

Abstracts

## Abstracts from Trainee Research Event 4<sup>th</sup> November 2021

### Making the Most of Opportunities in...



#### ORAL PRESENTATION

##### Hepatology Handover and Discharge Follow-Up.

Brooke Layard, Eilis Moran, Judith Magill, Johnny Cash

**Problem:** Consultant handover of Hepatology inpatients occurred on Fridays/Mondays. No handover occurred between junior doctors, despite changing teams, leading to inefficiencies and potential for missed investigations/results. Upon discharge, notes return to secretary's office awaiting FY2/CT review. This could take months, risking missed investigations/results, or follow-up appointment.

**Strategy for change:** We designed a handover app on MS teams, encompassing patients' demographic and clinical details. Several PDSA cycles were performed within the project team using test patients. The app was presented to future users and launch date set. Junior doctors input data on admission, updating daily. On discharge, follow-up review time-frame is selected, and the secretary is automatically emailed to book. Patient details move into a discharge admin tab, where outpatient investigations are chased/signed off.

**Measurement of Improvement:** Mean time from discharge to reviewing notes reduced from 40.8 days to 9 days post-app. Follow-up was arranged in 95% of patients, compared to 80% prior.

**Effects of change:** At feedback meetings, junior doctors felt the app was excellent and minor issues resolved to enhance user-friendliness. Awareness of a patients' background and current issues allowed for prioritisation and the 'To-Do' tab meant nothing was missed.

**Discussion:** Introduction of this app has improved patient safety and has addressed clinical governance concerns.

##### A Bloody Mystery: Takotsubo Cardiomyopathy complicated by haemorrhagic cardiac tamponade.

Daniel MacElhatton (1st author), Jaimie Coburn

**Introduction:** A 52-year-old female presented to the emergency department with chest pain and associated shortness of breath. Serial electrocardiograms showed dynamic anterior T wave inversion associated with a marked serum Troponin T rise.

**Description:** The patient was admitted and treated as a possible acute coronary syndrome. Coronary angiography demonstrated normal epicardial arteries. Subsequent inpatient echocardiography showed severe left ventricular systolic impairment with akinesis and ballooning of the apical regions, a finding pathognomonic of Takotsubo Cardiomyopathy. The following day, the patient deteriorated acutely with initial nausea and vomiting leading to profound hypotension and a drop in consciousness level requiring airway support from the anaesthetic team. A bedside echocardiogram showed a large pericardial effusion with features of cardiac tamponade. Successful emergency pericardiocentesis was performed with an immediate improvement in blood pressure and consciousness level. The patient recovered quickly with a follow-up echocardiogram showing improvement of left ventricular systolic function.

**Discussion:** Takotsubo Cardiomyopathy is a rare clinical syndrome that often occurs following physical or emotional stress with the underlying pathophysiology still unclear. This condition being complicated by haemorrhagic cardiac tamponade is extremely rare with only a handful of case reports within the literature.

#### POSTER PRESENTATIONS

##### The 'Inverse teaching law'; does it apply to Northern Ireland's undergraduate medical education?

Daniel Butler

**Introduction:** The Covid-19 mortality followed the same trend as all-cause mortality; the more deprived the area, the higher the mortality. This is not a new problem, 2021 marked 50 years since Dr Tudor-Hart's publication of the 'Inverse Care Law' paper. Part of the solution is to increase recruitment and placement of junior medical staff in underserved and deprived areas.

**Aims:** This study looked at whether medical students get opportunities and exposure in areas of deprivation.

**Methods:** A quantitative study of General Practices across Northern Ireland involved in medical student hosting and teaching through Queens University Belfast. Comparing practice lists by deprivation statistics, using the Northern Ireland Statistics Research Agency data, defining a 'deprived



practice' as having over half of the patient list living in the most deprived quintile.

**Results:** Deprivation data for 135 teaching practices were compared against the 323 national practices. 10% of teaching practices were classified as a 'deprived practice', compared to 14% of the national average. 42% of 'non-deprived practices', compared with 32% of 'deprived practices' were involved in medical education.

**Discussion:** 'Deprived practices' were under-represented, exposure to GP in deprived areas is a clear and essential step to improving future workforce recruitment and ultimately closing the health inequalities gap.

### Following Through: Student to teacher to educational leadership.

Daniel MacElhatton

**Introduction:** As a student I valued teaching received from near-peers. I identified a gap in learning opportunities for year 4 students at Queen's University, Belfast.

**Aims:** I sought to devise and implement a sustainable near-peer teaching model that could be rolled out throughout Trusts in the Northern Ireland deanery.

**Methods:** In 2017 following the completion of my final year MB examinations I developed, organised and delivered a fourth year teaching programme in the Northern Trust, culminating in a mock OSCE day. In the years since I have moved to a leadership and organisational role to ensure the smooth delivery of this programme across three trusts. More recently virtual teaching sessions and other innovative measures have been adopted in response to the COVID 19 pandemic.

**Results:** Over 200 students have experienced this teaching programme with overwhelmingly positive feedback received from fourth year students, final year "teachers" and senior educational staff who have helped to quality assure the content.

**Discussion:** We have provided valuable learning opportunities for fourth year medical students and opportunities to ignite a passion for medical education in newly qualified doctors. Further opportunities exist to expand and improve this model.

### Bitesize Lessons in Leadership.

Eimear McCorry

**Introduction:** All medical curricula have requirements for leadership experience; however, few formal opportunities exist to fulfil this, particularly for the most junior doctors.

Furthermore, the Collective Leadership Strategy highlights the need for a culture which "values leaders regardless of hierarchy, experience, location or discipline."

Drawing on personal experiences and formal leadership

training as Clinical Leadership Fellows we set about developing a short, accessible leadership course for Foundation Doctors.

**Aims:** Develop a basic understanding of the key components of leadership at all levels of the organisation.

**Methods:** Teaching was delivered by authors with support from other registrars in 30minute sessions, available in-person and via Zoom.

Topics chosen based key elements of the Collective Leadership Strategy.

Learning was through mix of theoretical concepts, lived experience of senior colleagues and small group discussions.

Participation was recognised with certificate and feedback collected via SurveyMonkey after each session.

**Conclusion:** 66% participants had no previous involvement in leadership-related educational activities.

Feedback was 100% positive for all sessions.

We plan to run course annually, aiming to improve accessibility by recording.

It is hoped that early exposure to leadership teaching will contribute to the development of a Collective Leadership culture within the HSC.

### Set up for success? The Implementation of Near Peer Teaching within GP Training.

Kelly Doherty

**Introduction:** Medical education is undergoing significant changes across the UK. Generalist skills are increasingly important and of a greater focus in the undergraduate curriculum. Whilst this change is welcome, it presents further pressure on struggling practices to provide the teaching required for increasing numbers<sup>1</sup>. Near peer teaching (NPT) presents an effective strategy to this challenge and has benefits for teacher and learner. Existing literature, however, lacks information on formal integration of such programs.

**Aims:** Realist methodology helps us generate causative explanations and understand the processes behind successful implementation of educational programs. It can inform educators of those contexts that will allow a program to achieve outcomes and what mechanisms might enable success.

**Methods:** The realist synthesis will search for and scrutinise studies and literature relevant to the review question: how can we best implement NPT in general practice? Appropriate evidence will be extracted and synthesised and allow us to develop a program theory as to how we best do this.

**Results:** The review is in progress, but emerging findings will be presented.

**Discussion:** This realist work aims to provide a deeper understanding of how we can best implement NPT within



General Practice. This should enable development of adaptive and effective NPT programs in the future.

#### REFERENCES:

1. Near peer teaching in general practice Thampy, Harish et al, *The British journal of general practice : the journal of the Royal College of General Practitioners* vol. 69,678 (2019): 12-13. doi:10.3399/bjgp19X700361

### Futureproofing Medical Education: A positive legacy from COVID-19.

Matthew Chad Eastwood

**Introduction:** The Covid-19 pandemic posed unique challenges to delivering effective undergraduate education during hospital placements due to atypical case-mixes, staff shortages and self-isolation.

**Aims:** A novel education programme was designed to counter the challenges to medical education.

**Methods:** Our curriculum-mapped programme integrated patient interaction and simulation-based training, pairing third and final-year students. Elements included ward-based OSCEs with debrief, educator-facilitated 'Zoom Making Histories', 'Zoom Hot-Mic' and 'Zoom clinics'. Educator to student ratios for OSCE, Making Histories and Hot-Mic were 1:10, Bedside teaching 1:3, Regular vs Zoom Clinic 1:2 and 1:6 respectively.

**Results:** 22/27 students completed post-course surveys; 21/22 found pairing helpful. Using linear-scale assessment '1=not useful to 5=very useful' mean feedback scores: ward-based OSCEs 5.0/5; 'Hot-Mic' 4.3/5 overall, 4.6/5 for 3rdYr (88% scores  $\geq 4$ ), 4.1/5 Final Yr (86% scores  $\geq 4$ ); 'Making Histories' 4.0/5 overall, 4.6/5 3rdYr (88% scores  $\geq 4$ ), 3.6/5 Final Yr. Sample feedback: "I was rather doubtful how useful Hot-Mic would be but was surprised how much I actually retained".

**Discussion:** Control over content and feedback received demonstrates simulated elements complement clinical teaching. Reduced educator demands help address staff-pressures and rising medical-school intakes. Our approach will help future-proof and strengthen undergraduate education post-COVID-19.

### Attitudes of medical students to Electroconvulsive Therapy.

Patrick Clements

**Introduction:** Electroconvulsive Therapy (ECT) is an important treatment for many psychiatric disorders. Recent decline in its use may be due to inadequate education and training of health professionals.

**Aims:** We aimed to determine correlates of students' baseline attitudes to ECT, and whether specific forms of ECT teaching during placement improves attitudes.

**Methods:** Medical students beginning their psychiatry placement completed a questionnaire capturing background

information and baseline attitudes. A second questionnaire, before the end of their placement, recorded educational and clinical experience of ECT gained during placement, and recorded attitudes at this time point.

**Results:** The first questionnaire found that positive attitudes to ECT were associated with age, and with having previously attended a lecture on ECT.

Attitudes significantly improved during placement. Students who attended a lecture on ECT during placement were more likely to have a positive shift in attitude. No other specific teaching modality was associated with a positive shift in attitude.

**Discussion:** We concluded that undertaking a psychiatry placement, and particularly having a lecture on ECT, significantly improves medical students' attitudes. Therefore, the medical undergraduate curriculum must include lectures on ECT, so that students are accurately informed about this important treatment.

### Assessing Psychiatry trainee preparedness for digital exams via a virtual mock CASC.

Peter McMurray

**Introduction:** The Covid-19 pandemic prompted the change in The Royal College of Psychiatrists final membership exam, the Clinical Assessment of Skills and Competencies (CASC) from in-person to online in September 2020. Trainees at this level were unlikely to have undertaken online exams at undergraduate level.

**Aims:** To assess concerns trainees had about digital exams and prepare candidates in the Northern Ireland deanery by developing a virtual mock examination.

**Methods:** Zoom was used as the platform due to ease of use. Each station formed one breakout room, and a facilitator moved candidates between rooms.

Qualitative feedback was obtained from candidates after the mock, and then obtained exam pass data following the CASC.

**Results:** All candidates (8) who sat the mock examination were successful in the face to face CASC sitting which followed in September with most reporting this mock had changed their perspective of digital exams.

**Discussion:** Trainees reported feeling "nervous" and "concerned" about doing their exam digitally. This successfully adapted what was previously an in-person mock CASC exam to the new digital format, and it was considered beneficial preparation by candidates who sat this mock.

### What is the nature of uncertainty confronting foundation trainees in clinical work?

Richard Conn

**Introduction:** Feelings of uncertainty are a fact of life for newly practising doctors, with those unable to tolerate these feelings considered to be ‘sitting ducks for psychosocial harm’. Insufficient medical knowledge and challenging moral dilemmas have been identified as causes of uncertainty, but this evidence may overlook uncertainty caused by day-to-day realities of clinical work.

**Aims:** To determine how education can best respond to uncertainty, this research asked ‘what is the nature of uncertainty confronting foundation trainees?’.

**Methods:** Qualitative analysis of 243 reflective case-based discussions describing foundation trainees’ challenging experiences of prescribing insulin conducted within all five NI HSC Trusts.

**Results:** Foundation trainees were confronted by: i) ‘clinical uncertainty’ arising from patient complexity and clinical situations with no clear right answers; ii) ‘social uncertainty’, such as when trainees were stuck feeling unsure what to do but unable to bring themselves to ask for help. Strong emotions resulted, with ‘fear of getting it wrong’ powerfully influencing decision making.

**Discussion:** To benefit doctors’ wellbeing, education should recharacterise uncertainty as an inevitable consequence of clinical and social complexity, rather than a feeling that juniors doctors need to learn to tolerate.

### Paediatric emergencies in General Practice-organisational change following Activity Theory analysis of an in-situ study.

Sarah O’Hare

**Introduction:** Paediatric emergencies in GP are not rare but are uncommon therefore it is difficult for staff to gain and maintain skills from direct experience, but we must learn how to manage life-threatening emergencies. Simulation is useful to train for these high acuity low opportunity events, training in-situ helps retain clinical contextuality. Existing research has evaluated the potential of ISS but has been limited by outcome measures such as improved participant confidence.

**Aims:** This research aimed to explore how ISS could support organisational preparation for paediatric emergencies.

**Methods:** A GP multidisciplinary team engaged in a programme of ISS involving paediatric emergencies, systemically analysed organisational preparedness, and conceived and implemented new ways of working.

**Results:** This work demonstrates how ISS translated evidence to real world practice and provides potential for GP practices to upskill using AT and ISS to bridge the theory-practice gap.

**Discussion:** All GP’s take part in annual Basic Life Support (BLS) training. However, most GP emergencies are peri-arrest, the area where GP’s lack confidence. This work may lead to scenario- and simulation-based teaching forming the

backbone of GP resuscitation training.

### Medical Students’ Attitudes to Delivery of the Year 3 Medicine Programme.

Therese Scullion

**Introduction:** The Year 3 general medicine programme is taught across ten hospitals with no specific standardisation of teaching methods and content. The GMC calls for medical schools to provide clear learning outcomes from placements. Their guidance states that medical schools should evaluate the effectiveness of their clinical placements.

**Aims:** To investigate the attitudes of medical students towards the Year 3 general medicine programme at Queen’s University Belfast and the methods used to deliver it.

**Methodology:** Qualitative data was obtained. Four semi-structured focus group discussions were held, involving twenty-three students. Data saturation was achieved. Transcripts were interpreted using thematic analysis.

**Results:** Four broad subject areas were identified; overall organisation of the programme, methods of delivery, perceived aids to learning, and perceived barriers to learning. Within the area of overall organisation, five themes were most prevalent; need for structure, lack of standardisation, perceived knowledge gaps, desire for a well-defined curriculum, and the need for improved communication between university and hospitals.

**Discussion:** Students identified aspects of importance to them when organizing and delivering a medical curriculum. It is vital to consider the views of students during strategic planning of the medical curriculum, particularly with the impact of the current pandemic on medical education.

### MedicRefresh

Therese McCartney

**Introduction:** GMC states it is the duty of doctors to keep their professional knowledge and skills up-to-date. Medicine is an ever-evolving practice; it is difficult to keep abreast of the latest guidelines. There is a lack of training for post-graduate doctors to avail of in Northern Ireland to refresh their medical knowledge, particularly amongst trainees who have taken time Out-Of- Programme (OOP).

**Aims:** Assess if interest in a medical refresher course, especially those who have been OOP. If so, create an online course for trainees to access.

**Method:** Questionnaire sent through NIMDTA to all medical trainees, enquiring how they keep up-to-date with NICE guidelines and if they would be interested in a medical refresher course. If so, what topics would they want to be covered.



**Results:** Surveyed 246 medical trainees, 45 responded. 97.8% (44/45) had difficulties keeping up-to-date with NICE guidelines.

93% (42/45) interested in an update.

Top four areas of interest: Cardiology (74%) , endocrine (64%), Renal (62%) and Respiratory (61.9%).

**Discussion:** A clear desire expressed for a Medical Refresher course, even amongst those not OOP. We plan to set up an ongoing medical refresher course with the help of respective medical specialities, hosted on NIMDTA's online platform.

### Improving staff wellbeing at Meadowbridge Surgery during COVID-19 pandemic: A Quality Improvement Project.

Amanda Rodrigues

**Problem:** GPs are reported to have high rates of burnout and poor mental wellbeing compared with general population and other healthcare professionals. This is associated with poorer patient safety outcomes, including increased risk of adverse events and near misses<sup>1</sup>.

This project aimed to improve staff wellbeing in Meadowbridge Surgery during COVID-19 pandemic.

**Strategy for change:** Quality Improvement methodology was employed, and three Plan-Do-Study-Act(PDSA) cycles undertaken.

Change activities designed to boost morale and team cohesion were implemented. Change activities included 'Bakeoff', step challenge and staff recognition awards.

**Measurement of Improvement:** An anonymous staff survey was employed to quantitatively assess baseline self-reported wellbeing and repeated after each PDSA cycle to reassess wellbeing. Qualitative feedback was obtained after the final cycle.

**Effects of change:** Respondents reported increased physical activity levels, reduced stress levels and less time needed to relax post-work. Overall self-reported wellbeing in work was maintained with no deterioration reported in any domain.

Of those who completed of all four surveys, 75% reported improved wellbeing with 25% maintaining their overall wellbeing in work. Qualitative feedback reported positive changes individually and on team cohesion.

**Discussion:** Initiatives to improve staff wellbeing and empower them to better meet needs of patients are ongoing.

#### REFERENCES:

- Hall, L., Johnson, J., Watt, I. and O'Connor, D., 2019. Association of GP wellbeing and burnout with patient safety in UK primary care: a cross-sectional survey. *British Journal of General Practice*, 69(684), pp.e507-e514.

### Treatment Starts at Triage; Assessment of Stable Febrile Children in the Emergency Department during the SARS-CoV-2 Pandemic.

Amy Irvine

**Problem:** Overcrowding of Emergency Departments is a major challenge in Emergency Medicine. As the SARS-CoV-2 pandemic emerged, this became a paramount safety concern for patients and staff. Most children presenting to ED with fever are diagnosed with a self-limiting viral infection; suitable for discharge following clinical assessment. We aimed to initiate treatment and investigations from triage, allowing quicker disposition decisions to be made by clinicians and reducing overcrowding.

**Strategy for Change:** PDSA1: 'Analgesia+/-antiemetic, oral fluid challenge, urinalysis at triage

PDSA2: Equipment boxes

PDSA3: Doctor education

PDSA4: Nursing education

**Measurement of Improvement:** Reduction in time from triage to discharge/admission for children with fever or viral symptoms.

Improve use of oral fluid challenge.

Improve urine testing in children with fever without source.

#### Effects of Change:

Reduced 174-112 minutes

Increased 23%-52%

Increased 22%-69%

Sustained improvement at 6 months.

**Discussion:** Despite the challenge of the pandemic on a highly pressured system, this multidisciplinary QIP demonstrates small interventions leading to measurable improvements. By targeting a common presentation with high discharge rate, we improved standard of care and reduced wait times and overcrowding.

### Introduction of a microbiology ward round sticker to improve compliance with documentation in an intensive care setting.

Anne Bailey

**Problem:** Infection is a major cause of morbidity and mortality among patients admitted to intensive care units. The close and strategic partnership between clinical microbiologists and intensive care specialists is an effective way to manage infection in these patients. Prompt communication of microbiology results is vital and this is not always the case.

**Strategy:** A microbiology ward round sticker was introduced with the aim to improve documentation and communication within the intensive care team.

**Measurement:** The number of weekdays a patient was in ICU was compared against the number of microbiology ward round entries in the patients notes in order to calculate the overall percentage of times the ward round note was documented. This data was collected before and after introduction of the sticker.

**Effects of change:** Compliance with documentation of the microbiology ward round improved from 29% to 100% following introduction of the ward round sticker. Four years later the compliance remained at 95%.

**Discussion:** Introduction of the sticker has significantly improved documentation and communication of the daily microbiology ward round helping to improve patient care and outcomes.

### Hepatology Handover and Discharge Follow-Up.

Brooke Layard

**Problem:** Consultant handover of Hepatology inpatients occurred on Fridays/Mondays. No handover occurred between junior doctors, despite changing teams, leading to inefficiencies and potential for missed investigations/results. Upon discharge, notes return to secretary's office awaiting FY2/CT review. This could take months, risking missed investigations/results, or follow-up appointment.

**Strategy for change:** We designed a handover app on MS teams, encompassing patients' demographic and clinical details. Several PDSA cycles were performed within the project team using test patients. The app was presented to future users and launch date set. Junior doctors input data on admission, updating daily. On discharge, follow-up review time-frame is selected, and the secretary is automatically emailed to book. Patient details move into a discharge admin tab, where outpatient investigations are chased/signed off.

**Measurement of Improvement:** Mean time from discharge to reviewing notes reduced from 40.8 days to 9 days post-app. Follow-up was arranged in 95% of patients, compared to 80% prior.

**Effects of change:** At feedback meetings, junior doctors felt the app was excellent and minor issues resolved to enhance user-friendliness. Awareness of a patients' background and current issues allowed for prioritisation and the 'To-Do' tab meant nothing was missed.

**Discussion:** Introduction of this app has improved patient safety and has addressed clinical governance concerns.

### A clinical audit analysing the accuracy of prescribing in General Surgical Patients in Ulster Hospital Dundonald May 2021.

Charlotte Ralston & Rachael O'Halloran

**Problem:** Prescribing can be complex in the peri-operative

period, but the fundamentals of safe prescribing must be adhered to in order to minimise medication errors resulting in fewer adverse incidents. Due to prescribing errors, patients were missing regular and critical medications; impacting patient safety.

**Strategy for change:** A retrospective study was carried out to assess the accuracy of prescribing in emergency general surgery patients with a re-audit following teaching sessions provided to trainees to establish effectiveness of educating juniors.

**Measurement of Improvement:** Four key areas, using the patients' drug charts, were audited; patient details, allergy status, VTE assessment and correct prescription of regular medications. 78 patients were included in the first cycle (May 2021) and 60 patients in the following (August 2021); after departmental teaching was delivered.

**Effect of change:** The improvement was significant. Of the May cohort; 46% of patients had a drug chart without errors, and only 18% meeting two out of the four key criteria. A re-audit performed showed a marked improvement with 87% of kardexes meeting all four criteria; 90% of each category achieving accurate completion.

**Discussion:** The data collected reinforces the need of continuous learning and safe prescribing for inpatients, which has now been integrated into clinical education for all doctors in the department.

### Management of Patients with Decompensated Cirrhosis in the First 24 Hours.

Chin Han Tan & Philip Mahon

**Problem:** Decompensated cirrhosis requires immediate and appropriate medical attention due to its high mortality. Usage of BASL cirrhosis bundle, which lays out the appropriate investigations and interventions for these patients have been proven to improve mortality rate and reduce inpatient stay.

**Strategy For Change:** Post-implementation of BASL bundle, teaching sessions were organised as a part of junior doctors' inductions and monthly GI teachings, where they were encouraged to use the bundle.

**Measurement Of Improvement:** Two retrospective studies were carried out looking into the investigations and management of patients presenting to Causeway Hospital with decompensated cirrhosis during January to December 2019 and June 2020 to May 2021. Comparisons were made between the two studies and improvements highlighted.

**Effects of Change:** Usage of BASL bundle rose from 0% to 53% post-intervention resulting in significant improvement in overall management of patients with cirrhosis, noticeably with increased use of GMAWS from 15% to 71%, assessment



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for GI bleeding from 57% to 92% and assessment for encephalopathy from 65% to 83%.

**Discussion:** Overall, usage of BASL bundle has increased significantly, leading to improvement in outcome, mortality and in-hospital stay of patients with decompensated cirrhosis.

### Optimising Treatment of Neonatal Hypoglycaemia.

Fiona Wallace

**Problem:** Hypoglycaemia is a leading cause of admission to neonatal units in term babies. Neonatal hypoglycaemia can cause seizures, brain injury and ultimately a poor neurodevelopmental outcome. Optimal management prevents harm, avoids mother-baby separation, reduces neonatal admissions and lessens NHS cost.

**Strategy:** Over 6-weeks, 21 babies were prospectively identified as at risk of hypoglycaemia. Medical staff were alerted to any blood sugar <2.6mmol/l. Data was collected and compared to local trust guidelines.

Several areas for improvement were highlighted. Through regular education meetings, simulation teaching and safety brief reminders we ensured better understanding of hypoglycaemia. We introduced midwifery prescribing of oral dextrose and increased awareness through visual prompts in clinical areas. Hypoglycaemia teaching is now included in medical staff induction.

**Measuring improvement:** Second phase data collection is currently underway over a longer period\* - fewer babies are suffering from hypoglycaemia following the above implemented measures.

**Effects of Change:** We anticipate the recognition and management of hypoglycaemia will improve and adhere to guidelines.

**Discussion:** Data collection will extend across across all neonatal units in NI and contribute to a new regional guideline on neonatal hypoglycaemia, with a view to standardising care across the country.

(\* Please note, this phase data collection will be complete and analysed by final week September, 2021).

### SARS-CoV-2 Rapid Molecular Diagnostics in the Emergency Department.

Matthew Copeland

**Strategy for Change:** Introduction of a rapid 'point-of-care' machine within the Emergency Department

**Measurement of Improvement:** Reduced 'time to result' (compared to lab-based PCR)

**Effects of Change:**

- A. Outcome measure: faster identification of patients with COVID-19
- B. Process measure: reduced waiting time in the Emergency Department

**Discussion:** The global COVID-19 pandemic has placed considerable pressure on our health and social care sector. Emergency Departments (ED's) have faced and continue to face significant challenges in the deliverance of acute care to patients with and without COVID-19. A key challenge throughout the course of the pandemic has been the identification of both symptomatic and asymptomatic patients with COVID-19.

Access to accurate and rapid diagnostic testing has been a major obstacle – contributing to infection control / isolation problems, bed occupancy / allocation delays and importantly, clinical decision making. This QIP highlights the introduction and benefits of rapid 'point-of-care' molecular diagnostics within a local Emergency Department – reducing 'time to result' from 12 hours (lab PCR) to just under 3 hours (point-of-care PCR). This in turn reduced 'average time in the ED' by over 2 hours.

### Improving the Detection and Management of Non-alcoholic fatty liver disease in Primary Care.

Niamh Rogers

**Problem:** Non-alcoholic fatty liver disease (NAFLD) is a lifestyle condition that can lead to cirrhosis. In NI, liver disease carries significant morbidity.<sup>1</sup> GP's are experts in the primary care management of chronic diseases. Despite the disease burden of NAFLD, it is under recognised.<sup>2</sup>

**Strategy for Change:** The primary aim of this QIP was to assess 100% of type 2 diabetic patients (T2DM) for NAFLD and identify those who required fibroscan. The high-risk group were T2DM with fatty liver on ultrasound scan. ELF testing is recognised in NAFLD but is not available in NI. The QIP therefore used FIB4 which is validated for assessing fibrosis in hepatitis C.

**Measurement of Improvement and Effects of Change:** 0% of T2DM were assessed for NAFLD in 2020. By March 2021, 51% of T2DM patients had been assessed. 27% of T2DM patients were identified to be at risk through FIB4 scores calculated via diabetic clinic and "intelligent" LFTs. 64% of these fibroscans showed pathology. FIB4 assessment has become a routine investigation for diabetics since.

**Discussion:** FIB4 is a helpful tool in predicting fibrosis in patients at risk of NAFLD. Further investigation to ascertain its statistical application in NAFLD is needed. General Practice is best placed to undertake a multi-system approach necessary to tackle lifestyle related diseases.

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1. Northern Ireland Statistics and Research Agency (<https://www.nisra.gov.uk/publications/registrar-general-annual-report-2019-cause-death>) Registrar General Annual Report 2019 Cause of Death, Available at: <http://nisra.gov.uk> (Accessed: 07/09/21).
2. Matthew J Armstrong 1, Diarmaid D Houlihan, Louise Bentham, Jean C Shaw, Robert Cramb, Simon Olliff, Paramjit S Gill, James M Neuberger, Richard J Lilford, Philip N Newsome (2012) 'Presence and severity of non-alcoholic fatty liver disease in a large prospective primary care cohort', *Journal of Hepatology*, 56(1), pp. 234-240.



### Ambulating patients with rapid rhinos during the COVID pandemic.

Robbie Stewart

**Problem:** Epistaxis is the most common ENT condition requiring admission. Increased bed pressures during the COVID pandemic led to longer emergency department wait times. Inpatients were also at increased risk of contracting COVID during their admission.

**Strategy for change:** We designed an alternative treatment pathway to allow these patients to discharge with Rapid rhino packing in situ. A review appointment for definitive treatment arranged within 24 hours.

**Measure of improvement:** Retrospective comparison of total bed days for the treatment of epistaxis in a 6-month period in 2019 and 2020. Patient satisfaction surveys were conducted via telephone using a modified Likert scale.

**Effects of change:** We reduced with number of bed days for the treatment of epistaxis by 100 between 2019 and 2020. From the patient satisfaction survey results we can see that average satisfaction scores were higher in the ambulated patient group.

**Discussion:** Ambulating patients with Rapid rhino packing is; safe, can dramatically reduce admission rate to hospital and is preferable from a patient's perspective. It also reduces the risk of this vulnerable patient group from contracting COVID.

### Promoting Awareness of Signs of Lithium Toxicity.

Sarah Beaumont

**Problem:** Lack of awareness of signs of Lithium toxicity could lead to increased morbidity amongst this patient group.

**Strategy for Change:** Collaboration with patient input led to a business card containing information from the Lithium Shared Care Guidance on common side effects and signs of toxicity. Providing patients with a reminder aims to increase awareness of this information, promoting patient safety.

**Measurement of Improvement:** Lithium clinic patients are asked what side effects and signs of toxicity they can remember, without prompts. They receive a card containing this information. They are asked to read it, and a different person calls them within 7 days asking the same questions, also without prompts.

**Effects of Change:** The mean number of side effects known at baseline is 2, and after intervention increases to 6 out of 9. The mean number of signs of toxicity known at baseline is 0, and after intervention increases to 6 out of 10.

**Discussion:** Patients may not recall key medication information. It is clear we need to consider recounselling on Lithium toxicity an essential part of patient safety. Business cards are low cost interventions leading to improved awareness.

### From Bleep to Plan; ABGs in NIV Patients.

Catherine Boyd

**Problem:** Working within a predominantly COVID-19 environment as junior doctors it can be difficult to decide when it is appropriate to take an ABG sample and at which returned values is it necessary to escalate the treatment of that patient. Also FiO2 was often poorly recorded on ABGs leading to difficulty with the interpretation of serial ABGs.

**Strategy for Change:** Two teaching sessions were arranged about respiratory support in Covid 19 patients and how to interpret ABGs. A sticker was applied to an ABG machine to remind users about the importance of documentation and a table to aid conversion of flow rate to FiO2.

#### Measurement of Improvement:

1. Questionnaires given to F1s before and after teaching sessions regarding confidence in knowing when to perform an ABG, how to interpret it and escalate respiratory support accordingly.
2. Measurement of the number of ABGs with FiO2 recorded.

**Effects of Change and Discussion:** The new median documentation rate of FiO2/flow rate and respiratory support settings increased to 100%. Questionnaires showed increased junior doctor confidence in ABG interpretation and in the practical use of respiratory support.

### NIPEAR: a regional approach to practice.

Kathryn Wilson

**Problem:** Across paediatrics in NI, there are wide variations in clinical practice and no established pathway for the creation of regionally agreed guidelines.

**Strategy for change:** NI paediatric education, audit and research (NIPEAR) network was created to encourage high quality audit and research. Working in conjunction with the Child Health Partnership, we have designed a pathway to allow easy implementation of regional guidelines.

**Measurement of Improvement:** Two guidelines are currently out for consultation; prolonged jaundice and nephrotic syndrome. These will be the first regionally agreed guidelines in paediatrics to date. Further guidelines are in earlier stages of review.

The trainees involved presented these projects regionally and nationally, and gained management experience in the form of writing a regional guideline.

**Effects of change:** By creating a pathway which allows easy implementation of regional guidelines, and a central website where this information can be accessed we are standardising practice and ensuring that all children receive gold standard treatment in a timely manner.

**Discussion:** The NIPEAR network has demonstrated that a regional approach to quality improvement and guideline



creation benefits not only our patient population, but also paediatric trainees, making their practice more straightforward and bringing high quality research opportunities.

### Responsible Antimicrobial Prescribing: A Quality Improvement Project.

Michelle Doherty & Orla Kearney

**Problem:** There has been a gradual year on year increase in the rate of secondary care antibiotic consumption in Northern Ireland since 2014 (1). The inappropriate use of antibiotics contributes to antibiotic resistance.

**Strategy for change:** Responsible antibiotic prescribing and investing research efforts into antimicrobials are key in tackling antimicrobial resistance.

We focussed on the completion of the indication, duration and 'cultures sent' sections when prescribing antimicrobials. Clear documentation of these factors is a small step we can take to ensure responsible antimicrobial prescribing.

**Measurement of Improvement:** We completed five rounds of data collection using 61 kardexes from surgical wards in Altnagelvin Hospital. Interventions included: visual prompts, involving the multidisciplinary team and reminders to junior members of surgical team. Overall, we completed 5 PDSA cycles, comparing progress with each round of data collection.

**Results:** Number of kardexes with all 3 sections complete (10%) did not change over the 5 rounds of data collection. Number of kardexes with at least one section complete increased from 40% to 90%.

**Effects of change:** We achieved a significant change in the number of prescribers completing individual sections of the antimicrobial prescription.

**Discussion:** Overall, while there is scope for further improvement, we contributed to the overarching aim of improving patient care, reducing unnecessary antibiotic prescription and improving antimicrobial stewardship.

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### Optimising imaging of post appendicectomy collection in under 18s.

Philip Johnstone

**Problem:** Appendicitis is one of the most common childhood surgical diseases with complications well documented including postoperative abscess. CT imaging has traditionally been the choice for this diagnosis. Given the concerns regarding ionizing radiation, particularly in the young, there is an increasing onus to utilize both US and MRI for diagnosis.

**Strategy for Change:** A search of all USS, CT, and MRI abdominopelvic imaging in the under 18 years population

in our health trust in a 6month period was undertaken. This revealed that 5/249 US AP, 12/42 CT AP, and 1/14 MRI AP were undertaken to investigate possible post appendicectomy collections.

We initiated a new trust-wide protocol for this cohort to initially undergo an US AP as well as including a 'quick MRI protocol'.

**Measurement of Improvement:** Following the initiation of this new protocol, the data search was repeated over a 6month period. This showed there was an increase in the number of US and MR imaging modalities and reduction in CT abdomen performed for the indication of the post-appendicectomy collection; 12/354 US AP, 0/16 CT AP, and 2/22 MRI AP.

**Discussion:** The protocol resulted in a decrease in the number of CT imaging investigations and hence ionizing radiation.

### Delivery Outcomes for Pregnant Women using Home Blood Pressure Monitoring.

Roisin Devlin

**Problem:** We aimed to improve clinical outcomes in our obstetric service during the Covid 19 pandemic by introducing Home Blood Pressure Monitoring. We compared a group of women who used this service, and a retrospective group of those who did not.

**Strategy for Change:** A proforma was drawn up regarding delivery outcomes. Retrospective data collection was carried out on two separate cohorts. 40 patients were identified in each cohort.

**Measurement of Improvement:** There was a clear difference in induction of labour (IOL) rates between the two cohorts – 70% vs 50%; showing a reduction in IOL if the HBPM service was used. There is a clear difference in the diagnosis of Pre-eclampsia (PET) in the expenditure service user group – 35% compared to 13%.

**Effects of Change:** We have demonstrated HBPM reduces the incidence of IOL and diagnosis of pre-eclampsia. There was a halving of number of IOL for hypertensive disease.

**Discussion:** The next phase is introduction of HBPM postnatally. HBPM in pregnancy is safe and effective. The reduction in unnecessary hospital and primary care attendances have clear benefits in reducing time and travel.

### Making Clozapine Great Again!

Ruth Rowland

**Problem:** Clozapine is medication for treatment resistant Schizophrenia. In the SE Trust there was no repository for Clozapine information or way to confirm doses without contacting pharmacy. A retrospective review of Clozapine incidents from March 2019-October 2020 showed 18,



commonly related to prescription. Clinical notes from 09/2020 to 03/2021 showed approximately 60% of patients had their Clozapine dose recorded within six months.

**Strategy for Change:** We used SharePoint to create a digital register, including current and previous dose and physical health parameters. Electronic prescriptions are generated via this system on 6 monthly rolling scripts. Relevant professionals were trained and given access to the register. This has been set up in Lagan Valley and spread to Downpatrick.

**Measurement of Improvement:** All patients had their dose recorded within the past 6 months.

A retrospective review revealed no incidents within the project period.

**Effects of Change:** This project has created a stable, safe system, allowing prescribers to access to information about clozapine patients, leading to reduction in associated errors; the electronic prescriptions will save £22.80 per year.

**Discussion:** Next step: Emphasise the importance, not urgency of clozapine prescription and standardise prescription dates. Spread system across the whole trust.

### Development of a Clinical Decision-Making Aid based on the British Association of Dermatologists (BAD) Guidelines for the Management of Cutaneous Squamous Cell Carcinoma (cSCC) 2020.

Su Kwan Lim

**Problem:** In 2020, the BAD produced updated national Guidelines for the management of patients with cSCC. Substantial updates were made in risk stratification, excision margins, requirements for multidisciplinary discussion, adjuvant treatment and follow up. A clinical decision-making aid would assist in consistent implementation of Guidelines by the multidisciplinary team (MDT).

**Strategy for Change:** An oral presentation highlighted important changes from previous Guidelines. A single-page decision-making aid was designed for use in electronic format or display in poster format in clinic or theatre.

**Measurement of Improvement:** A five-item questionnaire tested knowledge of the main updates in the Guidelines. A QR code linked to a Google Form questionnaire, which was administered before the presentation, and again afterwards with the benefit of the decision-making aid.

**Effects of Change:** The decision-making aid underwent two trials, including the Specialist Skin MDT. There was a statistically significant increase ( $p < 0.05$ ) in scores in all questions.

**Discussion:** This was enthusiastically received and is being prepared for regional adoption via the NI Skin Cancer Guidelines.

### Reducing delays in urgent care using electronic communication systems; South Eastern Health and Social Care Trust.

Jordan Bamford

**Problem:** The SEHSCT Trust an electronic clinical task list. It is mainly used by nursing staff to create tasks for F1 doctors. This task list can inadvertently create delays in patient assessment as urgent tasks are added to this list, instead of being bleeped to the hospital at night coordinator.

**Strategy for change:** We carried out two PDSA cycles. The first cycle involved creating a poster which acted as a visual guide for staff - aiding the process of triaging clinical tasks. The second cycle involved changing the online system, building in a warning to ensure bleeps are used in a patient is unwell, and provided a link to a now online guide.

**Measurement of Improvement:** We measured time to complete tasks, number of inappropriate tasks, overall number of tasks and measured the bleeps to our hospital at night coordinators.

**Effects of change:** We observed a sustainable improvement in verbal communication and reduction the time for assessment for unwell patients.

**Discussion:** Electronic task lists can create delays in care if used inappropriately, and one way to avoid such delays is by creating a guide for tasks and creating built-in reminders.

### Some like it hot... but not everyone.

Anthony Pryor

**Introduction:** Transient loss of consciousness (TLoC) is a common reason for patients to attend ED and is often due to syncope or seizures. Patients also often attend the ED with altered mental status and associated fever. Septic encephalopathy or central nervous system infection is often the presumed provisional diagnosis but the case below demonstrates a need to consider rare pathology and remain cognisant of non-infective reasons for raised body temperature.

**Description of case:** A 25 year old male was brought to ED after TLoC towards the end of a charity 10km run. The patient had persistent altered mental status after TLoC.

The patient had pronounced tachypnoea (with normal peripheral oxygen saturations), tachycardia and hypertension. The peripheral temperature was 39.9 degrees Celsius and the patient was encephalopathic. There was a transient improvement in cognition after benzodiazepine administration, but the patient proceeded to rapid sequence induction of anaesthesia because of a seizure in the department.

The diagnosis was exertional heat stroke. The patient made a full recovery.

**Discussion:** This presentation aims to explore the ED assessment of TLoC, encephalopathy and raised body



temperature with emphasis on the rarer causes and particular attention to heat illnesses.

### An Artefact, a Fracture or Neither? Anatomy!

Beth Bradley

**Introduction:** This case report aims to present a report of an unusual artefactual mandibular ramus fracture. It explores possible misdiagnosis for maxillofacial fractures which could be caused by placing heavy reliance on viewing CT scans in 3D

**Description of Case:** 82 year old female had an unwitnessed ground level fall resulting in blunt head trauma. She subsequently presented to A&E 2 weeks later complaining of head and neck pain. No neurological deficits noted. CT with contrast was completed disclosing a comminuted fracture and dislocation of left mandibular condyle and what appeared to be a left mandibular fracture of the ramus. Upon close examination and review of CT the artefactual nature of the mandibular ramus fracture was exposed.

**Discussion:** Artefacts can degrade the quality of computed tomography images, if detected when viewing CT images in 3D they could result in a misdiagnosis. Clinicians viewing CT images must always evaluate clinical patient related examination data prior to deciding on definitive treatment modalities.

**Conclusion:** Diagnosis of traumatic mandibular fractures can be supported by various imaging modalities, meticulous clinical examination must always supplement mandibular fracture diagnosis and over-reliance on a 3D CT scan should be avoided.

### Covid 19 , Abdominal pain and Acute Appendicitis – “Cut, but not with Occam’s razor”.

Ciaran Mackle

An 11 year old female presented to the Emergency Department with fever, tachycardia and abdominal pain. The final clinical impression was of acute appendicitis; however, a surprise finding was when her COVID-19 PCR swab came back positive despite the absence of respiratory symptoms. Upon referral to our regional paediatric surgical team, the opinion was given that with a positive COVID-19 PCR, appendicitis would be unlikely, however the patient was accepted for transfer and underwent appendicectomy approximately 48hrs later having failed conservative management.

Children with COVID-19 are often asymptomatic or have minor disease. Abdominal pain is a recognised symptom of COVID-19 in children and may be more common in Paediatric Inflammatory Multisystem Syndrome, temporally associated with severe acute respiratory syndrome coronavirus 2 (PIMS-TS).<sup>3</sup> This case presented with textbook signs and symptoms of appendicitis. The co-incident COVID-19 infection confounded our clinical diagnosis at the time, but

as COVID-19 continues to remain a challenge, we should be aware of the potential of dual diagnosis, or perhaps even acute appendicitis as a complication of COVID-19 infection.

### “Night out with Niacin”.

Ciaran Mackle

Niacin (Vitamin B3) traditionally is used for treatment of hyperlipidaemia. It is readily available in food, nutritional supplements and energy drinks. Trending also is the theory that it speeds up toxic elimination hence its use pre-drug testing. Overdose is a rare occurrence and there are only 6 case studies published (1993-current).

Patient A, 22 year old female, presented via pre-alert following a deliberate overdose of 15-20 Niacin 500 milligram tablets. Upon arrival she was haemodynamically stable but hypoglycaemic with a metabolic acidosis and raised lactate. Her liver enzymes were normal but prothrombin time was prolonged. She required treatment with N-acetylcysteine for 24hrs. This proved to have resolution of her biochemical abnormalities.

The most common side effect of Niacin overdose is flushing. Less commonly it can cause hypotension, arrhythmias, hepatotoxicity and ultimately death. Niacin is metabolized in the liver and is broken down via two pathways. The second of which binds more strongly to substrates and is more easily overwhelmed leading to toxic by-products building up, and damage to the liver.

Niacin overdose remains rare but complications can be severe; it is very important to consider all OTC medications and energy drinks within the ED setting when patient's present with toxic symptoms.

### Smoke and Mirrors: A Case of EVALI During the COVID-19 Pandemic.

HuaJian Liu

The use of electronic cigarettes has surged in recent years, with e-cigarette or vaping product use-associated lung injury (EVALI) increasingly recognised. EVALI is a diagnosis of exclusion, as clinical and radiological features overlap significantly with other respiratory conditions.

We present a case of EVALI in an immunocompetent 39-year-old male with a recent history of vaping. He presented with pleuritic pain and haemoptysis, with CT showing changes suggestive of COVID-19 pneumonia. With negative microbiological evidence of COVID-19, he was managed as a “clinical COVID” case, but continued to deteriorate, and required admission to the intensive care unit, where he was trialled on high dose corticosteroids without improvement. Care was withdrawn and subsequent post-mortem revealed organising pneumonia, but laboratory testing failed to yield any infective or inflammatory aetiology. A diagnosis of EVALI was made following this.

EVALI can be life-threatening but can be steroid-responsive,

although evidence is limited to case studies. Diagnosis is crucial but challenging due to non-specific findings, especially during the pandemic as a “mimic” of COVID pneumonia. We suggest that detailed vaping history and prompt multidisciplinary discussions in challenging cases can be of benefit to an earlier diagnosis.

### An Unusual Airway Complication in a Patient with Pulmonary Atresia.

Jack Clarke

**Introduction:** Pulmonary Atresia may be present with either intact ventricular septum (PAIVS), or septal ventricular defect 1. Early pulmonary atresia at the time of truncus arteriosus gives rise to VSD and tortuous ductus arteriosus. PAIVS is rare, occurring in 1 in 22,000 live births in the UK 2. Recent advances in surgery have caused a three-fold increase in patients reaching the age of 40 since 2005 3.

**Case:** A 27-year-old patient with PAIVS, on lifelong Warfarin for recurrent Pulmonary embolism, presented with right sided paraesthesia and ataxia. Angiography revealed occlusion of the left M1 and M2, treated with clot retrieval. 19 hours post-procedure, the patient developed a rapidly growing, firm 7x3 cm lesion over the left anterior sternocleidomastoid with no cutaneous change on examination. Urgent Aortic arch angiography revealed intra-sternocleidomastoid haemorrhage with supply from an unidentified proximal artery of the external carotid. Given the patient’s baseline cyanosis with saturations of 65%, immediate concern was raised over internal compression of the patient’s airway. ENT endoscopy revealed no internal compression of the laryngeal cavity. Warfarinisation was reversed and Octaplex was administered.

**Discussion:** This rare complication of arterial catheterisation illustrates the importance of vigilant monitoring of patients with poor functional reserve post-procedurally.

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### Case Report: Single port laparoscopic paraumbilical hernia repair.

Jack Kennedy

**Introduction:** This case report describes a 2cm paraumbilical hernia repair that was undertaken using a single 5mm port in a patient with a raised BMI.

**Description:** A 5mm port was placed at Palmers point following induction of pneumoperitoneum via Veress needle. Introduction of a 5mm 30° laparoscope revealed a 2cm midline paraumbilical defect that had reduced following induction of anaesthesia/pneumoperitoneum. The defect was closed with 3 Endo Close® devices via a 2mm paraumbilical stab incision. Skin closure was achieved with Monocryl® and Steri Strips™. The patient was discharged on POD1.

**Discussion:** Laparoscopic ventral hernia repair has been well described. The novelty presented in this case was single port access. This approach had several favourable benefits, including wound cosmesis, speed of recovery and reduced risk of future port site hernia. Avoidance of additional laparoscopic ports was possible because the hernia had self-reduced following anaesthetic therefore no further instrumentation was required. In similar cases, this single port technique presents a safe and effective minimally invasive approach.

### A picture isn’t always worth a thousand words: a case of discrepancy between radiological and operative findings.

Jessica Lockhart

**Introduction:** There is much published literature considering the discrepancy between radiological findings and operative findings of portal venous gas and mesenteric pneumatosis. Here, we present an example where this is the case, however recognition that they continue to carry significant informative importance for the consent process is noted.

**Description:** This case presents a 22-year-old female who was 7 days post emergency right hemicolectomy for caecal volvulus when she presented to the emergency department with abdominal pain, distension and vomiting. Following assessment and resuscitation she proceeded to CT scan which revealed a large volume of free air, free fluid and widespread portal venous gas extending to the hepatic edges. Radiologically, her anastomosis appeared to be intact however there was concern over the viability of her small bowel; this information was shared with the patient and her family and the potential consequences. She proceeded to laparotomy. Operative findings revealed total anastomotic breakdown, but a viable small bowel. She underwent a 4-quadrant wash out and formation of an end ileostomy.

**Discussion:** It is well established that CT appearances are a poor indicator for operative findings in the acutely unwell patient; however, they continue to have a diagnostic role and aid the process of informed consent.

### Scrotal Swelling: A rare presentation of Diffuse Large B Cell Lymphoma (DLBCL).

Katie McComb

#### Introduction:

Scrotal swelling may be attributed to disorders of the testis, its appendages, the scrotal skin or herniae. Fournier’s



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gangrene (FG) is a serious cause which must be excluded.

**Description:** A 78-year-old gentleman presented via ED with progressive scrotal swelling. His right hemiscrotum was acutely swollen and tender. Blood results were unremarkable. Imaging demonstrated oedema with suspected gas within the soft tissue. FG was suspected. Surgical debridement was performed. Intraoperatively, the skin was thickened and atypical for FG. Histopathology results demonstrated DLBCL with further treatment led by the Haematology team.

**Discussion:** FG is a form of necrotising fasciitis, usually presenting as a rapidly spreading painful scrotal cellulitis. FG is a surgical emergency requiring early debridement of necrotic skin alongside broad-spectrum antibiotics.

DLBCL rarely presents with soft tissue signs or symptoms. A literature search has revealed no published reports of the initial presentation of DLBCL as scrotal swelling. DLBCL is the most common form of Non-Hodgkin's lymphoma affecting adults. It classically presents with rapidly growing, painless lymphadenopathy.

In elderly patients with contradictory clinical features and investigations, haematological causes of scrotal swelling must be actively considered to ensure earlier diagnosis and treatment.

#### A case of subacute progressive mutism syndrome.

Nahid Shamandi

A 62-year-old man with no significant past medical history presented with a one-month history of weight loss, insomnia, worsening confusion and dysarthria. Neurological examinations, bloods and routine CSF results were unremarkable. Post admission his initial difficulties in completing sentences progressed to a near non-verbal state. He also developed dystonic posturing and intention tremor in his right wrist. EEG showed some irregularities likely due to focal or structural abnormalities of both temporal regions. In addition, left-sided quasi-periodic changes, extending to the frontal lobe, were noted. He was given empirical IV Methylprednisolone for possible underlying encephalitis and was also commenced on Levetiracetam. MRI scan demonstrated extensive cortical ribboning throughout the left hemisphere, affecting left frontal, parietal and occipital lobes. These findings were highly suspicious of sporadic Creutzfeldt-Jakob disease, which was later confirmed with CSF RT-QuIC. CJD is a group of disorders caused by build-up of misfolded prion proteins in the brain with no current available treatment apart from palliative support. CJD leads to rapid progressive neurological decline with life expectancy of less than a year in 95% of the cases as for this patient who passed away 3 months after onset of his symptoms.

#### Beware the pseudo IBD flare.

Peter Nelson

**Introduction:** A 23 year old male patient with a history of

ulcerative colitis and primary sclerosing cholangitis managed with Adalimumab and Mesalazine presented with a six week history of weight loss, lethargy and fever in October 2020. He also had a history of recurrent *Clostridioides difficile*

**Description:** The patient was diagnosed with an acute exacerbation of ulcerative colitis and treated with high dose steroids. Three sets of blood cultures flagged positive, with *Yersinia pseudotuberculosis* being isolated in all three. Immunosuppressant therapy was held and he was treated with Tazocin, Fluconazole and Gentamicin. Imaging of his thorax, abdomen and pelvis showed multifocal hypoattenuated splenic lesions in keeping with abscesses and rectosigmoid colitis. Subsequently the patient developed pancytopenia.

**Discussion:** A possible diagnosis of Yersiniosis was discussed, but given clinical deterioration he proceeded to have an emergency laparotomy with concurrent bone marrow aspiration, splenic biopsy, and subtotal colectomy. This gentleman was eventually diagnosed with secondary Haemphagocytic Lymphohistiocytosis, which was treated successfully with Anakinra and steroids. After a prolonged admission he was discharged home with the OPAT service to complete a course of intravenous Ceftriaxone and Metronidazole. Interval imaging demonstrated abscess resolution and the patient has fully recovered.

#### A case of successful management of adult-onset linear IgA bullous disease with sulfasalazine during the COVID-19 pandemic.

Sana Ashraf

**Introduction:** Linear IgA bullous disease (LABD) is a rare, acquired, autoimmune, pruritic and blistering skin condition. Dapsone is a first line treatment option, however there are limited options if this fails, or was contraindicated. We present a case of successful management of LABD with sulfasalazine.

**Description:** A 46-year-old caucasian female with LABD was commenced on high dose corticosteroids. She failed weaning, and dapsone was contraindicated due to a history of primary sclerosing cholangitis and risk of hepatitis. Following the failure of mycophenolate mofetil, sulfasalazine was trialled, and successfully controlled both this patient's LABD and ulcerative colitis.

**Discussion:** There is little literature on the use of sulfasalazine in dermatological conditions. We present sulfasalazine as an option for patients who are unable to use classically used treatments for LABD, or in those who have a dual diagnosis, as in this case, allowing for one agent to manage both conditions. Furthermore, NICE guidance mentions sulfasalazine as one of the few drugs that can be continued during the COVID-19 pandemic, and its use spared this patient from the significant immunosuppression associated with other treatment modalities.

### Differentiating Benign Retroperitoneal Lymphangioma from Retroperitoneal Sarcomas - A Case Report.

Sarah Alexandra Craig

**Introduction:** Retroperitoneal lymphangiomas are rare, benign lesions resulting from lymphatic malformations. They are usually an incidental finding, with no pathognomonic signs and most frequently occur in childhood. It presents a diagnostic uncertainty when investigated with imaging alone; therefore, surgical excision with histological examination is required for definitive diagnosis and management. Here we describe a case of an incidental finding of a retroperitoneal lymphangioma in a 64-year-old female, and the decision-making process regarding laparotomy and excision in the face of diagnostic uncertainty.

**Case Description:** A 64-year-old female presented to her GP with a painful knee. CT Imaging for onward referral identified a retroperitoneal soft tissue lesion. Primary differential diagnosis included a liposarcoma and she was referred to the regional sarcoma MDT. Decision was for urgent excision and diagnosis favoured liposarcoma. Following surgical excision, histology identified lymphoid aggregates which are found in lymphangiomas.

**Discussion:** Lymphangiomas were first described 1913 and since there are only small numbers of reported cases. They tend to be slow growing and have no pathognomonic signs or symptoms. There is diagnostic uncertainty with imaging alone therefore surgical excision and histopathology is required for a definitive diagnosis and management.

### An Unusual Case Of Kratom (*Mitragyna Speciosa*) Withdrawal.

Siobhan Page

**Introduction:** The leaves, teas and extracts of Kratom (*Mitragyna speciosa*) were traditionally used to treat pain and fatigue, and more recently anxiety, depression and opioid withdrawal. Due to psychoactive properties, Kratom became a popular recreational drug, prior to its prohibition in 2016. There are limited publications regarding Kratom withdrawal. This case describes an unusual presentation following abrupt cessation of Kratom in a 68 year old male.

**Description:** A 68year old male, with an un-remarkable psychiatric history, was admitted to hospital with a UTI and asymptomatic hyponatraemia, which resolved with intravenous fluids and antibiotics. Four days into admission, he became hypertensive, and exhibited confused speech, agitation, and unusual behaviour, including crawling and lying on the floor making repetitive circular motions with his limbs. Laboratory investigations and imaging were unremarkable (with normalisation of inflammatory markers and sodium). Collateral history revealed chronic daily consumption of 25g Kratom. Psychiatry opinion concurred a diagnosis of acute Kratom withdrawal. The patient required benzodiazepine treatment of aggression and antihypertensive agents.

**Discussion:** 'Kratom withdrawal psychosis', anxiety, depression, emotional lability, gastrointestinal symptoms and hypertension have been reported following kratom cessation [1,2]. This case provides further insight into kratom withdrawal, highlighting the importance of a thorough medication history including herbal remedies.

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### Pineal Non-Germinoma.

Therese McCartney

**Introduction:** Malignant pineal germ cell tumours are rare, accounting for <1% of intracranial tumours in adults. Due to their anatomical location, the clinical presentation and treatment is often complex.

**Description:** A 26-year-old professional sportsman from Northern Ireland presented with headache and collapse in Germany.

MRI showed a tumour in the pineal region, and fourth ventricle with obstructive hydrocephalous. He had multiple interventions including complex surgical resection, post-operative imaging confirmed persistent disease with clinical deterioration. Histology confirmed non-germinoma germ cell cancer. He transferred to Belfast for ongoing management.

**Discussion:** On arrival at Belfast he was aphasic with communication limited to yes/no hand squeezing. Mobility was significantly impaired due to persisting neurological deficit and deconditioning.

He received cisplatin/etoposide/ifosfamide chemotherapy, with excellent clinical response. With the support of the multidisciplinary team, his speech returned and mobility was regained. He underwent consolidated craniospinal radiotherapy, and has since returned to full fitness. A complete radiological tumour response has been sustained on serial imaging.

This rare and complex case, made all the more challenging by his severe neurological deficit at presentation highlights the effectiveness of intensive chemotherapy/ radiotherapy with multidisciplinary input in successfully treating this condition even in the most severe cases.

### A Rapidly Progressive Dementia: Think Creutzfeldt-Jakob Disease.

Timothy Atkinson

**Introduction:** Creutzfeldt-Jakob Disease (CJD) is the most frequently occurring human prion disease. The annual



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incidence rate is 1-2 per million worldwide. The vast majority of cases occur as a sporadic disorder. We present a 71-year-old man with a history of cognitive decline, myoclonus, cerebellar signs and aphasia. Neuroimaging and CSF analysis supported a diagnosis of probable sporadic CJD (sCJD).

**Description of Case:** This 71-year-old man initially presented with a 3-month history of gait unsteadiness and increasing confusion. On examination he had an ataxic gait. Mini-Addenbrooke's Cognitive Examination (Mini-ACE) score was 14/30. Initial MRI brain showed no significant abnormality. Over the following 2 months his symptoms rapidly progressed. His mobility deteriorated, he developed myoclonus and became progressively more aphasic. Repeat MRI brain showed bilateral diffusion restriction involving the caudate nuclei, putamini and thalami. EEG showed periodic sharp wave complexes. Cerebrospinal fluid was positive for Real-time quaking-induced conversion (RT-QuIC). Therefore our patient met the criteria for a diagnosis of probable sCJD (as per Euro-CJD classification). He continued to decline and died 6 months from symptom-onset.

**Discussion:** sCJD is rare however should always be considered in a patient presenting with a rapidly progressive dementia, particularly if accompanied by myoclonus and/or cerebellar signs.

### Erector Spinae Plane Blocks for Rib Fracture Analgesia: A Service Evaluation.

Aedin O'Kane

**Introduction:** Rib fractures are associated with significant morbidity and mortality<sup>1</sup>. Erector spinae plane blocks (ESPB) provide excellent analgesia.<sup>2</sup> The Belfast Trust Rib Fracture Analgesia Service was implemented in 2019.

**Aims:** We aimed to analyse the effectiveness of the electronic referral system and the effect of ESPB placement on post-procedure pain indices.

#### Method

Clinical notes for referrals between June 2019 and November 2020 were reviewed. Referral-to-block time, average pre- and post-block numerical rating scale pain scores and 24-hour opioid consumption were recorded.

**Results:** Of the 69 patients included, 64% had an ESPB sited. Mean (SD) time from referral to ESPB placement was 10.4 (8.1) hours. Fifty percent of referrals received an ESPB within 6 hours and 93% were placed within 24 hours of referral. The median (95% CI) 24-hour pain score was observed to be 8 ( $\pm$  0.5) pre-block and 4 ( $\pm$  0.7) post-block. Following ESPB placement, 65% of patients had a reduced 24-hour opioid consumption.

**Discussion:** The use of ESPB is effective for improving pain indices. The electronic referral service facilitates timely placement of regional anaesthesia. The data from this service evaluation will be used to support the service development for a dedicated trauma block room.

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### Consequences of the COVID-19 Pandemic on Child Physical Activity and Nutrition.

Anne-Marie McClean

**Background:** Childhood is a crucial time in the formation of lifelong healthy eating and activity patterns. Children have faced unprecedented changes to daily routines due to the COVID-19 pandemic.

**Aims:** This study aims to examine the impact of COVID-19 and associated mitigation measures from March 2020-June 2021 on the physical activity levels and diet of school children aged 5-11 years.

**Methods:** A written questionnaire was issued to 480 parents of 5-11-year-old children attending 2 Northern Ireland schools in June 2021.

**Results:** 220 of 480 (46%) parents returned questionnaires. 48% of children were female, 52%- male. Median age: 8 years. 66 (30%) eligible for free school meals. Comparing current activity levels and diet to pre- COVID-19 pandemic: 108 (49%) parents answered their child was less active, for 77 (35%) activity levels were unchanged and 35 (16%) more active. 89 (41%) children were eating more treat foods. 128 (58%) parents thought treats were unchanged. 3 (1%) thought treats had decreased

**Discussion:** The COVID-19 pandemic has impacted children's physical activity levels and nutrition. Most parents report their children are less active and for 41% consumption of treat foods has increased. The next step in this study is more detailed analysis using the socioeconomic and demographic data collected.

### Causes of isolated prolonged APTT in BHSCT (February- April 21).

Caitlin Rice

**Introduction:** Coagulation screening includes prothrombin time (PT), activated partial thromboplastin time (APTT) and fibrinogen. The results may predict bleeding risk. APTT may be used to identify hereditary or acquired haemophilia.

**Aims:** Identification of cases with persistently isolated prolonged APTT and appropriate investigation of aetiology.

**Method:** Review of all coagulation screening Feb-April 21. Identification of isolated prolonged APPT and persistence of the abnormality confirmed. Causes of the prolongation were investigated and appropriate follow up was arranged.

**Results:** Of 595 patients who had coagulation screening performed, isolated prolonged APTT was identified in 183 cases. If a clear cause was identified (152 cases) no further

investigation was required. In cases with no clear causative factor (31 cases), repeat testing confirmed persistently prolonged APTT in 13 cases. Of these we were unable to follow up 3 patients. The remaining 10 patients had haematology outpatient follow up- none of whom had a new diagnosis made of a bleeding disorder.

**Discussion:** No new bleeding disorders were identified on investigation. This raises the question about the appropriate use of coagulation testing in BHSCT and the need for a follow up pathway for persistently isolated prolonged APTT results.

### Breast cancer follow up; Is routine mammography indicated?

Declan Beattie

**Aim:** Outcomes of yearly mammography in detecting breast cancer recurrence and new tumours in patients with a history of breast cancer.

**Methods:** From 2014, following treatment for breast cancer, patients were enrolled in self-directed after care (SDA) and given open access to the Breast service. Regular planned appointments were not offered. All patients underwent annual mammography for 5 years.

Retrospective analysis of the SDA database from 2014 to 2016 was undertaken, time to and mechanism of detection of breast cancer recurrence in this population was determined.

**Results:** 352 patients were analysed (1760 mammograms), 29 recurrences. 12 locoregional, 12 systemic, 5 locoregional and systemic. Median time of recurrence - 30 months.

Locoregional recurrence detected by - surveillance mammography (4), clinical examination following patient request (7), non-breast radiological investigation (5), non-breast care Doctors (1).

**Discussion:** Despite limited evidence for regular clinical assessment, the practice remains recommended.

In this study regular clinical review was replaced by open access. Annual mammography was retained.

The number of tumours detected (4 out of 1760 mammograms) would suggest that non-stratified routine mammography is of limited value.

Further study is required to determine the risk or value and the cost/benefit analysis of mammographic follow up of breast cancer.

### The impact of antiseptic versus sterile water cleaning on rates of post-natal perineal infection.

Esther McNeill

In the Tayside trust, if an instrumental delivery occurs in the room, a sterile field with drapes is set up and the perineal/ vulval area cleaned with sterile water. In contrast, patients who are taken to theatre for instrumental delivery have a sterile field and the perineal/ vulval area cleaned with Travisept (chlorhexidine acetate 0.015%; cetrimide

0.15%). If a tear or episiotomy occurs no further cleaning will be undertaken before suturing. The aim of this project was to identify rates of infection in those who had perineal trauma sutured in the room (cleaning with sterile water) versus theatre (cleaning with chlorhexidine). A 6-month retrospective audit of all postnatal patients who presented to triage for perineal review/ perineal problem was conducted. 20 cases met the inclusion criteria – 5 theatre cases, 15 room cases (11 tears, 4 episiotomies). Results showed 20% of those cleaned with chlorhexidine required subsequent antibiotics/ re-suturing compared with 60% of those cleaned with sterile water for infection/ breakdown. Larger numbers are still needed to demonstrate statistical significance; nevertheless, recommendation is that antiseptic cleaning should be used for all deliveries where perineal trauma is likely.

### Incidence of sepsis in neonates presenting with respiratory distress following delivery via caesarean section without established labor.

Gala Rowe-Setz

**Introduction:** Neonates who undergo septic screening are exposed to antibiotics, painful procedures, and maternal separation with associated implications.

**Aims:** To identify the incidence of sepsis among neonates delivered via “cold” caesarean section, who underwent screening for respiratory symptoms and to propose a strategy to reduce unnecessary antibiotic exposure.

**Method:** A 5-year retrospective analysis of babies who underwent septic screening after delivery via “cold” caesarean section, categorized into those with respiratory symptoms or with non-respiratory symptoms. Primary outcomes measures were i) positive blood culture ii) positive cerebrospinal fluid [CSF] culture, or iii) CSF cell count suggestive of meningitis.

**Results:** Of 2061 caesarean sections (LSCS), 488 neonates were screened. 411 neonates met inclusion criteria and 226 presented with respiratory distress after 4 hours. There was no confirmed sepsis in this population.

**Discussion:** Neonates born via LSCS without active labor may be screened unnecessarily, as respiratory distress in isolation is a poor indicator of sepsis in this population. Thorough clinical assessments should be carried out, supplemented by a “sepsis calculator”. Respiratory symptoms accompanied by other signs, however, may be more indicative of impending sepsis.

### Usefulness of yellow tinted lenses in inherited retinal disease.

John Logan

**Introduction:** There is subjective and objective evidence of improvement in vision in inherited retinal disease with yellow tinted lenses. However, such lenses are offered by few UK ophthalmology centres.



**Aims:** We wish to investigate usefulness of yellow tinted lenses in these patients as well as problems associated with their use.

**Methods:** A questionnaire regarding use of yellow tinted lenses was filled in via telephone call with 18 patients with inherited retinal disease who had been prescribed yellow tinted lenses.

**Results:** Patients used their yellow tinted lenses on average of 4 days a week, for 2-4 hours each day. 72% of patients found the lenses improved their overall vision. The most common improvements were in headaches, problems when moving from a dim to a bright environment as well as glare indoors, outdoors and from computer screens. 44% of patients reported worsened colour perception and vision in dim light.

**Discussion:** Our findings suggest yellow tinted lenses should be considered for patients with inherited retinal disease, as a potentially useful adjunct in a patient population where treatment options are currently limited.

### Undergraduate medical student career aspirations in Northern Ireland.

Joshua Clements

**Introduction:** Undergraduate career aspirations are accurately translated to postgraduate career paths.

**Aims:** This qualitative study aimed to identify factors influencing career choice amongst medical students in Northern Ireland.

**Methods:** An anonymous voluntary survey consisting of binominal, Likert and free text responses was distributed to all medical students registered at Queen's University Belfast (QUB). Data was collected over 6 weeks in April-May 2021. Primary outcomes were factors influencing future career choice and the secondary outcomes were the impact of mentorship on ultimate career choice. Local ethical approval was obtained.

**Results:** 202 responses were received (Response rate = 15%). 67% (n = 135) were female. One third of respondents remained undecided about their future career choice. Respondents were least likely to choose a career in Surgery (33%). Negative predictors of career choice were lack of interest in the area, perceived workload, and duration of training schemes. 71% (n=144) of respondents reported that a subspecialty mentor would positively influence their career choice and two-thirds of respondents reported that financial factors would not influence their career decision.

**Discussion:** Surgery was the least the popular specialty. Mentorship, integrating flexibility in training and enhancing academic interest may create greater traction for prospective trainees to surgery.

### Obtaining informed Consent on the day of surgery – Futility or a Formality?

Joshua Clements

**Introduction:** Written informed consent is essential prior to proceeding with any invasive intervention. There is no consensus on the timing of when consent is complete.

**Aim:** We assessed the variations in our consent practices.

**Methods:** A prospective snapshot audit was conducted on consecutive elective general surgical patients over a 4-week Period (August 2021). Information on pre-operative consent discussions as well as when the consent form was completed were collected from patient records.

**Results:** 56 patients were included. Median age was 55. 73% (n = 41) were female. 63% cases were for malignant disease (n=35). 54 patients had documented pre-operative consultations with a consultant. In all malignant cases, patients underwent discussion with a cancer specialist nurse present. All patients received a diagnosis and discussion regarding treatment. 69% of patients underwent discussion about alternative treatment options. 95% of patients signed their consent form on the day of surgery with 80% registrar and 20% consultant countersigning the forms respectively.

**Discussion:** Variation exists in consent practices. Despite the majority of patient completing their consent form on the day of surgery, the importance and content of the preceding senior consent discussions would suggest the respective timing of signing the consent form is a formality.

### Determining the diagnostic value of an abdominal ultrasound in women presenting with right iliac fossa pain.

Lara Armstrong

**Introduction:** Right iliac fossa (RIF) pain is a common acute surgical presentation, for which abdominal and pelvic ultrasounds (USS) are often the imaging modality of choice.

**Aim:** To determine the diagnostic value of USS in patients of child bearing age, presenting with RIF pain.

**Methods:** A single centre retrospective review, of women aged 14 to 45 years old, presenting with RIF pain and undergoing a subsequent USS, over a 6 month period.

**Results:** 45 consecutive patients were reviewed, with a median age of 28 years (14-45). 37 USS were reported as normal and 8 illustrated gynaecological pathology. None could confirm appendicitis. 24 patients had a normal WCC and a CRP of <5 on admission, none of which had radiological findings requiring surgical intervention. 3 did progress to appendectomy, 66.6% of which returned with negative pathology. Conservatively managed patients, with a normal USS and normal inflammatory markers, accrued a combined hospital stay of 53 days.

**Discussion:** In patients with RIF pain and normal inflammatory markers, an USS is unlikely to demonstrate pathology requiring surgical intervention and therefore is of limited positive diagnostic value. However, a negative USS may aid patient reassurance and facilitate earlier discharge in this cohort.

### The Impact of Early Two-Stage Lip Repair on Speech Outcomes in Bilateral Cleft Lip and Palate.

Lauren Laverty

**Introduction:** A recent article concluded that children with bilateral cleft lip and palate (BCLP) who underwent a two-stage lip repair, achieved inferior speech outcomes than those who underwent a one-stage repair. We theorise this was due to timings rather than procedure.

**Aims:** This study aimed to prove that earlier timings of the two-stage repair, prior to the beginning of speech development, will have a positive effect on speech outcomes.

**Methods:** A retrospective case note investigation of twenty-eight children, who had undergone a two-stage lip repair at 3 and 7 months respectively, measuring bilabial consonant production at 18 months, 36 months and 5 years.

**Results:** At 18 months, 37% of early two stage repair patients produced bilabial consonants, compared with 4% of delayed two-stage repairs from the original paper. At 36 months, 67% of early repairs in comparison to 26%, produced bilabial consonants. At 5 years old, 88% of the early two-stage group had bilabial production, with a similar proportion of delayed exhibiting the same.

**Discussion:** The timings of surgical intervention, in addition to the surgical protocol followed, affected the speech outcome in children with BCLP.

### Are we adequately adhering to protocol for steroid induced hyperglycaemia in COVID-19?

Louise Elliott & Kerri Munn-Bookless

**Introduction/ Aims:** Steroid induced hyperglycaemia is common in patients with COVID-19 due to the use of Dexamethasone in their treatment. Hyperglycaemia is associated with worse outcomes and early intervention may improve outcomes.

The aim was to observe the adherence to the 'steroid induced hyperglycaemia in COVID-19' protocol. Then to quantify the patients who had documented follow-up on discharge, in adherence with the NHS London recommendations.

**Methods:** We carried out a chart review of patients in the Mater Hospital with COVID-19, who were diagnosed with steroid induced hyperglycaemia. We calculated how many adhered to guidance on frequency of CBG monitoring, had an HbA1c check and had documented endocrinology follow-up.

**Results:** We found that the majority of patients (67%) had adequate CBG monitoring and referral to the DSN (61%). However, only 35% had an HbA1c sent during their admission. Also, a majority (65%) had no endocrinology follow-up documented on discharge. Of those documented, only 12% was as per the NHS London de-escalation guidelines.

**Discussion:** The results suggest some improvement is required in CBG monitoring, but mainly a deficit in HbA1c tests and adequate endocrinology follow-up, in this cohort of patients.

### Healthcare service use amongst Ethnic Minority groups in the UK.

Mark Patrick Fletcher

**Introduction:** The WHO aims to ensure ethnic minorities have equal access to healthcare. Within the UK, despite the NHS, healthcare service use by ethnic minorities has been shown to be low.

**Aims:** To examine ethnic differences in use of GP and Hospital healthcare services in the UK in a general sample and a subsample of people with poor mental health.

**Methods:** Cross-sectional analysis from wave 7 of the UK Household Longitudinal Study (UKHLS). Involving 24,694 UK participants. Two outcome measures; frequency of visits to GP and hospital in the last 12 months. Logistic regression modelling was used to determine ethnic differences in healthcare use, adjusting for covariates, for both the total population and sub population of those with poor mental health (n=4,369).

**Results:** Adjusting for socio-demographic, health and migration factors differences in healthcare use amongst ethnic minority groups was non-significant. In the sub population only African ethnicity reached statistical significance, with reduced odds of high use of GP services (OR 0.49 [0.27-0.91]).

**Discussion:** The study was not in keeping with previous research; ethnicity played a lesser role in healthcare service use than expected. Further research into the African community may help further distinguish which specific barriers they face specifically.

### Is the risk worth the reward: The incidence of infections in COVID-19 patients within three months of receiving tocilizumab.

Matthew Wilson

**Introduction:** Tocilizumab is a monoclonal antibody licenced for use in critically unwell COVID-19 patients. Through antagonisation of the pro-inflammatory interleukin-6 receptor, tocilizumab modulates the immune system thus posing a risk of immunosuppression, particularly within 90 days post treatment.



**Aims:** To retrospectively examine the incidence of infection in COVID-19 patients who received tocilizumab in the Mater Hospital within 90 days of treatment.

**Methods:** Using the Electronic Care Record, retrospective data was collected from 45 patients fulfilling the study criteria. Outcomes documented included; antimicrobial prescriptions, infection-related readmissions and positive microbiological investigations.

**Results and Discussion:** Three COVID-19 related deaths were noted. Of the 42 patients alive at 90 days, one (2.4%) developed aspergillosis and had positive sputum and urine cultures necessitating a prolonged ICU and inpatient admission. Nine (21.4%) received at least one antimicrobial or antifungal from their GP following discharge. No infection-related hospital readmissions and no other positive microbiological investigations were detected.

Accepting that examining antimicrobial prescriptions in the absence of positive microbiological tests may be a poor surrogate for infection, it remains reassuring that the majority of those receiving tocilizumab did not suffer significant infection related sequelae, thus supporting the existing evidence regarding the safety of tocilizumab in COVID-19 patients.

### The Free Vascularized Fibula Flap for long bone reconstruction in Adults – A Systematic Review and Regional Centre Experience.

Neala Glynn

**Introduction:** The free vascularised fibula flap (FVFF) has proven a reliable means of reconstruction since its first description. Its broad spectrum of applications includes that of limb and craniofacial reconstruction following oncological resection and trauma.

**Aims:** Collate current data regarding FVFF and compare this with parameters assessed in our case series and a recently published review on paediatric FVFF.

**Methods:** A retrospective chart review was performed on patients undergoing FVFF reconstruction in our centre between 1993 and 2021. Surgical indication, intraoperative technique and outcomes were recorded.

A systematic review was performed for adult patients undergoing long bone reconstruction.

**Results:** In our centre, 15 patients underwent FVFF reconstruction for indications including osteomyelitis and following tumour resection. Mean time to union of the FVFF was 7 months and we report a low incidence of post-operative complications. In the systematic review we identified 369 patients across 47 studies. The most common indication for FVFF was following tumour resection or trauma. Mean time to bony union was 6 months. Functional evaluation using patient reported scoring systems demonstrated excellent results. Donor site morbidity was reported in a low number of patients.

**Discussion:** FVFF for long bone reconstruction provides excellent functional outcomes with low rates of donor and recipient morbidity.

### Should GPs sit less and move more? A mixed-methods study.

Richard Mayne

**Introduction:** Excessive sedentary behaviour and physical inactivity is associated with many adverse health outcomes and increased all-cause mortality. This is especially relevant to GPs, who are desk-based with high levels of patient contact.

**Aims:** To undertake quantitative and qualitative research to explore the extent of sedentary behaviour among GPs, and their perceptions regarding sedentary behaviour and physical activity.

**Methods:** Multi-item sedentary behaviour questionnaire, followed by thigh-worn accelerometer and qualitative interview sub-study.

**Results:** Out of 1999 GPs in Northern Ireland, the questionnaire received 352 valid responses (response rate of 18%). Overall mean workday sedentary time for GPs without active workstations (such as standing desks) was over 10 hours 30 minutes. The 6% of GPs who had access to active workstations had over 2 hours 30 minutes less workday sedentary time than those without active workstations. 87% of GPs would prefer less time sitting in work. Semi-structured interviews revealed numerous barriers and some facilitators to GPs being less sedentary and more physically active.

**Discussion:** GPs currently have very high levels of workday sedentary time, which may be negatively affecting their own health and their ability to counsel patients about healthy lifestyles.

### Global distribution of cancer research investment and impact of covid-19 on funding allocation.

Gokul Ramana Lakshminpathy

**Background:** Cancer constitutes huge burden on healthcare systems globally. Cancer research dramatically improves patient outcomes. COVID-19 has negatively affected cancer services. Impact of COVID-19 on global cancer research funding allocation is unclear.

**Objectives:** Categorise the distribution of global cancer research investment.

Determine COVID-19's impact on funding by comparing data from 2016-2019 with 2020.

**Methods:** Data from public and charitable funders were obtained from Dimensions database. Individual abstracts were reviewed and non-human/non-cancer studies excluded. Remaining studies were characterised according to cancer type, research theme and phase.

**Results:** Since the start of COVID-19, average investment fell by £1.2 billion in comparison with 2016-2019. Breast was the most common site-specific cancer to receive funding. Half of the awards examined cancer biology. 90% of funded work was performed in laboratories. 10% of the entire budget focussed on metastases. 1% of funding was directed towards surgical research.

**Discussion:** This comprehensive study encompasses information on several cancer types. Our findings highlight that surgery, metastasis and clinical work received low levels of funding. Stakeholders need to increase investment particularly in these areas, and cancer in general, as we emerge from the pandemic.

### Laparoscopic Burch Colposuspension for Stress Urinary Incontinence in the setting of the BSUG mentorship scheme– medium term outcomes.

Michael Graham

**Introduction:** Burch Colposuspension is an effective procedure for stress urinary incontinence which was historically performed as an open procedure. Due to the pause on mesh procedures laparoscopic Burch Colposuspension has been increasing in use.

**Aims:** To determine outcomes following laparoscopic Burch Colposuspension undertaken in the setting of the BSUG mentorship scheme.

**Methods:** Baseline and operative data was collected on all patients (10) undergoing this procedure. A validated scoring questionnaire (ICIQ score) was completed pre surgery and at 3, 6 and 12 months.

**Results:** There were no major operative complications. In four cases suture material was noted in the bladder on cystoscopy and was re-sited.

When comparing baseline score to the follow-up scores there was a statistically significant reduction in scores. The baseline ICIQ score was 16.4. At 3 months this had reduced to 2.2 ( $p=0.000$ ) and at 6 months this was 2.9 ( $p=0.000$ ). At 12 months the ICIQ score was 3.2 ( $p=0.000$ ).

**Discussion:** Undertaking a laparoscopic Burch Colposuspension in a mentorship setting is safe with medium term outcomes equivalent to previously published literature. There is a higher than expected rate of suture material detected in the bladder emphasising the importance of performing a cystoscopy post suture placement.

### Effectiveness of preoxygenation during endotracheal intubation in head-elevated position: a systematic review and meta-analysis of randomized controlled trials.

Navian Lee Viknaswaran

**Introduction:** The importance of preoxygenation during endotracheal intubation cannot be underestimated, as it reduces the incidence of hypoxemia. There have been

several conflicting studies on the ideal patient position during preoxygenation.

**Aims:** To evaluate the efficacy of preoxygenation in head-elevated position compared to supine position.

**Methods:** Only randomized controlled trials were included. Selected studies were then independently appraised by two investigators using predefined criteria. All pooled analysis were carried out using the random-effects model.

**Results:** Five studies were included in the meta-analysis ( $n=167$ ). Compared to the supine position, the head-elevated position significantly increased the duration of safe apnea period [Mean difference (MD) 56.85s, 95% confidence interval (CI) 38.79 to 74.90s,  $p<0.0001$ ] both in obese and non-obese population. There was no difference in desaturation recovery time in either position (MD -54.90s, 95% CI -173.29 to 63.49s,  $p=0.36$ ). There was also no difference between both groups in arterial oxygen tension at the end of preoxygenation (MD 20.37s, 95% CI -30.30 to 71.03s,  $p=0.43$ ).

**Discussion:** This meta-analysis demonstrated that head-elevated position is beneficial for preoxygenation during elective endotracheal intubation in the operating room.

### Patient journey from disease onset to commencing a biologic in hidradenitis suppurativa is complicated by diagnostic and therapeutic delay.

Niamh Kearney

Hidradenitis suppurativa (HS) is a chronic cutaneous inflammatory disorder with limited therapeutic options complicated by diagnostic delay worldwide. There is recent evidence for a window of opportunity to intervene with a biologic to improve outcomes.

We aimed to evaluate the patient journey from referral to commencement of a biologic. We completed a retrospective cohort study reviewing electronic and physical records for all patients on a biologic for HS attending two dermatology departments.

We identified 33 patients for inclusion using our biologics database. Mean age of disease onset was 29.5 years with time to dermatology review 7.6 years. Mean time from initial dermatology consultation to biologic commencement was 34.8 months. Prior to a biologic, patients trialed an average 5 treatments including antimicrobials, retinoids, dapsone, metformin, spironolactone and zinc. Seven patients upstaged from Hurley 2 to 3 prior to starting their biologic.

Our review highlights the important issues of diagnostic and therapeutic delay. HS is under-recognised in other specialties and associated with disease-related stigma and barriers to care. Patients received 5 treatments prior to a biologic and 21.2% upstaged their disease. As HS progresses, tissue destruction results in poorer outcomes. We propose that biologics should be considered earlier to anticipate progression and minimise burden.



**The advanced endoscopic management of large and recurrent colorectal polyps in the south eastern trust: A retrospective review.**

Sophie Davidson

**Introduction:** Surgical resection has been the mainstay of treatment for large or recurrent colorectal polyps. The advancement in endoscopic techniques provides a potential alternative.

**Aim:** To review the use of advanced endoscopic techniques for large and recurrent polyps in the South Eastern Trust since 2018; specifically assessing use of the OVESCO Over the Scope Clip (OTSC®) and endoscopic full thickness resection (eFTR). To identify patient outcomes, adverse events and follow-up.

**Method:** A retrospective review of all OTSC and eFTR carried out between March 2018 and May 2020. Large non-polypoidal colorectal polyps (LNPCP) classified as >20mm and recurrent as having had at least one prior attempt at excision.

**Results:** In total, 31 patients underwent eFTR and 34 used the OTSC system. The median age was 72 (37-90). 20 (30.8%) polyps were confirmed as histologically malignant, 80% (16/20) from the eFTR group. 8 proceeded to surgical resection.

There were no significant immediate or delayed complications using either modality. For the OTSC group there was one mucosal tear and one episode of bleeding, both were managed safely endoscopically.

**Conclusion:** Advanced endoscopic techniques are a safe and effective method for managing large and recurrent colorectal polyps, while potentially avoiding the morbidity and healthcare costs associated with surgical resection.

