specified as open and robotic assisted, respectively). Preliminary analysis suggests that 1 in 3 patients had died within 1 year.
Conclusions: Preliminary Results indicate that recommendations for MIBC patients were significantly altered consequent to the pandemic and mortality was high. Analyses towards endpoints are awaited.

P15-4 Is It Safe To Spare Gynaecological Organs in Female Patients Undergoing Radical Cystectomy? A Multi-Institutional Study of Three Tertiary Pelvic Cancer Centres

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Introduction: Radical cystectomy (RC) in females with urothelial cancer typically involves simultaneous bilateral salpingo-oophorectomy and hysterectomy. Although malignant involvement of gynaecological organs is uncommon, current guidelines recommend that sexual organ-preserving RC should not be offered as standard of care for females. We report the incidence of malignancy in gynaecological organs removed during RC.
Patients and Methods: A retrospective multicenter study of 1600 RCs at three high volume institutions between January 2009 and October 2021 was performed. Pathological findings in gynaecological organs in female cystectomy specimens were reviewed.
Results: Overall, 380 females with a median age of 70 years (IQR: 63-78 years) underwent RC for cT1-T4 urothelial carcinoma. Seventy-four patients were excluded for the following indications: previous hysterectomy and/or bilateral salpingo-oophorectomy (n=43), pelvic organ-sparing cystectomy (n=30), T4 disease involving bowel (n=1). Ninety-one patients (29.7%) received neo-adjuvant chemotherapy. Urothelial carcinoma was the predominant histology (86.6%), followed by squamous cell carcinoma (9.5%), adenocarcinoma (2.9%) and small cell carcinoma (1.3%). Overall, malignant gynaecological organ involvement was seen in 13 patients (4.2%); vaginal wall (n=10), uterus (n=5) and ovaries (n=2). In these patients, clinical staging pre-cystectomy was cT2 in 38.5%, cT3 in 23.0% and cT4 in 38.5%; urothelial carcinoma was seen in 69.2%, adenocarcinoma in 15.4% and squamous cell carcinoma in 15.4%.
Conclusion: The rate of gynaecological organ involvement at the time of RC is low and associated with higher clinical stage pre-cystectomy. In the absence of clinical or radiological evidence of sexual organ involvement, our Results do not support their routine removal during RC.

P15-5 Sexual Activity, Function and Dysfunction After a Diagnosis of Bladder Cancer

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Introduction: Bladder cancer (BC) diagnosis and treatment can impair sexual function, and this may be discussed too briefly pre-operatively. Most reports of sexual function in BC have been modest in size. This study sought to evaluate sexual consequences of BC diagnosis and treatment using sexual function components from a previously published survey.
Methods: Sexual function information was collected as part of a cross sectional population-based survey exploring quality of life after BC (Catto et al. Eur Urol 2021; 79(5): 621-632). Validated EORTC QLQ-BLM30 and QLQ-NMIBC24 questionnaires were used. These included questions on sexual activity, interest, enjoyment, intimacy. There were also questions on erectile/ejaculatory function and vaginal dryness.
Results: A total of 1530 participants were included. The median (IQR) age was 75 (70-81). Participants were predominantly male (78%) and married (or civil partnership) (66%). In total, 31% were sexually active. Vaginal dryness was common in females (66%) as was erectile (80%) and ejaculatory dysfunction (58%) in males. Compared to TURBT (+/- intravesical treatments), radical treatment was associated with being less sexually active (26% vs 36% sexually active, adjusted OR 0.56, 95% CI: 0.44 -0.72, $p<0.001$) and worse mean scores for: intimacy problems (29 [radical treatment] vs 12, $p<0.001$), male sexual problems (72 [radical treatment] vs 46, $p<0.001$) and overall sexual function (17 [radical treatment] vs 20, p=0.01).
Conclusions: Sexual dysfunction in BC patients is common and rates appear higher with radical compared to endoscopic treatments. It is important to elicit these problems in clinics to enable proper counselling and treatment.