

Welsh Surgical Society



SPRING PROGRAMME

22 - 23 MAY 2025

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Spring Programme 2025

Day 1 : Thursday 22nd May 2025

12:30 – 13:30	Registration and Lunch	
Session 1: Oral Abstract Presentation for the Ivor Lewis Prize Chairs: Ben Sassi & Jon Barry		
13:30 – 13:40	Welcome and Introduction	Mr Tim Harvard
13:40 – 13:50	Nonocclusive Mesenteric Ischemia (NOMI): What You Need to Know	Mohamed Refaie
13:50 - 14:00	TYPE II GALL BLADDER PERFORATION: A MANAGEMENT CONUNDRUM OR A SURGICAL INDECISION?!	Marco Youssef
14:00 – 14:10	4-MU (4-methylumbelliferone) and soluble CD44V7/8 show significant promise as novel therapies for kidney injury	Aeliya Zaidi
14:10 – 14:20	Blood-Based Biomarkers and Novel Technologies for the Diagnosis of Colorectal Cancer and Adenomas. A Narrative Review.	Drew Magowan
14:20 – 14:30	Use of Breast Service Referral Prioritisation Tool (BSRPT) – closed loop audit	Alexei Makhort
14:30 – 14:40	Comparative Analysis of Sentinel Lymph Node Localisation Techniques: Evaluating Magtrace (Superparamagnetic Iron Oxide Nanoparticle) Against Conventional Technetium-99m (Tc-99m) and Blue Dye Methods for Breast Cancer, and Assessment of Patient Satisfaction.	Ahmed Hefny

14:40 – 14:50	Reevaluating faecal immunochemical test (FIT) diagnostic accuracy: Insights from a district general hospital	Sam Chon Sum, Ong
14:50 – 15:00	Conservative Management of Appendicitis: Is it a safe option?	Tanya Bhalla
15:00 – 15:10	Learning From Medical Errors in Invasive Procedures: Current Situation and Perspectives of Improvement. A Semi-Structured Interview	Mohamed Abdelsalam
15:10 – 15:20	A Comparison of outcomes following Laparoscopic Cholecystectomies before and after COVID pandemic	Naveenkumar Viswanathan
15:20 - 15:30	Artificial Intelligence in Colorectal Surgery: Multidisciplinary Team Approach – From Innovation to Application	Samuel Rezk
15:30 – 15:40	Virtual Reality headset for basic robotic skills training: Fit for purpose?	Opeyemi Sogaolu
15:40 – 16:10	Coffee Break	
Session 2 : Welsh Surgical Society Guest Speakers Chairs: Barry Appleton and Gethin Williams		
16:10 – 16:30	Pelvic and Perineal Reconstruction	Peter Drew
16:30 – 16.50	Abdominal Wall Reconstruction	Rhiannon Harries
16:50 – 17:20	Metabolic and Bariatric Surgery in Wales	Andrew Beamish
17:20 - 17.30	Q&A and Discussion	
19:00	Dinner – Carden Park Coach Departure Time: - The Lemon Tree - 19.00 - The Premier Inn, City Centre – 19:05	

08:30 – 09:00	Registration and Coffee	
Session 1: Oral Abstract Presentation From The Surgical Research Society Chairs: Tim Havard and Rhiannon Harries		
09:00 – 09:10	Surgical Research Society	Arfon Powell / Daryll Baker
09:10 – 09:20	On the polyclonal origins of intestinal tumours	Iannish Sadien
Session 2: Oral Abstract Presentation For Richard Johnson Prize Chairs: Tim Havard and Rhiannon Harries		
09:20 – 09:30	Predicting Major Lower Limb Amputations in Chronic Limb-Threatening Ischemia: The Role of Pedal Medial Arterial Calcification	Harri Jones
09:30 – 09:40	Metallic Stenting for Malignant and Non-Malignant Strictures: impact of timing and patient selection on survival outcomes	Richard Roberts
09:40 – 09:50	A 5 year retrospective study on the incidence of Appendicular Tumours in West Wales	Abhilash Mesh
09:50 – 10:00	Incisional hernia audit	Adnan Higgi
10:00 – 10:10	Improvement in Sustainability and Information Delivery with use of QR code for provision of EIDO information leaflets for patients undergoing emergency surgery	Mohammad Shishtawi
10:10 – 10:20	Emergency Day Theatre: Ambulatory CEPOD	Ayako Niina
10:20 – 10:30	Surgical Hubs: A Cut Above? Assessing Outcomes in Colorectal Cancer Surgery	Alistair Crawford

10:30 – 10:40	Analysis of the Role of Primary Care in Breast Clinic Referrals: A Population-Based Audit	Kayley Edwards
10:40 – 10:50	Current Laparoscopic cholecystectomy practice across BCUHB	Alice Edwards
10:50 – 11:00	Systematic review of the use of pre-operative ultrasound-guided percutaneous nerve blocks and catheters in major lower limb amputation	Rhiannon Nielsen
11:00 – 11:10	Missed by FIT: A Retrospective Study of Colorectal Cancer Cases with Negative Faecal Immunochemical Test Results	Harry Unwin
11:10 – 11:20	The Influence of Age, BMI and gender on outcomes following Living Donor Nephrectomy; A single Centre Study	Ella Hawes
11:20 – 11:50	Coffee Break	
Session 2: Welsh Surgical Society Guest Speakers Chairs: Dean Harris & Ben Sassi		
11:50 – 12:10	Changing face of a surgical journal editor	Martyn Evans
12:10 – 12:30	Managing rare pelvic tumours	Ian Jenkins
12:30 – 12:50	Training Programme Update	Dan Hanratty
12:50 – 13:00	Q&A and Discussion	
13:00 – 13:15	Closing Remarks	Tim Havard
13:15	Lunch	
Close of Meeting		

Ivor Lewis Prize Presentation x 12 (10 minutes each)

Title
Nonocclusive Mesenteric Ischemia in Aortic Surgery: What You Need to Know
Authors, Institution
Ali Murtada ¹ , Matti Jubouri ² , Mohamed Refaie ¹ , Idhrees Mohammed ³ Department of General Surgery, Glan Clwyd Hospital, Rhyl, UK ¹ Hull York Medical School, University of York, York, UK ² Institute of Cardiac and Aortic Disorders, SRM Institutes for Medical Science (SIMS Hospitals), Chennai, India ³
Objectives:
Nonocclusive mesenteric ischemia (NOMI), a subtype of acute mesenteric ischemia (AMI), is primarily caused by mesenteric arterial vasoconstriction and decreased vascular resistance, leading to impaired intestinal perfusion. NOMI affects older patients with cardiovascular or systemic diseases, accounting for 20-30% of AMI cases with a mortality rate of approximately 50%. This review explores NOMI's pathophysiology, clinical implications in aortic dissection, and the unmet needs in diagnosis and management, emphasizing its prognostic significance
Methods:
A comprehensive literature review was conducted using multiple electronic databases to extract relevant data and information.
Results:
NOMI is a life-threatening condition characterized by mesenteric vasoconstriction and reduced splanchnic blood flow, often triggered by cardiac surgery, hemodialysis, or hypotensive episodes. Epidemiological studies highlight its prevalence in intensive care unit settings, with a high mortality rate linked to delayed diagnosis and systemic hypoperfusion. Risk factors include advanced age, vasopressor use, and inflammatory markers. Biomarkers such as intestinal fatty acid binding protein, citrulline, and D-lactate show potential for early detection but lack robust clinical validation. Management includes fluid resuscitation, vasodilators, and surgical intervention for bowel necrosis. Emerging endovascular approaches show promise but are limited to select cases without bowel infarction. This review underscores the critical need for timely diagnosis and tailored interventions to improve outcomes.

Conclusions:

NOMI remains poorly understood despite advances in surgical and perioperative care. Its pathophysiology, linked to cardiopulmonary bypass and intraoperative factors, requires heightened clinical vigilance. Limited evidence underscores the need for a multidisciplinary approach to improve diagnosis, management, and outcomes in aortic surgery patients.

Title:**TYPE II GALL BLADDER PERFORATION: A MANAGEMENT CONUNDRUM OR A SURGICAL INDECISION?!****Authors, Institution**

Marco Youssef, Mina Aziz, Ashraf Rasheed

The Grange University Hospital, Wales, United Kingdom

Objectives:

To evaluate the management and outcomes of GBP over nine years at a UK university hospital.

Methods:

A retrospective study included all radiologically diagnosed GBP cases from 2014 to 2022, classified using Neimeier's classification. Demographics, Charlson comorbidity index, management, and outcomes were analyzed.

Results:

Ninety-one patients (mean age 70.8 ± 13.2 , 56% male) were included. The overall mean hospital stay was 15.7 days, and the mortality rate was 12.1%.

Type I GBP (8.7%) predominantly affected males (7/8), all undergoing emergent surgery (4 open cholecystectomies [OC], 2 laparoscopic cholecystectomies [LC], 1 subtotal LC, 1 laparotomy + washout). One frail elderly patient died.

Type II GBP (79.1%) had varied management: 9/72 underwent cholecystectomy (0% mortality), 12/72 had cholecystostomy (25% mortality), 17/72 had interventional radiology (IR) drainage (17.6% mortality), 1/72 had IR drainage + cholecystostomy, and 33/72 received antibiotics alone (12.1% mortality).

Type III GBP (12.1%) included 6/11 cholecysto-cutaneous fistulas (1 required cholecystectomy), 3/11 cholecysto-duodenal fistulas (2 required laparotomy for gallstone ileus), and 2/11 cholecysto-colonic fistulas (1 required interval OC). Mortality was 0%.

Conclusion:

Management of GBP should be individualized based on perforation type, patient comorbidities, available resources, and surgeon expertise. While the approach for Type I GBP is well-established, the optimal treatment for Type II (localized perforation) remains uncertain. Our data suggest that percutaneous catheter drainage can be a safe option for select patients, though ongoing follow-up is essential to identify those needing further intervention. Type III GBP requires tailored surgical interventions, particularly in cases involving gallstone ileus or significant fistula formation.

Title:

4-MU (4-methylumbelliferone) and soluble CD44v7/8 show significant promise as novel therapies for kidney injury

Authors, Institution

Aeliya Zaidi^{1,2}, Adam Midgley³, Irina Grigorieva¹, Charlotte Brown², Robert Steadman¹, Rafael Chavez², Gilda Chavez¹, Soma Meran¹, and Usman Khalid^{1,2}

1 Wales Kidney Research Unit, School of Medicine, Cardiff University, Cardiff, UK

2 Cardiff Transplant Unit, University Hospital of Wales, Cardiff, UK

3 College of Sciences, Nankai University, Tianjin, China

Objectives:

Ischaemia Reperfusion Injury (IRI) is the major contributor to Acute Kidney Injury (AKI), which affects up to 25% of hospital admissions in Wales. IRI-induced AKI manifests in many clinical scenarios, including sepsis, dehydration and surgery. Following injury, the kidneys undergo a reparative process to restore renal function; however, if the injury is severe, maladaptive repair results in incomplete recovery and the development of fibrosis or chronic kidney disease (CKD), necessitating dialysis or transplantation. The accumulation of Hyaluronan, a matrix glycosaminoglycan, is a hallmark of renal fibrosis. This study aimed to evaluate the effect of 2 novel agents (4Mthylumbelliferone (4MU) and CD44v7/8) in their ability to reduce renal injury and fibrosis in mouse models.

Methods:

Two mouse models of kidney injury were used: Bilateral Kidney IRI and unilateral right ureter ligation (UUO). In cohort 1, mice were fed a 4-MU diet for 14 days before midline laparotomy + bilateral kidney IRI. In cohort 2, mice (n=15) received an IV injection of CD44v7/8 before laparotomy + UUO. Kidney tissue was assessed histologically for degree of injury and fibrosis.

Results:

Bilateral kidney IRI and URO caused significant kidney injury and fibrosis. Mice receiving 4MU-fortified diet and mice treated with nanoparticle-delivered CD44v7/8 showed significantly reduced renal fibrosis, as exemplified by decreased deposition of collagen, HA, and α SMA within the renal cortex ($p<0.05$).

Conclusions:

4MU-fortified diet and nanoparticle-delivered CD44v7/8 significantly reduced kidney injury and fibrosis in 2 in vivo models of kidney injury, offering a novel approach to treat kidney injury and prevent development of CKD.

Title: Blood-Based Biomarkers and Novel Technologies for the Diagnosis of Colorectal Cancer and Adenomas. A Narrative Review.

Authors, Institution

1. Mr Drew Magowan (presenting)

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Swansea Bay University Health Board

Susan.Prosser@wales.nhs.uk

Introduction / Objectives:

Faecal tests are most commonly used in triage and screening for colorectal cancer (CRC), however there is a high false positive rate and poor sensitivity for colorectal adenomas (CRA). Blood-based biomarkers for CRC and CRA have recently shown great promise but none are in common use. This review aims to summarise the recent studies in this area and to describe their potential use in CRC and CRA diagnosis.

Methods

A systematic literature search regarding blood-based biomarkers in CRC and CRA was undertaken in line with the PRISMA 2020 guidelines. Medline and Embase were searched for eligible English language studies between 01/01/2017 - 01/03/2023. Conference abstracts and duplicates were removed. Key criteria included a range of terms describing CRC, CRA, liquid biopsy, blood-based tests, and diagnosis.

Results

12378 studies were found by the initial literature searches and reduced to 178 for data extraction after title, abstract and full text reviews. 60 focussed on proteomics, 53 on RNA species, 30 on cfDNA methylation, 7 on antigens and autoantibodies, and 28 on other novel techniques. There were 169 case-control studies and 9 cohort studies. Number of participants ranged from 100 to 54297, with a mean age of 58.26. CRC diagnostic sensitivity and specificity ranged from 9.10 to 100% and 20.40 to 100% respectively. CRA vs control diagnostic sensitivity and specificity ranged from 8.00 to 95.70% and 4.00 to 97.00% respectively.

Conclusion

There is a growing field of acceptably sensitive and specific blood-based tests for CRC and CRA. However, current studies demonstrate a broad range of heterogenous techniques and reporting quality which makes selecting the best candidates difficult. Further work should concentrate on larger validation studies and high-quality meta-analyses to determine which tests may realistically be worth progressing into clinical use.

Title Use of Breast Service Referral Prioritisation Tool (BSRPT) – closed loop audit
<u>Authors, Institution</u> A Makhort, M Rees (ABUHB)
Objectives: Breast cancer is the commonest cancer in the UK, with female lifetime risk of 1 in 7. We have implemented an online tool to help GPs with prioritization of breast referrals and providing initial advice in line with available guidelines. Appropriate prioritization is key to picking up the cancer early. We audited breast referrals for referral urgency and outcomes. Methods: Closed loop audit of all breast referrals received in department in August 2024 (2 years following initial implementation of BSRPT). Retrospectively collected referral and outcome data via the use of electronic patient records and systems for outcome measures described below. Results: 438/527 (83.1%) referrals received were from primary care. Of these, 272 (62.1%) were graded as USC, 91 (20.7%) Urgent, and 76 (17.2%) as routine. 49 referrals (11.2%) were downgraded, and 46 (10.5%) upgraded, showing persistent improvement on original rates of 24% downgrade and 20% upgrade in August 2022. 26 (5.9%) new cancers were discovered with 24 (92.3%) being in USC group (conversion rate 8.8%) – previously 11%. There was improvement in waiting times to clinic for the USC (3 vs 5 weeks) and Urgent groups (4.5 vs 8 weeks). Conclusions: Data supports evidence of continued improvement in quality of breast referrals from GPs using the BSRPT. Appropriate prioritization together with shorter waiting times to clinic results in a faster diagnosis and improved cancer care.

Title: Comparative analysis of sentinel lymph node localization techniques: evaluating Magtrace (superparamagnetic iron oxide nanoparticle) against conventional technetium-99m (Tc-99m) and blue dye methods for breast cancer, and assessment of patient satisfaction
<u>Authors, Institution</u> Belma Doyle, Kiera Murray, Ahmed Hefny 1-Snowdrop Breast Centre 2-Neath Port Talbot Hospital, Cwm Taf Morgannwg UHB, Wales, UK

Objectives:

The sentinel lymph node (SLN) biopsy procedure traditionally utilizes technetium-99m (Tc99m) labeled nanocolloid and blue dye (BD). This approach, however, has its limitations including radiation exposure and logistical challenges, particularly concerning operating room scheduling. New techniques like Magtrace, a superparamagnetic iron oxide (SPIO) nanoparticle, aim to overcome this. Our study aims to evaluate Magtrace's effectiveness, focusing on feasibility and patient satisfaction, potentially offering a more efficient approach, especially where Tc-99m availability is limited and pre-operative radioisotope injection administration is challenging.

Methods:

From February 2023 to January 2024, we conducted a retrospective study involving fifty patients with node-negative invasive breast cancer requiring SLN biopsy. Patients were evenly distributed into two groups: the study arm utilized Magtrace for SLN localization, while the control arm employed Tc-99m and BD. We recorded various demographic and clinical factors, including age, body mass index (BMI), menopausal status, neoadjuvant chemotherapy (NACT), tumor characteristics, nodal status, subsequent axillary node clearance, and adverse reactions, comparing them between the two groups. Patient experiences, including injection discomfort, skin discoloration, staining duration, and overall satisfaction, were also examined.

Results:

Results showed comparable demographics and tumor characteristics between the two study arms. The Magtrace group retrieved a higher mean number of SLNs (3.2 vs. 1.9 in the Tc-99m/BD group). Patients in the Tc-99m group reported less pain during injection. Skin staining was significantly less in the Magtrace group, with quicker resolution. The Magtrace group reported satisfactory experiences, while some in the Tc-99m/BD group found the process stressful. Notably, delays due to late Tc-99m delivery occurred in 25% of theater lists using the conventional dual technique, but no delays were observed with Magtrace.

Conclusions:

In conclusion, Magtrace offers a promising alternative to the conventional dual technique, especially in areas with limited Tc-99m availability such as rural or underserved regions lacking nuclear medicine facilities. It addresses scheduling difficulties associated with Tc-99m, improves operating theatre efficiency, and minimizes resource wastage. Patient feedback indicates Magtrace is well-tolerated, with

minimal discomfort and short staining duration. Further studies are warranted to validate these findings and explore Magtrace's broader applicability.

Title:

Reevaluating faecal immunochemical test (FIT) diagnostic accuracy: Insights from a district general hospital

Authors

Chon Sum Ong, Isabella Ash, Kate Barton, Sofia Christoforidis, Maria Mir, Stephen Olphert, Tamsin Mantel-Cooper, Harry Unwin, Michael Thornton

Institution

Department of General Surgery, Wrexham Maelor Hospital, Betsi Cadwaladr University Health Board

Objectives:

To assess the accuracy of FIT in detecting colorectal cancer (CRC) and significant colorectal pathology in patients by comparing FIT with colonoscopy and histopathology results.

Methods:

Data on USC and urgent colonoscopies performed between July 2023-August 2024 in a district general hospital were obtained from the clinical coding department. Procedure outcomes were collected from the online clinical system. Patients were divided into 3 groups: FIT <10 (low FIT), FIT 10-100 (medium FIT), >100 (high FIT).

Results:

There were 712 colonoscopies performed. 483 were USC referrals. 354 (73.3%) had a FIT test prior to the colonoscopy referral. 20/129 (15.5%) patients in the high FIT group were diagnosed cancer. 11/177 (6.7%) patients in the medium FIT group were diagnosed cancer. Histological analysis identified 7 colon adenocarcinoma, 1 gastric adenocarcinoma, 1 lymphoma, 1 melanoma, and 1 neuroendocrine tumour. No one was diagnosed cancer in the low FIT group. Out of the 129 patients without a FIT, 2 (1.6%) were diagnosed with cancer. 1 of them presented with iron deficiency anaemia (IDA) and was diagnosed colon adenocarcinoma; the other had an abnormal finding on CT which prompted a colonoscopy which found a colon adenocarcinoma. In the group of patients referred for urgent only colonoscopy, 1/229 (0.4%) who presented initially with IDA was diagnosed with colon adenocarcinoma. This brings the sensitivity of FIT and negative predictive value to 100%.

Conclusions:

Cancer detection rates were highest in the high FIT group. IDA is a high-risk symptom for colonic adenocarcinoma. The results reinforced the reliability of ruling out colorectal cancer.

Title Conservative Management of Appendicitis: Is it a safe option?
<u>Authors, Institution</u> T. Bhalla¹, J.S. Sittther¹, D.K. Harries¹ ¹Glangwili Hospital, Hywel Dda University Health Board, Carmarthen, Wales
Objectives: Surgery is the gold standard treatment for acute appendicitis. However, ever since the COVID-19 pandemic and its constraints on the healthcare system, more patients are now being treated conservatively. Here, we determine the safety and outcomes of patients treated with conservative management. Methods: Data was collected retrospectively for 446 patients presenting with acute appendicitis in a single-centre over a 5-year period. They were categorized in terms of conservative or surgical management. Data was analysed based on presentation and short and long-term outcomes over a minimum period of 6 months. Results: 116(32.3%) patients underwent conservative management. 83 had uncomplicated appendicitis, and 33 had local complications like an abscess, mass, or perforation. 51% of patients were male. The Median age was 48.5. 68 patients had significant co-morbid conditions which affected their surgical fitness. 94 of the patients were on empirical antibiotics for intra-abdominal sepsis, 18 patients required stepping up in view of sepsis and local complications. 5 underwent an ultrasound-guided percutaneous drain. 110 recovered with antibiotics alone. One patient had a failure of conservative management. Two patients returned with non-resolution of symptoms. Of 116 patients, only 27(23.2%) had a recurrent episode of acute appendicitis, of which 15(12.9%) went on to have an operation. 11(9.4%) were done as an emergency and 4(3.4%) were done electively. The histology of these patients showed benign disease. Most recurrences occurred between one to two years after the initial episode. No patients developed a perforation or collection. Conclusions: Conservative management of appendicitis is safe and feasible.

Title

Learning From Medical Errors in Invasive Procedures: Current Situation and Perspectives of Improvement: A Semi-Structured Interview

Authors, Institution

Mohamed Abdelsalam, Mohamed Abosheisha¹, Ahmed Hafez², Islam Omar³

1- Leicester Royal Infirmary Hospital, University Hospitals of Leicester, UK

2- Surrey and Sussex Healthcare NHS Trust, Redhill, UK

3- Chelsea and Westminster Hospital NHS Foundation Trust, London, UK

Objectives:

Learning from medical errors helps prevent their recurrence. Learning takes formal and informal forms. This study explored the management of safety incidents and medical errors, as well as the learning process involved.

Methods:

A semi-structured interview with NHS practitioners involved in invasive procedures was conducted, featuring 14 questions. An inductive thematic analysis identified descriptive and analytical themes.

Results:

The interviews involved 15 participants (11 consultants, 2 senior trainees, and 2 senior nurses) and lasted 445 minutes. Many were unfamiliar with textbook definitions and the WHO classification of medical errors. Concerns include under-reporting key incidents and over-reporting futile ones, with little learning. Near-miss reporting is divided. Most organizations have error management pathways, but the main issue is lack of feedback.

Most believe M&M meetings offer the best platform for discussing medical errors, though concerns exist about meeting length, case selection, and the lack of anonymised discussions. While central reporting could drive change, the absence of widespread lesson-sharing is a major issue. Confidentiality, fear of public backlash, and media influence prevent the publication of errors and lessons. There is also a lack of formal support for second victims and a tendency toward defensive medicine.

Conclusions:

Concerns focus on incident reporting processes and purpose. M&M meetings are preferred for clinicians to discuss errors. Main issues include lack of feedback and horizontal knowledge sharing. Publishing medical errors is sensitive, influenced by multiple factors. A formal NHS program is needed to support the second victim. Defensive medicine has become the norm.

Title: A Comparison of outcomes following Laparoscopic Cholecystectomies before and after COVID pandemic

Authors, Institution:

Naveenkumar Viswanathan, Felix Nicholas, Xavier Escofet

Prince Charles Hospital, Cwm Taf Morgannwg University Health board

Objectives: There is an almost universal perception that the Laparoscopic cholecystectomies (LC) after covid disruption, have become more technically demanding, resulting in poorer outcomes. This study quantifies the differences in outcomes, before and after the pandemic.

Methods: Elective LCs performed by two UGI surgeons in PCH between January and December 2019 were included in the pre-COVID group and those performed between September 2021 and August 2022 were included in the post-COVID group. LCs on the CEPOD list and those which included CBD exploration were excluded. Demographics, ASA, indications, waiting times, operative times, CLOC and Parkland scores were collected. Outcome measures were complications, drains, hospital stay and proportion of subtotal cholecystectomy, day case surgeries, and conversions to open. An online calculator for social science statistics was used to analyse data.

Results: In the pre-Covid group, lower Proportion of patients underwent cholecystectomy for previous cholecystitis (pre-Covid 13.04%, post-covid 35.7%) ($P < .001$) and LCs were shorter (pre-Covid 74 minutes, post-Covid 85 minutes, $P = .018$). The mean CLOC score and Parkland grade in pre-Covid group (CLOC= 4.03, Parkland 1.8) were less than in the post-Covid group (mean CLOC=5.41, mean Parkland 2.5) ($P < .001$, $P = .006$). Apart from the Subtotal Cholecystectomy rate (5.4% pre-Covid vs 12.2 post-Covid, $P = .04$), there were no significant differences in outcome measures.

Conclusions: This study demonstrates that a larger proportion of LCs were performed for previous cholecystitis and LCs were indeed challenging. There were no significant differences in outcome apart from subtotal cholecystectomy rates. This data should inform debate about early LCs following index admission.

Title Artificial Intelligence in Colorectal Surgery Multidisciplinary Team Approach – From Innovation to Application
<u>Authors, Institution</u> Samuel S.S. Rezk MD MSc MRCS¹, Fatima Kayali MBBS (Hons)², Matti Jubouri³, Samuel N.S. Ghattas MD MRCS¹, Mohamad Bashir MD PhD MRCS⁴, Ali Murtada BSc MD MRCS FRCS(Eng) ECSP¹ 1. Department of General Surgery, Ysbyty Glan Clwyd, Rhyl, Wales 2. University Hospitals Sussex, Worthing, West Sussex, UK 3. Hull York Medical School, University of York, York, UK 4. Neurovascular Research Laboratory, Faculty of Life Sciences and Education, University of South Wales, Pontypridd, UK
Objectives: Artificial intelligence (AI) has played a novel role in aiding healthcare system functions and enhancing the patient experience. Multidisciplinary teams (MDT) have become integral to disease and management planning, especially with the rising ageing population and the scarcity of sufficient resources. Our objective is to gather evidence on the impact of AI on colorectal MDT, as well as its drawbacks and merits. Methods: Electronic searches were performed on PubMed and Cochrane databases, with no date limit. The contemporary and future applications of AI within the surgical practice, including big data analytics and clinical decision-support systems, were included. Search terms were charted to MeSH terms combined using Boolean operations and used as keywords. Papers were selected based on title and abstract. Results: The integration of AI within the multidisciplinary team (MDT) approach and its potential influence on clinical decision-making from the preoperative phase to the development of tailored treatment algorithms, as well as its support for clinical decision-making, assessment of complication risk, prediction of surgical outcomes and survival, remain relatively obscure. Data on these aspects are limited, and AI's application in colorectal surgery is still emerging. Conclusions: Divergent conclusions from various studies examining the relationship between MDTs, quality of care, and survival can be attributed to differences in MDT structure, case selection, and diagnoses. An AI-enabled approach can abridge the unmet clinical gap, navigate and explore this terrain, and provide insight into technology-driven advancements where scientific and technology-driven approaches lead clinical practice.

Title: Virtual Reality headset for basic robotic skills training: *Fit for purpose?*

Authors, Institution

O. Sogaolu^{1,2}, J. Cornish¹, J. Ansell¹, J. Horwood¹, J. Torkington¹

1. Colorectal Research Department, University Hospital of Wales, Heath Park, Cardiff.

2. Cardiff University, Park Place, Cardiff.

Objectives:

Basic skills training for the Versius robot initially only ran on a Virtual-Reality (VR) console simulator. Its integration into a VR headset reduces console-side training time. If validated, cheaper and more portable headset simulators could increase surgical residents' access to robotics training. We aim to evaluate the face validity, construct validity and skill transferability of the Versius headset simulator.

Methods:

Novice, intermediate and expert participants recruited. Novices and intermediates undergo standardised instruction and 4 practice-tasks for familiarisation with headset. All complete 3 test-tasks for construct validity testing. Test-tasks repeated till passed or allotted time elapses. Without further instruction, test-tasks repeated in real-life with robot to test skill-transferability. Participants score headset's utility as skills training tool for face validity testing. Score $\geq 4/7$ is threshold for endorsement.

Results:

Ongoing study. Results from 16 novices, 8 intermediates and 5 experts so far. No statistical difference in gender or handedness. Novices were significantly younger ($p=0.03$). Overall, 95.5% of participants endorsed the headset; specifically, visual realism=82%; controls/instrument navigation=95%; usefulness for basic skills training=100%. Headset test scores only discerned novices from experts in the final test-task (running suturing); $p=0.032$. Experts' test time was significantly shorter than intermediates and novices ($p=0.002$). Average test scores increased as expertise increased, but this wasn't statistically significant ($p=0.43$).

Conclusions:

Current results suggest the Versius headset simulator demonstrates face validity and skill-transfer to the Versius robot. As construct validity isn't yet proven, its utility for basic robotic skills training tool may be limited. Further studies of concurrent validity, learning-curves and skill-loss ongoing.

Richard Johnson Prize Presentation x 12 (10 minutes each)

Predicting Major Lower Limb Amputations in Chronic Limb-Threatening Ischemia: The Role of Pedal Medial Arterial Calcification
Harri G Jones MBBCh ¹ , Maram Darwish MD ^{1,2} , Lewis Meecham MD, FRCS ¹ ¹ Southeast Wales Vascular Network, University Hospital of Wales, Cardiff, UK. ² Health Education England, East Midlands Deanery, Nottingham, UK.
Objectives The Pedal Medial Arterial Calcification (pMAC) score is a radiographic tool that quantifies arterial calcification in the foot, providing a novel approach to predict outcomes in chronic limb-threatening ischemia (CLTI). This study investigates the association of pMAC scores with clinical outcomes in patients undergoing major lower limb amputations (MLLA). Methods This retrospective study analysed data from the National Vascular Registry (NVR) for the Southeast Wales Vascular Network (SEWVN) from July 2022 to June 2024. Patients undergoing MLLA with available preoperative radiographs were included. pMAC scores were categorised into low (0–1), medium (2–3), and high (4–5). Cox proportional hazards regression assessed the impact of pMAC on time to amputation, while additional analyses evaluated its association with revascularisation outcomes and systemic comorbidities. Results A total of 119 patients were included after excluding cases with insufficient imaging. Higher pMAC scores were associated with male gender ($p = 0.009$) and chronic kidney disease ($p = 0.017$), though not with preoperative blood test parameters. Each unit increase in pMAC score was associated with a 22% higher risk of amputation over time ($HR = 1.22$, $p = 0.049$). Medium pMAC scores correlated with shorter time to MLLA ($p = 0.0516$). Revascularisation type did not significantly impact time to amputation ($p = 0.66$). Conclusion pMAC predicts amputation risk in CLTI patients, independent of revascularisation type. Integrating pMAC into clinical workflows may refine risk stratification and guide postoperative care. Prospective validation is warranted to establish its role in vascular surgery decision-making.

Title: Metallic Stenting for Malignant and Non-Malignant Strictures: impact of timing and patient selection on survival outcomes

Authors, Institution

Jakub Majchrzak¹, Richard Roberts¹, Abozed Ben Sassi¹, Palanichamy Chandran¹

¹ - Wrexham Maelor Hospital Betsi Cadwaladr University Health Board

Objectives:

The use of metallic stents for the management of malignant and non-malignant strictures is well established, but outcomes may vary depending on patient selection and timing of intervention. This study evaluates patient demographics, survival outcomes, and time intervals related to first stent placement and definitive surgery. Our experience with metallic stents for strictures comes from a single district general hospital and all stents were placed by a single operator.

Methods:

A retrospective review of a database of patients undergoing metallic stenting for strictures was conducted. Data were collected on age, sex, indication for stenting (malignant vs. non-malignant), time from first available radiological evidence of pathology to first stenting, time from first stenting to definitive surgery, and survival outcomes. Descriptive statistics were applied, with means and standard deviations reported.

Results:

A total of 78 patients underwent placement of metallic stents between April 2010 and May 2024, with a mean age of 74.7 ± 12.4 years. Of these, 51 were male and 27 female. Malignant strictures accounted for 91% of cases, while 9% were non-malignant. The mean time from first available radiological evidence of pathology to stenting was 121.0 ± 196.7 days and a median of 45 days. Among non-malignant cases, the mean time from stenting to death was 994.5 ± 889.8 days, whereas in malignant cases, it was shorter at 397.2 ± 506.8 days. 13 patients are still alive and were not included in this calculation. The mean time from stenting to definitive surgery was 279.6 ± 185.0 days. Patients stented within 90 days survived a mean of 414.9 days, compared to 419.1 days in those stented after 90 days. Out of 16 patients who had definitive surgery, 8 are still alive and the average survival is 1412 ± 1293 days.

Conclusions:

Our findings suggest that malignant cases experience shorter survival times compared to non-malignant strictures. Some patients with less advanced disease who undergo definitive surgery with anastomosis formation later require stenting for non-malignant anastomosis strictures and they still experience better length of survival. The data suggests that patients with newly diagnosed disease who require stenting for symptom relief are seen and operated on quickly, with half of them receiving their surgery within 45 days or less. There seem to be no differences in survival depending on the timing of stent placement.

Title : A 5 year retrospective study on the incidence of Appendicular Tumours in West Wales

Authors, Institution: Dr Abhilash Mesh , Dr Isobel Davies , Dr Mathew Smith , Mr Aly , Mr Gayan, Mr Elmorsy

Objectives:

1. To determine the incidence of appendix tumours Hywel Dda University Health Board over a defined study period.
2. To analyse the demographic characteristics of patients diagnosed with appendicular neoplasms, including age, and sex..
3. To assess the histological subtypes of appendix tumours and their relative prevalence in the local population.

Methods:

This is a retrospective multicentre investigation of 1695 patients who underwent appendectomy between the years 2019-.2024 The patients' demographics, symptoms and diagnosis, intraoperative findings, and histopathological results were analysed.

Results:

In 2.12% (n = 36) histological analysis revealed neoplasms or malignancies. Median age was 60 years (12-88 years), The Male to Female ratio was 20:16. Histological analysis revealed low-grade mucinous appendicular neoplasia (n = 21), neuroendocrine tumours (n = 6), appendicular adenocarcinoma of intestinal type (n = 8), and Burkitt's lymphoma (n = 1).

Conclusions:

This retrospective study of appendix tumours in Hywel Dda University Health Board, in West Wales highlights the importance of early diagnosis and appropriate surgical management in improving patient outcomes. Given the rarity of these tumours in a rural setting, collaboration with tertiary centres for complex cases and histopathological review is essential. Our findings emphasize the need for ongoing research into optimal treatment strategies, including the role of adjuvant therapies. Larger multicentre studies would help refine management guidelines, ensuring that patients in West Wales receive the best possible care despite the challenges of a geographically dispersed population.

Title: Incisional hernia audit
<u>Authors, Institution</u> Higgi A¹, Arendse K², Naguib, N³ Cwm Taf Morgannwg University Health Board Contact: aahiggs@hotmail.co.uk Entry for: Richard Johnson Prize
Objectives: This study aimed to assess recurrence rates in incisional hernia repairs comparing open versus laparoscopic procedures and evaluate whether recurrence rates were higher with or without prosthetic mesh. Additionally, we sought to explore the establishment of an Incisional Hernia MDT and theatre list. Methods: A retrospective cohort study was conducted at two hospital sites, involving 216 patients who underwent incisional hernia repair between 4th January 2019 and 28th December 2024. Data, including demographics, surgery type (open vs laparoscopic), and mesh usage, were collected and analysed using Excel spreadsheets. Results: Among the 216 repairs, 80 were male (37%) and 136 were female (63%). Of these, 55 were recurrent and 161 were primary hernias. The surgical breakdown included 194 open repairs (89.8%) and 19 laparoscopic repairs (8.8%), with 147 repairs (68%) using mesh and 67 (31%) without mesh. Overall recurrence rates were 17 (7.9%). Recurrence rates for mesh repairs were 8% (12/147) and 7.4% for non-mesh repairs (5/67). The recurrence rate for open repairs was 7.7% (15/194) and for laparoscopic repairs, 15.8% (3/19). Elective surgery had a recurrence rate of 8.5% (14/164) versus 7.7% (4/52) for emergency surgery. Conclusion: Recurrence rates for both open and laparoscopic repairs were relatively low, with laparoscopic procedures showing a slightly higher recurrence rate. Mesh usage did not significantly reduce recurrence rates compared to non-mesh repairs. Establishing an Incisional Hernia MDT and theatre list at in the Healthboard is feasible and would improve patient care. Further research with larger cohorts and longer follow-up is needed to confirm these findings.

Title: Improvement in Sustainability and Information Delivery with use of QR code for provision of EIDO information leaflets for patients undergoing emergency surgery

Authors, Institution: Mohammad Shishtawi, Ahmed Hefny, Mohamed Abdelsalam, Kathan Parikh, Mohamed Ismaeil
Cam Taf Morgannwg University Health Board

Objectives: This project aimed to modernise patient information delivery by replacing traditional paper-based EIDO consent leaflets with QR codes, allowing patients to access information digitally. The goals were to enhance efficiency, improve sustainability, and optimise patient engagement, while reducing paper waste and hospital resource consumption.

Methods: QR codes linked to EIDO patient information leaflets were first introduced in the Ambulatory Emergency Surgical Unit at Princess of Wales Hospital. Following a successful pilot phase, the initiative was expanded across the entire Cwm Taf Morgannwg University Health Board, now in use at Princess of Wales Hospital, Royal Glamorgan Hospital, and Prince Charles Hospital. The project was also extended to other specialties, including Trauma & Orthopaedics. Feedback was gathered through patient surveys and staff questionnaires, assessing leaflet access rates, patient satisfaction, and cost savings.

Results: The implementation led to a substantial reduction in paper usage, supporting hospital-wide sustainability efforts while maintaining effective patient information delivery. Data showed that younger patients preferred digital access, whereas older demographics benefited from a hybrid model (QR codes with optional paper leaflets). Staff reported increased efficiency in workflow, reducing time spent distributing and managing physical leaflets.

Conclusions: This project demonstrated that digital solutions can effectively enhance patient education and hospital sustainability. QR codes are now fully integrated across all hospitals within the health board, and their adoption in other specialties highlights their versatility and scalability. Currently, I am liaising with doctors in other NHS hospitals across the UK to facilitate nationwide implementation, reinforcing the long-term impact of QR codes in modernising patient communication and hospital resource management.

Title Emergency Day Theatre: Ambulatory CEPOD

Authors, Institution Ayako Niina, Salman Anwar, Simon Wood

General Surgery, The Grange University Hospital, Aneurin Bevan University Health Board

Objectives: The two CEPOD theatres at The Grange University Hospital are busy. Postponed cases tend to be the short and simple ones. To counteract this, an 'Ambulatory CEPOD' has been created where such patients are prioritised and operated on as an 'emergency day case' on weekdays with protected beds in recovery. The aims of this audit were to see the role of the pathway from its clinical effectiveness to patient satisfaction.

Methods: Patients on Ambulatory CEPOD were collated from the local theatre system, ORMIS, from December 2023 to February 2024. Collected information included: operation, when the patient left theatre and how happy the patients were with the service and being discharged the same day.

Results: In a three-month period, 77 cases were carried out on Ambulatory CEPOD. The majority were from General Surgery (96%). The most common operation was an incision and drainage of an abscess (59%, of which 85% were pilonidal or perianal abscesses), followed by Diagnostic Laparoscopies and Laparoscopic Appendicectomies (34%) and three hernia repairs. Most operations (70%) were completed in the morning. The majority went home the same day apart from two laparoscopic appendicectomy cases which required admission. Twenty-two patients gave feedback: all were 'happy' and 'very satisfied' with the service and all but one liked being discharged the same day.

Conclusions: Ambulatory CEPOD has enabled patients needing their simpler yet emergency operation. They were discharged the same day and were satisfied with the service. Determining suitable laparoscopic appendicectomies for Ambulatory CEPOD needs to be decided carefully.

Surgical Hubs: A Cut Above? Assessing Outcomes in Colorectal Cancer Surgery

A Crawford, M Hiscox, N Olsen, O Dziwisz, RJ Codd, GL Williams
Dept of Colorectal Surgery, Aneurin Bevan University Health Board.

Objectives: The Surgical Hub model is proposed to separate elective and emergency procedures, aiming to reduce the backlog of elective and cancer surgeries exacerbated by the COVID-19 pandemic. Although strongly promoted by government and Royal Colleges, only one such hub exists in Wales. The aims of this study was to compare pre- and post-Surgical Hub data for colorectal cancer surgeries in one Health Board, using the National Bowel Cancer Audit (NBOCA) benchmarks as reference points.

Methods: We conducted a retrospective analysis of colorectal cancer surgeries over three year periods at our Health Board, comparing outcomes before (in two sites: 2018–2021) and after (one site: 2022–2024) the implementation of the Surgical Hub model. Key outcomes included unplanned returns to theatre within 30 days, readmissions related to surgery within 30 days, and mortality within 90 days. Clinical notes, paper and digital, were reviewed to assess clinical courses and outcomes.

Results: Readmission rates improved from 13.1% to 9.2% following the introduction of the hub model. 90-day mortality reduced from 6.0% to 3.0% and return to theatre rates dropped from 8.7% pre-hub to 3.4% post-hub. These results compare favourably to NBOCA targets of <10% for returns to theatre, <15% for readmissions and <6% for mortality.

Conclusions:

Our findings suggest that our Surgical Hub model exceeds national performance benchmarks, demonstrating its potential to deliver high-quality, safe care for colorectal cancer patients. These results provide encouraging evidence to support the government's proposed expansion of Surgical Hubs across the UK.

Title: Analysis of the Role of Primary Care in Breast Clinic Referrals: A Population-Based Audit
Authors, Institution Kayley Edwards (3rd Year Medical Student, Cardiff University) Michael Rees (Consultant Oncoplastic Breast Surgeon, Aneurin Bevan University Health Board)
Objectives: To evaluate the role of primary care in the initial assessment and referral of patients presenting with breast symptoms. This study examines the appropriateness of referral pathways and explores whether certain symptoms could be more efficiently managed through direct access to secondary care services. Methods: A population-based cross-sectional study was conducted to assess the number of patients presenting to primary care with breast concerns across Aneurin Bevan University Health Board (ABUHB) between 1st January 2024 and 30th June 2024. Data were collected from five general practices, capturing patient demographics, presenting complaints, and details of the initial consultation. We also evaluated the proportion of patients referred to secondary care and the accuracy of referral grading. Results: In total, 228 patients presented across the selected general practices with breast-related symptoms over the 6-month period (approx. 45 patients per practice). The majority of patients were female (92.9%) and the median age was 45 years old (range 11 – 87 years). Of these patients, 155 (67.9%) were referred to secondary care for further assessment and investigation. Patients presenting with a breast lump were the most likely to be referred (81.3%), while over half of those with breast pain were also referred (53%). Patients assessed by a GP were more likely to be referred to secondary care (77.7%) compared to those seen by an allied healthcare professional (57.6%) [p=0.08]. Among the 155 referred patients, 103 (58.3%) were triaged by primary care as urgent suspected cancer (USC). Referral grading was appropriate in 128 cases (82.6%), while 18 (11.6%) were downgraded and 9 (5.8%) upgraded upon secondary care assessment. Of those referred, 142 (91.6%) had benign pathology, and only three patients (1.9%) were diagnosed with breast cancer. All three cancer cases presented as a palpable breast lump in women over 30, yielding a USC conversion rate of 2.9%. Conclusions: Primary care remains integral in the assessment and triage of patients with breast symptoms, effectively managing a substantial proportion without the need for secondary care referral. While the majority of referrals were appropriately triaged, a notable proportion required regrading, and the overall USC conversion rate was low. Additionally, patients seen by GPs were more likely to be referred to secondary care than those assessed by allied healthcare professionals. Continued education and strong communication between primary and secondary care are essential to ensure optimal management of breast patients within local referral pathways.

Title: Current Laparoscopic cholecystectomy practice across BCUHB

Authors, Institution

Harvey-Nguyen L, Edwards A, Curtis M, Shenoy H, Baker A
(All BCUHB)

Objectives:

Acute gallstone diseases account for a significant number of clinical presentations and corresponding surgical intervention in NHS hospitals. Laparoscopic cholecystectomy is a procedure currently carried out across Betsi Cadwaladr university health board and is a standard treatment of choice. This audit examined current laparoscopic practice across 23 general surgeons in the health board.

Methods:

A Microsoft forms electronic survey form was distributed to 23 general surgeons across BCUHB in January 2025 with qualitative and quantitative responses. A snapshot retrospective audit was carried out. Topics included demographic information, pre-operative imaging, intra-operative cholangiogram and common bile duct exploration practice, gallstone pancreatitis management and waiting list times.

Results:

There were 12 respondents out of the 23 originally requested. The 11 non-responders were presumed to not partake in laparoscopic cholecystectomy in BCUHB. Only 1/12 respondents were found to do routine intra-operative cholangiogram, with 5/12 selectively. Only 4/12 offered common bile duct exploration. All respondents said they carried out “hot” laparoscopic cholecystectomies. 11/12 would selectively use cholecystostomy instead of operating acutely. All respondents said their patients would have some form of imaging prior to surgery (USS =12), but only half said they would have routine MRCP. Elective waiting list times varied from no wait to 4 years.

Conclusions:

This audit demonstrates laparoscopic cholecystectomy practice in BCUHB correlates to standard practice with uniform management of gallbladder pathology. There remains selective use of IOC and variance on use of MRI. Not all offer CBD exploration. Expansion of this audit for comparison of rates in the rest of Wales is indicated.

Title

Systematic review of the use of pre-operative ultrasound-guided percutaneous nerve blocks and catheters in major lower limb amputation

Authors Institution

Rhiannon Nielsen¹, Harri Jones², Katrin Abdelgafar³, Philip Pallmann⁴, Patrice Forget^{5, 6}, Christopher Twine⁷, David C Bosanquet^{1, 2},

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6. Department of Anaesthesia, NHS Grampian, University of Aberdeen, Aberdeen, UK
7. Bristol, Bath and Weston Vascular Network, North Bristol NHS Trust, Southmead Hospital, Bristol, UK

Objectives:

Major lower limb amputation (MLLA) is associated with significant post-operative pain. Whilst surgically-placed nerve catheters, inserted at the time of amputation, are common, pre-operative ultrasound-guided blocks and catheters are infrequently used for anaesthesia and/or analgesia. This systematic review reports all published evidence on the postoperative outcomes ultrasound-guided nerve blocks and catheters in patients undergoing MLLA.

Methods:

A systematic review was undertaken as per PRISMA guidelines. Abstract screening, full text review and data extraction were all performed by at least two reviewers. The primary outcome was post-operative pain. Secondary outcomes included chronic pain, ambulation, infection and post-operative complications.

Results:

30 papers were included in the final analysis, comprising 19 cohort studies and 11 case series/reports (no RCTs identified). All patients received ultrasound-guided nerve blocks, with a minority also receiving an ultrasound-guided catheter.

Title Missed by FIT: A Retrospective Study of Colorectal Cancer Cases with Negative Faecal Immunochemical Test Results

Authors, Institution

Dr Harry Unwin¹, Mr C Ong¹, Dr C Mc Kernan¹, Mr P Chandran¹, Mr M Thornton¹

1. General Surgical Department, Wrexham Maelor Hospital, Croesnewydd Road, LL13 7TD.

Objectives:

The Faecal Immunochemical Test (FIT) is a key tool for guiding suspected colorectal cancer (CRC) pathway referrals in primary care. While FIT is highly effective, CRC can still occur in FIT-negative patients. This study evaluates these cases.

Methods:

We retrospectively reviewed electronic records of patients who underwent FIT in Betsi Cadwaladr University Health Board between January 2021 and June 2024. We included those with a negative-FIT ($<10 \mu\text{g Hb/g}$) at referral later diagnosed with CRC.

Results:

Of 74,008 patients who underwent FIT, 50 had a negative-FIT at referral and were later diagnosed with CRC. The median FIT was 1.7 (IQR 0.375–4.45), and median haemoglobin (Hb) was 119.5 g/L (IQR 110.8–133.3), with 16 (32.0%) having iron deficiency anaemia (IDA). Four patients had abnormal digital rectal (DRE) findings, and four had abdominal masses. The median time from FIT to referral was 6.5 days (IQR 0–17.5) and to diagnosis 136.5 days (IQR 74.8–244.3). At referral, 22 (44%) had IDA and/or abnormal findings, while 28 (46%) were triple-negative (negative-FIT, no abnormal examination findings, no IDA). Among triple-negative patients, 14 (50%) had abdominal pain, and 5 (17%) reported weight loss. Referral and diagnosis times did not differ between groups ($p=0.192$, $p=0.1593$).

Conclusions:

Similar referral and diagnosis times suggest no delay in triple-negative patients, likely due to timely action on clinical red flags. Our findings support FIT's continued use while reinforcing the importance of 'triple assessment' incorporating clinical examination with DRE and blood tests to identify patients requiring 2-week-wait referral despite a negative-FIT.

Title: The Influence of Age, BMI and gender on outcomes following Living Donor Nephrectomy; A single Centre Study

Authors: Ella Hawes, Jennifer Hayes, Awad Alawad, Aeliya Zaidi, Sarah Browne, Michael R Stephens, Mohamed A Ilham, Elijah Ablorsu, Doruk Elker and Usman Khalid

Institution: Cardiff Transplant Unit, University Hospital of Wales, Cardiff, UK

Objectives: Age and body habitus of living kidney donors is increasing. The aim of this study was to assess the effect of age, BMI and gender on post-operative outcomes following laparoscopic hand-assisted living donor nephrectomy (HADN).

Methods: Pre- and post-operative data were retrieved from all patients undergoing HADN at a single institution between 2014 and 2024.

Results: 314 patients underwent HADN: 63 right (20.1%), 251 left (79.9%); 178 (56.7%) female; median age 49-years (range 23-77) and median BMI 26.8kg/m² (range 18.5-32.8).

Mean eGFR(±SD) pre-donation was 89.5(±12.9) ml/min. This declined to 57.7(±11.1) at 3 months then recovered to 58.8(±10.8) and 61.5(±11.1) ml/min at 1-year and 5-years post-donation respectively. Women had a statistically significantly smaller initial drop in eGFR (p<0.001). When analysed using a generalized linear mixed-effects model, eGFR steadily increased by 0.76 ml/min/1.73m² per year (p<0.0001) over 7-years.

When analysed for age, gender, BMI, pre-donation HTN, starting eGFR, initial eGFR reduction and nephrectomy side, the rate of functional recovery was significantly increased for those with an initial eGFR drop >40ml/min.

42 (13.4%) patients developed new or increasing requirements for existing HTN and 11 (3.5%) developed proteinuria, associated with increasing age and pre-operative eGFR <70ml/min respectively.

Conclusions: Living donor nephrectomy results in an initial eGFR decline followed by a 7-year recovery period. Female gender was found to be protective of post-nephrectomy renal function in the initial postoperative period. Increasing age is associated with HTN and lower pre-operative eGFR is associated a greater risk of developing proteinuria. This study warrants further research to continue to ensure donor safety.