**PUBLICATION LIST 2021**

**Title: A case of Bartonellosis presenting as a puzzling multisystem disorder complicated by nosocomial COVID-19 infection**

**Source:** BMJ case reports; Aug 2021; vol. 14 (no. 8)

**Author(s):** Garland H.; Stoll S.; Patel S.; Mogal R.

**Abstract:** The most commonly considered infection with a Bartonella species is cat-scratch disease caused by Bartonella henselae Here, we discuss a unique case of a 60-year-old man who presented with Bartonella infection complicated by nosocomial COVID-19. He was admitted with a history of chest pain, persistent fever, rash and influenza-like symptoms. Positive Bartonella serology confirmed diagnosis and the patient developed complications of pericardial effusion in addition to COVID-19 infection, requiring non-invasive ventilation and admission to the intensive care unit. We discuss his symptoms, investigations, treatment and outcomes, while also highlighting the challenges of assessing patients presenting with fever of unknown origin during the COVID-19 pandemic.

**Title: A core outcome set for studies evaluating interventions to prevent and/or treat delirium for adults requiring an acute care hospital admission: an international key stakeholder informed consensus study**

**Source:** BMC Medicine; Dec 2021; vol. 19 (no. 1)

**Author(s):** Rose L.; Burry L.; Agar M.; Blackwood B.; Campbell N.L.; Clarke M.; Devlin J.W.; Lee J.; Marshall J.C.; Needham D.M.; Siddiqi N.; Page V.

**Abstract:** Backgroud: Trials of interventions to prevent or treat delirium in adults in an acute hospital setting report heterogeneous outcomes. Our objective was to develop international consensus among key stakeholders for a core outcome set (COS) for future trials of interventions to prevent and/or treat delirium in adults with an acute care hospital admission and not admitted to an intensive care unit. Method(s): A rigorous COS development process was used including a systematic review, qualitative interviews, modified Delphi consensus process, and in-person consensus using nominal group technique (registration http://www.comet- initiative.org/studies/details/796). Participants in qualitative interviews were delirium survivors or family members. Participants in consensus methods comprised international representatives from three stakeholder groups: researchers, clinicians, and delirium survivors and family members. Result(s): Item generation identified 8 delirium-specific outcomes and 71 other outcomes from 183 studies, and 30 outcomes from 18 qualitative interviews, including 2 that were not extracted from the systematic review. De-duplication of outcomes and formal consensus processes involving 110 experts including researchers (N = 32), clinicians (N = 63), and delirium survivors and family members (N = 15) resulted in a COS comprising 6 outcomes: delirium occurrence and reoccurrence, delirium severity, delirium duration, cognition, emotional distress, and health-related quality of life. Study limitations included exclusion of non-English studies and stakeholders and small representation of delirium survivors/family at the in-person consensus meeting. Conclusion(s): This COS, endorsed by the American and Australian Delirium Societies and European Delirium Association, is recommended for future clinical trials evaluating delirium prevention or treatment interventions in adults presenting to an acute care hospital and not admitted to an intensive care unit.

**Title: A Core Outcome Set for Research Evaluating Interventions to Prevent and/or Treat Delirium in Critically Ill Adults: An International Consensus Study (Del-COrS).**

**Source:** Critical care medicine; Sep 2021; vol. 49 (no. 9); p. 1535-1546

**Author(s):** Rose, Louise; Burry, Lisa; Agar, Meera; Campbell, Noll L; Clarke, Mike; Lee, Jacques; Marshall, John C; Devlin, John W; Blackwood, Bronagh; Needham, Dale M; Siddiqi, Najma; Page, Valerie; Del-COrS Group

**Abstract:** OBJECTIVES Delirium in critically ill adults is highly prevalent and has multiple negative consequences. To-date, trials of interventions to prevent or treat delirium report heterogenous outcomes. To develop international consensus among key stakeholders for a core outcome set for future trials of interventions to prevent and/or treat delirium in critically ill adults. DESIGN Core outcome set development, as recommended by the Core Outcome Measures in Effectiveness Trials Handbook. Methods of generating items for the core outcome set included a systematic review and qualitative interviews with ICU survivors and family members. Consensus methods include a two-round web-based Delphi process and a face-to-face meeting using nominal group technique methods. SUBJECTS International representatives from three stakeholder groups: 1) clinical researchers, 2) ICU interprofessional clinicians, and 3) ICU survivors and family members. SETTING Telephone interviews, web-based surveys, and a face-to-face consensus meeting held at the 2019 European Delirium Association's annual meeting in Edinburgh, Scotland. INTERVENTION None. MEASUREMENTS AND MAIN RESULTS Qualitative interviews with 24 ICU survivors and family members identified 36 potential outcomes; six were additional to the 97 identified from the systematic review. After item reduction, 32 outcomes were presented in Delphi Round 1; 179 experts participated, 38 ICU survivors/family members (21%), 100 clinicians (56%), 41 researchers (23%). Three additional outcomes were added to Round 2; 134 Round 1 participants (75%) completed it. Upon conclusion of the consensus building processes, the final core outcome set comprised seven outcomes: delirium occurrence (including prevalence or incidence); delirium severity; time to delirium resolution; health-related quality of life; emotional distress (i.e., anxiety, depression, acute and posttraumatic stress); cognition (including memory); and mortality. CONCLUSIONS This core outcome set, endorsed by the American and Australian Delirium Societies and European Delirium Association, is recommended for future clinical trials evaluating delirium prevention or treatment interventions in critically ill adults.

**Title: Additive Prognostic Impact of Gastrointestinal Involvement in Severe Multisystem Langerhans Cell Histiocytosis**

**Source:** The Journal of pediatrics; Oct 2021; vol. 237 ; p. 65

**Author(s):** Minkov M.; Potschger U.; Thacker N.; Abla O.; Astigarraga I.; Braier J.; Donadieu J.; Henter J.-I.; Lehrnbecher T.; Rodriguez-Galindo C.; Sieni E.; Nanduri V.; van den Bos C.

**Abstract:** OBJECTIVE: To evaluate the prognostic impact of gastrointestinal involvement (GI-LCH) on the survival of children with Langerhans cell histiocytosis registered on the international clinical trials of the Histiocyte Society. STUDY DESIGN: Retrospective analysis of 2414 paediatric patients registered onto the consecutive trials DAL-HX 83, DAL-HX 90, LCH-I, LCH-II, and LCH-III. RESULT(S): Among the 1289 patients with single-system LCH, there was no single case confined to the gastrointestinal tract; 114 of 1125 (10%) patients with multisystem-LCH (MS-LCH) had GI-LCH at initial presentation. GI-LCH was significantly more common in children < 2 years of age at diagnosis (13% vs. 6% in those >2 years; P < .001) and in those with risk organ involvement (15% vs. 6% in those without risk organ involvement; p<0.001). The 5-year overall survival (OS) in patients without risk organ involvement was excellent irrespective of GI disease (98% vs. 97% in patients with and without GI-LCH; p=0.789). In patients with risk organ involvement, the 5-year OS was 51% in 70 patients with GI-LCH vs. 72% in 394 patients without GI-LCH (p<0.001). CONCLUSION(S): GI-LCH has an additive unfavourable prognostic impact in children with MS-LCH and risk organ involvement with an effect on the risk for disease relapse, permanent consequences, and the need for more intensive or alternative treatments mandate prospective evaluation.

**Title: Adequate Assessment Can Affect the Management of Breast Cancer in Geriatric Population**

**Source:** Indian Journal of Surgical Oncology; 2021

**Author(s):** Monib S.; Elkorety M.; Habashy H.

**Abstract:** Breast cancer (BC) risk increases with age; about a third of patients are diagnosed in age older than 65. Treatment of this age group remains controversial, leading to inferior outcomes with lower survival rates than younger patients. We aimed to evaluate performance status tools as well as the outcome of management of breast cancer in the geriatric population. We have conducted a retrospective database analysis looking into the management of breast cancer patients older than 65 years old presenting to our unit during the period between June 2015 and June 2019. All patients had triple assessment as well as multimodality performance status assessment with their treatment modalities, and outcomes are recorded and assessed. We have included 578 patients, 0.8% male and 99.2% female, and our patients' mean age was 71 years. Most of our patients scored one or two on the WHO/ECOG performance status score and Clinical Frailty Score, as well as ASA-PS score. 3.2% had no treatment, 4.3% had endocrine therapy only, 0.5% had primary endocrine therapy followed by surgery, and 92.3% underwent surgery with 4.1% complication rate. Patients who underwent breast-conserving surgery had adjuvant breast radiotherapy, and 23.7% had adjuvant chest wall radiotherapy, 78.8% had adjuvant endocrine treatment, and 4.8% had adjuvant chemotherapy out of which 30.7% had adjuvant chemotherapy and Herceptin. Objective assessment tools should be used for patients older than 65 years diagnosed with primary breast cancer to be able to scarify patients' individualised treatment options to reach the optimum outcome

**Title: Ambulatory management of secondary spontaneous pneumothorax: A randomised controlled trial**

**Source:** European Respiratory Journal; Jun 2021; vol. 57 (no. 6)

**Author(s):** Walker S.P.; Keenan E.; Bintcliffe O.; Maskell N.A.; Stanton A.E.; Roberts M.; Pepperell J.; Fairbairn I.; McKeown E.; Goldring J.; Maddekar N.; Walters J.; West A.; Bhatta A.; Knight M.; Mercer R.; Hallifax R.; Rahman N.M.; White P.; Miller R.F.

**Abstract:** Secondary spontaneous pneumothorax (SSP) is traditionally managed with an intercostal chest tube attached to an underwater seal. We investigated whether use of a one-way flutter valve shortened patients' length of stay (LoS). This open-label randomised controlled trial enrolled patients presenting with SSP and randomised to either a chest tube and underwater seal (standard care: SC) or ambulatory care (AC) with a flutter valve. The type of flutter valve used depended on whether at randomisation the patient already had a chest tube in place: in those without a chest tube a pleural vent (PV) was used; in those with a chest tube in situ, an Atrium Pneumostat (AP) valve was attached. The primary end-point was LoS. Between March 2017 and March 2020, 41 patients underwent randomisation: 20 to SC and 21 to AC (13=PV, 8=AP). There was no difference in LoS in the first 30 days following treatment intervention: AC (median=6 days, IQR 14.5) and SC (median=6 days, IQR 13.3). In patients treated with PV there was a high rate of early treatment failure (6/13; 46%), compared to patients receiving SC (3/20; 15%) (p=0.11) Patients treated with AP had no (0/8 0%) early treatment failures and a median LoS of 1.5 days (IQR 23.8). There was no difference in LoS between ambulatory and standard care. Pleural Vents had high rates of treatment failure and should not be used in SSP. Atrium Pneumostats are a safer alternative, with a trend towards lower LoS.

**Title: An audit of peripheral nerve block provision for people with hip fractures at Hillingdon Hospital**

**Source:** Anaesthesia; Jan 2021; vol. 76 ; p. 30

**Author(s):** Cohn M.; Shah S.; Harris J.; Shah R.

**Abstract:** Peripheral nerve blocks reduce acute pain and delirium compared to standard treatment in people with hip fractures [1]. In 2014, the Anaesthesia Sprint Audit of Practice (ASAP) recommended that peri-operative nerve blocks should be offered to all people who develop hip fractures [2]. The national guidance along with local results submitted to the ASAP audit by Hillingdon Hospital were disseminated at a local audit day to increase awareness and improve service provision. The aim of the current audit was to re-evaluate the provision of peri-operative nerve blocks for people with hip fractures at Hillingdon Hospital and compare this with the local results submitted to the ASAP audit to identify if any improvement had occurred. Methods We identified 204 patients admitted to Hillingdon Hospital between 1 January 2019 and 1 November 2019 with a diagnosis of hip fracture. Data from medical records were used to identify people with hip fractures, their demographics, the treatments received and inpatient mortality rates. The same methods were used to collect local data for the ASAP audit between 1 May 2013 and 31 July 2013. Chi-squared testing with Yates's correction or Fisher's exact test was used to assess statistical differences. Results Only 89 of 204 people with hip fractures (43.6%) received peri-operative peripheral nerve blocks in 2019 compared to 26 out 57 people (45.6%) from local data submitted to the ASAP audit in 2013. There was no statistically significant difference between the 2 years (2 = 0.01, p = 0.91). In 2019, there was no significant difference in mortality (Fisher's exact test, p = 0.81) between those that received a peri-operative peripheral nerve block (7.9%, seven of 89 people) and those that did not (9.6%, 11 of 115 people). Discussion Our audit shows no significant improvement in peripheral nerve block provision for hip fractures since the ASAP audit guidelines and data were disseminated. To address this issue, a pro-active approach involving regular education sessions for peripheral nerve blocks will be utilised. These would be targeted to key healthcare providers (e.g. on-call junior doctors in emergency medicine, orthopaedics and anaesthetics) involved in the patient journey for people with hip fractures. Furthermore, a local protocol needs to be written to formalise the chain of responsibility for providing the nerve blocks and the process for regularly auditing the outcomes

**Title: An international genome-wide meta-analysis of primary biliary cholangitis: Novel risk loci and candidate drugs**

**Source:** Journal of Hepatology; Sep 2021; vol. 75 (no. 3); p. 572-581

**Author(s):** Heather J. Cordell; James J. Fryett; Kazuko Ueno; Rebecca Darlay; Yoshihiro Aiba; Yuki Hitomi; Minae Kawashima; Nao Nishida; Seik-Soon Khor; Olivier Gervais; Yosuke Kawai; Masao Nagasaki; Katsushi Tokunaga; Ruqi Tang; Yongyong Shi; Zhiqiang Li; Brian D. Juran; Elizabeth J. Atkinson; Alessio Gerussi; Marco Carbone; Rosanna Asselta; Angela Cheung; Mariza de Andrade; Aris Baras; Julie Horowitz; Manuel A.R. Ferreira; Dylan Sun; David E. Jones; Steven Flack; Ann Spicer; Victoria L. Mulcahy; Jinyoung Byan; Younghun Han; Richard N. Sandford; Konstantinos N. Lazaridis; Christopher I. Amos; Gideon M. Hirschfield; Michael F. Seldin; Pietro Invernizzi; Katherine A. Siminovitch; Xiong Ma; Minoru Nakamura; George F. Mells

**Abstract:** Backgrounds & Aims: Primary biliary cholangitis (PBC) is a chronic liver disease in which autoimmune destruction of the small intrahepatic bile ducts eventually leads to cirrhosis. Many patients have inadequate response to licensed medications, motivating the search for novel therapies. Previous genome-wide association studies (GWAS) and meta-analyses (GWMA) of PBC have identified numerous risk loci for this condition, providing insight into its aetiology. We undertook the largest GWMA of PBC to date, aiming to identify additional risk loci and prioritise candidate genes for in silico drug efficacy screening. Method(s): We combined new and existing genotype data for 10,516 cases and 20,772 controls from 5 European and 2 East Asian cohorts. Result(s): We identified 56 genome-wide significant loci (20 novel) including 46 in European, 13 in Asian, and 41 in combined cohorts; and a 57th genome-wide significant locus (also novel) in conditional analysis of the European cohorts. Candidate genes at newly identified loci include FCRL3, INAVA, PRDM1, IRF7, CCR6, CD226, and IL12RB1, which each play key roles in immunity. Pathway analysis reiterated the likely importance of pattern recognition receptor and TNF signalling, JAK-STAT signalling, and differentiation of T helper (TH)1 and TH17 cells in the pathogenesis of this disease. Drug efficacy screening identified several medications predicted to be therapeutic in PBC, some of which are well-established in the treatment of other autoimmune disorders. Conclusion(s): This study has identified additional risk loci for PBC, provided a hierarchy of agents that could be trialled in this condition, and emphasised the value of genetic and genomic approaches to drug discovery in complex disorders. Lay summary: Primary biliary cholangitis (PBC) is a chronic liver disease that eventually leads to cirrhosis. In this study, we analysed genetic information from 10,516 people with PBC and 20,772 healthy individuals recruited in Canada, China, Italy, Japan, the UK, or the USA. We identified several genetic regions associated with PBC. Each of these regions contains several genes. For each region, we used diverse sources of evidence to help us choose the gene most likely to be involved in causing PBC. We used these 'candidate genes' to help us identify medications that are currently used for treatment of other conditions, which might also be useful for treatment of PBC.

**Title: Are disruptive innovations recognised in the healthcare literature? A systematic review**

**Source:** BMJ Innovations; Jan 2021; vol. 7 (no. 1); p. 208-216

**Author(s):** Sounderajah V.; Patel V.; Harling L.; Normahani P.; Symons J.; Darzi A.; Ashrafian H.; Varatharajan L.; Barlow J.

**Abstract:** The study aims to conduct a systematic review to characterise the spread and use of the concept of 'disruptive innovation' within the healthcare sector. We aim to categorise references to the concept over time, across geographical regions and across prespecified healthcare domains. From this, we further aim to critique and challenge the sector-specific use of the concept. PubMed, Medline, Embase, Global Health, PsycINFO, Maternity and Infant Care, and Health Management Information Consortium were searched from inception to August 2019 for references pertaining to disruptive innovations within the healthcare industry. The heterogeneity of the articles precluded a meta-analysis, and neither quality scoring of articles nor risk of bias analyses were required. 245 articles that detailed perceived disruptive innovations within the health sector were identified. The disruptive innovations were categorised into seven domains: basic science (19.2%), device (12.2%), diagnostics (4.9%), digital health (21.6%), education (5.3%), processes (17.6%) and technique (19.2%). The term has been used with increasing frequency annually and is predominantly cited in North American (78.4%) and European (15.2%) articles. The five most cited disruptive innovations in healthcare are 'omics' technologies, mobile health applications, telemedicine, health informatics and retail clinics. The concept 'disruptive innovation' has diffused into the healthcare industry. However, its use remains inconsistent, and the recognition of disruption is obscured by other types of innovation. The current definition does not accommodate for prospective scouting of disruptive innovations, a likely hindrance to policy makers. Redefining disruptive innovation within the healthcare sector is therefore crucial for prospectively identifying cost-effective innovations

**Title: Arthroscopic superior capsular reconstruction for management of massive irreparable rotator cuff tears: A simple alternative technique**

**Source:** Orthopedics; May 2021; vol. 44 (no. 3)

**Author(s):** Elmorsy S.; Tang Q.O.; Tayyem M.; Amirthanayagam T.; Makki D.; Ravenscroft M.

**Abstract:** The use of acellular dermal allograft in arthroscopic superior capsular reconstruction is a promising treatment option for massive irreparable rotator cuff tears. However, indications are limited to a subset of patients, so it is not routinely performed. Therefore, the surgery is technically demanding, although it has evolved in recent years. The authors present a simple alternative technique that addresses common pitfalls

**Title: Association of British clinical diabetologists and renal association guidelines on the detection and management of diabetes post solid organ transplantation**

**Source:** Diabetic Medicine; Jun 2021; vol. 38 (no. 6); p. 1-18

**Author(s):** Chowdhury, Tahseen A; Wahba, Mona; Mallik, Ritwika; Peracha, Javeria; Patel, Dipesh; De, Parijat; Fogarty, Damian; Frankel, Andrew; Karalliedde, Janaka; Mark, Patrick B; Montero, Rosa M; Pokrajac, Ana; Zac Varghese, Sagen; Bain, Stephen C; Dasgupta, Indranil; Banerjee, Debasish; Winocour, Peter; Sharif, Adnan

**Abstract:** Post-transplant diabetes mellitus (PTDM) is common after solid organ transplantation (SOT) and associated with increased morbidity and mortality for allograft recipients. Despite the significant burden of disease, there is a paucity of literature with regards to detection, prevention, and management. Evidence from the general population with diabetes may not be translatable to the unique context of SOT. In light of emerging clinical evidence and novel anti-diabetic agents, there is an urgent need for updated guidance and recommendations in this high-risk cohort. The Association of British Clinical Diabetologists (ABCD) and Renal Association (RA) Diabetic Kidney Disease Clinical Speciality Group have undertaken a systematic review and critical appraisal of the available evidence. Areas of focus are 1) Epidemiology, 2) Pathogenesis, 3) Detection, 4) Management, 5) Modification of immunosuppression, 6) Prevention, and 7) PTDM in the non-renal setting. Evidence-graded recommendations are provided for the detection, management, and prevention of PTDM, with suggested areas for future research and potential audit standards. The guidelines are endorsed by Diabetes UK, the British Transplantation Society, and the Royal College of Physicians of London. The full guidelines are available freely online for the diabetes, renal and transplantation community using the link below. The aim of this review article is to introduce an abridged version of this new clinical guideline. https://abcd.care/sites/abcd.care/files/site\_uploads/Resources/Position-Papers/ABCD-RA%20PTDM%20v14.pdf.

**Title: Augmented and Mixed Reality Imaging in Endovascular Procedures: Futuristic but Will It Be Adopted by All?**

**Source:** European journal of vascular and endovascular surgery: the official journal of the European Society for Vascular Surgery; Apr 2021

**Author(s):** Awad, Reda; Desai, Mital

**Abstract:**

**Title**: **A validation study of the identification of haemophagocytic lymphohistiocytosis in England using population-based health data**

**Source:** British Journal of Haematology; Sep 2021; vol. 194 (no. 6); p. 1039-1044

**Author(s):** Bishton M.J.; Lanyon P.; Stilwell P.; Elliss-Brookes L.; Rankin J.; Crooks C.J.; Aston J.; Siskova V.; West J.; Bythell M.; Card T.R.; Ban L.; Manson J.; Flower L.; Amarnani R.; Nanduri V.; Earp K.; Tattersall R.S.; Sen E.S.

**Abstract:** We assessed the validity of coded healthcare data to identify cases of haemophagocytic lymphohistiocytosis (HLH). Hospital Episode Statistics (HES) identified 127 cases within five hospital Trusts 2013-2018 using ICD-10 codes D76.1, D76.2 and D76.3. Hospital records were reviewed to validate diagnoses. Out of 74 patients, 73 were coded D76.1 or D76.2 (positive predictive value 89.0% [95% Confidence Interval {CI} 80.2-94.9%]) with confirmed/probable HLH. For cases considered not HLH, 44/53 were coded D76.3 (negative predictive value 97.8% [95% CI 88.2-99.9%]). D76.1 or D76.2 had 68% sensitivity in detecting HLH compared to an established active case-finding HLH register in Sheffield. Office for National Statistics (ONS) mortality data (2003-2018) identified 698 patients coded D76.1, D76.2 and D76.3 on death certificates. Five hundred and forty-one were coded D76.1 or D76.2 of whom 524 (96.9%) had HLH in the free-text cause of death. Of 157 coded D76.3, 66 (42.0%) had HLH in free text. D76.1 and D76.2 codes reliably identify HLH cases and provide a lower bound on incidence. Non-concordance between D76.3 and HLH excludes D76.3 as an ascertainment source from HES. Our results suggest electronic healthcare data in England can enable population-wide registration and analysis of HLH for future research.Copyright © 2021 British Society for Haematology and John Wiley & Sons Ltd.

**Title: Axillary staging in ductal carcinoma in situ with microinvasion: A meta-analysis.**

**Source:** Surgical oncology; Mar 2021; vol. 37 ; p. 101557

**Author(s):** Choi, Byung; Jegatheeswaran, Lavandan; Nakhoul, Maria; Haria, Payal; Srivastava, Reya; Karki, Smriti; Lupi, Micol; Patel, Vishal; Chakravorty, Arunmoy; Babu, Ekambaram

**Abstract:** INTRODUCTION Ductal carcinoma in situ with microinvasion (DCISM); arguably a more aggressive subtype of DCIS, currently has variable recommendations governing its staging and management in the UK. As a result, there is ongoing controversy surrounding the most appropriate management of DCISM, in particular the need of axillary staging. METHOD A search was conducted on the databases MEDLINE and Embase using the keywords: breast, DCISM, microinvasion, "ductal carcinoma in situ with microinvasion", sentinel lymph node biopsy, SLNB, axillary staging was performed. 23 studies were selected for analysis. Primary outcome was the positivity of metastasis of lymph node; secondary outcome looked at characteristics of DCISM that may affect node positivity. RESULTS A total of 2959 patients were included. Significant heterogeneity was observed amongst the studies with regards to metastases (I2 = 61%; P < 0.01). Lymph node macrometastases was estimated to be 2%. Significant subgroup difference was not observed between SLNB technique and lymph node macrometastases (Q = 0.74; p = 0.69). Statistical significance was observed between the focality of the DCISM and lymph node macrometastases (Q = 8.71; p = 0.033). CONCLUSION Although histologically more advanced than DCIS, DCISM is not linked with higher rates of clinically significant metastasis to axillary lymph nodes. Survival rates are very similar to those seen in cases of DCIS. Current evidence suggests that axillary staging in cases of DCISM will not change their overall management, thus may only be an unnecessary and inconvenient additional intervention considering the majority of DCISM diagnoses are made from post-operative pathology samples. A multidisciplinary team approach evaluating pre-operative clinical and histological information to tailor the management specific to individual cases of DCISM would be a preferred approach than routine axillary staging.

**Title: Benefits of intraoperative cholangiogram for acute cholecystitis.**

**Source:** Surgical Practice; Aug 2021; vol. 25 (no. 3); p. 131-137

**Author(s):** Askari A.; Riaz A.A.; Brittain R.; Zhou J.; Irwin S.; Talbot M.

**Abstract:** Background: Laparoscopic cholecystectomy is one of the most commonly performed surgical procedures in general surgery. The utility of intraoperative cholangiogram (IOC) and its role in reducing postoperative complications is as yet unclear. The aim of this study is to determine whether routine use of IOC in non-elective laparoscopic cholecystectomy is associated with an improvement in outcome. Method(s): Data were prospectively collected a single dedicated tertiary referral centre. All consecutive adult patients undergoing laparoscopic cholecystectomy on a non-elective basis over a 6-year period from October 2008 to December 2014 were included in the study. Chi squared analysis and multivariable logistic regression analyses were undertaken to determine the association between IOC and outcomes. Result(s): A total of 676 patients underwent non-elective laparoscopic cholecystectomy over the study period, of whom 51.6% were male and the median age was 51 years old (IQR 37-68). The majority of the study population (84.6%, n = 572/676) underwent an IOC. The overall complication rate was 8.1% (n = 55/676), this was lower in the IOC group (6.1%) compared with the non-IOC group (19.2%, P <.001). In particular, there was a lower rate of retained stones (1.6% vs 3.8%, P <.001), bleeding (0.0% vs 2.9%, P <.001) and conversion to open surgery (0.7% vs 7.7%, P <.001). Rates of CBD injury (0.0% vs 0.3%, P =.5465) and bile leak were similar across both groups (1.9% vs 0.9%). During multivariable logistic regression analysis, the use of IOC was independently associated with a reduced chance of complications (OR 0.27, 95% CI 0.15-0.50, P <.001) as well as conversion to open (OR 0.11, 95% CI 0.03-0.37, P <.001). Conclusion(s): In the context of laparoscopic cholecystectomy, IOC has a significant role to play. Our data show that it can reduce the likelihood of complications, retained stones and the need to convert to an open procedure. However, its routine use at present is difficult to justify given that the current study does not appear to make a difference in the most serious complications such as bile duct injury and bile leak. This study builds on previous work in justifying increased use of IOC during laparoscopic cholecystectomy.

**Title: Breast lymphedema after breast conservative surgery; an up-to-date systematic review**

**Source:** European Journal of Surgical Oncology; Feb 2021; vol. 47 (no. 2)

**Author(s):** Abouelazayem M.; Elkorety M.; Monib S.

**Abstract:** Background: While arm lymphedema following breast cancer treatment is a common complication; breast lymphedema following treatment is not uncommon. Several risk factors were found to contribute to breast lymphedema, including axillary surgery, high BMI, increased bra cup size, adjuvant chemotherapy, locoregional and radiotherapy boost and upper outer quadrant tumours. Arm lymphedema is commonly mentioned in the literature, while lymphedema of the breast is rarely documented; this may be attributed to the lack of standard diagnostic criteria and the absence of a consensus on its definition. Our aim was to provide an updated review and to determine whether there are any trends documented to assist clinicians in avoiding this complication or in its management. Material(s) and Method(s): The search term 'breast lymphedema' was combined with 'breast conservative surgery' and was used to conduct literature research in PubMed and Medline. The term lymphedema was combined with breast, conservative, and surgery to search Embase database. We have included all articles published in English with no date limit. We also searched Google scholar database for titles, including the term breast lymphedema. We have excluded articles that focused only on arm lymphedema. We also included outcomes relating to side, sex, age, type of surgery, adjuvant or neoadjuvant treatment, morbidity, and mortality. To minimize bias, two independent reviewers analyzed the searches and selected those papers deemed appropriate for the study. Result(s): A total of 2155 female patients were included in this review; age ranged from 26 to 90. Mean body mass index was 28.4, most of the studies included patients who underwent conservative breast surgery. Incidence of breast lymphedema ranged from 24.8% to 90.4%.

**Title: Breast lymphedema after breast conservative surgery; an up-to-date systematic review**

**Source:** British Journal of Surgery; May 2021; vol. 108

**Author(s):** Abouelazayem M.; Elkorety M.; Monib S.

**Abstract:** Conference Abstaract: Background: While arm lymphedema following breast cancer treatment is a common complication; breast lymphedema following treatment is not uncommon. Several risk factors were found to contribute to breast lymphedema, Aim: We aimed to provide a systematic review to help avoiding or management of breast lymphoedema Method: The search term 'breast lymphedema' was combined with 'breast conservative surgery' and was used to conduct literature research in PubMed and Medline. The term lymphedema was combined with breast, conservative and surgery to search Embase database. All papers published in English were included with no exclusion date limits Results: A total of 2155 female patients were included in this review; age ranged from 26 to 90. Mean BMI was 28.4, most of the studies included patients who underwent conservative breast surgery. Incidence of breast lymphedema ranged from 24.8% to 90.4%. Several risk factors were linked to breast lymphedema after conservative breast surgery, such as body mass index (BMI), breast size, tumour size, tumour site, type of surgery and adjuvant therapy. Treatment options focused on decongestive lymphatic therapy, including Manual lymphatic drainage (MLD), self-massaging, compression bras or Kinesio taping. Conclusion(s): Breast lymphedema is a relatively common complication, yet there is no clear consensus on the definition or treatment options.

**Title: Breast Lymphedema After Conservative Breast Surgery: An Up-to-date Systematic Review**

**Source:** Clinical Breast Cancer; Jun 2021; vol. 21 (no. 3); p. 156-161

**Author(s):** Abouelazayem M.; Elkorety M.; Monib S.

**Abstract:** Although arm lymphedema following breast cancer treatment is a common complication; breast lymphedema following treatment is not uncommon. Several risk factors were found to contribute to breast lymphedema, including axillary surgery, high body mass index (BMI), increased bra cup size, adjuvant chemotherapy, locoregional and radiotherapy boost, and upper outer quadrant tumours. We aimed to provide a review to help avoiding or management of breast lymphedema. The search term 'breast lymphedema' was combined with 'breast conservative surgery' and was used to conduct a literature research in PubMed and Medline. The term lymphedema was combined with breast, conservative, and surgery to search the Embase database. All papers published in English were included with no exclusion date limits. A total of 2155 female patients were included in this review; age ranged from 26 to 90 years. The mean BMI was 28.4 of the studies that included patients who underwent conservative breast surgery. Incidence of breast lymphedema ranged from 24.8% to 90.4%. Several risk factors were linked to breast lymphedema after conservative breast surgery, such as BMI, breast size, tumour size, tumour site, type of surgery, and adjuvant therapy. Treatment options focused on decongestive lymphatic therapy, including manual lymphatic drainage, self-massaging, compression bras, or Kinesio taping. Breast lymphedema is a relatively common complication, yet there is no clear consensus on the definition or treatment options

**Title: Compliance with pre-operative National Emergency Laparotomy Audit score for emergency laparotomy patients during the COVID-19 pandemic.**

**Source:** Anaesthesia; Jan 2021; vol. 76 ; p. 165

**Author(s):** Shah P.; Pitrola K.; Harris A.; Loader L.; Nayler J.; Shah R.

**Abstract:** The purpose of NELA (National Emergency Laparotomy Audit) is to ensure overall standards are raised and consistently applied across hospitals with the aim of reducing both morbidity and mortality for patients undergoing emergency gastrointestinal surgery. During the peak of the COVID-19 pandemic, all elective operations at Watford General Hospital were put on hold, with only emergency surgeries taking place. We analysed our Trusts NELA data during this period and compared it to the national standards to see how care was delivered when services and staff were most stretched. Methods Retrospective data of NELA cases between 31 March and 27 June 2020, covering the peak of the COVID-19 pandemic, was collated using the online NELA database. In total, 37 patients underwent emergency laparotomies. The national guidance advises that 100% of emergency laparotomies must have a documented pre-operative NELA score. Results Trust NELA reports during the COVID-19 pandemic show 36 out of 37 (97%) patients had a documented pre-operative NELA score. Although this is close to target, it does not meet the national guidance despite being documented during a pandemic. Discussion Alongside the NELA recommendations, our findings were presented at a joint surgery and anaesthetic audit meeting. Together we identified what actions could help if we did experience a second wave of COVID-19, along with any future pandemic, which could affect services in a similar manner. These included ensuring all anaesthetic/surgical trainees were aware of NELA recommendations, which were achieved by emailing all trainees and including guidance at departmental induction and introducing a NELA score checklist on the theatre booking form.

**Title: Continuing professional development (CPD) points do not always make prizes.**

**Source:** BMJ (Clinical research ed.); Jul 2021; vol. 374 ; p. n1764

**Author(s):** Reece, Ashley

**Abstract:** Letter

**Title: Covid-19: Allergen-free shopping during a pandemic**

**Source:** Clinical and Experimental Allergy; Jan 2021; vol. 51 (no. 1); p. 163

**Author(s):** Ahad F.; Wellbelove S.; McCairn M.; Vyas D.

**Abstract:** Objectives: Shopping for allergen-free products for children with al-lergies can be challenging. The global spread of coronavirus disease 2019 (COVID-19) caused sudden changes in shopping habits with many stockpiling food and food availability shortages. We investi-gated the impact this had for parents of children with food allergies. Method(s): We successfully contacted 29 of 30 randomized patients receiving allergy follow-up at West Hertfordshire Hospitals NHS Trust. A series of questions were asked, including details of aller-gies, other atopic co-morbidities, changes to shopping habit, and concerns around allergy reactions and their management during the lockdown period. Data were collated and analysed using Microsoft Excel spreadsheet. Result(s): The cohort was aged between 1 and 15 years (median age 5 years). Eighty three percent had more than one allergy and 42% had multiple atopic co-morbidities. Prior to lockdown, 83% of parents shopped at supermarkets. This reduced to 55% during lockdown with a corresponding increase of 21% in online shopping. Twenty seven percent had difficulty obtaining allergen-free products and 17% bought an alternative unfamiliar product. Fourteen percent of the cohort experienced mild allergic reaction; 1 child reacted to a substitute product. No anaphylaxis was reported. Ninety seven per-cent of parents felt that their child was either at the same or less risk of having an allergic reaction. Conclusion(s): Our data show that some families had difficulty in sourcing familiar allergen-free foods. Most families did not feel the risk of an allergic reaction was higher than prior to lockdown-due to increased control over child's diet and confidence with allergy man-agement. Although families felt safer, one child had a reaction as a result of an alternative product. With the possibility of a second wave, we recommend providing robust dietary advice for families of children with allergies with accessible advice from a dietitian. We also welcome initiatives from supermarkets to support those with dietary restrictions.

**Title: Curious case of the unexplained exudative pleural effusion.**

**Source:** BMJ case reports; Sep 2021; vol. 14 (no. 9)

**Author(s):** Pyae, Phyoe Kyaw; Cama, Rigers; Nicholson, Andrew G; Vancheeswaran, Rama

**Abstract:** We report a case of a 74-year-old male patient who was referred to the respiratory clinic with an incidental finding of a left sided pleural effusion. He was initially being treated by the general practitioner for chest infection with productive cough that had limited resolution after course of oral antibiotics. At the pleural clinic, 1.5 L of serosanguineous fluid was drained and sent for diagnostics. However, the diagnosis only reached as far as idiopathic exudative effusion with lymphocytes and plasma cells. He was then referred for video-assisted thoracoscopic surgery pleural biopsy and pleurodesis. It revealed black pleura with abundant IgG4 positive cells. He is followed up in respiratory clinic where further discussion and treatment has commenced.

**Title: Current prevalence and relevance of positive patch test reactions to cosmetic and non-cosmetic isothiazolinones in the UK.**

**Source:** The British journal of dermatology; Jul 2021; vol. 185 (no. 1); p. 223-225

**Author(s):** Soriano, L F; Chowdhury, M M U; Cooper, S M; Cousen, P; Dawe, S; Havelin, A; Holden, C R; Johnston, G A; Orton, D I; Ramoutar, A; Stone, N M; Thompson, D A; Buckley, D A

**Abstract:** Isothiazolinones, such as methylisothiazolinone (MI), the mixture of methylchloroisothiazolinone and MI (MCI/MI), benzisothiazolinone (BIT) and octylisothiazolinone (OIT), are preservatives widely used in personal care products, cleaning materials, leather, glue, industrial chemicals, and paints.

**Title: Cutaneous thrombosis associated with skin necrosis following Oxford-AstraZeneca Covid-19 vaccination**

**Source:** Clinical and experimental dermatology; Jun 2021

**Author(s):** Ramessur, R; Saffar, N; Czako, B; Agarwal, A; Batta, K

**Abstract:** A 73-year-old male presented with left shin ulceration two weeks after receiving his first dose of the ChAdOx1 nCov-19 (Oxford-AstraZeneca) vaccine. He had a background of atrial fibrillation with ischemic cardiomyopathy and had been on several longstanding medication, including apixaban. Within 24 hours of vaccination, the patient became generally unwell with fever and headache. After resolution of these systemic symptoms, on the third day after vaccination, he developed left shin erythema and blistering which rapidly ulcerated (see figure 1). On examination, he had two superficial ulcers with a necrotic base and a violaceous edge on the lateral aspect of his left shin, measuring approximately 2cm x 3cm in size.

**Title: Cytopathology in the diagnosis, treatment and management of malignant respiratory disease**

**Source:** Diagnostic Histopathology; 2021

**Author(s):** Maddox A.

**Abstract:** Lung carcinomas are almost always diagnosed using small samples of cellular material. Diagnostic cytopathology has a major role and, with efficient and thoughtful processing and examination of fine needle aspiration or fluid specimens, it is possible to accurately diagnose and perform a full range of predictive testing. This short piece begins by placing cytopathology within an overall umbrella of cellular pathology and briefly describes recent developments in lung cancer diagnosis and treatment. Cytopathological features of the main relevant tumour types and their differential diagnoses are discussed together with their appearance in commonly encountered specimen types such as those from endobronchial ultrasound. There are suggestions for efficient workflow and illustrations of diagnostic pitfalls. Although some trainees are wary of cytopathology, there is no magic (good or bad) involved and any time spent acquiring a facility with interpretation of these specimens as well as their formalin-fixed counterparts will enhance diagnostic skill and, ultimately, patient care.

**Title: Debates Around the Role of School Closures in the Coronavirus 2019 Pandemic**

**Source:** JAMA Pediatrics; Jan 2021; vol. 175 (no. 1); p. 106-106

**Author(s):** Cheng ; Liu, Aurelia

**Abstract:** Letter

**Title: Detecting causes of pulsatile tinnitus on CT arteriography-venography: A pictorial review**

**Source:** European journal of radiology; Jun 2021; vol. 139 ; p. 109722

**Author(s):** Kumar R.; Rice S.; Lingam R.K.

**Abstract:** Pulsatile tinnitus (PT) can be a mild or debilitating symptom. Following clinical examination and otoscopy, when the underlying aetiology is not apparent, radiological imaging can be used to evaluate further. CT arteriography-venography (CT A-V) of the head and neck has recently been introduced as a single 'one catch' modality for identifying the many causes of PT including those which are treatable and potentially serious whilst also providing reassurance through negative studies or studies with benign findings. CT A-V is performed as a single-phase study allowing both arterial and venous assessment, hence limiting radiation exposure. Additional multiplanar reformats and bone reconstructions are desirable. Understanding the limitations of CT A-V is also required, with an awareness of the scenarios where other imaging modalities should be considered. The causes of PT can be divided into systemic and non-systemic categories. Non-systemic aetiologies in the head and neck should be carefully reviewed on CT A-V and include a variety of vascular causes (arteriovenous malformations/fistulas, venous or arterial aetiologies) and non-vascular causes (tumours and bony dysplasias). Venous causes (dominant, aberrant, stenosed or thrombosed venous vessels) are more common than arterial aetiologies (aberrant or stenosed internal carotid artery, aneurysms or a persistent stapedial artery). Glomus tumours that are not visible on otoscopy and osseous pathologies such as bony dehiscence and otospongiosis should also be excluded. Careful assessment of all the potential vascular and non-vascular causes should be reviewed in a systematic approach, with correlation made with the clinical history. A structured reporting template for the reporting radiologist is provided in this review to ensure all the potential causes of PT are considered on a CT A-V study. This will help in providing a comprehensive radiological evaluation, hence justifying the radiation dose and for patient assessment and prognostication

**Title: Diagnostic utility of serum beta-d-glucan for the detection of invasive fungal infections in liver transplant recipients**

**Source:** Transplantation; Aug 2021; vol. 105 (no. 8); p. 92

**Author(s):** Tribich S.; Asilmaz E.; Cama R.; Westbrook R.; Patch D.; Ryan J.; Wey E.

**Abstract:** Conference abstract: Background: Invasive fungal infection (IFI) is associated with significant morbidity and mortality in liver transplant (LT) recipients. Serum beta-d-glucan (BG) is a fungal antigen and non-invasive marker of IFI used increasingly in the transplant population. This study evaluates the performance of BG in LT recipients. Method(s): BG was measured in LT recipients identified to be at high risk of IFI on multidisciplinary post-transplant microbiology ward rounds or on subsequent hospital admissions, between April 2016 and 2018. Data was collected retrospectively, using a positive BG cut-off of 80pg/mL. IFI diagnosis was based on current EORTC/MSG definitions. Variables were compared between BG-positive and -negative groups and correlations were calculated using phi coefficient. Result(s): 43 patients were identified, with transplantation performed due to cirrhosis, hepatocellular carcinoma and acute liver failure (ALF) in 23, 13 and 7, respectively. Commonest indications for measuring BG were worsening inflammatory markers (44%,19/43) and suspicion of Pneumocystis pneumonia (PCP) (26%,11/43). 46% (20/43) received antifungal prophylaxis. 70% (30/43) had a positive BG sample during their hospital admission. There were 6 confirmed IFIs: 2 diagnoses of Candida in perihepatic collections and 4 of PCP. Sensitivity, specificity, positive predictive value and negative predictive value of BG for IFI were 83% (95% CI: 36-100), 67% (50-82), 29% (19-43) and 96% (80-99), respectively. Positive and negative likelihood ratios were 2.57 (1.43-4.62) and 0.25 (0.04-1.50), respectively. In positive samples, serum BG titre did not differ significantly between those with IFI and without (p=0.16). Haemofiltration, ALF, bacterial infection and antifungal prophylaxis use had no significant association with the BG result (phi -0.18 to +0.16, p values 0.14-0.77). Conclusion(s): Serum BG is an effective test for excluding IFI in highrisk LT recipients. Further prospective data is needed to elucidate factors in the high false-positive rate and inform guidance on its most effective clinical usage in this cohort.

**Title: Direct and indirect evidence of efficacy and safety of rapid exercise tests for exertional desaturation in Covid-19: a rapid systematic review**

**Source:** Systematic reviews; Mar 2021; vol. 10 (no. 1); p. 77

**Author(s):** Kalin, Asli; Javid, Babak; Knight, Matthew; Inada-Kim, Matt; Greenhalgh, Trisha

**Abstract:** BACKGROUND Even when resting pulse oximetry is normal in the patient with acute Covid-19, hypoxia can manifest on exertion. We summarise the literature on the performance of different rapid tests for exertional desaturation and draw on this evidence base to provide guidance in the context of acute Covid-19. MAIN RESEARCH QUESTIONS1. What exercise tests have been used to assess exertional hypoxia at home or in an ambulatory setting in the context of Covid-19 and to what extent have they been validated? 2. What exercise tests have been used to assess exertional hypoxia in other lung conditions, to what extent have they been validated and what is the applicability of these studies to acute Covid-19? METHOD AMED, CINAHL, EMBASE MEDLINE, Cochrane and PubMed using LitCovid, Scholar and Google databases were searched to September 2020. Studies where participants had Covid-19 or another lung disease and underwent any form of exercise test which was compared to a reference standard were eligible. Risk of bias was assessed using QUADAS 2. A protocol for the review was published on the Medrxiv database. RESULTS Of 47 relevant papers, 15 were empirical studies, of which 11 described an attempt to validate one or more exercise desaturation tests in lung diseases other than Covid-19. In all but one of these, methodological quality was poor or impossible to fully assess. None had been designed as a formal validation study (most used simple tests of correlation). Only one validation study (comparing a 1-min sit-to-stand test [1MSTST] with reference to the 6-min walk test [6MWT] in 107 patients with interstitial lung disease) contained sufficient raw data for us to calculate the sensitivity (88%), specificity (81%) and positive and negative predictive value (79% and 89% respectively) of the 1MSTST. The other 4 empirical studies included two predictive studies on patients with Covid-19, and two on HIV-positive patients with suspected pneumocystis pneumonia. We found no studies on the 40-step walk test (a less demanding test that is widely used in clinical practice to assess Covid-19 patients). Heterogeneity of study design precluded meta-analysis. DISCUSSION Exertional desaturation tests have not yet been validated in patients with (or suspected of having) Covid-19. A stronger evidence base exists for the diagnostic accuracy of the 1MSTST in chronic long-term pulmonary disease; the relative intensity of this test may raise safety concerns in remote consultations or unstable patients. The less strenuous 40-step walk test should be urgently evaluated.

**Title: Dignified End-of-Life Care.**

**Source:** Indian Journal of Surgery; Aug 2021; vol. 83 (no. 4); p. 1097-1098

**Author(s):** Sunday ; Monib, Sherif

**Abstract:**

**Title: Discussion of DNACPR processes in medical education would improve practice**

**Source:** BMJ; Apr 2021; vol. 373

**Author(s):** Sharma A.

**Abstract:** Letter

**Title: Does the use of video improve patient satisfaction in the consent process for local-anaesthetic urological procedures?**

**Source:** International urology and nephrology; Jun 2021; vol. 53 (no. 6); p. 1051-1057

**Author(s):** Moore, Allison L; Howlett, Justin B; Phull, Manraj K; Mpungose, Lukhona L; Samson, Sebastian R

**Abstract:** PURPOSE To assess patient satisfaction with the use of portable video media (PVM) for the purpose of taking informed consent for common urological outpatient procedures performed under local anaesthesia. METHODS Patients undergoing the following procedures were approached for recruitment: flexible cystoscopy with or without biopsy, transrectal ultrasound-guided prostate biopsy or flexible cystoscopy with insertion or removal of a ureteric stent. Audio-visual media were developed for each procedure, with each script translated from English into isiXhosa and Afrikaans. The study involved a cross-over for each patient between standard verbal consent (SVC) and PVM consent, with each patient randomised to start with SVC or PVM consent. Each of these consent arms was assessed via a questionnaire. RESULTS Sixty patients completed participation, with PVM as the first exposure for 28 patients and 32 patients receiving SVC as their first arm of the study. When comparing the overall satisfaction between SVC and PVM consent (the total scores out of 18 for the questionnaire), patients scored significantly higher for PVM consent (M = 16.3 ± 2.4) compared to SVC (M = 15.4 ± 2.9) (p = 0.002). 92% of the total patient sample preferred PVM consent. CONCLUSION Portable video media proved superior to SVC in improving satisfaction in the consent process for common outpatient urological procedures performed under local anaesthesia.

**Title: Double trouble - A case of congenital myotonic dystrophy and hypoxic ischaemic encephalopathy**

**Source:** Developmental Medicine and Child Neurology; Jan 2021; vol. 63 ; p. 57

**Author(s):** Parmar M.; Mudasiru Z.; Merchant N.; Ambegaonkar G.

**Abstract:** Background: Hypoxic ischaemic encephalopathy (HIE) is defined as an acute brain dysfunction following lack of cerebral blood flow and oxygen delivery. The term 'neonatal encephalopathy' (NE) is preferred as there are other possible aetiologies. We present a case of Congenital Myotonic Dystrophy (CMD) and HIE and review current literature about co-existence of these conditions. Case history: A term, 3.5kg, female infant of non-consanguineous parents required unexpected cardio-pulmonary resuscitation following an elective caesarean section for breech presentation. Cord gases were normal. Polyhydramnios was noted in the third trimester with otherwise normal antenatal scans and serology. Hypotonia, ineffective suck and incomplete Moro reflex was noted with macrocephaly, widened skull sutures and upper limb contractures. aEEG was moderate suppressed. Day 7 MRI showed reduced cortical folding, ventriculomegaly, focal lesions in white matter &lentiform nucleus with no myelination in the posterior limb of internal capsule. Hypotonia persisted post cooling so further investigations were sent, with genetics confirming CMD. Discussion(s): CMD is a common neonatal genetic neuromuscular disorder, caused by an unstable cytosine-thymine-guanine trinucleotide repeat in the myotonic dystrophy protein kinase (DMPK) gene. Review of literature for CMD and neonatal encephalopathy co-existing was sparse with one cohort study of 9 CMD patients and 3 case reports, all showing white matter injury and clinical encephalopathy in newborns with CMD with absence of the features suggestive of HIE as per American College of Obstetricians and Gynecologists Task force of Neonatal Encephalopathy criteria. Conclusion(s): As the clinical presentation of CMD may mimic HIE, and especially if the neuroimaging is atypical for this, there should be a high index of suspicion for investigating other causes of HIE. We suspect that CMD causes increased vulnerability of the white matter to secondary hypoxic ischaemic changes.

**Title: Early prognostication of COVID-19 to guide hospitalisation versus outpatient monitoring using a point-of-test risk prediction score**

**Source:** Thorax; Jul 2021; vol. 76 (no. 7); p. 696-703

**Author(s):** Chua, Felix; Vancheeswaran, Rama; Draper, Adrian; Vaghela, Tejal; Knight, Matthew; Mogal, Rahul; Singh, Jaswinder; Spencer, Lisa G; Thwaite, Erica; Mitchell, Harry; Calmonson, Sam; Mahdi, Noor; Assadullah, Shershah; Leung, Matthew; O'Neill, Aisling; Popat, Chhaya; Kumar, Radhika; Humphries, Thomas; Talbutt, Rebecca; Raghunath, Sarika; Molyneaux, Philip L; Schechter, Miriam; Lowe, Jeremy; Barlow, Andrew

**Abstract:** INTRODUCTION Risk factors of adverse outcomes in COVID-19 are defined but stratification of mortality using non-laboratory measured scores, particularly at the time of prehospital SARS-CoV-2 testing, is lacking. METHODS Multivariate regression with bootstrapping was used to identify independent mortality predictors in patients admitted to an acute hospital with a confirmed diagnosis of COVID-19. Predictions were externally validated in a large random sample of the ISARIC cohort (N=14 231) and a smaller cohort from Aintree (N=290). RESULTS 983 patients (median age 70, IQR 53-83; in-hospital mortality 29.9%) were recruited over an 11-week study period. Through sequential modelling, a five-predictor score termed SOARS (SpO2, Obesity, Age, Respiratory rate, Stroke history) was developed to correlate COVID-19 severity across low, moderate and high strata of mortality risk. The score discriminated well for in-hospital death, with area under the receiver operating characteristic values of 0.82, 0.80 and 0.74 in the derivation, Aintree and ISARIC validation cohorts, respectively. Its predictive accuracy (calibration) in both external cohorts was consistently higher in patients with milder disease (SOARS 0-1), the same individuals who could be identified for safe outpatient monitoring. Prediction of a non-fatal outcome in this group was accompanied by high score sensitivity (99.2%) and negative predictive value (95.9%). CONCLUSION The SOARS score uses constitutive and readily assessed individual characteristics to predict the risk of COVID-19 death. Deployment of the score could potentially inform clinical triage in preadmission settings where expedient and reliable decision-making is key. The resurgence of SARS-CoV-2 transmission provides an opportunity to further validate and update its performance

**Title: Effect of lower lid tightening surgery with lateral tarsal strip on intraocular pressure**

**Source:** Journal of Plastic, Reconstructive and Aesthetic Surgery; 2021

**Author(s):** Kaur H.; Athwal S.; Hassan A.; Khandwala M.

**Abstract:** Aim: To determine whether lower lid tightening surgery with the lateral tarsal strip (LTS) technique can lead to a significant increase in intraocular pressure. This could have implications in the management of lower lid laxity in patients with glaucoma. Method(s): Prospective observational study of patients undergoing unilateral LTS for lower lid laxity. Intraocular pressure (IOP) was measured using Goldmann applanation tonometry in the operative and fellow eye immediately preop and post-op, and at 2 weeks and 3 months post-operatively. Results were analysed for a statistically significant change in IOP following surgery. Result(s): Thirty-seven patients underwent LTS (mean age 76). Mean preoperative IOP in the operative eye was 13.59 mmHg and 13.89 mmHg in the fellow eye. Mean immediate post-operative IOP was 15.41 mmHg in the operative eye and 14.53 mmHg in the fellow eye. There was a statistically significant increase between immediate pre- and post-operative IOP in the operative eye (P = 0.02), but not in the fellow eye. There was also a statistically significant difference found at 3 months post-operatively. Conclusion(s): Lower lid tightening with LTS was associated with a statistically significant increase in IOP immediately post-operatively. In some patients, IOP remained elevated at 3 months after surgery. Lower lid laxity can occur with increasing age and in older patients frequently present with ocular comorbidities, including glaucoma. The results suggest that lower lid tightening surgery in patients with glaucoma or glaucoma suspects, requires careful consideration

**Title: Epidemiological and cohort study finds no association between COVID-19 and Guillain-Barre syndrome**

**Source:** Brain: a journal of neurology; Mar 2021; vol. 144 (no. 2); p. 682-693

**Author(s):** Keddie S.; Pipis M.; Machado P.M.; Manji H.; Lunn M.P.; Mousele C.; Foster M.; Paterson R.W.; Rajakulendran S.; Sumaria S.; Farmer S.F.; Nortley R.; Zandi M.S.; Jayaseelan D.L.; Carr A.S.; Pakpoor J.; Record C.J.; Nirmalananthan N.; Keh R.Y.S.; Wall J.; Fehmi J.; Geraldes R.; Rinaldi S.; Kumar G.; Bharambe V.; Holt J.; Clayton L.M.; Marshall C.R.; Allen C.; Price O.; Kiss-Csenki A.; Rathnasabapathi D.P.; Pinto A.A.; Yermakova T.; King-Robson J.; Hadden R.D.M.; Zosmer M.; Newman E.J.; Brennan K.M.; Willison H.J.; Lavin T.M.; Pritchard J.

**Abstract:** Reports of Guillain-Barre syndrome (GBS) have emerged during the Coronavirus disease 2019 (COVID-19) pandemic. This epidemiological and cohort study sought to investigate any causative association between COVID-19 infection and GBS. The epidemiology of GBS cases reported to the UK National Immunoglobulin Database was studied from 2016 to 2019 and compared to cases reported during the COVID-19 pandemic. Data were stratified by hospital trust and region, with numbers of reported cases per month. UK population data for COVID-19 infection were collated from UK public health bodies. In parallel, but separately, members of the British Peripheral Nerve Society prospectively reported incident cases of GBS during the pandemic at their hospitals to a central register. The clinical features, investigation findings and outcomes of COVID-19 (definite or probable) and non-COVID-19 associated GBS cases in this cohort were compared. The incidence of GBS treated in UK hospitals from 2016 to 2019 was 1.65-1.88 per 100000 individuals per year. GBS incidence fell between March and May 2020 compared to the same months of 2016-19. GBS and COVID-19 incidences during the pandemic also varied between regions and did not correlate with one another (r=0.06, 95% confidence interval: -0.56 to 0.63, P=0.86). In the independent cohort study, 47 GBS cases were reported (COVID-19 status: 13 definite, 12 probable, 22 non-COVID-19). There were no significant differences in the pattern of weakness, time to nadir, neurophysiology, CSF findings or outcome between these groups. Intubation was more frequent in the COVID-19 affected cohort (7/13, 54% versus 5/22, 23% in COVID-19-negative) attributed to COVID-19 pulmonary involvement. Although it is not possible to entirely rule out the possibility of a link, this study finds no epidemiological or phenotypic clues of SARS-CoV-2 being causative of GBS. GBS incidence has fallen during the pandemic, which may be the influence of lockdown measures reducing transmission of GBS inducing pathogens such as Campylobacter jejuni and respiratory viruses.Copyright © Crown copyright 2020.

**Title: Establishing the first EOE deanery-wide trainee led virtual journal club: Keeping up morale by encouraging trainee interaction and continuous professional development during the hiatus to teaching activities enforced by coronavirus**

**Source:** British Journal of Surgery; May 2021; vol. 108

**Author(s):** Adegbola S.; Rabie M.; Currow C.; Patel K.; Askari A.; Aly M.; Aker M.

**Abstract:** Conference abstract: Introduction: Over the initial COVID months and with the cancellation of several teaching programs / courses/ conferences; we identified a NEED for trainee interaction and continuous professional development, despite staff redeployments. We since established a deanery-wide trainee led VIRTUAL journal club, run by the Surgical Trainees of East of England Research collaborative (STEER) group. Method(s): Following decision in May2020, the STEER group collated curriculum topics and related landmark papers, drafting a programmedschedule for sessions (45mins - 1hour). CPD accreditation was sought and received from RCSEd prior to some sessions. Sessions were delivered using the Microsoft Teams app (via desktop/tablet/phone). Targeted audience included FYs, CTs, STs, JCFs, SCFs (candidates preparing for MRCS/FRCS or interested in academia). Live polling / feedback forms and attendance certificates were distributed. Result(s): Six journal club sessions have been run to-date. A minimum of 15-20 participants attended each session with spread of junior/senior trainees. Sessions were video recorded for repeat playback for those unable to attend. Feedback was overwhelmingly positive, with good engagement from participants. Conclusion(s): A deanery wide virtual journal club was positively received by trainees and benefits included: critique and dissemination of evidence (especially recently with COVID-related literature), trainee interaction and keeping up-to-date and understanding and analysing information.

**Title: Extensive pulmonary LCH treated with ECMOO**

**Source:** Paediatric Blood and Cancer; 2021; vol. 68

**Author(s):** Slater L.; Duran Lorenzo I.; Jorgensen M.; Muthialu N.; Nanduri V.; Collin M.; Milne P.; Bumester M.; Visser J.

**Abstract:** Purpose: Isolated lung LCH is rare amongst paediatric population.We describe an infant with extensive isolated pulmonary LCHwho has survived with prompt placement on ECMO. Patient and Results: 10 months old boy presented to the Paediatric Unit with 6 weeks history of fever and respiratory symptoms culminating in rapid deterioration with pneumothorax requiring intubation, ventilation and bilateral chest drain insertion. The CXR and CT scan of the chest show multiple large cystic structures in both lungs obliterating parenchyma. Two days later he was placed on ECMO due to progressive hypoxemia. Clinical and radiological diagnosis was of Langerhans cell histiocytosis (LCH). Screening and examination of the skin failed to show any other system involvement. Serum did not contain BRAFV600E. The LCH was diagnosed on lung biopsy. He was started on prednisolone and vinblastine 2 days post biopsy. He remained on ECMO for 24 days and developed several further pneumothoraces requiring repeated surgical interventions. After clinical, ventilatory and radiological improvement he was decannulated and started on cPAP and proceeded to be self ventilating after 6 days, initially with supplemental oxygen and then in air. BRAFV600E was negative in the tumour tissue. He was started on MEK inhibitor Trametinib, following approval for compassionate use. He was discharged home after 3 months of inpatient stay. He continues on combined therapy with vinblastine/ prednisolone/Trametinib, tolerating treatment without any significant side effects and continues to be clinically well 8 months after initial presentation. Conclusion(s): Patients with extensive pulmonary cystic disease due to LCH can have a curative outcome. Patients with pulmonary compromise and extensive disease due to LCH should have every opportunity to be placed on ECMO as this procedure allows bridging to lung recovery while appropriate LCH directed treatment is put in place.

**Title: FNAC of a level IIB lymph node, what's your differential?**

**Source:** Cytopathology : official journal of the British Society for Clinical Cytology; May 2021

**Author(s):** Mistry, Sabina Kaur; Pratap, Rohit; Maddox, Anthony

**Abstract:** A 35 year old male was referred to the ENT team with a history of nasal congestion and post nasal drip. CT scan demonstrated asymmetrical bulkiness of the post nasal space. Air dried, MGG and ThinPrep showed variably sized cohesive groups with singly scattered atypical epithelioid cells. The atypical cells were strongly positive for p40 and showed focal positivity for EMA, MNF116 and CK5. In situ hybridisation for EBER was positive.

**Title: Failure of an Ancient Breast Implant Can Lead to Significant Morbidity**

**Source:** Cureus; 2021 Mar 4;13(3):e13700

**Author(s):** Ali K Mohammed , Sherif Monib

**Abstract:** N.B. RETRACTED ARTICLE Implant-based breast reconstruction is the most popular reconstruction option following mastectomy. However, it is not without complications, some of which can be trivial while others can lead to significant morbidity, especially in geriatric patients. Severe capsular contracture, implant failure, infection, or suspected breast implant-associated anaplastic large cell lymphoma are examples of complications that will eventually require explanation in most cases. As patients with implant-based reconstruction age, the risk of complications increases, which should be considered by treating physicians. We describe the case of a 90-year-old patient who presented to our emergency department after a fall with worsening confusion, which was attributed to a 60-year-old left breast implant rupture and a peri-implant infected hematoma confirmed with CT and ultrasound.

**Title: Fetal heart rate monitoring in labor: From pattern recognition to fetal physiology**

**Source:** Minerva Obstetrics and Gynecology; Feb 2021; vol. 73 (no. 1); p. 19-33

**Author(s):** Oikonomou M.; Chandraharan E.

**Abstract:** The journey of human labor involves hypoxic and mechanical stresses as a result of progressively increasing frequency, duration and strength of uterine contractions and resultant compression of the umbilical cord. in addition, occlusion of the spiral arteries during myometrial contractions also leads to repetitive interruptions in the utero-placental circulation, predisposing a fetus to progressively worsening hypoxic stress as labor progresses. the vast majority of fetuses are equipped with compensatory mechanisms to withstand these hypoxic and mechanical stresses. they emerge unharmed at birth. However, some fetuses may sustain an antenatal injury or experience a chronic utero-placental insufficiency prior to the onset of labor. these may impair the fetus to compensate for the ongoing hypoxic stress secondary to ongoing uterine contractions. Non-hypoxic pathways of neurological damage such as chorioamnionitis, fetal anemia or an acute fetal hypovolemia may potentiate fetal neurological injury, especially in the presence of a super-imposed, additional hypoxic stress. the use of utero-tonic agents to induce or augment labor may increase the risk of hypoxic-ischemic injury. Clinicians need to move away from "pattern recognition" guidelines ("normal,""suspicious,""pathological"), and apply the knowledge of fetal physiology to differentiate fetal compensation from decompensation. Individualization of care is essential to optimize outcomes.Copyright

**Title: Fibrous dysplasia of the clivus - A case study and literature review**

**Source:** Radiology case reports; Feb 2021; vol. 16 (no. 2); p. 230-236

**Author(s):** Butt, Aqeel; Patel, Kunj; Agrawal, Kanupriya; Arya, Alok; Singh, Jaswinder

**Abstract:** Fibrous dysplasia is a benign, congenital skeletal disorder which leads to the formation of fibro-osseous intramedullary bone lesions. Clival fibrous dysplasia is a rare variant which commonly presents asymptomatically with no findings on examination and is often picked up incidentally on radiological investigation. A 39-year-old female presented with a sudden onset headache of 3 days' duration alongside diplopia and right lower limb weakness upon examination. Computerized tomography head scan revealed an expansile clivus with a ground-glass appearance, magnetic resonance imaging brain scan revealed a predominantly hypointense signal on T1- and T2-weighted images and subsequent whole-body bone imaging confirmed the diagnosis of monostotic clival fibrous dysplasia. This case highlights the importance of considering monostotic clival fibrous dysplasia as a differential diagnosis in patients presenting with sudden onset symptoms of headache alongside cranial and peripheral nerve involvement, when other more sinister causes have been excluded.

**Title: Fine needle aspiration cytology of a level IIB lymph node-what's your differential?**

**Source:** Cytopathology: official journal of the British Society for Clinical Cytology; Sep 2021; vol. 32 (no. 5); p. 687-689

**Author(s):** Mistry S.K.; Pratap R.; Maddox A.

**Abstract:**

**Title: Gender equity in free open access medical education.**

**Source:** The clinical teacher; Oct 2021; vol. 18 (no. 5); p. 571

**Author(s):** Roland, Damian; Davis, Tessa; Goldstein, Henry; Hall, Dani; Lawton, Ben; Platt, Rebecca; Priddis, Kat; Tagg, Andrew; Don’t Forget The Bubbles

**Abstract:** Letter

**Title: Gonadectomy In Conditions Affecting Sex Development - A Registry-Based Cohort Study**

**Source:** European journal of endocrinology; May 2021; vol. 184 (no. 6); p. 791-801

**Author(s):** Lucas-Herald A.K.; Bryce J.; Kyriakou A.; Ljubicic M.L.; Arlt W.; Audi L.; Balsamo A.; Baronio F.; Bertelloni S.; Bettendorf M.; Brooke A.; Claahsen-van der Grinten H.L.; Davies J.; Hermann G.; de Vries L.; Hughes I.A.; Tadokoro-Cuccaro R.; Darendeliler F.; Poyrazoglu S.; Ellaithi M.; Evliyaoglu O.; Fica S.; Stejereanu L.; Gawlik A.; Globa E.; Zelinska N.; Guran T.; Guven A.; Hannema S.; Hiort O.; Holterhus P.-M.; Iotova V.; Mladenov V.; Jain V.; Sharma R.; Jennane F.; Johnston C.; Guerra-Junior G.; Konrad D.; Gaisl O.; Krone N.P.; Krone R.; Lachlan K.; Li D.; Lichiardopol C.; Lisa L.; Markosyan R.L.; Mazen I.; Mohnike K.; Niedziela M.; Nordenstrom A.; Rey R.A.; Skae M.; Tack L.J.; Tomlinson J.W.; Weintrob N.; Cools M.; Ahmed S.F.

**Abstract:** OBJECTIVES: To determine trends in clinical practice for individuals with DSD requiring gonadectomy. DESIGN: Retrospective cohort study. METHOD(S): Information regarding age at gonadectomy according to diagnosis; reported sex; time of presentation to specialist center; and location of center from cases reported to the International DSD Registry and who were over 16 years old in January 2019. RESULT(S): Data regarding gonadectomy were available in 668 (88%) individuals from 44 centers. Of these, 248 (37%) (median age (range) 24 (17, 75) years) were male and 420 (63%) (median age (range) 26 (16, 86) years) were female. Gonadectomy was reported from 36 centers in 351/668 cases (53%). Females were more likely to undergo gonadectomy (n=311, p<0.0001). The indication for gonadectomy was reported in 268 (76%). The most common indication was mitigation of tumour risk in 172 (64%). Variations in the practice of gonadectomy were observed; of the 351 cases from 36 centers, 17 (5%) at 9 centers had undergone gonadectomy before their first presentation to the specialist center. Median age at gonadectomy of cases from high income countries and low/middle income countries (LMIC) was 13.0 yrs (0.1, 68) years and 16.5 yrs (1, 28), respectively (p<0.0001) with the likelihood of long-term retention of gonads being higher in LMIC countries. CONCLUSION(S): The likelihood of gonadectomy depends on the underlying diagnosis, sex of rearing and the geographical setting. Clinical benchmarks, which can be studied across all forms of DSD will allow a better understanding of the variation in the practice of gonadectomy.

**Title: Helicobacter-are we losing the battle?**

**Source:** Gut; Jan 2021; vol. 70

**Author(s):** Waloszkova J.; Goncalves D.; Tinarwo T.; Leahy A.; Shariff M.

**Abstract:** Conference abstract: Introduction The Nobel Prize winning discovery of Helicobacter Pylori in 1983 heralded a seismic shift in the treatment of peptic ulcer disease. Currently, NICE recommended a PPI, amoxicillin and clarithromycin or metronidazole as the 1st line eradication regimen for H.Pylori. Resistance rates against this regimen for the UK are not known but it is widely held that 1st line eradication is highly effective in clearing H. Pylori. We tested this hypothesis in our local population. Methods From April 2018 to March 2019, we commenced routine follow up testing 6-8 weeks post eradication with Helicobacter breath testing and performed a retrospective analysis of clearance rates. This was undertaken using online hospital records and the analysis performed using Microsoft Excel. Results 113 patients were identified who attended for follow up H. Pylori breath testing following first line eradication treatment. Of these, 63 (57.2%) returned negative tests and 47 (42.7%) returned positive breath tests. Conclusions A failure rate of 42.7% was far higher than expected for our local population and as a result we have held discussions with the Microbiology department and are in the process of altering the first line treatment to improve eradication. This is particularly important given that H. Pylori is now a WHO recognised carcinogen for gastric carcinoma. We are undertaking further analyses on the antibiotic exposure and demographic make-up of the population studied. We suspect that this level of resistance will be similar across the UK but further evidence from other sites is required to prove this.

**Title: How does onchocerciasis-related skin and eye disease in Africa depend on cumulative exposure to infection and mass treatment?**

**Source:** PLoS neglected tropical diseases; Jun 2021; vol. 15 (no. 6)

**Author(s):** Vinkeles Melchers N.V.S.; Stolk W.A.; Kloek M.; Bakker R.; de Vlas S.J.; Coffeng L.E.; Murdoch M.E.; Pedrique B

**Abstract:** Onchocerciasis (river-blindness) in Africa is targeted for elimination through mass drug administration (MDA) with ivermectin. Onchocerciasis may cause various types of skin and eye disease. Predicting the impact of MDA on onchocercal morbidity is useful for future policy development. Here, we introduce a new disease module within the established ONCHOSIM model to predict trends over time in prevalence of onchocercal morbidity. METHOD(S): We developed novel generic model concepts for development of symptoms due to cumulative exposure to dead microfilariae, accommodating both reversible (acute) and irreversible (chronic) symptoms. The model was calibrated to reproduce pre-control age patterns and associations between prevalences of infection, eye disease, and various types of skin disease as observed in a large set of population-based studies. We then used the new disease module to predict the impact of MDA on morbidity prevalence over a 30-year time frame for various scenarios. RESULT(S): ONCHOSIM reproduced observed age-patterns in disease and community-level associations between infection and disease reasonably well. For highly endemic settings with 30 years of annual MDA at 60% coverage, the model predicted a 70% to 89% reduction in prevalence of chronic morbidity. This relative decline was similar with higher MDA coverage and only somewhat higher for settings with lower pre-control endemicity. The decline in prevalence was lowest for mild depigmentation and visual impairment. The prevalence of acute clinical manifestations (severe itch, reactive skin disease) declined by 95% to 100% after 30 years of annual MDA, regardless of pre-control endemicity. CONCLUSION(S): We present generic model concepts for predicting trends in acute and chronic symptoms due to history of exposure to parasitic worm infections and apply this to onchocerciasis. Our predictions suggest that onchocercal morbidity, in particular chronic manifestations, will remain a public health concern in many epidemiological settings in Africa, even after 30 years of MDA.

**Title: Imaging of bone and soft tissue BCOR-rearranged sarcoma**

**Source:** Skeletal radiology; Jul 2021; vol. 50 (no. 7); p. 1291-1301

**Author(s):** Sirisena U.D.N.; Rajakulasingam R.; Saifuddin A.

**Abstract:** With recent advances in molecular research, an ever-increasing number of undifferentiated round cell sarcomas without the characteristic gene fusions of Ewing sarcoma are being discovered. One specific subtype termed BCOR-rearranged sarcoma belongs to this group. Previously termed 'Ewing-like' sarcoma, it was formally included with undifferentiated round cell tumours in the 2013 WHO Classification of Soft Tissue and Bone Tumours. However, in the 2020 WHO Classification, BCOR-sarcoma is now recognized as a distinct entity due to particular morphological and immunohistochemical features and differing clinical outcomes. As with classical Ewing sarcoma, osseous BCOR-rearranged sarcoma is an aggressive tumour with a similar clinical presentation. However, there are only a small handful of case series and isolated reports detailing the imaging characteristics, typically demonstrating an aggressive bone lesion with a large soft tissue mass. Soft tissue BCOR-sarcoma is even rarer. The aim of the current review is to describe the patient demographics, lesion locations and various imaging characteristics of histologically proven cases of musculoskeletal bone and soft tissue BCOR-sarcoma as described in the literature

**Title: Impact of COVID-19 on the practice of breast pathologists: a survey of breast pathologists in the UK and Ireland**

**Source:** Journal of clinical pathology; Oct 2021

**Author(s):** Elghobashy M.; Wahab L.; Gunavardhan A.; O'Sullivan E.; Provenzano E.; Deb R.; Pritchard S.; Di Palma S.; Ellis I.O.; Boyd C.; Pinder S.E.; Shaaban A.M.

**Abstract:** AIMS: There is little information on the impact of COVID-19 on breast pathologists. This survey assessed the effect of the COVID-19 pandemic on UK and Ireland-based breast pathologists to optimise working environments and ensure preparedness for potential future pandemics. METHOD(S): A 35-question survey during the first wave of COVID-19 infections in the UK including questions on workload, working practices, professional development, training, health and safety and well-being was distributed to consultant breast pathologists and responses collected anonymously. RESULT(S): There were 135 responses from breast pathologists based in the UK and Ireland. Most participants (75.6%) stated that their workload had decreased and their productivity dropped. 86/135 (63.7%) were given the option of working from home and 36% of those who did reported improved efficiency. Multidisciplinary team meetings largely moved to virtual platforms (77.8%) with fewer members present (41.5%). Online education, including webinars and courses, was utilised by 92.6%. 16.3% of pathologists reported shortages of masks, visors or gowns as the the most common health and safety concern. COVID-19 had a significant negative impact on the physical and mental health of 33.3% of respondents. A small number of pathologists (10.4%) were redeployed and/or retrained. CONCLUSION(S): The UK and Ireland breast pathologists adapted to the rapid change and maintained service delivery despite the significant impact of the pandemic on their working practices and mental health. It is important to apply flexible working patterns and environments that improve productivity and well-being. The changes suggested should be considered for long-term shaping of breast pathology services.Copyright © Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY. Published by BMJ.

**Title: In children with cerebral palsy, does spinal fusion surgery for scoliosis improve lung function?**

**Source:** Archives of disease in childhood; Aug 2021

**Author(s):** Lehovsky, Katherine

**Abstract:**

**Title: Intrauterine insemination + controlled ovarian hyperstimulation versus in vitro fertilisation in unexplained infertility: a systematic review and meta-analysis.**

**Source:** Archives of gynecology and obstetrics; Oct 2021

**Author(s):** Nandi, Anupa; Raja, Gangopadhyay; White, Davinia; Tarek, El-Toukhy

**Abstract:** BACKGROUND IUI + COH is widely used in cases of unexplained infertility before resorting to IVF. Debate continues about what should be the first-line treatment for couples with unexplained infertility. OBJECTIVES This systematic review assessed the relative efficacy of IUI + COH compared with IVF in couples with unexplained infertility. SEARCH STRATEGY We searched Medline, Embase, CIHNL, Pscy Info, and Cochrane Library from 1980 to November 2019.SELECTION CRITERIA Only RCTs published articles in full text with female patients aged 18-43 years and diagnosed with unexplained infertility were included. DATA COLLECTION AND ANALYSIS Two authors reviewed citations from primary search independently and any disagreement was resolved by mutual discussion and consultation with a third author. MAIN RESULT In total, eight RCTs were included. The quality of evidence was moderate to low due to inconsistency across the trials and imprecision. The pooled result showed that IVF was associated with a statistically significant higher live birth rate (RR 1.53, 95% CI 1.01-2.32, P < 0.00001 I2 = 86%) with no significant difference in multiple pregnancy rate or OHSS rate. Sensitivity analysis based on women's age and a history of previous IUI or IVF treatment showed no significant difference in the live birth rates (RR 1.01, 95% CI 0.88-1.15, I2 = 0%, 3 RCTs) in treatment-naïve women younger than 38 years. In women over 38 years, the live birth rates were significantly higher in the IVF group (RR 2.15, 95% CI 1.16-4.0, I2 = 42%, 1 RCT).CONCLUSION Further research using a standardised treatment protocol and taking into account important prognostic variables and cumulative live birth rates from fresh IVF and all sibling frozen embryos is required to further guide clinical practice.

**Title: Investigation and management of an outbreak of COVID-19 infection in an acute admission unit in a District General Hospital: lessons learnt**

**Source:** Infection Prevention in Practice; Sep 2021; vol. 3 (no. 3)

**Author(s):** Kannangara C.I.; Seetulsingh P.; Foley J.; Bennett G.; Carter T.

**Abstract:** Background: SARS-CoV-2 outbreaks are difficult to recognise and control due to its high infectivity and the wide range of clinical manifestations of the infection. An outbreak at Watford general hospital provided an opportunity to recognise the complexity involved in a COVID-19 outbreak investigation. Method(s): An outbreak control team (OCT) was convened. The terms outbreak, a case and a significant exposure were defined as per Public Health England (PHE) Guidance and in the context of the local outbreak. Root cause analyses (RCAs) were carried out on cases to identify possible causes, possible route of transmission and any learning points. All contact patients and staff were screened with RT PCR and genomic sequencing was performed on a set of positive specimens. In addition to active contact tracing, screening and cohorting of patients and staff, standard and transmission-based precautions were reinforced to control the outbreak. Finding(s): Fifteen patients and four staff members were identified in this outbreak investigation. With contact tracing, screening and through strict infection control measures the outbreak was brought under control. Conclusion(s): We could successfully contain the spread of this outbreak following PHE outbreak control guidelines and our local guidelines. We recognised several challenges in investigating a COVID-19 outbreak in a hospital setting. Problems arising from variable sensitivity of the tests, difficulty in differentiating COVID-19 related symptoms from underlying diseases, problems related to establishing the route of transmission, issues with contact tracing are discussed. Additionally, the importance and limitations of genomic studies in COVID-19 are discussed

**Title: Machine learning risk prediction of mortality for patients undergoing surgery with perioperative SARS-CoV-2: The COVIDSurg mortality score**

**Source:** British Journal of Surgery; 2021; vol. 19 (no. 4)

**Author(s):** Multiple authors

**Abstract:** available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8344569

**Title: Management of anastomotic leaks after elective colorectal resections: The East of England experience. A retrospective cohort.**

**Source:** International journal of surgery (London, England); Nov 2021 ; p. 106167

**Author(s):** Aker, Medhat; Askari, Alan; Rabie, Mohamed; Aly, Mohamed; Adegbola, Samuel; Patel, Krashna; Currow, Chelise; Nunn, Rebecca; Hadjittofi, Christopher; Rankin, Adeline; Halai, Sonal; Elsamani, Karim; Bondje, Sophie; Mohamed, Islam; Lee, John; Wong, Joshua; Robertson-Waters, Eve; Uddin, Aaliya; Hollingshead, James

**Abstract:** INTRODUCTION Colorectal anastomotic leaks (AL) are associated with high morbidity and mortality. Management of AL and its intra-operative decision making is often difficult. The aim of this multi-centre study is to explore different management strategies, including different surgical options, and analyse rates and patterns of failure of initial management. METHODS All consecutive patients who had a confirmed AL after elective colorectal resections from 1st January 2014 to 31st December 2019 were included at seven hospitals across the East of England Region. Morbidity (length of stay, and failures) and mortality were compared across the different management strategies, and survival analyses were performed (Clinicaltrials.gov ID: NCT05000580). RESULTS Across all seven hospitals, a total of 3391 elective resection were done during the study period. 201 (5.9%) consecutive patients with confirmed AL were included. The initial treatment was conservative in 102(50.7%). 19 patients (9.5%) had a radiological procedure, 80 (39.8%) of patients required surgery as an initial treatment post AL. Of those who initially did not have a surgical intervention (n = 121), 10% (n = 12/121) eventually required laparotomy, 2 additional patients required transanal drainage. Ultimately 45.8% (n = 92/201) of the whole population eventually required a laparotomy. Patients managed conservatively had a shorter LOS when compared to either radiological drainage or surgical patients. Patients with a defunctioning stoma are more likely to have a successful conservative management and shorter LOS. 90-day mortality across the entire population was 8.1%. There were no significant differences in mortality or long-terms survival between the different initial treatment modalities or whether the leak was right or left sided. CONCLUSION Despite initial conservative, antibiotic and radiological intervention being successful in the majority of patients, two out of five patients will still require a laparotomy and over a quarter of patients will have an end stoma.

**Title: Management of children and young people with idiopathic pituitary stalk thickening, central diabetes insipidus, or both: a national clinical practice consensus guideline**

**Source:** The Lancet. Child & adolescent health; Sep 2021; vol. 5 (no. 9); p. 662-676

**Author(s):** Cerbone, Manuela; Visser, Johannes; Bulwer, Chloe; Ederies, Ashraf; Vallabhaneni, Kirtana; Ball, Stephen; Kamali-Asl, Ian; Grossman, Ashley; Gleeson, Helena; Korbonits, Márta; Nanduri, Vasanta; Tziaferi, Vaya; Jacques, Tom; Spoudeas, Helen A

**Abstract:** Unexplained or idiopathic pituitary stalk thickening or central diabetes insipidus not only harbours rare occult malignancies in 40% of cases but can also reflect benign congenital defects. Between 2014 and 2019, a multidisciplinary, expert national guideline development group in the UK systematically developed a management flowchart and clinical practice guideline to inform specialist care and improve outcomes in children and young people (aged <19 years) with idiopathic pituitary stalk thickening, central diabetes insipidus, or both. All such cases of idiopathic pituitary stalk thickening and central diabetes insipidus require dynamic pituitary function testing, specialist pituitary imaging, measurement of serum β-human chorionic gonadotropin and alpha-fetoprotein concentrations, chest x-ray, abdominal ultrasonography, optometry, and skeletal survey for occult disease. Stalk thickening of 4 mm or more at the optic chiasm, 3 mm or more at pituitary insertion, or both, is potentially pathological, particularly if an endocrinopathy or visual impairment coexists. In this guideline, we define the role of surveillance, cerebrospinal fluid tumour markers, whole-body imaging, indications, timing and risks of stalk biopsy, and criteria for discharge. We encourage a registry of outcomes to validate the systematic approach described in this guideline and research to establish typical paediatric stalk sizes and the possible role of novel biomarkers, imaging techniques, or both, in diagnosis.

**Title: Management of colorectal anastomotic leaks: The east of England experience**

**Source:** British Journal of Surgery; May 2021; vol. 108

**Author(s):** Aker M.; Askari A.; Aly M.; Rabie M.; Adegbola S.; Nun R.; Currow C.; Hadjitoffi C.; Hollingshead J.

**Abstract:** Conference Abstract Introduction: Colorectal anastomotic leaks (AL) are an unfortunate occurrence and are associated with a high mortality. The aim of this multi-centre study is to explore the different management strategies used and compare outcomes in the management of AL. Method(s): All patients who had an AL were included at seven hospitals across the East of England. Morbidity, mortality, and survival were compared across the different management strategies. Result(s): A total of 247 consecutive patients were included of which 60.3% were male and the median age was 68 (IQR 57-77). Half of patients were initially managed conservatively, a further 10.5% had a radiological procedure. 39.7% required surgery as an initial treatment. Of those who initially did not have a surgical intervention (n=149), 10.7% (n=16/149) eventually required laparotomy. Ultimately, 42.7% (n=106/248) required a laparotomy. The 30- and 90-day across the entire population mortality were 3.6% and 4.9% respectively. There were no significant differences in mortality or long-terms survival between the different initial treatment modalities. Conclusion(s): Despite initial conservative, antibiotic and radiological intervention being successful in the majority of patients, two out of five patients will still require a laparotomy. A consensus approach is required to standardise management in these difficult scenarios.

**Title: Management of congenital nasolacrimal duct obstruction: results of a national survey of paediatric and oculoplastic ophthalmologists**

**Source:** Eye (London, England); Jul 2021; vol. 35 (no. 7); p. 1930-1936

**Author(s):** Golash, Vidushi; Kaur, Harpreet; Athwal, Sarju; Chakartash, Rebiye; Laginaf, Masara; Khandwala, Mona

**Abstract:** BACKGROUND To survey variation in management of congenital nasolacrimal duct obstruction (CNLDO) by oculoplastic and paediatric ophthalmologists in the UK. METHODS A 14-question online survey was sent to all members of the British Oculoplastic Surgery Society (BOPSS) and the British and Irish Paediatric Ophthalmology and Strabismus Association (BIPOSA) in February 2020. The aim was to establish preferred primary, secondary and tertiary interventions for CNLDO treatment, with emphasis on the use of nasoendoscopy and ductal intubation. Results were compared with a national survey from 2007 to observe trends in management. RESULTS One hundred and three responses from single-speciality consultants were analysed. In total, 71.8% of CNLDO patients were assessed by paediatric ophthalmologists. Fluorescein dye disappearance test was the commonest investigation, and paediatric consultants were five times more likely to perform Jones test. No clinicians performed outpatient probing. Age of first intervention was most commonly 12 months, although more interventions are being conducted at younger ages than in 2007. Preferred primary procedure for both subspecialties was syringe and probe under general anaesthetic, with 43.9% of oculoplastic consultants using nasoendoscopy vs 12.9% of paediatric consultants. Most common re-do procedure for both subspecialties was nasoendoscopy-guided syringe and probe ± intubation. In contrast to 2007, dacryocystorhinostomy is now the commonest tertiary procedure, with endonasal approach twice as common as external. CONCLUSION Despite changes in approach since 2007, there is still considerable variation between oculoplastic and paediatric ophthalmologists regarding treatment preferences for CNLDO, particularly the use of nasoendoscopy. We propose a national audit of CNLDO treatment outcomes to potentially standardise treatment protocols.

**Title: Mapping the burden of onchocercal skin disease\***

**Source:** British Journal of Dermatology; Feb 2021; vol. 184 (no. 2); p. 199-207

**Author(s):** Murdoch M.E.

**Abstract:** Onchocerciasis is a neglected tropical disease caused by a nematode parasite, Onchocerca volvulus, and transmitted by bites of Simulium blackflies which breed near fast-flowing rivers. In humans, thousands of microfilariae (immature worms) migrate to the skin and eyes where they cause pathology. Historically, much research was devoted to the serious effect of blindness, from which the disease earns its alternative name of 'river blindness'. Mapping the burden of onchocercal skin disease (OSD) was expedited by the development of a clinical classification and grading system that facilitated comparison of data from different countries. After successful field testing in Nigeria, the classification scheme was used in a multicountry study in seven endemic sites, to estimate the true burden of OSD across Africa. High levels of OSD were found, affecting 28% of the population. A new control programme, the African Programme for Onchocerciasis Control (APOC) was launched in 20 countries using annual doses of ivermectin, donated by Merck & Co., Inc. The multicountry study also found a close correlation between the levels of itching and OSD with the level of endemicity, as determined by the prevalence of onchocercal nodules. This enabled APOC to use Rapid Epidemiological Mapping of Onchocerciasis, which entailed identifying likely vector breeding sites near rivers, then sampling 50 adult males in nearby villages to determine the prevalence of nodules and delineate which villages required treatment. Onchocerciasis is now targeted for elimination in Africa, and the challenge is to complete Onchocerciasis Elimination Mapping of hypoendemic areas using serology.

**Title: Mechanism of Anosmia Caused by Symptoms of COVID-19 and Emerging Treatments**

**Source:** ACS Chemical Neuroscience; 2021

**Author(s):** Najafloo R.; Majidi J.; Simorgh S.; Bagher Z.; Asghari A.; Aleemardani M.; Kamrava S.K.; Seifalian A.; Seifalian A.M.

**Abstract:** The occurrence of anosmia, the loss or change in sense of smell, is one of the most common symptoms of COVID-19 experienced by almost 53% of those affected. Several hypotheses explain the mechanism of anosmia in patients suffering from COVID-19. This study aims to review the related mechanisms and answer the questions regarding COVID-19-related anosmia as well as propose a new strategy for treatment of long-term anosmia as a result of COVID-19 infection. This paper covers all of the studies investigating olfactory disorders following COVID-19 infection and explains the possible reasons for the correlated anosmia, including olfactory cleft syndrome, local inflammation in the nasal epithelium, early apoptosis of olfactory cells, changes in olfactory cilia and odor transmission, damage to microglial cells, effect on olfactory bulbs, epithelial olfactory injury, and impairment of olfactory neurons and stem cells. The key questions that arise in this field have been discussed, such as why prevalent anosmia is varied among the age categories and among sexes and the correlation of anosmia with mild or severe COVID-19 infection. The angiotensin-converting enzyme 2 receptor is a significant player in the mechanism of anosmia in COVID-19 patients. Based on current studies, a novel approach to treat long-COVID-19 with ongoing anosmia has been proposed. The fields of smart drug delivery, tissue engineering, and cell therapy provide a hypothesized strategy that can minimize the side effects of current treatments and support efficient recovery of the olfactory system.Copyright © 2021 American Chemical Society.

**Title:** **Mind the gap: understanding medication side effects.**

**Source:** Archives of disease in childhood; Oct 2021; vol. 106 (no. 10); p. 998

**Author(s):** Parmar, Mira; Narayanan, Sankara; Merchant, Nazakat

**Abstract:**

**Title: Mortality from esophagectomy for esophageal cancer across low, middle, and high-income countries: An international cohort study**

**Source:** European Journal of Surgical Oncology; Jun 2021; vol. 47 (no. 6); p. 1481-1488

**Author(s):** Kamarajah S.K.; Evans R.P.T.; Hodson J.; Griffiths E.A.; Bundred J.; Jefferies B.; McKay S.; Mohamed I.; Siaw-Acheampong K.; Wanigasooriya K.; Whitehouse T.; Nepogodiev D.; Bekele A.; Cecconello I.; Takeda F.R.; Guner A.; Gossage J.A.; Gossage J.; Harustiak T.; Isik A.; Kidane B.; Leon-Takahashi A.M.; Basave H.N.L.; Mahendran H.A.; Negoi I.; Beuran M.; Stoica B.; Ciubotaru C.; Negoita V.; Okonta K.E.; Rosero G.; Castilla L.; Pineda M.; Sayyed R.H.; Farmanali J.; Zakir Z.; Singh P.; van Hillegersberg R.; Ruurda J.P.; van der Sluis P.C.; de Maat M.; Vohra R.S.; Vohra R.; White R.E.; Mwachiro M.; Fekadu A.; Odera A.; Mwachiro E.; Alderson D.; Gjata A.; Moreno J.I.; Guevara C.R.; Kechagias A.; Gockel I.; Kennedy A.; Da Roit A.; Bagajevas A.; Azagra J.S.; Mejia-Fernandez L.; Cortes-Gonzalez R.; Wijnhoven B.P.L.; Lagarde S.M.; van Lanschot J.J.B.; Cords C.; El Kafsi J.; Beban G.; Evenett N.; Johnston P.; Patel R.; Sousa M.; Sampaio A.S.; Casaca R.; Monteiro C.; Ramos P.; Cabral F.; 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**Abstract:** Background: No evidence currently exists characterising global outcomes following major cancer surgery, including esophageal cancer. Therefore, this study aimed to characterise impact of high income countries (HIC) versus low and middle income countries (LMIC) on the outcomes following esophagectomy for esophageal cancer. Method(s): This international multi-center prospective study across 137 hospitals in 41 countries included patients who underwent an esophagectomy for esophageal cancer, with 90-day follow-up. The main explanatory variable was country income, defined according to the World Bank Data classification. The primary outcome was 90-day postoperative mortality, and secondary outcomes were composite leaks (anastomotic leak or conduit necrosis) and major complications (Clavien-Dindo Grade III - V). Multivariable generalized estimating equation models were used to produce adjusted odds ratios (ORs) and 95% confidence intervals (CI95%). Result(s): Between April 2018 to December 2018, 2247 patients were included. Patients from HIC were more significantly older, with higher ASA grade, and more advanced tumors. Patients from LMIC had almost three-fold increase in 90-day mortality, compared to HIC (9.4% vs 3.7%, p < 0.001). On adjusted analysis, LMIC were independently associated with higher 90-day mortality (OR: 2.31, CI95%: 1.17-4.55, p = 0.015). However, LMIC were not independently associated with higher rates of anastomotic leaks (OR: 1.06, CI95%: 0.57-1.99, p = 0.9) or major complications (OR: 0.85, CI95%: 0.54-1.32, p = 0.5), compared to HIC. Conclusion(s): Resections in LMIC were independently associated with higher 90-day postoperative mortality, likely reflecting a failure to rescue of these patients following esophagectomy, despite similar composite anastomotic leaks and major complication rates to HIC. These findings warrant further research, to identify potential issues and solutions to improve global outcomes following esophagectomy for cancer.

**Title: Moving beyond the gastrointestinal tract: the involvement of gut microbiome in endometriosis**

**Source:** Gut; Sep 2021; vol. 70

**Author(s):** Ser H.-L.; Letchumanan V.; Law J.W.-F.; Lee L.-H.; Wong J.Y.J.; Tan L.T.-H.

**Abstract:** Conference abstract : Background The importance of gut health and microbiome have been emphasized in women's health. Endometriosis is characterized by abnormal growth of endometrial cells that occurs outside of the uterus (IDDF2021-ABS-0132 Figure 1. Potential association of gut microbiome in endometriosis). Animal models of endometriosis display different gut microbiota compositions compared to healthy controls, and the oral administration of broad-spectrum antibiotics has been shown to reduce disease progression. The current study investigates the relationship between the gut microbiome and endometriosis in humans before exploring potential mechanisms involved. Methods Searches were performed in three databases (PubMed, Ovid Medline, ScienceDirect; database inception to 31st May 2021 using 'gut', 'microbiome,' or 'microbiota' combined with 'endometriosis' following PRISMA guidelines). All titles and abstracts retrieved were screened based on the inclusion and exclusion criteria. Studies reporting gut microbiome data in relation to endometriosis in humans were included in the current analysis but not those without gut microbiome data. Results Three studies were selected for qualitative analysis according to the inclusion and exclusion criteria. All studies investigated the gut microbiota composition by whole genome sequencing, specifically targeting the 16S rRNA gene. These studies detected significant differences in selected bacterial abundance in the gut microbiome among endometriosis patients and control. Two of them discussed potential bacterial group(s) that correlates with gastrointestinal symptoms in endometriosis patients. A study in 2019 showed that two endometriosis patients had high Escherichia/Shigella in stool, and subsequent follow-up showed severe bowel involvement by endometriosis requiring segmental colon resection. Another team also indicated in their recent work that those with endometrial involvement of the gastrointestinal tract had a higher abundance of Lactococcus (Class Bacilli) compared to those without involvement. The same study noted a non-significant enrichment of Enterobacteriaceae in endometriosis patients that warrants further investigation to evaluate the involvement of gut microbiota in endometriosis. Conclusions Further studies are required to establish the association and involvement of gut microbiota in endometriosis. The heterogeneity in study design (inclusion/exclusion criteria etc.) increases the difficulty in making a meaningful comparison. More information on diet and antibiotic drug use need to be collected to provide a better overview and insightful analysis of the gut microbiome in endometriosis.

**Title: Multiple thromboembolic events associated with bilateral superior vena cava and anomalous drainage into the left atrium**

**Source:** BMJ Case Reports; Feb 2021; vol. 14 (no. 2)

**Author(s):** Karavassilis M.E.; Haji-Coll M.; Keenan N.G.

**Abstract:** A 49-year-old female patient presented with acute-on-chronic chest pain. She was diagnosed with multiple systemic thromboemboli, including myocardial infarctions, bilateral chronic pulmonary emboli, ischaemic stroke, deep venous thrombosis and superficial thrombophlebitis. She had a background of sickle cell trait. Cardiac magnetic resonance showed bilateral superior vena cava (SVC). The right-sided SVC (RSVC) was joined by the right upper pulmonary vein and drained anomalously into the left atrium. This caused a small volume right to left shunt. The persistent left SVC drained into the right atrium (RA) via a dilated coronary sinus. The overall clinical impression was recurrent paradoxical emboli due to anomalous venous anatomy with a thrombophilia secondary to sickle cell trait. In the normal embryo, the right common cardinal vein develops to become the RSVC, which drains into the RA by term. Copyright © 2021 BMJ Publishing Group. All rights reserved.

**Title: Mutational signatures in esophageal squamous cell carcinoma from eight countries with varying incidence.**

**Source:** Nature genetics; Oct 2021

**Author(s):** Moody, Sarah; Senkin, Sergey; Islam, S M Ashiqul; Wang, Jingwei; Nasrollahzadeh, Dariush; Cortez Cardoso Penha, Ricardo; Fitzgerald, Stephen; Bergstrom, Erik N; Atkins, Joshua; He, Yudou; Khandekar, Azhar; Smith-Byrne, Karl; Carreira, Christine; Gaborieau, Valerie; Latimer, Calli; Thomas, Emily; Abnizova, Irina; Bucciarelli, Pauline E; Jones, David; Teague, Jon W; Abedi-Ardekani, Behnoush; Serra, Stefano; Scoazec, Jean-Yves; Saffar, Hiva; Azmoudeh-Ardalan, Farid; Sotoudeh, Masoud; Nikmanesh, Arash; Poustchi, Hossein; Niavarani, Ahmadreza; Gharavi, Samad; Eden, Michael; Richman, Paul; Campos, Lia S; Fitzgerald, Rebecca C; Ribeiro, Luis Felipe; Soares-Lima, Sheila Coelho; Dzamalala, Charles; Mmbaga, Blandina Theophil; Shibata, Tatsuhiro; Menya, Diana; Goldstein, Alisa M; Hu, Nan; Malekzadeh, Reza; Fazel, Abdolreza; McCormack, Valerie; McKay, James; Perdomo, Sandra; Scelo, Ghislaine; Chanudet, Estelle; Humphreys, Laura; Alexandrov, Ludmil B; Brennan, Paul; Stratton, Michael R

**Abstract:** Esophageal squamous cell carcinoma (ESCC) shows remarkable variation in incidence that is not fully explained by known lifestyle and environmental risk factors. It has been speculated that an unknown exogenous exposure(s) could be responsible. Here we combine the fields of mutational signature analysis with cancer epidemiology to study 552 ESCC genomes from eight countries with varying incidence rates. Mutational profiles were similar across all countries studied. Associations between specific mutational signatures and ESCC risk factors were identified for tobacco, alcohol, opium and germline variants, with modest impacts on mutation burden. We find no evidence of a mutational signature indicative of an exogenous exposure capable of explaining differences in ESCC incidence. Apolipoprotein B mRNA-editing enzyme, catalytic polypeptide-like (APOBEC)-associated mutational signatures single-base substitution (SBS)2 and SBS13 were present in 88% and 91% of cases, respectively, and accounted for 25% of the mutation burden on average, indicating that APOBEC activation is a crucial step in ESCC tumour development.

**Title: Obese, non-eosinophilic asthma: frequent exacerbators in a real-world setting**

**Source:** The Journal of asthma: official journal of the Association for the Care of Asthma; Oct 2021; p. 1-13

**Author(s):** Ananth, Sachin; Navarra, Alessio; Vancheeswaran, Rama

**Abstract:** Objective: In the UK, asthma deaths are at their highest level this century. Increased recognition of at-risk patients is needed. This study phenotyped frequent asthma exacerbators, and used machine learning to predict frequent exacerbators.Methods: Patients admitted to a district general hospital with an asthma exacerbation between 1st March 2018 - 1st March 2020 were included. Patients were organised into two groups: "Infrequent Exacerbators" (1 admission in the previous 12 months) and "Frequent Exacerbators" (≥2 admissions in the previous 12 months). Patient data was retrospectively collected from hospital and primary care records. Machine learning models were used to predict frequent exacerbators.Results: 200 patients admitted for asthma exacerbations were randomly selected (73% female; mean age 47.8 years). Peripheral eosinophilia was uncommon in either group (21% vs 19%). More frequent exacerbators were being treated with high-dose ICS than infrequent exacerbators (46.5% vs 23.2%; P < 0.001), and frequent exacerbators used more SABA inhalers (10.9 vs 7.40; P = 0.01) in the year preceding the current admission. BMI was raised in both groups (34.2 vs 30.9). Logistic regression was the most accurate machine learning model for predicting frequent exacerbators (AUC =0.80). Conclusions: Patients admitted for asthma are predominately female, obese and non-eosinophilic. Patients who require multiple admissions per year have poorer asthma control at baseline. Machine learning algorithms can predict frequent exacerbators using clinical data available in primary care. Instead of simply increasing the dose of corticosteroids, multidisciplinary management targeting Th2-low inflammation should be considered for these patients.

**Title: Outcomes and measures of delirium interventional studies in palliative care to inform a core outcome set: A systematic review**

**Source:** Palliative Medicine; 2021

**Author(s):** Agar M.R.; Hosie A.; Amgarth-Duff I.; Garcia M.; Disalvo D.; Siddiqi N.; Featherstone I.; Boland J.W.; Johnson M.J.; Lawlor P.G.; Bush S.H.; Page V.; Rose L.

**Abstract:** Background: Trials of interventions for delirium in various patient populations report disparate outcomes and measures but little is known about those used in palliative care trials. A core outcome set promotes consistency of outcome selection and measurement. Aim(s): To inform core outcome set development by examining outcomes, their definitions, measures and time-points in published palliative care studies of delirium prevention or treatment delirium interventions. Design(s): Prospectively registered systematic review adhering to Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Data sources: We searched six electronic databases (1980-November 2020) for original studies, three for relevant reviews and the International Clinical Trials Registry Platform for unpublished studies and ongoing trials. We included randomised, quasi-randomised and non-randomised intervention studies of pharmacological and non-pharmacological delirium prevention and/or treatment interventions. Result(s): From 13/3244 studies (2863 adult participants), we identified 9 delirium-specific and 13 non-delirium specific outcome domains within eight Core Outcome Measures in Effectiveness Trials (COMET) taxonomy categories. There were multiple and varied outcomes and time points in each domain. The commonest delirium specific outcome was delirium severity (n = 7), commonly using the Memorial Delirium Assessment Scale (6/8 studies, 75%). Four studies reported delirium incidence. Non-delirium specific outcomes included mortality, agitation, adverse events, other symptoms, and quality of life. Conclusion(s): The review identified few delirium interventions with heterogeneity in outcomes, their definition and measurement, highlighting the need for a uniform approach. Findings will inform the next stage to develop consensus for a core outcome set to inform delirium interventional palliative care research.

**Title: Outcomes in metastatic axillary nodes following neo-adjuvant chemotherapy for breast cancer - A nine year review from a single cancer centre**

**Source:** European Journal of Surgical Oncology; May 2021; vol. 47 (no. 5)

**Author(s):** Maalo J.; Mikhael Y.; Thomson S.; Chong K.; Lai L.M.

**Abstract:** Conference abstract Introduction: Neo-adjuvant chemotherapy is increasingly employed in breast cancer treatment. In the neo-adjuvant setting, chemotherapeutic drugs effect tumour apoptosis, eliminating systemic micro-metastases and killing circulating tumour cells. Chemotherapy can reduce tumour size, facilitating breast conservation with improved cosmetic outcome. It also provides opportunity to assess tumour response in-vivo. Aim(s): To determine the outcomes of axillary metastases to neo-adjuvant chemotherapy in primary breast cancer patients. Patients and Methods: Retrospective analysis of patients treated with neo-adjuvant chemotherapy between January 2011 and December 2019, was undertaken. Patients with stage 1 or 2 breast cancer with axillary node macro-metastases on pre-chemo sentinel node biopsy, Ultrasound-guided fine-needle aspiration or core biopsy irrespective of primary tumour characteristics were included. Patients with Her-2 positive cancers recommended neo-adjuvant chemotherapy with Herceptin were also included. Patients with recurrent cancer were excluded. Result(s): One hundred and fifty-five patients underwent neo-adjuvant chemotherapy between 2011 and 2019. 118 patients satisfied the criteria for inclusion. Age range 31 years to 75 years (Mean = 52, median=60, mode= 49) 59% (n=70) patients had no further metastatic lymph nodes, with 40% (n=23) showing treatment effect within nodes. 41% (n=48) had residual metastatic disease in the lymph nodes. Conclusion(s): Our results show 59% of patients had no residual axillary disease following neo-adjuvant chemotherapy. Preliminary analysis of follow up data show a positive correlation to disease free survival in this group of patients. Whilst de-escalation of axillary treatment is underway, completion axillary clearance is still indicated in patients with high-risk disease and provides useful prognostic information.

**Title: Parenteral thiamine (PT) for prevention and treatment of delirium in critical illness: A systematic review (SR)**

**Source:** American Journal of Respiratory and Critical Care Medicine; May 2021; vol. 203 (no. 9)

**Author(s):** Mckenzie C.A.; Mumin M.A.; Hadfield D.; Hopkins P.; Ostermann M.; Cape A.; Page V.; Spronk P.E.; Strain D.; Cunningham E.; McAuley D.F.; Blackwood B.; Slooter A.

**Abstract:** Conference Abstract : Rationale Delirium is common in critical illness and has poor outcomes, including cognitive decline. Impaired glucose metabolism is proposed as the final common pathway. Thiamine di-phosphate (TDP) is essential in glucose metabolism, TDP depletion could contribute to delirium and cognitive decline. Oral thiamine studies in dementia were inconclusive as small numbers and poor bioavailability, PT overcomes this. The aim of this review was to evaluate the effectiveness of PT in preventing or treating delirium in critical illness. Methods The protocol was registered (CRD42019118808) and published. [1] We included randomized controlled trials (RCT) in critical care that evaluated PT to treat or prevent delirium compared with control. Outcomes included delirium incidence and severity, and duration of mechanical ventilation. We searched electronic databases and international trial registries. Screening, data extraction and risk of bias (ROB) were were undertaken by CMcK and MM: certainty of evidence was graded by CMcK and BB. Data were reported as odds ratios (OR), 95% confidence intervals (CI) and mean difference (MD) and 95% CI. Results From 5190 citations; 23 studies selected for full text review and one included. The RCT (n=98) evaluated PT versus placebo in a post-operative population admitted to the intensive care unit (ICU).[2] The interventions were 200 mg of PT or matched placebo for 3 days. The trial reported significantly lower incidence of delirium in PT group at days 1 and 2, but not day 3 (low certainty of evidence); and no difference in days receiving mechanical ventilation (very low certainty of evidence) (Table 1). The study reported no other outcomes of interest for SR. Conclusion On the basis of an RCT in post-operative critical care, there is insufficient evidence to recommend PT for preventing or treating delirium in critical illness. Further work should focus on establishing efficacy in critical illness.

**Title: Peer Review of Paediatric Endocrine Services in the UK: A Template for Quality and Service Improvement.**

**Source:** Hormone Research in Paediatrics; May 2021; vol. 93 (no. 11); p. 616-621

**Author(s):** Schulga, John; Mitchell, Heather; Ahmed, S Faisal; Albanese, Assunta; Warner, Justin; Davies, Justin H; Shaw, Nicholas; Banerjee, Indraneel; Patel, Leena

**Abstract:** BACKGROUND Independent peer review of healthcare services can complement existing internal-, institutional-, and national-level regulatory mechanisms aimed at improving quality of healthcare. However, this has not been reported for paediatric endocrinology services in the UK. We aimed to test feasibility and acceptability through a first cycle of a national peer review of paediatric endocrine services. METHODS Tertiary centres in paediatric endocrinology across the UK were assessed against 54 quality standards, developed by the British Society for Paediatric Endocrinology and Diabetes (BSPED) in five domains of healthcare by a team comprising paediatric endocrinologists and specialist nurses. The evaluation was supported by a self-assessment. A post-peer-review questionnaire was used as feedback. RESULTS All 22 centres in the UK underwent independent peer review between 2011 and 2017. Each served a median population of 2.6 million (range 1-8 million) and offered 1,872 (range 779-6,738) outpatient consultations annually. A total of 43 (range 30-49) standards were met in combined evaluation of all centres. Variance of adherence for essential standards ranged from 52 to 97% at individual centres with 90% adherence demonstrated by 32% of centres. Post-review feedback showed 20/22 (95%) validating the utility of the peer review. CONCLUSIONS The BSPED peer review of all UK centres providing paediatric endocrine services is shown to be feasible and provides a quality benchmark for replication by national services.

**Title: Peri-operative fasting to general anaesthetic time at a busy district general hospital**

**Source:** Anaesthesia; Jan 2021; vol. 76 ; p. 79

**Author(s):** Pitrola K.; Harris A.; Shah P.; Shah R.

**Abstract:** Fasting is an important pre-operative decision for both the patient and the clinical team. Adequate fasting is needed to ensure safe intubation and prevention of aspiration pneumonia. However, excessive fasting has been shown to have detrimental effects on the patient including anxiety and nausea and vomiting. It has been shown that clear fluids are rapidly cleared from the stomach, so it is important to ensure patients and staff, are aware of the nil by mouth timings for both solids and clear fluids. The aim of this audit is to assess how well Watford General Hospital adheres to the recommended duration of peri-operative fasting of 6 h for solids and 2 h for clear fluids, as recommended by the European Society of Anaesthesiology and Intensive Care [1]. Methods Data were collected between April and July 2020 for patients admitted to the surgical department at Watford General Hospital who underwent surgery. The average fasting time was calculated from the documented 'nil by mouth' time and time of anaesthetic. Data were analysed using inpatient paper notes and Microsoft Excel. Results Ninety-nine patients were identified who had an emergency or elective procedure requiring an anaesthetic. The average fasting time for these patients was 9 h 36 min. Of the 14% of patients who had a separate documented 'clear fluid' nil by mouth time, the average fasting time was 9 h 34 min. Discussion Our results show that the peri-operative fasting times were significantly longer than the national guidance. It has been highlighted that prolonged fasting is detrimental for patients, especially the elderly and the young. We presented our findings at our local joint surgical and anaesthetic audit meeting. We also ensured patients were offered water, after establishing a list order following our morning team brief. We will also introduce a poster to highlight the recommended peri-operative fasting guidance with a view to re-audit in the near future.

**Title: Phenotypes and subphenotypes of delirium: a review of current categorisations and suggestions for progression**

**Source:** Critical Care; Dec 2021; vol. 25 (no. 1)

**Author(s):** Bowman E.M.L.; Cunningham E.L.; Page V.J.; McAuley D.F.

**Abstract:** Delirium is a clinical syndrome occurring in heterogeneous patient populations. It affects 45-87% of critical care patients and is often associated with adverse outcomes including acquired dementia, institutionalisation, and death. Despite an exponential increase in delirium research in recent years, the pathophysiological mechanisms resulting in the clinical presentation of delirium are still hypotheses. Efforts have been made to categorise the delirium spectrum into clinically meaningful subgroups (subphenotypes), using psychomotor subtypes such as hypoactive, hyperactive, and mixed, for example, and also inflammatory and non-inflammatory delirium. Delirium remains, however, a constellation of symptoms resulting from a variety of risk factors and precipitants with currently no successful targeted pharmacological treatment. Identifying specific clinical and biological subphenotypes will greatly improve understanding of the relationship between the clinical symptoms and the putative pathways and thus risk factors, precipitants, natural history, and biological mechanism. This will facilitate risk factor mitigation, identification of potential methods for interventional studies, and informed patient and family counselling. Here, we review evidence to date and propose a framework to identify subphenotypes. Endotype identification may be done by clustering symptoms with their biological mechanism, which will facilitate research of targeted treatments. In order to achieve identification of delirium subphenotypes, the following steps must be taken: (1) robust records of symptoms must be kept at a clinical level. (2) Global collaboration must facilitate large, heterogeneous research cohorts. (3) Patients must be clustered for identification, validation, and mapping of subphenotype stability

**Title: Phenotyping patients admitted with asthma exacerbations: can we identify at-risk patients?**

**Source:** American Journal of Respiratory and Critical Care Medicine; May 2021; vol. 203 (no. 9)

**Author(s):** Ananth S.; Vancheeswaran R.

**Abstract:** 1st March 2018 - 1st March 2020 were included. Patient data was retrospectively collected from hospital and primary care records. Patients were organised into two groups: "Single Admission" (1 admission in the previous 12 months) and "Multiple Admissions" (>=2 admissions in the previous 12 months). Good adherence to inhaled corticosteroids (ICS) was defined as medication possession ratio (MPR) >=0.8; poor adherence was defined as MPR <=0.5. Overuse of short-acting bronchodilators (SABA) was defined as use of >=3 SABA inhalers per year. Result(s): 200 patients admitted for asthma exacerbations were randomly selected (73% female; mean age 47.8 +/- 19.3 years; Table 1). There were 100 patients in each group. FEV1/FVC ratio was similar between patients with single versus multiple admissions (71.0 +/- 13.4 vs 70.9 +/- 16.8). Only 19 patients had a FeNO measurement. Peripheral eosinophilia was uncommon in either group (19% vs 21%). More patients in the multiple admissions groups were being treated with high-dose ICS (23.2% vs 46.5%; P < 0.001). Good adherence to ICS was similarly low between both groups (48.3% vs 40.0%). Patients with multiple admissions used more SABA inhalers per year (7.40 +/- 7.89 vs 10.9 +/- 9.39; P = 0.01) and oral corticosteroid courses per year (0.99 +/- 1.21 vs 2.06 +/- 2.34; P = 0.005). BMI was raised in both groups (30.9 +/- 6.06 vs 34.2 +/- 9.48). Gastro-oesophageal reflux disease (GORD) was more prevalent in patients with multiple admissions (30.6% vs 46.5%; P = 0.02). Conclusion(s): Patients admitted for asthma are predominately female, obese and non-eosinophilic. Patients who require multiple admissions per year have poorer asthma control at baseline, as shown by increased use of SABA and oral corticosteroids. Instead of simply increasing the dose of corticosteroids, multidisciplinary management targeting Th2-low inflammation should be considered for these patients, including weight loss regimens, reflux management and long-term macrolides

**Title: Placebo-Controlled Efficacy of Percutaneous Coronary Intervention for Focal and Diffuse Patterns of Stable Coronary Artery Disease.**

**Source:** Circulation. Cardiovascular interventions; Aug 2021 ; p. CIRCINTERVENTIONS120009891

**Author(s):** Rajkumar, Christopher A; Shun-Shin, Matthew; Seligman, Henry; Ahmad, Yousif; Warisawa, Takayuki; Cook, Christopher M; Howard, James P; Ganesananthan, Sashiananthan; Amarin, Laura; Khan, Caitlin; Ahmed, Ayesha; Nowbar, Alexandra; Foley, Michael; Assomull, Ravi; Keenan, Niall G; Sehmi, Joban; Keeble, Thomas R; Davies, John R; Tang, Kare H; Gerber, Robert; Cole, Graham; O'Kane, Peter; Sharp, Andrew S P; Khamis, Ramzi; Kanaganayagam, Gajen; Petraco, Ricardo; Ruparelia, Neil; Malik, Iqbal S; Nijjer, Sukhjinder; Sen, Sayan; Francis, Darrel P; Al-Lamee, Rasha

**Abstract:** BACKGROUND Physiological assessment with pressure wire pullback can characterize coronary artery disease (CAD) with a focal or diffuse pattern. However, the clinical relevance of this distinction is unknown. We use data from the ORBITA trial (Objective Randomised Blinded Investigation with Optimal Medical Therapy of Angioplasty in Stable Angina) to test if the pattern of CAD predicts the placebo-controlled efficacy of percutaneous coronary intervention (PCI) on stress echocardiography ischemia and symptom end points. METHODS One hundred sixty-four patients in ORBITA underwent blinded instantaneous wave-free ratio (iFR) pullback assessment before randomization. Focal disease was defined as a ≥0.03 iFR unit drop within 15 mm, rather than over a longer distance. Analyses were performed using regression modeling. RESULTS In the PCI arm (n=85), 48 were focal and 37 were diffuse. In the placebo arm (n=79), 35 were focal and 44 were diffuse. Focal stenoses were associated with significantly lower fractional flow reserve (FFR) and iFR values than diffusely diseased vessels (mean FFR and iFR, focal 0.60±0.15 and 0.65±0.24, diffuse 0.78±0.10 and 0.88±0.08, respectively, P<0.0001). With adjustment for this difference, PCI for focal stenoses resulted in significantly greater reduction in stress echo ischemia than PCI for diffuse disease (P<0.05). The effect of PCI on between-arm pre-randomization adjusted exercise time was 9.32 seconds (95% CI, -17.1 to 35.7 seconds; P=0.487). When stratified for pattern of disease, there was no detectable difference between focal and diffuse CAD (Pinteraction=0.700). PCI improved Seattle Angina Questionnaire angina frequency score and freedom from angina more than placebo (P=0.034; P=0.0035). However, there was no evidence of interaction between the physiological pattern of CAD and these effects (Pinteraction=0.436; Pinteraction=0.908). CONCLUSIONS PCI achieved significantly greater reduction of stress echocardiography ischemia in focal compared with diffuse CAD. However, for symptom end points, no such difference was observed. REGISTRATION URL: https://www.clinicaltrials.gov; Unique Identifier: NCT02062593.

**Title: Placenta accreta after postpartum tubal sterilisation and Novasure<sup></sup> endometrial ablation**

**Source:** Clinical Case Reports; Apr 2021; vol. 9 (no. 4); p. 2125-2128

**Author(s):** Igbokwe N.; Glackin K.; Kaur H.

**Abstract:** Although rare, pregnancy can still occur after both tubal sterilization and endometrial ablation. The resulting pregnancy is often complicated by ectopic pregnancy, miscarriage, and adherent placenta. Endometrial ablation is not a contraceptive.

**Title: Plasma-Rich in Growth Factor and its Clinical Application**

**Source:** Current Stem Cell Research and Therapy; Aug 2021; vol. 16 (no. 6); p. 730-744

**Author(s):** Sheykhhasan M.; Seifalian A.

**Abstract:** The potential use of growth factors in stem cell-based therapies for the repair and regeneration of tissues and organs offers a paradigm shift in regenerative medicine. Growth factors are critical signalling molecules that play an important role in tissue development and remodelling. Plasma Rich in Growth Factor (PRGF) is a biotechnological strategy for the harvesting of the active substances of platelets, including growth factors, from the patient's blood. Because of their tremendous essential growth factor and bioactive agents, as well as their paracrine mechanisms, PRGF has been used as an efficacious option and adjuvant biological therapy in the repair and replacement of damaged organs. This article provides an overview of PRGF extraction and its properties and critically reviewed its clinical benefit and clinical trials in the treatment and regeneration of human organs. Regenerative medicine is a multi-billion-dollar industry with huge interest to clinicians, academics, and industries, being considered as an emerging technology.

**Title: Postural orthostatic tachycardia syndrome (POTS) occurring during treatment for breast cancer.**

**Source:** BMJ case reports; Aug 2021; vol. 14 (no. 8)

**Author(s):** Babra, Deshveer; Youn, Suhyun; Devendra, Senan

**Abstract:** Postural orthostatic tachycardia syndrome (POTS) is a common condition of orthostatic intolerance in response to changes in position. We report a case of a middle-aged woman presenting with a new onset of POTS likely due to chemotherapy for treatment of breast cancer. She was started on a trial of a beta blocker, which was effective in controlling her symptoms and heart rate. The objective of this report was to encourage clinicians to consider POTS as a differential diagnosis, while managing patients with symptoms of orthostatic intolerance.

**Title: Predictors of clinical deterioration in patients with suspected COVID-19 managed in a 'virtual hospital' setting: a cohort study.**

**Source:** BMJ open; Mar 2021; vol. 11 (no. 3); p. e045356

**Author(s):** Francis, Nick A; Stuart, Beth; Knight, Matthew; Vancheeswaran, Rama; Oliver, Charles; Willcox, Merlin; Barlow, Andrew; Moore, Michael

**Abstract:** OBJECTIVE Identify predictors of clinical deterioration in a virtual hospital (VH) setting for COVID-19. DESIGN Real-world prospective observational study. SETTING VH remote assessment service in West Hertfordshire NHS Trust, UK. PARTICIPANTS Patients with suspected COVID-19 illness enrolled directly from the community (postaccident and emergency (A&E) or medical intake assessment) or post inpatient admission. MAIN OUTCOME MEASURE Death or (re-)admission to inpatient hospital care during VH follow-up and for 2 weeks post-VH discharge. RESULTS900 patients with a clinical diagnosis of COVID-19 (455 referred from A&E or medical intake and 445 postinpatient) were included in the analysis. 76 (8.4%) of these experienced clinical deterioration (15 deaths in admitted patients, 3 deaths in patients not admitted and 58 additional inpatient admissions). Predictors of clinical deterioration were increase in age (OR 1.04 (95% CI 1.02 to 1.06) per year of age), history of cancer (OR 2.87 (95% CI 1.41 to 5.82)), history of mental health problems (OR 1.76 (95% CI 1.02 to 3.04)), severely impaired renal function (OR for eGFR <30=9.09 (95% CI 2.01 to 41.09)) and having a positive SARS-CoV-2 PCR result (OR 2.0 (95% CI 1.11 to 3.60)).CONCLUSIONS These predictors may help direct intensity of monitoring for patients with suspected or confirmed COVID-19 who are being remotely monitored by primary or secondary care services. Further research is needed to confirm our findings and identify the reasons for increased risk of clinical deterioration associated with cancer and mental health problems.

**Title: Prevalence of chronic cough following COVID-19 infection: A cross sectional study**

**Source:** American Journal of Respiratory and Critical Care Medicine; May 2021; vol. 203 (no. 9)

**Author(s):** Iqbal Muhammad A.; Ananth S.; Shah M.; Sedighi T.; Chahal I.; Barlow A.; Vancheeswaran R.; Chua F.; Song W.

**Abstract:** Conference abstract :Rationale: SARS CoV-2 infection has been associated with long-term sequelae, including cough. The clinical course of chronic cough following SARS CoV-2 infection and therapies are not known. This study examined the prevalence and characteristics of chronic cough following SARS CoV-2 infection, aiming to assess its course, impact on patient well-being and predisposing factors. Method(s): 113 patients were analysed as part of PREDICT UK follow up (NHS HRA: 20/HRA/2344) at 3 to 6 months (mean 152 days) after admission for a PCR positive SARS CoV2 infection. The baseline clinical and demographic characteristics were examined to assess contributing mechanisms that may predispose to chronic cough (defined as >8 weeks following SARS CoV2 infection). Result(s): 41.5% patients did not have a cough. In contrast, 24% of patients had an acute cough (<3 weeks), 10.6% had subacute cough (3 to 8 weeks), and 21.6% had chronic cough (>8 weeks). 1.7% of patients had a pre-existing cough, unchanged following COVID-19. The demographic and clinical characteristics of the study population are summarised in Table 1.50% of the cough group had a pre-existing lung disease (mainly airways disease), compared to 16% of patients without cough (P < 0.001). No differences in hypoxia, inflammation or infection markers (CRP) were noted between the 2 groups at admission. Diffusion Capacity for Carbon Monoxide (DLCO) was significantly reduced in those with cough compared with the non-cough group (32.2% vs 57.7%; P = 0.02). No significant differences in cough was noted between patients treated with different ventilator support strategies i.e. ITU and CPAP vs simple oxygen supplementation. Conclusion(s): This study notes a prevalence of chronic cough in 21.6% of patients post COVID-19. This was not associated with airway obstruction, reducing the likelihood of post infective bronchoconstriction. There was a significant reduction in DLCO consistent with post-infective interstitial lung disease (ILD). This study has looked at first-wave patients where dexamethasone was minimally used. Future studies reviewing cough with steroids therapy in patients requiring oxygen supplementation may note reduced levels of chronic cough. The use of cough as marker of post- COVID ILD warrants investigation. The current findings are in keeping with previous reports in SARS and MERS, where DLCO impairments were noted with time resolution of up to two years.

**Title: Proximal femoral nail (PFN) versus dynamic hip screw (DHS) in unstable intertrochanteric fractures of femur-a comparative clinical study**

**Source:** British Journal of Surgery; May 2021; vol. 108

**Author(s):** Dubey V.; Spiegelberg B.; Shahane S.; Samant A.

**Abstract:** Conference abstract: Introduction: The goal of treatment of an intertrochanteric femoral fracture is restoration of patient's mobility as early as possible. The dynamic hip screw (DHS) has been used for several decades to treat these fractures. Proximal femoral nails (PFN) are reported to have an advantage in such fractures. This study aims at comparing the results of unstable intertrochanteric fractures femur treated with PFN and DHS. Method(s): This was a prospective, randomized study which includes sixty patients. All patients were available for follow up with 30 patients in each group. The data about intraoperative blood loss, time to union, leg length shortening was collected. The functional outcome at the end of one year was evaluated using Harris Hip Score. Result(s): Blood loss, duration of surgery, time to union and leg length shortening was significantly less in the patients treated with PFN (p<0.05). The mean harris hip score for patients managed with PFN was significantly more than in DHS group, 12 months after surgery (p=0.05). Conclusion(s): PFN requires a smaller incision, lesser operative time, less blood loss and has improved functional results. In our opinion PFN may be a better fixation device for most of the unstable intertrochanteric femur fractures.

**Title: Psychological distress and trauma during the COVID-19 pandemic: survey of doctors practising anaesthesia, intensive care medicine, and emergency medicine in the United Kingdom and Republic of Ireland**

**Source:** British Journal of Anaesthesia; Aug 2021; vol. 127 (no. 2)

**Author(s):** Roberts T.; Hirst R.; Horner D.; Carlton E.; Sammut-Powell C.; Reynard C.; Daniels J.; Lyttle M.D.; Samuel K.; Graham B.; Barrett M.J.; Cronin J.; Foley J.; Umana E.; Vinagre J.; Kane L.; Mackenzie L.; Sharma Hajela S.; Phizacklea J.; Malik K.; Mathai N.; Sattout A.; Messahel S.; Fadden E.; McQuillan R.; O'Hare B.; Lewis S.; Bewick D.; Taylor R.; Hancock I.; Manthalapo Ramesh Babu D.; Hartshorn S.; Williams M.; Charlton A.; Somerset L.; Munday C.; Turner A.; Sainsbury R.; Williams E.; Patil S.; Stewart R.; Winstanley M.; Tambe N.; Magee C.; Raffo D.; Mawhinney D.; Taylor B.; Hussan T.; Pells G.; Barham F.; Wood F.; Szekeres C.; Greenhalgh R.; Marimuthu S.; Macfarlane R.; Alex M.; Shrestha B.; Stanley L.; Gumley J.; Thomas K.; Anderson M.; Weegenaar C.; Lockwood J.; Mohamed T.; Ramraj S.; Mackenzie M.; Robertson A.; Niven W.; Patel M.; Subramaniam S.; Holmes C.; Bongale S.; Bait U.; Nagendran S.; Rao S.; Mendes F.; Singh P.; Baron T.; Ponmani C.; Depante M.; Sneep R.; Brookes A.; Williams S.; Rainey A.; Brown J.; Marriage N.; Manou S.; Hart S.; Elsheikh M.; Cocker L.; Elwan M.H.; Vincent K.L.; Nunn C.; Sarja N.; Viegas M.; Wooffinden E.; Cherian N.; Da-Costa A.; Duckitt S.; Bailey J.; How L.; Hine T.; Ihsan F.; Abdullah H.; Bader K.; Pradhan S.; Manoharan M.; Kehler L.; Muswell R.; Bonsano M.; Evans J.; Christmas E.; Knight K.; O'Rourke L.; Adeboye K.; Iftikhar K.; Evans R.; Darke R.; Freeman R.; Grocholski E.; Kaur K.; Cooper H.; Mohammad M.; Harwood L.; Lines K.; Thomas C.; Ranasinghe D.; Hall S.; Wright J.; Ali N.; Hunt J.; Ahmad H.; Ward C.; Khan M.; Holzman K.; Ritchie J.; Hormis A.; Hannah R.; Corfield A.; Maney J.; Metcalfe D.; Timmis S.; Williams C.; Newport R.; Bawden D.; Tabner A.; Malik H.; Roe C.; McConnell D.; Taylor F.; Ellis R.; Morgan S.; Barnicott L.; Foster S.; Browning J.; McCrae L.; Godden E.; Saunders A.; Lawrence-Ball A.; House R.; Waite A.; Muller J.; Skene I.; Lim M.; Millar H.; Rai A.; Challen K.; Currie S.; Elkanzi M.; Perry T.; Kan W.; Brown L.; Cheema M.; Clarey A.; Gulati A.; Webster K.; Howson A.; Doonan R.; Trimble A.; O'Connell C.; Wright R.; Colley E.; Rimmer C.; Pintus S.; Jarman H.; Worsnop V.; Collins S.; Colmar M.; Masood N.; McLatchie R.; Peasley A.; Rahman S.; Mullen N.; Armstrong L.; Hay A.; Mills R.; Lowe J.; Raybould H.; Ali A.; Cuthbert P.; Taylor S.; Talwar V.; Al-Janabi Z.; Leech C.; Turner J.; McKechnie L.; Mallon B.; McLaren J.; Moulds Y.; Dunlop L.; Burton F.M.; Keers S.; Robertson L.; Craver D.; Moultrie N.; Williams O.; Purvis S.; Clark M.; Davies C.; Foreman S.; Ngua C.; Morgan J.; Hoskins N.; George D.; Fryer J.; Frost L.; Ellis P.; Mackay A.; Gray K.; Jacobs M.; Musliam Veettil Asif I.; Amiri P.; Shrivastava S.; Raza F.; Wilson S.; Riyat M.; Knott H.; Ramazany M.; Langston S.; Abela N.; Robinson L.; Maasdorp D.; Murphy H.; Edmundson H.; Das R.; Orjioke C.; Worley D.; Collier W.; Everson J.; Maleki N.; Stafford A.; Gokani S.; Charalambos M.; Olajide A.; Bi C.; Ng J.; Naeem S.; Hill A.; Boulind C.; O'Sullivan R.; Gilmartin S.; Ui Bhroin S.; Fitzpatrick P.; Patton A.; Jee Poh Hock M.; Graham S.; Kukaswadia S.; Prendergast C.; Ahmed A.; Dalla Vecchia C.; Lynch J.; Grummell M.; Grossi I.; MacManus B.; Turton P.; Battle C.; Boyle A.; Johnston B.; Anandarajah J.

**Abstract:** Letter

**Title: Rapid Onsite Evaluation uses a very small proportion of total material aspirated at Endobronchial or Endoscopic Ultrasound in the investigation of suspected thoracic malignancy**

**Source:** Cytopathology : official journal of the British Society for Clinical Cytology; Jul 2021; vol. 32 (no. 4); p. 416-427

**Author(s):** Tang, Winnie; Plank, Claire; Kiepura, Claire; Bunting, Sharon; Waugh, Jodie; Coates, Matthew; Spencer, Neil; Barlow, Andrew; Mogal, Rahul; Maddox, Anthony

**Abstract:** OBJECTIVE To measure the proportion of aspirated material used to make direct slides for ROSE at EBUS and EUS in suspected thoracic malignancy to correlate pass weights with ROSE category and needle size. METHOD All EBUS and EUS cases for possible thoracic malignancy October 2018 - May 2019 were included. All material from each pass was expelled into a Petri dish. One drop of material was placed on each of two slides; one used for ROSE, the other fixed and remaining material processed to cell block. Dish and slides were weighed before and after this procedure on a sensitive balance and weight of aspirate and slide material calculated. When ROSE identified malignancy, slide production ceased but target sampling for ancillary studies continued. RESULTS ROSE accuracy was 96.8%. Mean percentage by target of aspirated material used to make direct slides for ROSE was 1.9% in malignant cases and 3.6% in non-malignant cases (p=0.027 for difference). Mean percentage bypass was 5.9%. Mean weight of a single aspirate was 128.8mg. Mean weight of aspirates insufficient on ROSE (175.7mg) was significantly higher than the mean weight of benign or malignant aspirates (117.1 and 114.0mg respectively). Mean weight of aspirates using 22G needles (132.6mg) was significantly higher than that for 25G needles (87.1mg).CONCLUSION Material made into direct slides at EBUS and EUS and used in part for ROSE uses a tiny proportion of aspirated material with over 98% processed to cell block and available for ancillary testing in malignant cases.

**Title: Regional variation in cardiovascular magnetic resonance service delivery across the UK**

**Source:** Heart (British Cardiac Society); Mar 2021

**Author(s):** Keenan, Niall G; Captur, Gabriella; McCann, Gerry P; Berry, Colin; Myerson, Saul G; Fairbairn, Timothy; Hudsmith, Lucy; O'Regan, Declan P; Westwood, Mark; Greenwood, John P

**Abstract:** OBJECTIVES To examine service provision in cardiovascular magnetic resonance (CMR) in the UK. Equitable access to diagnostic imaging is important in healthcare. CMR is widely available in the UK, but there may be regional variations. METHODS An electronic survey was sent by the British Society of CMR to the service leads of all CMR units in the UK in 2019 requesting data from 2017 and 2018. Responses were analysed by region and interpreted alongside population statistics. RESULTS The survey response rate was 100% (82 units). 100 386 clinical scans were performed in 2017 and 114 967 in 2018 (15% 1-year increase; 5-fold 10-year increase compared with 2008 data). In 2018, there were 1731 CMR scans/million population overall, with significant regional variation, for example, 4256 scans/million in London vs 396 scans/million in Wales. Median number of clinical scans per unit was 780, IQR 373-1951, range 98-10 000, with wide variation in mean waiting times (median 41 days, IQR 30-49, range 5-180); median 25 days in London vs 180 days in Northern Ireland). Twenty-five units (30%) reported mean elective waiting times in excess of 6 weeks, and 8 (10%) ≥3 months. There were 351 consultants reporting CMR, of whom 230 (66%) were cardiologists and 121 (34%) radiologists; 81% of units offered a CMR service for patients with pacemakers and defibrillators. CONCLUSIONS This survey provides a unique, contemporary insight into national CMR delivery with 100% centre engagement. The 10-year growth in CMR usage at fivefold has been remarkable but heterogeneous across the UK, with some regions still reporting low usage or long waiting times which may be of clinical concern.

**Title: Regional Variation in Unmet Need for Metabolic Surgery in England: a Retrospective, Multicohort Analysis**

**Source:** Obesity Surgery; Jan 2021; vol. 31 (no. 1); p. 439-444

**Author(s):** Currie A.C.; Newton R.C.; Hawkins W.; Slater G.; Pring C.M.; Askari A.; Albon L.

**Abstract:** Metabolic surgery provision is severely limited despite extensive supportive trial evidence. This study estimated the eligible population and the unmet need for metabolic surgery within English regions. Health Survey for England, National Diabetes Audit and population estimates were used to estimate the metabolic surgery eligible population by English region. Hospital Episode Statistics data was examined for metabolic surgery procedure volume by region (2013-2019). Regression analysis examined factors associated with metabolic surgery eligibility. 7.3% of the English population is potentially eligible for metabolic surgery; equivalent to 3.21 million people. Only 0.20% of the eligible English population receive metabolic surgery per year (regional variation 0.08-0.41%). The metabolic surgery eligible population was more likely to be female, older, have fewer educational qualifications and live in more deprived areas

**Title: Remote management of covid-19 using home pulse oximetry and virtual ward support**

**Source:** BMJ (Clinical research ed.); Mar 2021; vol. 372 ; p. n677

**Author(s):** Greenhalgh, Trisha; Knight, Matthew; Inda-Kim, Matt; Fulop, Naomi J; Leach, Jonathan; Vindrola-Padros, Cecilia

**Abstract:**

**Title: Authors' reply to Moyle and Ashworth.**

**Source:** BMJ (Clinical research ed.); May 2021; vol. 373 ; p. n1096

**Author(s):** Knight, Matthew; Greenhalgh, Trisha; Fulop, Naomi J; Inada-Kim, Matt

**Abstract:** Letter

**Title: Retraction: Failure of an Ancient Breast Implant Can Lead to Significant Morbidity**.

**Source:** Cureus; Apr 2021; vol. 13 (no. 4); p. r30

**Author(s):** Mohammed, Ali K; Monib, Sherif

**Abstract:** [This retracts the article DOI: 10.7759/cureus.13700.].

**Title: Rheumatoid arthritis related interstitial lung disease - improving outcomes over 25 years: a large multicentre UK study**.

**Source:** Rheumatology (Oxford, England); Apr 2021; vol. 60 (no. 4); p. 1882-1890

**Author(s):** Kelly, Clive A; Nisar, Mohamed; Arthanari, Suba; Carty, Sarah; Woodhead, Felix A; Price-Forbes, Alex; Middleton, David; Dempsey, Owen; Miller, Dave; Basu, Neil; Dawson, Julie; Sathi, Nav; Ahmad, Yasmin; Palmer, Evelyn; Iqbal, Kundan; Janakiraman, Geeta; Koduri, Gouri; Young, Adam

**Abstract:** OBJECTIVE This study explores whether the prognosis of interstitial lung disease in rheumatoid arthritis (RA-ILD) has improved over time and assesses the potential influence of drug therapy in a large multicentre UK network. METHODS We analysed data from 18 UK centres on patients meeting criteria for both RA and ILD diagnosed over a 25-year period. Data included age, disease duration, outcome, and cause of death. We compared all cause and respiratory mortality between RA controls and RA-ILD patients, assessing the influence of specific drugs on mortality in four quartiles based on year of diagnosis. RESULTS A total of 290 RA-ILD patients were identified. All cause (respiratory) mortality was increased at 30% (18%) compared with controls 21% (7%) (P =0.02). Overall, prognosis improved over quartiles with median age at death rising from 63 years to 78 years (P =0.01). No effect on mortality was detected as a result of DMARD use in RA-ILD. Relative risk (RR) of death from any cause was increased among patients who had received anti-TNF therapy [2.09 (1.1-4.0)] P =0.03, while RR was lower in those treated with rituximab [0.52(0.1-2.1)] or mycophenolate [0.65 (0.2-2.0)]. Patients receiving rituximab as their first biologic had longer three (92%), five (82%) and seven year (80%) survival than those whose first biologic was an anti-TNF agent (82%, 76% and 64%, respectively) (P =0.037). DISCUSSION This large retrospective multicentre study demonstrates survival of patients with RA-ILD has improved. This may relate to the increasing use of specific immunosuppressive and biologic agents.

**Title: Role of T1 mapping in identification of convalescent Takotsubo cardiomyopathy**

**Source:** European Heart Journal Cardiovascular Imaging; Jan 2021; vol. 22

**Author(s):** Mathai S.; Sehmi J.; Auger D.; L'Heureux C.; Keenan N.G.

**Abstract:** Conference Abstract: Background: Takotsubo cardiomyopathy remains an elusive entity to diagnose, especially with increasing time following the initial clinical event. Patients are often referred for cardiac MR, but when performed on a convalescent patient, the conventional CMR exam can be normal. However, CMR elevated native T1 values on mapping may persist, aiding diagnosis. Purpose(s): We sought to review a series of confirmed Takotsubo cases to evaluate which CMR features were most helpful in making a diagnosis. Method(s): We reviewed 2 years of CMR exams in our institution and identified 14 patients with a confirmed diagnosis of Takotsubo cardiomy-opathy after a read of all clinical data by two consultant cardiologists. All of the 14 patients had a troponin positive cardiac event, unobstructed coronary arteries on invasive angiography and echocardiographic evidence of apical hypo/akinesia (or basal, in the non-apical variants) at the time of presentation. All CMR exams were performed at 1.5T. All included functional assessment, T1 mapping and late gadolinium enhancement (LGE). Some exams also included T2 mapping and STIR. Result(s): All patients were female. The time interval between presentation and CMR exam varied from 24 hours to 2 years. 2 of the scans showed evidence of non-apical Takotsubo cardiomyopathy. At the time of CMR, only 7 patients(50%) had a residual regional wall motion abnormality, but 13 patients(93%) had a region of elevated native T1 (>1 myocardial segment). High signal was identified on STIR in 6(43%) and elevated native T2 in 10(71%). Of interest, we identified small areas of patchy LGE in 2 patients(14%). Conclusion(s): Increased native T1 signal may be the only residual cardiac MRI marker of previous Takotsubo cardiomyopathy, persisting for months after the initial cardiac event, even after resolution of regional wall motion abnormalities and recovery of the left ventricular function. T1 mapping should be performed in CMR exams for Takotsubo cardiomyopathy to improve diagnostic yield.

**Title: Routine cavity shaves following breast conserving surgery; friend or foe?**

**Source:** Surgical Oncology; Jun 2021; vol. 37

**Author(s):** Monib S.; Anis K.; Habashy H.

**Abstract:** Background: Radial margin status is considered one of the most important prognostic predictor for patients undergoing breast-conserving surgery (BCT), not only related to regional recurrence but also to 5y survival, especially in patients with invasive disease. Aim(s): While our primary aim was to evaluate whether doing routine radial cavity shaves following at the time of primary conservative breast surgery will decrease the need for a second operation or not, our secondary aim was to assess time added to the operation to resect and mark the radial shaves, as well as patients' satisfaction with the results. Material(s) and Method(s): We have conducted a case series prospective analysis, including158 patients who underwent breast-conserving surgery looking into the histological status of resection margins and radial shaves, added time taken to take and mark the shaves as well as patients' satisfaction. Result(s): 158 female breast cancer patients have been included in our analysis, the mean age was 56 years; total number of lesions was 160. While 89.3% of lesions were palpable, 10.6% were not requiring wire-guided localisation. Mean tumour size was 24 mm SD 7, final histology revealed that 86.8% lesion was invasive ductal carcinoma, 5.6% invasive lobular carcinoma, 1.2% medullary carcinoma. 12.4% had invasive disease as well as DCIS, and 1.8% had DCIS only with no invasive disease. Mean preoperative breast volume was 723 ml, Mean wide local excision specimen weight was 73 g, and mean shave weight was 1.6 g. Total number of radial margins was 640, 81.8% was clear, 14.6% was close, and 3.4% was involved. Total number of shaves was 640 out of which 98.7% was clear 0.7% was close and 0.4% was involved. Out of the 160 lesions, 3.7% required a second procedure to clear margins, out of which 2.5% had re-excision for close or involved single shaves each while 1.2% had mastectomy due to close or involved two shaves each. Average time utilised in resection of radial shaves and marking was 7 min 0.6% of patients developed a haematoma, 1.8% had a Seroma, and 1.2% had wound infection. Mean hospital stay was 1day SD 1. Conclusion(s): Routine radial cavity shaves not only ensure microscopic clearance, reduce the need for re-excision with no significant added operating time but also has no impact on patients' satisfaction.

**Title: Sedation in mechanically ventilated patients with COVID-19**

**Source:** The Lancet Respiratory Medicine; Mar 2021; vol. 9 (no. 3); p. 218-219

**Author(s):** Page, V

**Abstract:**

**Title: Sedation in the Intensive Care Unit**

**Source:** Current Anesthesiology Reports; Jun 2021; vol. 11 (no. 2); p. 92-100

**Author(s):** Page V.; McKenzie C.

**Abstract:** Purpose of Review: This narrative review illustrates literature over the last 5 years relating to sedation delivery to mechanically ventilated adult patients in intensive care units. Recent Findings: There has been an increase in dexmedetomidine-related publications but although systematic reviews suggest dexmedetomidine reduces delirium, agitation, and length of stay, clinical trials have not supported these findings. It is likely to be useful for the managing patients with persisting agitation. Guidelines continue to recommend lightly sedating patients but considerable variation remains in clinical practice and in research trials. Protocols with no sedative infusions and morphine boluses as needed are feasible and safe, while educational interventions can decrease sedation-related adverse events. Summary: Research trials have mainly focused on individual drugs rather than practice. Given evidence is slow to translate into practice; work is needed to understand and respond to the concerns of clinicians regarding deep sedation and agitation.

**Title: Should a sentinel lymph node biopsy be offered for stage ia melanoma?**

**Source:** Journal of Pathology; Sep 2021; vol. 255

**Author(s):** Jaulim P.A.; Deroide F.

**Abstract:** Conference abstract :Patients with pT1b (Stage IA) melanoma traditionally undergo a sentinel lymph node biopsy (SLNBx) in our current practice. In November 2019, NICE, provided an update recommending not to offer imaging or sentinel lymph node biopsy to patients who have stage IA melanoma with a Breslow thickness of 1 mm or less. As a result, we wanted to assess if our practice is meeting NICE's recommendation. There remains controversy regarding the test value for sentinel lymph node biopsies in pT1 cases. Data collection began over a 2-month period, between January to March 2020. Data was collected on WinPath version 5 using Topography SNOMED code; TSLNS to narrow the search. Data was assessed for the period between Jan 2017 and December 2019. Our search identified 390 cases of melanoma with sentinel lymph node biopsies during a 3-year period. 59 cases had pT1a and b disease. There were 55 cases of pT1b identified but 1 was excluded due to no lymph node tissue present on biopsy. Of the 54 cases included, 2 pT1b cases had positive sentinel lymph nodes, micrometastases (3.7%). These patients were subsequently followed up and there was no evidence of disease progression. Discussion at MDT revolved around a change of practice with cessation of SLNBx in these patients. Moreover, a survey of most UK regional centres revealed that most have yet to implement the NICE updated guidelines. Hence, at a local level an MDT decision was made to apply a ?customised? criterion, offering SNLBx to pT1b patients with a mitotic rate >2/mm2 and/or ulceration within the right clinical context and considering the patient's eligibility for immunotherapy. Discussions will continue to be held on a case-by-case basis and re-auditing is planned for January 2022.

**Title: Sleep apps: Current limitations and challenges**

**Source:** Sleep Science; 2021; vol. 14 (no. 1); p. 83-86

**Author(s):** Ananth S.

**Abstract:** Sleep app ownership is increasing exponentially, due to their accessibility and ease-of-use. However, there are several concerns regarding the use of sleep apps. Few sleep apps demonstrate empirical evidence to support their claims, and if they do, this evidence can be based on significant methodological limitations. In addition, there are data privacy concerns with regards to sleep apps, which share sensitive user data with business and marketing partners, unbeknownst to their users. Moreover, sleep apps may increase engagement with healthcare professionals, which may place additional strain on under-pressure sleep services. This would be compounded by the fact that some sleep apps produce many false positives, and clinicians would need more time to analyse the data provided by these apps. In the future, sleep apps must undergo rigorous validation studies and grant more autonomy to their users over how their data is shared.

**Title: Sugar's on the rise: An audit of adult peri-operative diabetic management in a district general hospital**

**Source:** Anaesthesia; Jul 2021; vol. 76 ; p. 46

**Author(s):** Jethwa A.; Syed S.; Kaur R.

**Abstract:** Conference abstract : Diabetes affects 15% of surgical patients and is set to double in 10 years alongside obesity [1, 2]. Diabetic patients have a 50% higher peri-operative mortality when compared to hospital inpatients, and have up to 45% longer hospital stays, increased complication rates and more frequent admissions [1]. Research has shown that poor intra-operative capillary blood glucose (CBG) control has been linked to poor outcomes in well-controlled diabetic patients [1], demonstrating the impact that anaesthetists have on patient care. We decided to conduct this audit in response to critical incidents that had occurred during our training. Methods Established guidelines were used to design audit parameters [1, 2]. A range of CBG was set to 6-10 mmol.l-1 and a threshold of 12 mmol.l-1 CBG was chosen for ketone testing [1]. A single blind, pro forma based study was conducted over 4 weeks on all operating lists (excluding obstetrics) for diabetic patients aged >= 16 years. Results Ten cases were analysed using excel software. Compliance with data collection was 96%. No data were excluded. Table 1 is a summary of findings. Sixty per cent of cases were elective. Variable rate intravenous insulin infusion (VRIII) was not used, however it was indicated in four cases. Table 1 A summary of audit findings. Discussion Despite losing data due to the movement of recovery and the COVID-19 pandemic, this snapshot demonstrates the poor understanding of peri-operative diabetic management. Starvation times were exceeded even in the elective setting, which is likely due to delays commencing the list. Pre-operative instructions to patients may need to be amended to avoid VRIII, linked with multiple drug errors [2]. VRIII can be intimidating and could indicate the reason for our findings. Dexamethasone 6.6 mg, a seemingly small dose, is equivalent to 176 mg intravenous hydrocortisone. The authors agree that this dose would be inappropriately high for a diabetic patient. Further work may be required on the perception and use of anti-emetics. We are aware that the pandemic has affected our data collection, and plan to re-audit when this is not a factor. Workshop sessions are planned in the future to improve understanding of this complex topic.

**Title: Systematic review of Meckel's diverticulum in pregnancy.**

**Source:** ANZ journal of surgery; Sep 2021; vol. 91 (no. 9)

**Author(s):** Wong, Joshua You Jing; Conroy, Michael; Farkas, Nicholas

**Abstract:** INTRODUCTION Meckel’s diverticulum (MD) is the most common congenital malformation in the gastrointestinal tract. Limited up-to-date evidence is available regarding MD in pregnancy. We aim to review the available pertinent literature to help support clinical decision making and patient management in the future. MATERIALS AND METHODS The search term 'Meckel's diverticulum' was combined with 'pregnant' or 'pregnancy'. Database searches of EMBASE, Medline and PubMed were conducted. All papers published in English from 01/01/1990 to 01/01/2021 were included. Simple statistical analysis (t-test) was performed. RESULTS Twenty-seven cases were included. Average age = 26.9 years. Average gestation = 25.1 weeks. Occurrence: first trimester = 3.7%; second trimester = 48.1% and third trimester = 48.1%. Presenting symptoms: abdominal pain 88.9%; nausea/vomiting 59.3%; fever 18.5%; abdominal distension 18.5%; haematochezia 11.1%; constipation 11.1%; haematemesis 3.7%, diarrhoea 3.7% and asymptomatic 3.7%. Mean duration of preceding symptoms = 3.4 days. Diagnostic imaging modalities utilised: ultrasound = 40.7%; CT = 25.9%; MRI = 14.8%; abdominal X-ray = 11.1% and endoscopy = 7.4%. All cases required definite surgical management: laparotomy = 65.4%; laparoscopy = 15.4%; C-section = 19.2% and unreported = 3.8%. Main intra-operative findings: perforated MD = 40.7%; intussusception with MD as a lead point = 11.1%; bleeding MD = 11.1%, inflamed MD = 11.1%; small bowel obstruction = 11.1%; gangrenous MD = 3.7%; volvulus = 3.7% and unspecified = 7.4%. Mean length from ileocolic junction = 51.7 cm. Average length of stay was 7.1 days. T-test (p-value = 0.12) when comparing management strategy. Three maternal complications and two foetal mortalities. CONCLUSION MD and associated pathology are difficult to diagnose in the pregnant cohort. Current imaging demonstrates low diagnostic accuracy and a deviation away from recognised nuclear medicine investigations. Surgery appears the definitive management with both open and laparoscopic approaches utilised. Significant maternal morbidity and foetal mortality are associated with this condition.

**Title: Technical aspects of the use of cytopathological specimens for diagnosis and predictive testing in malignant epithelial neoplasms of the lung**

**Source:** Cytopathology: official journal of the British Society for Clinical Cytology; Oct 2021

**Author(s):** Maddox, Anthony; Smart, Louise M

**Abstract:** Lung cancer is a leading cause of cancer mortality worldwide but recent years have seen a rapidly rising proportion of cases of advanced non-small cell carcinoma amenable to increasingly targeted therapy, initially based on the differential response to systemic treatment of tumours of squamous or glandular differentiation. In two thirds of cases, where patients present with advanced disease, both primary pathological diagnosis and biomarker testing is based on small biopsies and cytopathological specimens. The framework of this article is an overview of the technical aspect of each stage of the specimen pathway with emphasis on maximising potential for success when using small cytology samples. It brings together the current literature addressing pre-analytical and analytical aspects of specimen acquisition, performing rapid onsite evaluation, and undertaking diagnostic and predictive testing using immunocytochemistry and molecular platforms. The advantages and drawbacks of performing analysis on cell block and non-cell block specimen preparations is discussed.

**Title: The burden of skin disease and eye disease due to onchocerciasis in countries formerly under the african programme for onchocerciasis control mandate for 1990, 2020, and 2030**

**Source:** PLoS Neglected Tropical Diseases; Jul 2021; vol. 15 (no. 7)

**Author(s):** Vinkeles Melchers N.V.S.; Stolk W.A.; van Loon W.; Bakker R.; de Vlas S.J.; Coffeng L.E.; Pedrique B.; Murdoch M.E.

**Abstract:** Background Onchocerciasis ("river blindness") can cause severe morbidity, including vision loss and various skin manifestations, and is targeted for elimination using ivermectin mass drug administration (MDA). We calculated the number of people with Onchocerca volvulus infection and onchocercal skin and eye disease as well as disability-adjusted life years (DALYs) lost from 1990 through to 2030 in areas formerly covered by the African Programme for Onchocerciasis Control. Methods Per MDA implementation unit, we collated data on the pre-control distribution of microfilariae (mf) prevalence and the history of control. Next, we predicted trends in infection and morbidity over time using the ONCHOSIM simulation model. DALY estimates were calculated using disability weights from the Global Burden of Disease Study. Results In 1990, prior to MDA implementation, the total population at risk was 79.8 million with 26.0 million (32.5%) mf-positive individuals, of whom 17.5 million (21.9%) had some form of onchocercal skin or eye disease (2.5 million DALYs lost). By 2030, the total population was predicted to increase to 236.1 million, while the number of mf-positive cases (about 6.8 million, 2.9%), people with skin or eye morbidity (4.2 million, 1.8%), and DALYs lost (0.7 million) were predicted to decline. Conclusions MDA has had a remarkable impact on the onchocerciasis burden in countries previously under the APOC mandate. In the few countries where we predict continued transmission between now and 2030, intensified MDA could be combined with local vector control efforts, or the introduction of new drugs for mopping up residual cases of infection and morbidity

**Title: The effect of COVID-19 on a Major Trauma Network. An analysis of mechanism of injury pattern, referral load and operative case-mix**

**Source:** Injury; Mar 2021; vol. 52 (no. 3); p. 395-401

**Author(s):** Sephton B.M.; Mahapatra P.; Sarraf K.; Nathwani D.; Bhattacharya R.; Shenouda M.; Somashekar N.; Ferran N.; Deierl K.; Sinnett T.

**Abstract:** Purpose: The aim of this study was to evaluate changes in both mechanism and diagnoses of injuries presenting to the orthopaedic department during this lockdown period, as well as to observe any changes in operative case-mix during this time. Method(s): A study period of twelve weeks following the introduction of the nationwide "lockdown period", March 23rd - June 14th, 2020 was identified and compared to the same time period in 2019 as a "baseline period". A retrospective analysis of all emergency orthopaedic referrals and surgical procedures performed during these time frames was undertaken. All data was collected and screened using the 'eTrauma' management platform (Open Medical, UK). The study included data from a five NHS Foundation Trusts within North West London. A total of 6695 referrals were included for analysis. Result(s): The total number of referrals received during the lockdown period fell by 35.3% (n=2631) compared to the same period in 2019 (n=4064). Falls remained proportionally the most common mechanism of injury across all age groups in both time periods. The proportion sports related injuries compared to the overall number of injuries fell significantly during the lockdown period (p<0.001), however, the proportion of pushbike related accidents increased significantly (p<0.001). The total number of operations performed during the lockdown period fell by 38.8% (n=1046) during lockdown (n=1732). The proportion of patients undergoing operative intervention for Neck of Femur (NOF) and ankle fractures remained similar during both study periods. A more non-operative approach was seen in the management of wrist fractures, with 41.4% of injuries undergoing an operation during the lockdown period compared to 58.6% at baseline (p<0.001). Conclusion(s): In conclusion, the nationwide lockdown has led to a decrease in emergency orthopaedic referrals and procedure numbers. There has been a change in mechanism of injuries, with fewer sporting injuries, conversely, there has been an increase in the number of pushbike or scooter related injuries during the lockdown period. NOF fractures remained at similar levels to the previous year. There was a change in strategy for managing distal radius fractures with more fractures being treated non-operatively.Copyright © 2021

**Title: The impact of digitisation of a virtual fracture clinic on referral quality, outcomes and assessment times**

**Source:** European journal of trauma and emergency surgery: official publication of the European Trauma Society; Apr 2021

**Author(s**): Sephton, Benjamin M; Morley, Hannah; Mahapatra, Piyush; Shenouda, Michael; Al-Yaseen, Mustafa; Bernstein, Darryl E; Cross, George; Dalili, Daniel E; Gurung, Amrit; Kamat, Atul; Kuc, Andrew J; Mohammed, Aisha R; Paraouty, Mehreen; Ponniah, Amsanaa; Sluckis, Ben; Deierl, Krisztian

**Abstract:** BACKGROUND Virtual fracture clinics (VFCs) have become widely adopted, aiming to improve efficiency, standardise patient care and reduce clinic appointments for injuries that can be managed conservatively. A variety of means exist to manage VFC referrals and assessment, including paper-based and digital methods. This study assesses VFC referral quality and outcomes before and after implementation of a digital VFC referral and management system. METHODSA retrospective analysis was conducted of all VFC referrals and assessments from July 2017-March 2020 in a large UK district general hospital. All referrals and assessments were analysed for quality and completeness of referral information, grade of assessor, outcome of assessment, referral-to-assessment time, and assessment-to-surgery time (for those requiring operative management). RESULTS 3038 paper and 9,228 digital referrals were analysed by 2 separate reviewers. Quality and completeness of referral information showed significant improvement in 11 predetermined key data points with the digital referral system (p < 0.001). Date and mechanism of injury were the most commonly missing data criteria (67.5% and 68.2%, respectively) with paper referrals. Significant improvements were noted in the proportion of consultant delivered VFC assessments (84.2% vs 71.0%; p < 0.001), VFC discharge rate (20.8% vs 13.1%; p < 0.001) and patients recalled for urgent review (6.2% vs 0.8%; p < 0.001) with digital referrals. Mean referral-to-assessment (31.2 vs 49.9 h; p < 0.001) and assessment-to-surgery (9.2 vs 13.0 days; p = 0.01) times also reduced significantly with referral digitisation. CONCLUSION Improvements in virtual referral quality and completeness directly lead to facilitation of more thorough, detailed and appropriate virtual assessments, improving timely decision-making, reducing unnecessary appointments, and permitting better prioritisation of workload and earlier surgery for patients requiring operative treatment. Purpose-built digital solutions are an excellent means of achieving these aims.

**Title: The impact of intensive care unit stay following oesophagectomy for oesophageal cancer on long-term survival**

**Source:** Surgical Practice; 2021

**Author(s):** Askari A.; Wong J.; Rabinowitz J.; Riaz A.

**Abstract:** Aim: Survival in patients with oesophageal cancer is associated with an overall poor 5-year survival rate. The aim of this study was to determine whether return to theatre, overall and intensive care unit (ICU) length of stay (LOS) impact long-term survival. Method(s): A single-institution dataset of prospectively collated data from January 2011 to December 2018 were analysed. Survival analysis using multivariable Cox regression analyses were undertaken to determine factors associated with survival. Result(s): A total of 190 patients underwent an oesophagectomy, of whom 81.6% (155/190) were male and the median age was 66 years (interquartile range 58-72 years). The median length of stay was 12 days (interquartile range 10-15 days). At a mean follow-up of 36 months, 41.9% (117/279) of the population were deceased. Nodal, N3 staging [hazard ratio (HR) 5.30, 95% confidence interval (CI) 2.92-9.63] was associated with poorer survival. Prolonged ICU stay of 5 to 7 days (HR 2.26, 95% CI 1.18-4.33, P =.015), 8 to 10 days (HR 3.96, 95% CI 1.65-9.50, P =.002) and over 10 days (HR 2.47, 95% CI 1.11-5.47, P =.027) was also associated with significantly worse survival. Conclusion(s): Prolonged ICU stay after oesophagectomy has a negative impact on survival irrespective of the tumour stage. Enhanced recovery programs aimed at fast-tracking ICU care and early safe patient discharge may improve long-term survival.

**Title: The only way is up: Managing peri-operative hypothermia in a poorly performing district general hospital**

**Source:** Anaesthesia; Jan 2021; vol. 76 ; p. 50

**Author(s):** Jethwa A.; Parker B.

**Abstract:** Temperature control is a universally loathed topic. All anaesthetists understand the importance of temperature on a molecular level [1], and although it is integrated into the anaesthetic syllabus, its application to the work environment is variable. The National Institute for Health and Care Excellence (NICE) advises that adverse outcomes from peri-operative hypothermia, such as delayed wound healing, cardiac events and prolonged overall hospital stay, can cost thousands of pounds. Notable savings per person range from 2000 in the 20-years age group up to 5000 in the 70-years age group. Initially presumed a small part of anaesthesia, it is a topic of wider interest to all hospitals. We sought to raise awareness of temperature control in a district general hospital (DGH), to improve service provision and to improve patient outcomes. Methods NICE guidance [1] was used to design the audit parameters and definition of hypothermia (temperature < 36degreeC). A single blind, proforma-based study was commenced over 1 week in a DGH, on patients who were on the emergency and trauma lists as these were deemed to have the greatest risk of peri-operative hypothermia (ASA 2-5, cardiovascular risk, major/intermediate surgery, combined regional/general anaesthetic, pre-operative temperature of < 36degreeC). Following analysis of the data from the first cycle, a theatre trust guideline was produced, and a new intervention is being trialled to identify those at high risk of hypothermia and reduce overall risk of hypothermia. Results Eighteen cases were analysed (five were excluded due to incomplete data). This non-parametric data set from the first data cycle was analysed using Microsoft Excel software. Table 1 is a summary of findings. Most concerningly, 50% of those at high risk of hypothermia were hypothermic postoperatively. Data from subsequent cycles are currently being collected and will be available and processed in the next month. Discussion Temperature management is difficult in a dynamic environment; however, with future cycles, we aim to improve this service and focus on those patients that are at high risk of hypothermia. This audit also has a wider scope. Given the current COVID-19 pandemic and the high volume of patients requiring temperature control, should we be altering our management attitude and behaviour towards temperature?

**Title: Treatment escalation plan (TEP) completion rates in general surgery**

**Source:** British Journal of Surgery; May 2021; vol. 108

**Author(s):** Shah H.; Yazdanian B.

**Abstract:** Conference Abstract: Background: TEPs ensure every patient has a ceiling of care formally documented, including a DNACPR decision. This pre-empts complications and provides guidance on how to appropriately manage acutely unwell patients. There is no national standard for TEPs. Our Aim: to formally document the incidence of TEP completion in general surgery at a local District General Hospital. Method(s): A multi-phase, cross-sectional study of 1. Inpatients on three general surgical wards, 2. TEP completion at post-take after a typical on-call cycle. Result(s): 15.4% of TEPs were completed, of which 75% had a DNARCPR form. For the two post-take ward rounds, 5% and 7.7% of admitted patients had a TEP. Elective surgical/Enhanced recovery patients (ERP) did not have a TEP. Findings were presented locally, and posters placed in the surgical offices. Cycle 2: 19.6% and 10% completion rate for ward and post-take patients, respectively. Conclusion(s): TEPs are rarely completed. Minimal improvement in completion rate was noted at cycle 2. TEPs are more commonly completed for patients not for resuscitation. Future aims include editing the surgical clerking proforma and the elective surgery/ERP paperwork to encourage completion, improving patient care. Currently we are arranging similar audits across other NHS trusts to determine if this is a national problem.

**Title: UK Paediatric Allergy Services Survey-Results**

**Source:** Clinical and Experimental Allergy; Jan 2021; vol. 51 (no. 1); p. 166

**Author(s):** Wells R.; McKay C.; Perkin M.; Makwana N.; Vyas D.

**Abstract:** Objectives: To identify where paediatric allergy services are offered across the UK and to establish the staffing and structure of services and clinics To establish which investigations, procedures and treatments are offered at paediatric allergy services, and to assess the clinical governance processes in place To determine clinical practice within allergy services. Method(s): 154 services in the UK were identified as providing a pae-diatric allergy service and a questionnaire was completed by all ser-vices. The survey was multifaceted and included questions based on the BSACI standards for secondary care, the NHS specialist service specifications, and the BSACI standard operating procedure for skin prick testing. The survey was endorsed by BSACI and could be com-pleted online or on a paper copy. Result(s): Of the 154 services seeing paediatric allergy patients na-tionally, 82% (126/154) self-determined that they were providing secondary level care and 18% (28/154) providing tertiary or second-ary and tertiary level care. A comprehensive assessment of the state of paediatric allergy provision in the UK was established. Our results describe the capacity of paediatric allergy services in the UK, the investigations and treatments available, as well as the structure and staffing within services. Conclusion(s): Self-determined secondary and tertiary level paediatric services overlapped in size, staffing, investigations and procedures offered Few secondary services were meeting all the standards of care as set out by BSACI Food challenge practice varies across services and there is a need for standardization The development of national paediatric allergy standards, en-dorsed by BSACI and RCPCH, would facilitate achieving high quality and consistent care for children with allergies across the UK.

**Title: Unexpected SARS-CoV-2 positivity in postmortem nasopharyngeal swabs.**

**Source:** Journal of clinical pathology; Sep 2021

**Author(s):** Jensen, Melanie; Wahab, Lutful

**Abstract:** Letter

**Title: Unusual case of malignant pleural mesothelioma.**

**Source:** BMJ case reports; Jul 2021; vol. 14 (no. 7)

**Author(s):** Rajaratnam, Timothy Johanan; Herre, Jurgen

**Abstract:** We present the case of a 65-year-old woman who presented with progressive dysphagia and was diagnosed with achalasia. She subsequently developed bilateral chylous pleural effusions, with no cause identified despite extensive investigations (including computed tomography (CT) scans, gastroscopy and medical thoracoscopy (MT)) and review at a dedicated pleural multidisciplinary team meeting.Despite optimal supportive management she deteriorated and was admitted to the intensive care unit, where she passed away due to sepsis and respiratory failure 10 months after initial presentation. A postmortem returned a diagnosis of epithelioid mesothelioma, encasing the carina, distal oesophagus and coeliac axis.Mesothelioma only very rarely presents with either chylous effusions or achalasia. Additionally, while MT normally conveys excellent sensitivity for pleural malignancy, it was insufficient here. This case highlights how an unusually located mesothelioma can produce an unusual clinical picture. It also suggests a role for early video-assisted thoracoscopy to aid diagnosis.

**Title: Unusual presentations, management, and outcomes of gastric stromal tumours: A single-centre case series**

**Source:** Annals of Gastroenterology; 2021; vol. 34 (no. 1); p. 26-32

**Author(s):** Askari A.; Brittain R.; Hajuthman W.; Al-Bahrani A.; Hilmi M.

**Abstract:** Background Gastrointestinal stromal tumours (GISTs) are uncommon mesenchymal tumours of the gastrointestinal tract. This study explores the safety of laparoscopy and the long-term oncological outcome in gastroesophageal GIST treatment. Methods A prospectively maintained single-institution database was examined. The variables collected were patient demographics and comorbidities, surgical access (laparoscopic/open), type of surgery, length of stay, and complications. Results A total of 69 patients underwent GIST resection between January 2011 and June 2018, of whom 56.5% were male; the median age was 68 years (interquartile range 60-76). The majority of patients (78.3%, n=54/69) had a laparoscopic resection. Median length of stay was 6 days in the laparoscopic group and 9 days in the open group (P=0.003). Most patients had wedge excision (n=57/69, 82.6%), while 12 patients (17.4%) required a gastrectomy (one a Merendino type). All patients had an R0 resection and 1 patient (1.4%) had a recurrence, despite having a low-risk grade original tumour with negative margins. Patients in the open group had a significantly higher proportion of patients with a high-risk tumour (50%) compared to the laparoscopic group (3.7%, P=0.001). The mean survival was 92.7 months (95% confidence interval 86.3-99.2). Survival was better in the laparoscopic group (100.4 months) compared with the open group (55.1 months, P<0.001). Conclusion Laparoscopic gastric GIST resection is an oncologically safe alternative to open surgery and is associated with a shorter hospital stay with no difference in complication rates or recurrence rates. Copyright.

**Title: Usability of electronic health record systems in UK EDs.**

**Source:** Emergency medicine journal: EMJ; Jun 2021; vol. 38 (no. 6); p. 410-415

**Author(s):** Bloom, Benjamin Michael; Pott, Jason; Thomas, Stephen; Gaunt, David Ramon; Hughes, Thomas C

**Abstract:** BACKGROUND The large volume of patients, rapid staff turnover and high work pressure mean that the usability of all systems within the ED is important. The transition to electronic health records (EHRs) has brought many benefits to emergency care but imposes a significant burden on staff to enter data. Poor usability has a direct consequence and opportunity cost in staff time and resources that could otherwise be employed in patient care. This research measures the usability of EHR systems in UK EDs using a validated assessment tool. METHODS This was a survey completed by members and fellows of the Royal College of Emergency Medicine conducted during summer 2019. The primary outcome was the System Usability Scale Score, which ranges from 0 (worst) to 100 (best). Scores were compared with an internationally recognised measure of acceptable usability of 68. Results were analysed by EHR system, country, healthcare organisation and physician grade. Only EHR systems with at least 20 responses were analysed. RESULTS There were 1663 responses from a total population of 8794 (19%) representing 192 healthcare organisations (mainly UK NHS), and 25 EHR systems. Fifteen EHR systems had at least 20 responses and were included in the analysis. No EHR system achieved a median usability score that met the industry standard of acceptable usability. The median usability score was 53 (IQR 35-68). Individual EHR systems' scores ranged from 35 (IQR 26-53) to 65 (IQR 44-80). CONCLUSION In this survey, no UK ED EHR system met the internationally validated standard of acceptable usability for information technology.

**Title: Welcoming the virtual world: Improving resources for the Primary FRCA examination with the MOSCE-TO (Mastering the OSCE - Transforming Outcomes) course**

**Source:** Anaesthesia; Jul 2021; vol. 76 ; p. 47

**Author(s):** Jethwa A.; Qamar Y.

**Abstract:** Conference abstract: As trainees who recently completed the Primary FRCA during the pandemic, we understand the demands of this rigorous examination and the issues that a virtual exam presents. The Johari window model explains that collaboration is required to increase practical knowledge; however, during the pandemic, this has been difficult [1]. Medical colleges have confirmed that exams will continue during the pandemic and so it is imperative that good-quality teaching resources are available [2]. The Objective Structure Clinical Examination (OSCE) requires application of knowledge to practical situations, and given the reduction in courses available, coupled with an unfamiliar format, we decided to create a course with the aim of supporting candidates with examination preparation. Methods Three events were organised in January 2021 using online conferencing software. The course was advertised via email and social platforms. Thirty-three examiners were recruited, who had completed the Primary FRCA. The evening consisted of radiology teaching from a radiologist, a mock OSCE of 14 stations and a debrief session. Station feedback was sent to candidates following the event. Candidate feedback was completed prior and after the course, and examiner feedback was completed after the course using Google Forms. Data were analysed using Excel software. Results Forty-two candidates attended the evening events. A total of 14 deaneries were represented, as well as a candidate from Hong Kong. Eighty per cent of candidates were part of an anaesthetic training programme. Fig. 1 summarises data from the post-course candidate feedback. Discussion Obtaining positive feedback overall is extremely exciting as this was an experimental method of teaching. Strikingly, examiner feedback highlighted their willingness to teach candidates and learn from their own experiences. There is a great demand for virtual OSCE practice as the COVID-19 pandemic has forced candidates to work individually. As the RCoA continues to use its virtual platform during the pandemic, we endeavour to improve the experience for both candidates and examiners. We look forward to creating more events in the future as well as exploring other ways to improve the adult learning experience.

**Title: What is the financial burden to patients of accessing surgical care in Sierra Leone? A cross-sectional survey of catastrophic and impoverishing expenditure.**

**Source:** BMJ Open; Mar 2021; vol. 11 (no. 3)

**Author(s):** Bloom, Benjamin Michael; Pott, Jason; Thomas, Stephen; Gaunt, David Ramon; Hughes, Thomas C

**Abstract:** Objectives To measure the financial burden associated with accessing surgical care in Sierra Leone. Design A cross-sectional survey conducted with patients at the time of discharge from tertiary-level care. This captured demographics, yearly household expenditure, direct medical, direct non-medical and indirect costs for surgical care, and summary household assets. Missing data were imputed. Setting The main tertiary-level hospital in Freetown, Sierra Leone. Participants 335 surgical patients under the care of the hospital surgical team receiving operative or non-operative surgical care on the surgical wards. Outcome measures Rates of catastrophic expenditure (a cost >10% of annual expenditure), impoverishment (being pushed into, or further into, poverty as a result of surgical care costs), amount of out-of-pocket (OOP) costs and means used to meet these costs were derived. Results Of 335 patients interviewed, 39% were female and 80% were urban dwellers. Median yearly household expenditure was US 3569. Mean OOP costs were US 243, of which a mean of US 24 (10%) was spent prehospital. Of costs incurred during the hospital admission, direct medical costs were US 138 (63%) and US 34 (16%) were direct non-medical costs. US 46 (21%) were indirect costs. Catastrophic expenditure affected 18% of those interviewed. Concerning impoverishment, 45% of patients were already below the national poverty line prior to admission, and 9% of those who were not were pushed below the poverty line following payment for surgical care. 84% of patients used household savings to meet OOP costs. Only 2% (six patients) had health insurance. Conclusion Obtaining surgical care has substantial economic impacts on households that pushes them into poverty or further into poverty. The much-needed scaling up of surgical care needs to be accompanied by financial risk protection.Copyright © Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions.

**Title: What's in the emergency drug tray? Standardising emergency general anaesthetic drugs in obstetrics**

**Source:** Anaesthesia; Jul 2021; vol. 76 ; p. 101

**Author(s):** Hayes L.; Snooks R.; Jayaweera A.; Horwitz A.; Chowdhury J.; Nathwani R.; Royal A.

**Abstract:** Conference Abstarct Emergency caesarean section often requires the rapid administration of a general anaesthetic and immediate access to emergency drugs. It is standard practice for these to be prepared in advance, which in our Trust, involved preparing a disposable cardboard drug tray each day. However, it was felt there was considerable variation in what drugs were included in this, how they were documented, and whether they would be sufficient to anaesthetise most patients. Our current practice was therefore audited, a more formal and standardised emergency drug box was then introduced and re-audit performed. Methods A number of standards were set as to what should be included in the drug tray, to perform rapid sequence intubation safely in this cohort of patients. The contents of the box were then observed on 25 separate occasions. It was found that we were not meeting many of the standards set and, as a department, we decided to create a more formal emergency drug box. This contained a standardised list of drugs written on a laminate within the box, together with an area for the anaesthetist to sign and date each day. It was also decided this should include high-dose rocuronium and sugammadex. A repeat audit was then performed around 6 months later. Results Results from the first audit suggested that in 100% cases thiopentone and suxamethonium were included. However sub-optimal doses of suxamethonium (i.e. < 200 mg) [1] were included in 62% of cases, whilst sodium citrate was included in only 32% cases. The date and time the drugs were prepared were not always documented on the box (only in 88% cases) and there were occasional times where the drugs were > 24 h old (in 12% cases). Following the introduction of our standardised box, re-audit showed significant improvement in every area. Optimal doses of suxamethonium were included in 100% of cases, whilst documentation of the dates were further noted to have improved. The box also contained appropriate doses of sugammadex and rocuronium in 100% of cases. Discussion The initial audit highlighted the need to reach a departmental consensus on what should be contained within our emergency box. Doses of suxamethonium were previously sub-optimal, as < 200 mg (two vials) [1] may be an insufficient dose for many patients. Furthermore, in the case of failed intubation, Difficult Airway Society (DAS) guidelines suggest administering further muscle relaxation hence we have added in rocuronium

**Title: Whole blood thiamine (WBT) and delirium occurrence in the Intensive Care Unit (ICU)**

**Source:** Intensive Care Medicine Experimental; Oct 2021; vol. 9

**Author(s):** Mumin M.; McKenzie C.; Page V.; Strain D.; Blackwood B.; Mc Auley D.F.; Hopkins P.A.; Hadfield D.; Cunningham E.; Ostermann M.; Slooter A.; Spronk P.E.

**Abstract:** Conference abstract: Introduction. Thiamine di-phosphate (TDP) is an essential cofactor in glucose metabolism, glutamate transformation and in cholinesterase activity, all reported in delirium occurrence [1]. We proposed that a deficiency in Whole Blood Thiamine (WBT) could increase risk of delirium occurrence in patients admitted to the Intensive Care Unit (ICU). Objectives. To establish whether there is a relationship between deficiency in WBT and ICU delirium occurrence in a cohort of ICU admissions from Gelre Hospital, Netherlands. Methods. An anonymised patient dataset was approved and obtained from Gelre ICU. This was a secondary analysis of a previous study on WBT in ICU patients (2). Delirium was assessed twice a day, using confusion assessment method-intensive care unit (CAM-ICU). A day in delirium was defined as 1 or more positive CAM-ICU scores in 24 h. The pathology range for WBT deficiency was <= 100 nmol/litre. An initial analysis was carried out to explore whether normal levels of WBT at t-0 h, t24 hrs or t48 hrs resulted in a lower incidence of delirium during ICU admission. The analysis is reported as odds ratio (OR) and 95% confidence interval (CI). Results. The original ICU patient cohort was admitted between 2009 to 2010. There were 57 patients and WBT was reported at t-0, t-24 and t-48. Analysis reported a comarable rate of delirium in those with normal WBT (> 100 nmol/litre) compared to those that were WBT deficient (<= 100 nmol/litre) at t-0, t-24 and t-48, (OR: 0.68 [95% confidence interval (CI): 0.23-1.97]), (OR: 0.63 [95% CI: 0.20-2.00]) and (OR: 0.70 [95% CI: 0.21-2.31]) respectively. Regression analysis was performed with age and sepsis as confounding variables, no significant differences were observed. Conclusion. In this small dateset, no relationship could be detected between WBT and delirium occurrence on ICU admission, and 24 and 48 h post admission. The lack of significance with regards to confounding variable of sepsis and age could be attributed to small patient numbers. Further analysis with a larger dataset is needed to investigate the research question.

**Title: Why onchocerciasis transmission persists after 15 annual ivermectin mass drug administrations in South-West Cameroon**

**Source:** BMJ Global Health; Jan 2021; vol. 6 (no. 1)

**Author(s):** Forrer A.; Hamill L.; Thomson R.; Turner J.D.; Taylor M.J.; Wanji S.; Obie E.D.; Nji T.M.; Njouendou A.J.; Ekanya R.; Ndongmo W.P.C.; Fung E.G.; Nnamdi D.-B.; Abong R.A.; Beng A.A.; Eyong M.E.; Ndzeshang B.L.; Nkimbeng D.A.; Teghen S.; Suireng A.; Ashu E.E.; Kah E.; Enyong P.; Ozano K.; Piotrowski H.; Dean L.; Theobald S.; Murdoch M.M.

**Abstract:** Introduction Onchocerciasis is targeted for elimination mainly with annual community-directed treatment with ivermectin (CDTI). High infection levels have been reported in South-West Cameroon, despite >=15 years of CDTI. The aim of this study was to assess factors associated with continued onchocerciasis transmission and skin disease. Methods A large-scale cross-sectional study was conducted in 2017 in 20 communities in a loiasis-risk area in South-West Cameroon. A mixed-methods approach was used. Associations between infection levels, skin disease and adherence to CDTI were assessed using mixed regression modelling. Different community members' perception and acceptability of the CDTI strategy was explored using semi-structured interviews. Results Onchocerciasis prevalence was 44.4% among 9456 participants. 17.5% of adults were systematic non-adherers and 5.9% participated in >=75% of CDTI rounds. Skin disease affected 1/10 participants, including children. Increasing self-reported adherence to CDTI was associated with lower infection levels in participants aged >=15 years but not in children. Adherence to CDTI was positively influenced by perceived health benefits, and negatively influenced by fear of adverse events linked with economic loss. Concern of lethal adverse events was a common reason for systematic non-adherence. Conclusion CDTI alone is unlikely to achieve elimination in those high transmission areas where low participation is commonly associated with the fear of adverse events, despite the current quasi absence of high-risk levels of loiasis. Such persisting historical memories and fear of ivermectin might impact adherence to CDTI also in areas with historical presence but current absence of loiasis. Because such issues are unlikely to be tackled by CDTI adaptive measures, alternative strategies are needed for onchocerciasis elimination where negative perception of ivermectin is an entrenched barrier to community participation in programmes

**Title: X Chromosome Contribution to the Genetic Architecture of Primary Biliary Cholangitis**

**Source:** Gastroenterology; Jun 2021; vol. 160 (no. 7); p. 2483

**Author(s):** Asselta R.; Paraboschi E.M.; Cardamone G.; Duga S.; Gerussi A.; Ciaccio A.; Cristoferi L.; D'Amato D.; Malinverno F.; Mancuso C.; Massironi S.; Milani C.; O'Donnell S.E.; Ronca V.; Barisani D.; Carbone M.; Invernizzi P.; Cordell H.J.; Mells G.F.; Sandford R.N.; Jones D.E.; Nakamura M.; Ueno K.; Tokunaga K.; Hitomi Y.; Kawashima M.; Nishida N.; Kawai Y.; Kohn S.-S.; Nagasaki M.; Gervais O.; Tanaka A.; Takikawa H.; Tang R.; Xiong M.; Li Z.; Shi Y.; Liu X.; Hirschfield G.; Siminovitch K.A.; Gershwin M.E.; Seldin M.F.; Walker E.; Xie G.; Mason A.; Myers R.; Peltekian K.; Ghent C.; Atkinson E.; Juran B.; Lazaridis K.; Lu Y.; Gu X.; Jing K.; Amos C.; Affronti A.; Brunetto M.; Coco B.; Spinzi G.; Elia G.; Ferrari C.; Lleo A.; Muratori L.; Muratori P.; Portincasa P.; Colli A.; Bruno S.; Colloredo G.; Azzaroli F.; Andreone P.; Bragazzi M.; Alvaro D.; Cardinale V.; Cazzagon N.; Rigamonti C.; Floreani A.; Rosina F.; Lampertico P.; Donato F.; Fagiuoli S.; Almasio P.L.; Giannini E.; 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Tsuruta S.; Kamitsukasa H.; Sato T.; Masaki N.; Kobata T.; Fukushima N.; Higuchi N.; Ohara Y.; Muro T.; Takesaki E.; Takaki H.; Yamamoto T.; Kato M.; Nagaoki Y.; Hayashi S.; Ishida J.; Watanabe Y.; Kobayashi M.; Koga M.; Saoshiro T.; Yagura M.; Hirata K.; Zeniya M.; Abe M.; Onji M.; Kaneko S.; Honda M.; Arai K.; Arinaga-Hino T.; Hashimoto E.; Taniai M.; Umemura T.; Joshita S.; Nakao K.; Ichikawa T.; Shibata H.; Yamagiwa S.; Seike M.; Honda K.; Sakisaka S.; Takeyama Y.; Harada M.; Senju M.; Yokosuka O.; Kanda T.; Ueno Y.; Kikuchi K.; Ebinuma H.; Himoto T.; Yasunami M.; Murata K.; Mizokami M.; Shimoda S.; Miyake Y.; Takaki A.; Yamamoto K.; Hirano K.; Ichida T.; Ido A.; Tsubouchi H.; Chayama K.; Harada K.; Nakanuma Y.; Maehara Y.; Taketomi A.; Shirabe K.; Soejima Y.; Mori A.; Yagi S.; Uemoto S.; Tanaka T.; Yamashiki N.; Tamura S.; Sugawara Y.; Kokudo N.

**Abstract:** Background & Aims: Genome-wide association studies in primary biliary cholangitis (PBC) have failed to find X chromosome (chrX) variants associated with the disease. Here, we specifically explore the chrX contribution to PBC, a sexually dimorphic complex autoimmune disease. Method(s): We performed a chrX-wide association study, including genotype data from 5 genome-wide association studies (from Italy, United Kingdom, Canada, China, and Japan; 5244 case patients and 11,875 control individuals). Result(s): Single-marker association analyses found approximately 100 loci displaying P < 5 x 10-4, with the most significant being a signal within the OTUD5 gene (rs3027490; P = 4.80 x 10-6; odds ratio [OR], 1.39; 95% confidence interval [CI], 1.028-1.88; Japanese cohort). Although the transethnic meta-analysis evidenced only a suggestive signal (rs2239452, mapping within the PIM2 gene; OR, 1.17; 95% CI, 1.09-1.26; P = 9.93 x 10-8), the population-specific meta-analysis showed a genome-wide significant locus in East Asian individuals pointing to the same region (rs7059064, mapping within the GRIPAP1 gene; P = 6.2 x 10-9; OR, 1.33; 95% CI, 1.21-1.46). Indeed, rs7059064 tags a unique linkage disequilibrium block including 7 genes: TIMM17B, PQBP1, PIM2, SLC35A2, OTUD5, KCND1, and GRIPAP1, as well as a superenhancer (GH0XJ048933 within OTUD5) targeting all these genes. GH0XJ048933 is also predicted to target FOXP3, the main T-regulatory cell lineage specification factor. Consistently, OTUD5 and FOXP3 RNA levels were up-regulated in PBC case patients (1.75- and 1.64-fold, respectively). Conclusion(s): This work represents the first comprehensive study, to our knowledge, of the chrX contribution to the genetics of an autoimmune liver disease and shows a novel PBC-related genome-wide significant locus.

# Title: Predictors of clinical deterioration in patients with suspected COVID-19 managed in a virtual hospital' setting: A cohort study

# Source: BMJ Open 11(3):e045356

**Author(s):** Francis, N; Stuart, B; Knight, M; Vancheeswaran, R; Oliver, C; Wilcox, M; Barlow, A; Moore, M.

**Abstract:** Objective Identify predictors of clinical deterioration in a virtual hospital (VH) setting for COVID-19. Design Real-world prospective observational study. Setting VH remote assessment service in West Hertfordshire NHS Trust, UK. Participants Patients with suspected COVID-19 illness enrolled directly from the community (postaccident and emergency (A&E) or medical intake assessment) or postinpatient admission. Main outcome measure Death or (re-)admission to inpatient hospital care during VH follow-up and for 2 weeks post-VH discharge. Results 900 patients with a clinical diagnosis of COVID-19 (455 referred from A&E or medical intake and 445 postinpatient) were included in the analysis. 76 (8.4%) of these experienced clinical deterioration (15 deaths in admitted patients, 3 deaths in patients not admitted and 58 additional inpatient admissions). Predictors of clinical deterioration were increase in age (OR 1.04 (95% CI 1.02 to 1.06) per year of age), history of cancer (OR 2.87 (95% CI 1.41 to 5.82)), history of mental health problems (OR 1.76 (95% CI 1.02 to 3.04)), severely impaired renal function (OR for eGFR <30=9.09 (95% CI 2.01 to 41.09)) and having a positive SARS-CoV-2 PCR result (OR 2.0 (95% CI 1.11 to 3.60)). Conclusions These predictors may help direct intensity of monitoring for patients with suspected or confirmed COVID-19 who are being remotely monitored by primary or secondary care services. Further research is needed to confirm our findings and identify the reasons for increased risk of clinical deterioration associated with cancer and mental health problems.

**Title: P8 Ventilation in COVID-19: lessons to be learnt?**

**Source:** February 2021 [Thorax](https://www.researchgate.net/publication/journal/Thorax-1468-3296) 76(Suppl 1):A89.1-A89

**Author(s):** Assadullah, S; Mitchell, H; Draper, A; Myint, Y; Ghani, H; Navarra, A; Mogal, R; Barlow, A; Vancheeswaran, R.

**Abstract:** COVID-19 posed unprecedented challenges on healthcare systems globally especially on inpatient beds, oxygen and ventilatory support: continuous positive airway pressure (CPAP), high flow nasal oxygen and invasive mechanical ventilation (IMV). West Herts NHS Trust, a secondary care provider for a population of 650,000 had 1200 admissions during the first wave (March to June) with a 30% mortality. Ventilatory outcomes in 116 consecutive admissions were analysed to assess the utility of CPAP in a respiratory specialist ward versus ITU, and prompt versus delayed invasive mechanical ventilation (IMV). Respiratory support was provided in four pathways: CPAP in intensive care unit (ITU) (n=18), CPAP in respiratory ward setting (usually as ceiling of care, n=50), IMV after initial trial of CPAP (n=21) and IMV with no delay or interim CPAP (n=27). The demographics, comorbidities, functional status, severity of presentation and outcomes differed greatly between the ward group and all the ITU arms. Within the ITU arms, patients were younger, had worse chest x-rays, higher CRP as well as had lower lymphocyte counts, PF (PaO2/FiO2) ratios and comorbidities. Delayed intubation with a trial of CPAP was associated with significant mortality compared to prompt IMV. All ventilatory outcomes were poor in patients over 80 years. Mortality rate was significantly lower in prompt IMV, 37%, compared to 95% in those with a delayed intubation by a median of 6 days with a prior CPAP trial. Median PF ratio on admission for patients with prompt IMV was 73 mmHg vs 115 mmHg in those with CPAP prior to IMV. In summary, ward CPAP as ceiling of care for older patients and with comorbidities is safe and associated with a relatively similar mortality rate compared to ITU CPAP but must be reviewed regularly to ensure improvement on treatment. Mortality is significant in those with lower PF ratios especially if IMV is delayed. Whilst acknowledging the heavy burden on clinicians to rationalise treatment during times of limited resources, we believe that careful assessment of age, comorbidities (cardiac and frailty), PF ratios, CRP and a 24 hourly review should be undertaken to prevent delayed IMV in appropriate patients.

# Title: Evaluation of the ROX index in SARS-CoV-2 Acute Respiratory failure treated with both High-Flow Nasal Oxygen (HFNO) and Continuous Positive Airway Pressure (CPAP)

**Source:** medRxiv 2021.03.23.21254203

**Author(s):**Hakim Ghani, Michael Shaw, Phyoe Pyae, Rigers Cama, Meghna Prabhaka, Alessio Navarra, Rahul Mogal, Andrew Barlow, Nazril Nordin, Rama Vancheeswaran, Janice Yu Ji Lee, Felix Chua.

**Abstract:** Background: Non-invasive respiratory support including high-flow nasal oxygen (HFNO), and continuous positive airway pressure (CPAP) have been used to provide therapy in selected SARS-CoV-2 patients with acute respiratory failure (ARF). The value of the ROX index, a validated benchmark for outcomes in HFNO is unknown in CPAP. Objective: Can the ROX, a validated benchmark in HFNO be used for measuring treatment outcomes of CPAP in SARS-COV-2 ARF? Study Design and Methods: A non-randomised prospective protocol driven observational non-intensive care unit study in 130 SARS-COV-2 patients with ARF treated with non-invasive therapy from March 2020 to January 2021. The primary end point was failure of therapy (death or escalation). Secondary outcomes included time to failure including invasive mechanical ventilation (IMV) or death, the effect of escalation to CPAP from HFNO and the utility of ROX in ARF. Results: HFNO was better than CPAP in treating SARS-COV-2 ARF: 17/35 (48.5%) with successful HFNO therapy versus 24/95 (25.2%) with CPAP. The ROX index was more sensitive to outcomes with CPAP compared to HFNO and distinguished treatment failure early at 1, 4, 6, 12, and 24 hours with the highest sensitivity at 24 hours (ROX-24h). The AUC for the ROX-24h was 0.77 for HFNO (P<0.0001), and 0.84 for CPAP (P<0.0001). The ROX-24h cut-points predicted failure with HFNO when < 3.9 (PPV 71%, NPV 75%) and CPAP < 4.3 (PPV 75%, NPV 91%). For success, ROX-24h cut-points of 7.6 for HFNO (PPV 85%, NPV 48%) and 6.1 for CPAP (PPV 88%, NPV 62%) were observed. Escalation from HFNO to CPAP was mostly not successful. Conclusion: ARF in SARS-COV-2 can be successfully managed by non-invasive support. The ROX index, validated for HFNO, provides a timely, low resource measure for both HFNO and CPAP avoiding delayed intubation.

# Title: Late Breaking Abstract - Relevance of first wave derived COVID-19 prediction scores, in the UK second wave, for mortality and safe early discharge

**Source:** European Respiratory Journal 2021 58: OA1664;

**Author(s):**Hakim Ghani, Alessio Navarra, Shamira Ghouse, Nafisa Hussain, Nabiah Malik, Jishanthan Ragunathan, Simon Saldanha, Kholiwe Kutshwa, Mihira Patel, Sceyon Mohan, Rama Vancheeswaran

**Abstract:** I**ntroduction:** COVID-19 prognostication scores derived from the first wave requires prospective validation due to the evolving second wave with prevalent B.1.1.7 variant altering demographic and outcome. COVID-19 virtual hospital (VH) models preventing hospital admission requires a safe triage tool.

**Objective:** Prospectively validate relevance of COVID-19 first wave derived prognostication scores, SOARS and 4C Mortality Score, to determine mortality and safe early discharge in the evolving second wave. **Methods:** Prospective observational cohort study of SOARS and 4C Mortality Score in 1383 single site (PREDICT) and 20595 multi-site (ISARIC) patient cohorts, in UK second wave. **Results:** 1383 (median age 67y, mortality 24.7%) and 20595 (mortality 19.4%) patient cohorts had AUC for mortality of 0.8 and 0.74 (SOARS) and 0.83 and 0.91 (4C Mortality Score) in the PREDICT and ISARIC cohorts respectively. 19.3% (231/1195 PREDICT cohort) and 16.7% (2550/14992 ISARIC cohort) with SOARS of 0-1 were VH candidates. Applying SOARS in the VH pathway resulted in low re-admission, 11.8% (27/229), and low mortality, 0.9% (2/229). Use is still suboptimal, as 8.1% in PREDICT and 9.5% in ISARIC cohorts were admitted despite SOARS of 0-1. Conclusion: SOARS and 4C Mortality Score remains valid despite SARS-CoV-2 variants altering mortality. Both scores should be implemented for admission avoidance through a VH platform.

# Title: S19 Relevance of prediction scores derived from the SARS-CoV-2 first wave, in the UK COVID-19 second wave, for early discharge, severity and mortality: a PREDICT COVID UK prospective observational cohort study

# Source: [Thorax](https://www.researchgate.net/publication/journal/Thorax-1468-3296) 76(Suppl 2):A16-A17

**Author(s):** H Ghani, A Navarra, E Croft, H Nur, M Prabhakar, A Azri Yahaya, I Darwish, D Longe, HL Lee, R Vancheeswaran

**Abstract: Introduction and Objective** COVID-19 prognostication scores are all based on COVID-19 first wave, requiring prospective validation in the evolving pandemic due to SARS-CoV-2 variants (prevalent B.1.1.7 replacing parent D614) and healthcare responses altering patient demographic and mortality. Accelerated COVID-19 virtual hospital (VH) telemedicine model implementation avoids hospital admission, appropriately allocating hospital resources to pandemic needs in tandem with resumption of regular healthcare services, requires a safe triage tool. Widely used COVID-19 first wave derived prognostication scores, SOARS and 4C Mortality Score, with uncertain performance in the evolving pandemic, raises the need for prospective validation. We prospectively validate SOARS and 4C Mortality Score in the evolving UK COVID-19 second wave determining relevance for mortality and safe early discharge. **Methods** Protocol-based, prospective observational cohort study of SOARS and 4C Mortality Score in 1,383 PREDICT (single site) and 20,595 multi-site ISARIC (International Severe Acute Respiratory and Emerging Infections Consortium) patient cohorts during the UK COVID-19 second wave, between October 2020 and January 2021. **Results** Data from 1,383 patients (median age 67y, IQR 52–82; mortality 24.7%) in the PREDICT and 20,595 patients from the ISARIC (mortality 19.4%) cohorts showed SOARS had AUC of 0.8 and 0.74, while 4C Mortality Score had an AUC of 0.83 and 0.91 for hospital mortality, in the PREDICT and ISARIC cohorts respectively, therefore effective in evaluating both safe discharge and in-hospital mortality. 19.3% (231/1195, PREDICT cohort) and 16.7% (2550/14992, ISARIC cohort) with a SOARS of 0–1 were potential candidates for home discharge to a virtual hospital (VH) model. SOARS score implementation resulted in low re-admission rates, 11.8% (27/229), and low mortality, 0.9% (2/229), in the VH pathway. Use is still suboptimal to prevent admission, as 8.1% in the PREDICT cohort and 9.5% in the ISARIC cohort were admitted despite SOARS score of 0–1. **Conclusion** SOARS and 4C Mortality Score remains valid and relevant to their purpose, transforming complex clinical presentations into tangible numbers, aiding objective decision making, despite evolving viral subtype and treatment advances altering patient demographic and mortality. More importantly both scores are easily implemented within urgent care pathways for safe admission avoidance especially to a VH model.

**Title: P186 Single centre experience of tocilizumab in COVID 19 pneumonia**

**Source:** Thorax 2021;**76:**A168-A169.

**Author(s):** Y Maung Maung Myint, R Goodka, M Mehta, S Ananth, H Ghani, R Vancheeswaran

**Abstract:** Introduction Tocilizumab is an interleukin-6 (IL-6) receptor blocker which blocks the IL-6 signal transduction pathway reducing inflammation. It is thought to be an effective drug for patients with severe COVID-19 pneumonia. Our study sought to evaluate the benefits of tocilizumab in patients with COVID 19 pneumonia who required hospital admission. Methods This is a retrospective analysis of 47 patients with COVID 19 pneumonia who were admitted to a single centre, London district general hospital during January and February 2021. COVID 19 patients requiring high level of oxygen to maintain oxygen saturation above 92% with one of the following criteria (C-reactive protein above 50 , ferritin above 500 mg/l , ddimer above 1000 mg/ml or LDH above 250 U/L) were eligible to receive tocilizumab. These patients were given single dose of tocilizumab 8mg/kg during first week of hospital admission. These patients were matched against 38 control patients with COVID 19 pneumonia with same SF (oxygen saturation/fiO2) ratio on admission (median SF ratio = 106.67) who received standard treatment (dexamethasone). Findings 47 patients received standard treatment with tocilizumab. Total death was 44.7% in control group and 17% in tocilizumab group (p=0.008). 46.8% of patients in the tocilizumab group required ITU admission compared to 31.6% in the control group (p=0.18). 27.6% in tocilizumab needed intubation whereas 10.5% in control group (p=0.06). 57.5% in tocilizumab group were escalated to non invasive ventilation ( NIV) or high flow nasal oxygen (HFNO) whereas only 23.7% in control group required ventilatory support ( p value = 0.002). Further analysis of those in the ITU cohort revealed a mortality rate of 22.7% in the tocilizumab group and 58.3% in the control group. Length of hospital stay was twice in the tocilizumab group (12 days) vs control (6 days) (p<0.001). Conclusion This study showed that tocilizumab may be associated with mortality benefit but no reduction in the rate of progression to intubation or need of NIV/HFNO. Further data with larger patient cohort is required to ascertain the benefits of tocilizumab in COVID 19 pneumonia.

**Title: Three-month cardiac outcomes of survivors of COVID-19 presenting to a district general hospital in West Hertfordshire, UK**

**Source:** European Heart Journal, Volume 42, Issue Supplement\_1, October 2021, ehab724.3137

**Author(s):** P K Pyae, A Navarra, R Webb, A Newland-Smith, R Vancheeswaran, J Sehmi, A Barlow.

**Abstract: Background** COVID-19 is novel entity associated with significant morbidity and mortality. Most patients recover completely, however, a proportion describe persistent symptoms consistent with cardiopulmonary disturbance. The long-term cardiac and respiratory outcomes of COVID-19 are not known. **Purpose** The aim of this study was to undertake a comprehensive cardiopulmonary assessment of survivors of COVID-19 with post recovery symptoms. The cardiac findings are presented here. **Methods** Survivors of COVID-19 presenting to a general hospital in West Hertfordshire between 18 March 2020 and 15 May 2020, were reviewed at 3 months using a structured prespecified protocol. Patients with persistent symptoms and those admitted to the intensive care unit (ICU) were invited to attend a clinical assessment comprising an electrocardiogram (ECG), echocardiography, chest x-ray (CXR) and pulmonary function tests. At follow up, patients were categorised according to disease course: 1) monitored via a community based virtual hospital, 2) admitted for supplemental oxygen, 3) requiring non-invasive ventilation and 4) ICU admission. **Results** 448 eligible patients were evaluated by telephone. 11 patients admitted to ICU and 147 patients with persistent symptoms were invited for further assessment. At presentation, hospitalised patients were older, had higher levels of obesity and increased rates of hypertension than those managed virtually (p<0.05). Among hospitalised patients, the degree of pulmonary infiltration on CXR was higher, ROX index for intubation lower, eGFR lower, C-reactive protein levels higher and lymphocyte counts lower, compared to those managed virtually (p<0.05). The prevalence of known respiratory conditions was higher among patients admitted to hospital, with a trend towards statistical significance (p=0.051). There were no differences in the prevalence of known cardiac disorders and other co-morbidities amongst both patient groups (table 1). At follow up, CXR appearances were improved and similar among patients monitored virtually, those admitted for supplemental oxygen, those requiring non-invasive ventilation and those treated on ICU. There were no differences in heart rhythm and ECG parameters in the four patient groups. Left ventricular systolic and diastolic dimensions, Simpson's biplane ejection fraction, left atrial volume and left ventricular filling pressures were similar in all four patient groups. There were no differences in right ventricular dimensions, right ventricular fractional area change, tricuspid annular plane systolic excursion and pulmonary artery systolic pressures among patients irrespective of disease severity (table 2). **Conclusions** At 3 months, we identified no differences in ECG indices and echocardiographic parameters of left and right ventricular function among survivors of COVID-19, independent of disease course. The findings of this study argue against significant cardiac sequalae following COVID-19 infection.

**Title: Retrospective case–control study to evaluate hypocalcaemia as a distinguishing feature of COVID-19 compared with other infective pneumonias and its association with disease severity.**

**Source:** BMJ Open 2021;11:e053810.

**Author(s):** Meera Mehta, Hakim Ghani, Felix Chua, Adrian Draper, Sam Calmonson, Meghna Prabhakar, Rijul Shah, Alessio Navarra, Tejal Vaghela, Andrew Barlow, Rama Vancheeswaran

**Abstract:** Objectives To investigate whether calcium derangement was a specific feature of COVID-19 that distinguishes it from other infective pneumonias, and its association with disease severity. Design A retrospective observational case–control study looking at serum calcium on adult patients with COVID-19, and community-acquired pneumonia (CAP) or viral pneumonia (VP). Setting A district general hospital on the outskirts of London, UK. Participants 506 patients with COVID-19, 95 patients with CAP and 152 patients with VP. Outcome measures Baseline characteristics including hypocalcaemia in patients with COVID-19, CAP and VP were detailed. For patients with COVID-19, the impact of an abnormally low calcium level on the maximum level of hospital care, as a surrogate of COVID-19 severity, was evaluated. The primary outcome of maximal level of care was based on the WHO Clinical Progression Scale for COVID-19. Results Hypocalcaemia was a specific and common clinical finding in patients with COVID-19 that distinguished it from other respiratory infections. Calcium levels were significantly lower in those with severe disease. Ordinal regression of risk estimates for categorised care levels showed that baseline hypocalcaemia was incrementally associated with OR of 2.33 (95% CI 1.5 to 3.61) for higher level of care, superior to other variables that have previously been shown to predict worse COVID-19 outcome. Serial calcium levels showed improvement by days 7–9 of admission, only in survivors of COVID-19. Conclusion Hypocalcaemia is specific to COVID-19 and may help distinguish it from other infective pneumonias. Hypocalcaemia may independently predict severe disease and warrants detailed prognostic investigation. The fact that decreased serum calcium is observed at the time of clinical presentation in COVID-19, but not other infective pneumonias, suggests that its early derangement is pathophysiological and may influence the deleterious evolution of this disease.

**Title:** **Accuracy of Rapid Point-of-Care Antibody Test in patients with suspected or confirmed COVID-19**

**Source:** The Journal of Infection, 14 July 2021  
**Author(s):** Rama Vancheeswaran, Merlin Luke Willcox, Beth Stuart, Matthew Knight, Hala Kandil, Andrew Barlow, Mayon Haresh Patel, Jade Stockham, Aisling O'Neill, Tristan W Clark, Tom Wilkinson, Paul Little, Nick Francis, Gareth Griffiths, Michael Moore **Abstract:** Letter to Editor

**Title:** **Outcomes and measures of delirium interventional studies in palliative care to inform a core outcome set: A systematic review**

**Source:** Palliat Med. 2021 Dec;35(10):1761-1775. doi: 10.1177/02692163211040186. Epub 2021 Aug 27.  
**Author(s):** Meera R Agar, Najma Siddiqi, Annmarie Hosie, Jason W Boland, Miriam J Johnson, Imogen Featherstone, Peter G Lawlor, Shirley H Bush, Valerie Page, Ingrid Amgarth-Duff, Maja Garcia, Domenica Disalvo, Louise Rose, Del-COrS Group **Abstract:** Background: Trials of interventions for delirium in various patient populations report disparate outcomes and measures but little is known about those used in palliative care trials. A core outcome set promotes consistency of outcome selection and measurement.

Aim: To inform core outcome set development by examining outcomes, their definitions, measures and time-points in published palliative care studies of delirium prevention or treatment delirium interventions.

Design: Prospectively registered systematic review adhering to Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Data sources: We searched six electronic databases (1980-November 2020) for original studies, three for relevant reviews and the International Clinical Trials Registry Platform for unpublished studies and ongoing trials. We included randomised, quasi-randomised and non-randomised intervention studies of pharmacological and non-pharmacological delirium prevention and/or treatment interventions.

Results: From 13/3244 studies (2863 adult participants), we identified 9 delirium-specific and 13 non-delirium specific outcome domains within eight Core Outcome Measures in Effectiveness Trials (COMET) taxonomy categories. There were multiple and varied outcomes and time points in each domain. The commonest delirium specific outcome was delirium severity (*n* = 7), commonly using the Memorial Delirium Assessment Scale (6/8 studies, 75%). Four studies reported delirium incidence. Non-delirium specific outcomes included mortality, agitation, adverse events, other symptoms and quality of life.

Conclusion: The review identified few delirium interventions with heterogeneity in outcomes, their definition and measurement, highlighting the need for a uniform approach. Findings will inform the next stage to develop consensus for a core outcome set to inform delirium interventional palliative care research.

**Title:** **A core outcome set for studies evaluating interventions to prevent and/or treat delirium for adults requiring an acute care hospital admission: an international key stakeholder informed consensus study.**

**Source:** BMC Med. 2021 Jun 18;19(1):143.  
**Author(s):** Rose L, Burry L, Agar M, Blackwood B, Campbell NL, Clarke M, Devlin JW, Lee J, Marshall JC, Needham DM, Siddiqi N, Page V **Abstract:** Background: Trials of interventions to prevent or treat delirium in adults in an acute hospital setting report heterogeneous outcomes. Our objective was to develop international consensus among key stakeholders for a core outcome set (COS) for future trials of interventions to prevent and/or treat delirium in adults with an acute care hospital admission and not admitted to an intensive care unit.

Methods: A rigorous COS development process was used including a systematic review, qualitative interviews, modified Delphi consensus process, and in-person consensus using nominal group technique (registration http://www.comet- initiative.org/studies/details/796).

Participants in qualitative interviews were delirium survivors or family members. Participants in consensus methods comprised international representatives from three stakeholder groups: researchers, clinicians, and delirium survivors and family members.

Results: Item generation identified 8 delirium-specific outcomes and 71 other outcomes from 183 studies, and 30 outcomes from 18 qualitative interviews, including 2 that were not extracted from the systematic review. De-duplication of outcomes and formal consensus processes involving 110 experts including researchers (N = 32), clinicians (N = 63), and delirium survivors and family members (N = 15) resulted in a COS comprising 6 outcomes: delirium occurrence and reoccurrence, delirium severity, delirium duration, cognition, emotional distress, and health-related quality of life. Study limitations included exclusion of non-English studies and stakeholders and small representation of delirium survivors/family at the in-person consensus meeting.

Conclusions: This COS, endorsed by the American and Australian Delirium Societies and European Delirium Association, is recommended for future clinical trials evaluating delirium prevention or treatment interventions in adults presenting to an acute care hospital and not admitted to an intensive care unit.

**Title:** **Women’s perception of choice and support in making decisions regarding management of breech presentation**

**Source:** British Journal of Midwifery 02 July 2021, Vol. 29, No. 7  
**Author(s):** Antonio Sierra **Abstract:** Background: Professional guidelines recommend midwives and obstetricians actively involve women in making decisions about their care. To date, breech research has focused mainly on assessing the effectiveness of different management options.

Aim: This research explores women's experience of breech presentation and their perception of choice and support in making decisions with regards to breech management.

Methods: This study uses a phenomenological research design. Semi-structured interviews took place in hospital or women's homes. A total of six postnatal women who were diagnosed with breech presentation after 36 weeks' gestation took part in the study. Data was analysed using Colaizzi's method.

Findings: A total of 84 significant statements were clustered into four main emerging themes. These include women's feelings, their healthcare expectations, their preferences and their values.

Results: Breech discussions mostly occurred between obstetricians and women. These primarily focused on external cephalic version, Elective Lower Segment Caesarean Section and Breech Vaginal Birth. These options did not always become choices available to women.

**Title:** **An adaptive randomized controlled trial of non-invasive respiratory strategies in acute respiratory failure patients with COVID-19**

**Source:** medRxiv 2021.08.02.21261379  
**Author(s):** Gavin D Perkins, Chen Ji, Bronwen A Connolly, Keith Couper, Ranjit Lall, J Kenneth Baillie, Judy M Bradley, Paul Dark, Chirag Dave, Anthony De Soyza, Anna V Dennis, Anne Devrell, Sara Fairbairn, Hakim Ghani, Ellen A Gorman, Christopher A Green, Nicholas Hart, Siew Wan Hee, Zoe Kimbley, Shyam Madathil, Nicola McGowan, Benjamin Messer, Jay Naisbitt, Chloe Norman, Dhruv Parekh, Emma M Parkin, Jaimin Patel, Scott E Regan, Clare Ross, Anthony J Rostron, Mohammad Saim, Anita K Simonds, Emma Skilton, Nigel Stallard, Michael Steiner, Rama Vancheeswaran, Joyce Yeung, Daniel F McAuley **Abstract:** Background: Both continuous positive airway pressure (CPAP) and high-flow nasal oxygenation (HFNO) have been recommended for acute respiratory failure in COVID-19. However, uncertainty exists regarding effectiveness and safety.

Methods: In the Recovery-Respiratory Support multi-center, three-arm, open-label, adaptive, randomized controlled trial, adult hospitalized patients with acute respiratory failure due to COVID-19, deemed suitable for treatment escalation, were randomly assigned to receive CPAP, HFNO, or conventional oxygen therapy. Comparisons were made between each intervention and conventional oxygen therapy. The primary outcome was a composite of tracheal intubation or mortality within 30-days.

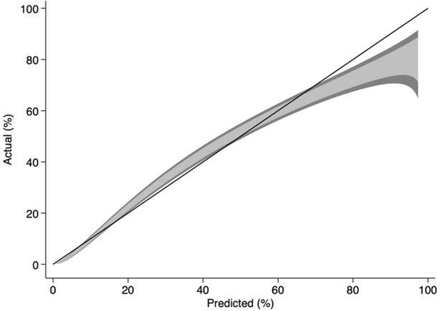
Results: Over 13-months, 1272 participants were randomized and included in the analysis (380 (29.9%) CPAP; 417 (32.8%) HFNO; 475 (37.3%) conventional oxygen therapy). The need for tracheal intubation or mortality within 30-days was lower in the CPAP group (CPAP 137 of 377 participants (36.3%) vs conventional oxygen therapy 158 of 356 participants (44.4%); unadjusted odds ratio 0.72; 95% CI 0.53 to 0.96, P=0.03). There was no difference between HFNO and conventional oxygen therapy (HFNO 184 of 414 participants (44.4%) vs conventional oxygen therapy 166 of 368 participants (45.1%); unadjusted odds ratio 0.97; 95% CI 0.73 to 1.29, P=0.85).

Conclusions: CPAP, compared with conventional oxygen therapy, reduced the composite outcome of intubation or death within 30 days of randomisation in hospitalized adults with acute respiratory failure due to COVID-19. There was no effect observed, compared with conventional oxygen therapy, with the use of HFNO.

**Title:** **P256 Prognostication in COVID-19: a prospectively derived and externally validated risk prediction score for in-hospital death**

**Source:** Thorax 2021;76:A228-A229  
**Author(s):** F Chua, A Draper, M Knight, R Mogal, J Singh, LG Spencer, E Thwaite, T Vaghela, H Mitchell, S Calmonson, N Mahdi, S Assadullah, M Leung, A O’Neill, C Popat, R Kumar, S Raghunath, TJ Humphries, R Talbutt, M Schechter, J Lowe, A Barlow, R Vancheeswaran **Abstract:** Introduction and Objectives The disease spectrum of COVID-19 ranges from mild viral illness to devastating lung injury that heralds the acute respiratory distress syndrome. Different risk factors of adverse outcomes have been identified but prospectively stratified and externally validated studies of prognosis are lacking. We set out to identify independent predictors of mortality and to develop and validate a clinically applicable risk prediction model of COVID-19.

Methods 983 consecutive patients with COVID-19 were prospectively recruited over an 11-week period for an outcome of in-hospital death. Multiple imputation was used to address randomly missing data. 12 independent mortality predictors were identified by multivariate regression and internally validated by bootstrapping. A prognostic score was constructed and validated in an external cohort (N=277) and assessed for predictive accuracy including goodness-of-fit by the Hosmer-Lemeshow test.

Results The median age of the derivation cohort was 70 (IQR: 53-83). Among non-survivors (29.9%; 294/983), the highest odds ratios for death (with 95% confidence intervals) were age >70 (7.65; 4.89–11.98; P<0.001), BMI >30 (2.39; 1.88–3.03; P<0.001), baseline hypoxia (2.24; 1.78–2.79; P<0.001), chronic kidney disease stage 5 (2.00; 1.18–3.41; P<0.05) and tachypnoea (1.79; 1.43–2.24; P<0.001). White ethnicity accounted for 85% of all non-survivors (P<0.01 vs. non-White ethnicities). Care home residency was associated with an increased risk of COVID-19 death on univariate analysis (OR 3.14; 95% CI: 2.28–4.32). A linear relationship between increasing COVID-19 severity and in-hospital mortality was derived from the development dataset. Evaluation of a risk score (ranging 1–19 points) disclosed good discriminatory ability (area under the receiver operating characteristic 0.855), sensitivity (59.7%), specificity (87.6%), positive predictive (70.2%) and negative predictive value (81.6%). Subsequent validation of the score in an age and mortality-matched independent cohort showed robust performance parameters: accuracy/AUC 0.797, calibration slope (R2) of 0.882 (see calibration belt figure 1).

Conclusions Integration of key variables including age, indices of acute respiratory illness and comorbidities into a clinical risk score allows in-hospital death due to COVID-19 to be reliably predicted. The ability to risk stratify may help frontline clinicians in decision processes in respect of escalation and de-escalation strategies during resurgent COVID-19.

**Title:** **Predictors of clinical deterioration in patients with suspected COVID-19 managed in a ‘virtual hospital’ setting: a cohort study**

**Source:** BMJ Open 2021;11:e045356. doi: 10.1136/bmjopen-2020-045356  
**Author(s):** Nick A Francis, Beth Stuart, Matthew Knight, Rama Vancheeswaran, Charles Oliver, Merlin Willcox, Andrew Barlow, Michael Moore **Abstract:** Objective: Identify predictors of clinical deterioration in a virtual hospital (VH) setting for COVID-19.

Design: Real-world prospective observational study.

Setting: VH remote assessment service in West Hertfordshire NHS Trust, UK.

Participants Patients with suspected COVID-19 illness enrolled directly from the community (postaccident and emergency (A&E) or medical intake assessment) or postinpatient admission.

Main outcome measure: Death or (re-)admission to inpatient hospital care during VH follow-up and for 2 weeks post-VH discharge.

Results: 900 patients with a clinical diagnosis of COVID-19 (455 referred from A&E or medical intake and 445 postinpatient) were included in the analysis. 76 (8.4%) of these experienced clinical deterioration (15 deaths in admitted patients, 3 deaths in patients not admitted and 58 additional inpatient admissions). Predictors of clinical deterioration were increase in age (OR 1.04 (95% CI 1.02 to 1.06) per year of age), history of cancer (OR 2.87 (95% CI 1.41 to 5.82)), history of mental health problems (OR 1.76 (95% CI 1.02 to 3.04)), severely impaired renal function (OR for eGFR <30=9.09 (95% CI 2.01 to 41.09)) and having a positive SARS-CoV-2 PCR result (OR 2.0 (95% CI 1.11 to 3.60)).

Conclusions: These predictors may help direct intensity of monitoring for patients with suspected or confirmed COVID-19 who are being remotely monitored by primary or secondary care services. Further research is needed to confirm our findings and identify the reasons for increased risk of clinical deterioration associated with cancer and mental health problems.

**Title:** **Mobile App–Based Remote Patient Monitoring in Acute Medical Conditions: Prospective Feasibility Study Exploring Digital Health Solutions on Clinical Workload During the COVID Crisis**

**Source:** JMIR Form Res 2021;5(1):e23190  
**Author(s):** Sachin Shailendra Shah; Andrew Gvozdanovic; Matthew Knight; Julien Gagnon

**Abstract:** Background: Digital remote patient monitoring can add value to virtual wards; this has become more apparent in the context of the COVID-19 pandemic. Health care providers are overwhelmed, resulting in clinical teams spread more thinly. We aimed to assess the impact of introducing an app-based remote patient monitoring system (Huma Therapeutics) on a clinician’s workload in the context of a COVID-19–specific virtual ward.

Objective: This prospective feasibility study aimed to evaluate the health economic effects (in terms of clinical workload) of a mobile app on a telephone-based virtual ward used in the monitoring of patients with COVID-19 who are clinically ready for discharge from the hospital.

Methods: A prospective feasibility study was carried out over 1 month where clinician workload was monitored, and full-time equivalents savings were determined. An NHS hospital repurposed a telephone-based respiratory virtual ward for COVID-19. Patients with COVID-19 in the amber zone (according to the National Health Service definition) were monitored for 14 days postdischarge to help identify deteriorating patients earlier. A smartphone-based app was introduced to monitor data points submitted by the patients via communication over telephone calls. We then comparatively evaluated the clinical workload between patients monitored by telephone only (cohort 1) with those monitored via mobile app and telephone (cohort 2).

Results: In all, 56 patients were enrolled in the app-based virtual ward (cohort 2). Digital remote patient monitoring resulted in a reduction in the number of phone calls from a mean total of 9 calls to 4 calls over the monitoring period. There was no change in the mean duration of phone calls (8.5 minutes) and no reports of readmission or mortality. These results equate to a mean saving of 47.60 working hours. Moreover, it translates to 3.30 fewer full-time equivalents (raw phone call data), resulting in 1.1 fewer full-time equivalents required to monitor 100 patients when adjusted for time spent reviewing app data. Individual clinicians spent an average of 10.9 minutes per day reviewing data.

Conclusions: Smartphone-based remote patient monitoring technologies may offer tangible reductions in clinician workload at a time when service is severely strained. In this small-scale pilot study, we demonstrated the economic and operational impact that digital remote patient monitoring technology can have in improving working efficiency and reducing operational costs. Although this particular RPM solution was deployed for the COVID-19 pandemic, it may set a precedent for wider utilization of digital, remote patient monitoring solutions in other clinical scenarios where increased care delivery efficiency is sought.

**Title:** **PTH-98 Faecal immunochemical test, FAST score or NG12 criteria for detection of cancer.**

**Source:** [Gut](https://www.researchgate.net/journal/Gut-1468-3288) 70(Suppl 4): A162.1-A162

**Author(s):** Cama, R., Kapoor, N., Zacharopoulou, L., Mebarek, L., Bhatti, H., Sawyer, P., et al. **Abstract:** Introduction Studies have evaluated FIT in patients meeting NG12 criteria suggesting greater accuracy for colorectal cancer (CRC) detection. The FAST score (faecal-Hb, age and sex test score) was proposed to improve the utility of fHb in the diagnosis of CRC. In 2019, Herts Valleys CCG instituted the use of FIT for patients in primary care presenting with symptoms meeting DG30 and some lower risk NG12 criteria (PPV <3%), excluding those with higher risk symptoms of iron deficiency anaemia (IDA), mass or rectal bleeding. We aimed to evaluate the utility of FIT with NG12 referral criteria and FAST score for the detection of CRC in our population. Methods The medical records of all patients undertaking a FIT sample with a minimum of 6 months follow up between June 2019 and July 2020 were reviewed and cross referenced with the trust cancer database. Other outcomes recorded included inflammatory bowel disease and high-risk adenomas (defined as polyps of ≥1cm, ≥5 polyps or high-grade dysplasia). FIT analysis was performed using a single OC-Sensor analyser (Eiken Chemical Co., Tokyo, Japan). FAST scores (> 2.12 versus < 2.12) were calculated as previously described by Digby et al. (2019). Sensitivity, specificity, predictive values, and numbers needed to investigate, were calculated using MedCalc® statistical software. Results 3460 patients returned a FIT sample. The median age of population was 66 (IQR 56-76), with 57% being female. 1046 patients underwent any investigation with 701 patients having full colonic evaluation. 22% had FIT >10 µg/g, 75% had FAST score >2.12 and 59% met NG12 criteria. Sensitivity for CRC, in FIT, FAST group (> 2.12) and NG12 groups was 94% (95% CI 84-99%), 100% (95% CI 93-100%) and 82% (95% CI 67-91%) respectively. Specificity for CRC was 83% (95% CI 82-84%), 25% (95% CI 24-27%) and 42% (95% CI 40-43%) respectively. The number needed to investigate to detect a patient with cancer was 16, 52 and 50 for FIT >10 µg/g, FAST score >2.12 and NG12 criteria respectively. Conclusions FAST score >2.12 has the best sensitivity for detection of cancer. However, the specificity is low and significantly more patients would require investigation. FIT >10 µg/g performed better than NG12 criteria.

**Title:** **A review of Mohs micrographic surgery for skin cancer. Part 1: Melanoma and rare skin cancers**

**Source:** Clinical and Experimental Dermatology 2021 December 23  
**Author(s):** Charalambides, M., Yannoulias, B., Malik, N., Mann, J., Celebi, P., Veitch, D., et al. **Abstract:** Mohs micrographic surgery (MMS) is a precise and effective method commonly used to treat high-risk basal cell carcinoma and squamous cell carcinoma on the head and neck. Although the majority of evidence for MMS relates to keratinocyte cancers, there is published evidence for other types of skin cancer. This review aims to discuss the evidence for using MMS to treat six different types of skin cancer [malignant melanoma, lentigo maligna, dermatofibrosarcoma protuberans, atypical fibroxanthoma (AFX), microcystic adnexal carcinoma and pleomorphic dermal sarcoma (PDS)] particularly in the context of survival rates and cancer recurrence. These cancers were chosen because there was sufficient literature for inclusion and because MMS is most useful when cancers are contiguous, rather than for cancers with marked metastatic potential such as angiosarcoma or Merkel cell carcinoma. We searched MEDLINE, PubMed and Embase using the keywords: ‘melanoma’, ‘mohs micrographic surgery’, ‘lentigo maligna’, ‘dermatofibrosarcoma protuberans’, ‘atypical fibroxanthoma’, ‘microcystic adnexal carcinoma’ and ‘pleomorphic dermal sarcoma’ along with their appropriate synonyms, to identify the relevant English-language articles from 2000 onwards, given that literature for MMS on nonkeratinocyte cancers is sparse prior to this year. AMSTAR (A MeaSurement Tool to Assess systematic Review) was used to assess the validity of systematic reviews. Further high-quality, multicentre randomized trials are necessary to establish the indications and efficacy of MMS for rarer cancers, particularly for AFX and PDS, for which only limited studies were identified.

**Title:** **Nailing distal tibial fractures: Does entry technique affect distal alignment?**

**Source:** European Journal of Orthopaedic Surgery & Traumatology  
**Author(s):** Hague, M., Texeira, D., Anderson, T., Williamson, M., & Trompeter, A. **Abstract:** In treating distal third tibial fractures, restoration of the axial alignment and therefore accurate reduction of the distal fragment minimise the risk of tibiotalar joint malalignment. The aim of this study is to investigate whether there was a difference in accuracy of reduction and axial alignment, when nailing distal third tibial fractures using either the suprapatellar or the infrapatellar tibial nailing entry technique.

This retrospective cohort study compared alignment of intramedullary nails performed for distal third tibial fractures between 2015 and 2018 through the suprapatellar and infrapatellar approach at a UK Level 1 trauma centre. It compared a consecutive series of 74 suprapatellar nails and 51 infrapatellar nails, with radiographic assessment of tibial alignment in the antero-posterior and sagittal planes. It included inter- and intra-observer analyses of radiographic measurements.

In the coronal plane, mean malalignment in the suprapatellar technique group was 2.8 ± 0.7° and 4.7 ± 0.9° in the infrapatellar technique group (P < 0.01). In the sagittal plane, mean malalignment in the suprapatellar technique group was 4.0 ± 0.8° and 3.5 ± 0.9° in the infrapatellar technique group (P = 0.42). Intra- and inter-observer analysis showed strongly positive correlations between observers.

We suggest that the suprapatellar technique may improve coronal plane alignment when intramedullary nailing distal tibial fractures. There was no significant difference in alignment in the sagittal plane. We conclude that the suprapatellar technique may be superior in preventing malalignment when treating distal third tibial fractures, potentially improving clinical outcome.

**Title:** **S19 Relevance of prediction scores derived from the SARS-CoV-2 first wave, in the UK COVID-19 second wave, for early discharge, severity and mortality: A PREDICT COVID UK prospective observational cohort study.**

**Source:** [Thorax](https://www.researchgate.net/journal/Thorax-1468-3296) 76(Suppl 2): A16-A17  
**Author(s):** Ghani, H., Navarra, A., Croft, E., Nur, H., Prabhakar, M., Azri Yahaya, A., et al. **Abstract:** Introduction and Objective COVID-19 prognostication scores are all based on COVID-19 first wave, requiring prospective validation in the evolving pandemic due to SARS-CoV-2 variants (prevalent B.1.1.7 replacing parent D614) and healthcare responses altering patient demographic and mortality. Accelerated COVID-19 virtual hospital (VH) telemedicine model implementation avoids hospital admission, appropriately allocating hospital resources to pandemic needs in tandem with resumption of regular healthcare services, requires a safe triage tool. Widely used COVID-19 first wave derived prognostication scores, SOARS and 4C Mortality Score, with uncertain performance in the evolving pandemic, raises the need for prospective validation. We prospectively validate SOARS and 4C Mortality Score in the evolving UK COVID-19 second wave determining relevance for mortality and safe early discharge. Methods Protocol-based, prospective observational cohort study of SOARS and 4C Mortality Score in 1,383 PREDICT (single site) and 20,595 multi-site ISARIC (International Severe Acute Respiratory and Emerging Infections Consortium) patient cohorts during the UK COVID-19 second wave, between October 2020 and January 2021 Results Data from 1,383 patients (median age 67y, IQR 52–82; mortality 24.7%) in the PREDICT and 20,595 patients from the ISARIC (mortality 19.4%) cohorts showed SOARS had AUC of 0.8 and 0.74, while 4C Mortality Score had an AUC of 0.83 and 0.91 for hospital mortality, in the PREDICT and ISARIC cohorts respectively, therefore effective in evaluating both safe discharge and in-hospital mortality. 19.3% (231/1195, PREDICT cohort) and 16.7% (2550/14992, ISARIC cohort) with a SOARS of 0–1 were potential candidates for home discharge to a virtual hospital (VH) model. SOARS score implementation resulted in low re-admission rates, 11.8% (27/229), and low mortality, 0.9% (2/229), in the VH pathway. Use is still suboptimal to prevent admission, as 8.1% in the PREDICT cohort and 9.5% in the ISARIC cohort were admitted despite SOARS score of 0–1.

**Title:** **Racial discrepancies in oximetry: Where do we stand?**

**Source:** Anaesthesia 2022 02 29;77(2):129-131. Epub 2021 Nov 29.  
**Author(s):** Knight, M. J., Subbe, C. P., & Inada-Kim, M. **Abstract:**

**Title:** **Post-acute covid-19 in primary care**

**Source:** BMJ 2021;375:n3080  
**Author(s):** Knight, M., & Vancheeswaran, R. **Abstract:**

**Title:** **S101 Methods for assessing the success or failure of COPD exacerbation treatments in therapeutic clinical trials: A meta-epidemiological systematic review.**

**Source:** Thorax 2021;76:A65.

**Author(s):** Mathioudakis, A. G., Ananth, S., Bradbury, T., Csoma, B., Fernandez Romero, G., Criner, G., et al. **Abstract:** The overall outcome of a COPD exacerbation (treatment success or failure) is a critical outcome for clinical trials evaluating the management of COPD exacerbations. However, trials use heterogeneous definitions and instruments to evaluate this outcome, limiting the comparability of trial results. Here, we describe how often different measurement instruments are used to evaluate the overall outcome of COPD exacerbations, aiming to promote consistency. MEDLINE and the Cochrane Airways Trial Register were systemically searched. COPD exacerbation trials (2006–2020) reporting on treatment success or failure were included. Risk of bias was assessed. The definitions and measurement instruments used to assess treatment success/failure were collected and described narratively. 56/176 (31.8%) of COPD exacerbation trials assessed the overall outcome of the exacerbation (treatment success or failure). 9/56 (16.1%) of studies had a low risk of methodological bias. Two categories of outcomes evaluating treatment success or failure were identified. Twenty-four RCTs used composite endpoints consisting of several undesirable outcomes to define treatment failure. The most frequently used components were death (59%), hospital admission (52%), treatment intensification (52%) or mechanical ventilation (37%). By comparison, thirty-three RCTs used qualitative descriptions of the status of the exacerbation (such as cure, improvement, or failure), which were based on the patients’ symptoms and signs. The overall outcome was evaluated at different timepoints, between 2 hours and 1 year from presentation.

**Title:** **P186 Single centre experience of tocilizumab in COVID 19 pneumonia.**

**Source:** Thorax 2021;76:A168-A169.

**Author(s):** Y Maung Maung Myint, R Goodka, M Mehta, S Ananth, H Ghani, R Vancheeswaran

**Abstract:** Tocilizumab is an interleukin-6 (IL-6) receptor blocker which blocks the IL-6 signal transduction pathway reducing inflammation. It is thought to be an effective drug for patients with severe COVID-19 pneumonia. Our study sought to evaluate the benefits of tocilizumab in patients with COVID 19 pneumonia who required hospital admission.

This is a retrospective analysis of 47 patients with COVID 19 pneumonia who were admitted to a single centre, London district general hospital during January and February 2021. COVID 19 patients requiring high level of oxygen to maintain oxygen saturation above 92% with one of the following criteria (C-reactive protein above 50, ferritin above 500 mg/l, d dimer above 1000 mg/ml or LDH above 250 U/L) were eligible to receive tocilizumab. These patients were given single dose of tocilizumab 8mg/kg during first week of hospital admission. These patients were matched against 38 control patients with COVID 19 pneumonia with same SF (oxygen saturation/fiO2) ratio on admission (median SF ratio = 106.67) who received standard treatment (dexamethasone). 47 patients received standard treatment with tocilizumab. Total death was 44.7% in control group and 17% in tocilizumab group (p=0.008). 46.8% of patients in the tocilizumab group required ITU admission compared to 31.6% in the control group (p=0.18). 27.6% in tocilizumab needed intubation whereas 10.5% in control group (p=0.06). 57.5% in tocilizumab group were escalated to non-invasive ventilation (NIV) or high flow nasal oxygen (HFNO) whereas only 23.7% in control group required ventilatory support (p value = 0.002). Further analysis of those in the ITU cohort revealed a mortality rate of 22.7% in the tocilizumab group and 58.3% in the control group. Length of hospital stay was twice in the tocilizumab group (12 days) vs control (6 days) (p<0.001).

**Title:** **P37 Managing nontuberculous mycobacterial pulmonary disease – missed opportunities?**

**Source:** Thorax 2021;76:A85-A86.  
**Author(s):** Maung Maung Myint, Y., Jacob, A., Ananth, S., Stavropoulos, C., Hawkins, A., Vidwans, M., et al. **Abstract:** Non-tuberculous mycobacterium pulmonary disease (NTM-PD) can be a cause of significant pulmonary disease. Early diagnosis and treatment is important. In this review we studied the investigation, treatment and outcomes of patients who had microbiological confirmation of a non-tuberculous mycobacterium (NTM). A review of all patients from 2017 - 2019 with a single sputum or bronchial wash culture of NTM was undertaken with notes, microbiology and radiology review. Further analysis was done to review whether patients were managed according to the BTS guidelines.Data for 135 patients was analysed, epidemiological and clinico-radiological findings are shown in [table 1](https://thorax.bmj.com/content/76/Suppl_2/A85.2#T1). 30 patients were treated for NTM-PD. 21 met the criteria for treatment.

**Title:** **PTH-101 Do we need a lower cut off for faecal haemoglobin in anaemic patients?**

**Source:** [Gut](https://www.researchgate.net/journal/Gut-1468-3288) 70(Suppl 4):A163.2-A164  
**Author(s):** Mebarek, L., Kapoor, N., Cama, R., Zacharopoulou, L., Bhatti, H., Patel, B., et al. **Abstract:** Patients with anaemia may benefit from a lower limit of detection using Faecal Immunochemical Tests (FIT). Herts Valleys CCG instituted the use of FIT for patients presenting with symptoms meeting DG30 and some lower risk NG12 criteria, excluding those with iron deficiency anaemia, mass or rectal bleeding. In our pathway, symptomatic patients with anaemia were considered positive if their FIT result was detectable. We aim to evaluate the benefit of a lower threshold for FIT for the detection of colorectal cancer (CRC) or Significant Bowel Disease (SBD) in our population referred with bowel symptoms and anaemia. Methods The medical records of all patients undertaking a FIT sample with a minimum of 6 months follow up between June 2019 and July 2020 were reviewed. Recorded outcomes included colorectal cancer, inflammatory bowel disease and high-risk adenomas (defined as polyps of ≥1cm, ≥5 polyps or high-grade dysplasia). FIT analysis was performed using a single OC-Sensor analyser (Eiken Chemical Co., Tokyo, Japan). The lower limit of detection 4µg/g (LoD) or a fHb cut off of ≥10 µg/g, were taken to assess sensitivity, specificity and predictive values in patients with anaemia. Fisher’s exact test was used to assess differences between groups. MedCalc® statistical software was used for all calculations. Results 3460 patients were reviewed. 17% were anaemic, 68% were not anaemic and in 15% the Haemoglobin was unknown. 2% and 5% of anaemic patients were found to have CRC or SBD compared with 1.5% (p=0.3) and 4% (p=0.1) without anaemia. In patients meeting NG12 criteria, 3.7% and 7.6% of anaemic patients compared with 1.9% and 5% without anaemia had CRC (p=0.07) and SBD (p=0.09) respectively. No additional patients with CRC or SBD were identified with a FIT 4-9µg/g and anaemia. There was no change in the sensitivity at a threshold of 4-9µg + anaemia compared with a threshold of >10µg/g, with an increased specificity at a threshold of >10µg/g (table 1).

**Title: Retrospective case–control study to evaluate hypocalcaemia as a distinguishing feature of COVID-19 compared with other infective pneumonias and its association with disease severity.**

**Source:** BMJ Open, 07 Dec 2021, 11(12):e053810  
**Author(s):** Mehta, M., Ghani, H., Chua, F., Draper, A., Calmonson, S., Prabhakar, M., et al. **Abstract:** To investigate whether calcium derangement was a specific feature of COVID-19 that distinguishes it from other infective pneumonias, and its association with disease severity.

A retrospective observational case-control study looking at serum calcium on adult patients with COVID-19, and community-acquired pneumonia (CAP) or viral pneumonia (VP).

A district general hospital on the outskirts of London, UK.

506 patients with COVID-19, 95 patients with CAP and 152 patients with VP.

Baseline characteristics including hypocalcaemia in patients with COVID-19, CAP and VP were detailed. For patients with COVID-19, the impact of an abnormally low calcium level on the maximum level of hospital care, as a surrogate of COVID-19 severity, was evaluated. The primary outcome of maximal level of care was based on the WHO Clinical Progression Scale for COVID-19.

Hypocalcaemia was a specific and common clinical finding in patients with COVID-19 that distinguished it from other respiratory infections. Calcium levels were significantly lower in those with severe disease. Ordinal regression of risk estimates for categorised care levels showed that baseline hypocalcaemia was incrementally associated with OR of 2.33 (95% CI 1.5 to 3.61) for higher level of care, superior to other variables that have previously been shown to predict worse COVID-19 outcome. Serial calcium levels showed improvement by days 7-9 of admission, only in survivors of COVID-19.

Hypocalcaemia is specific to COVID-19 and may help distinguish it from other infective pneumonias. Hypocalcaemia may independently predict severe disease and warrants detailed prognostic investigation. The fact that decreased serum calcium is observed at the time of clinical presentation in COVID-19, but not other infective pneumonias, suggests that its early derangement is pathophysiological and may influence the deleterious evolution of this disease.

**Title:** **Graves’ thyrotoxicosis complicated by mental health disorder and twin pregnancy**

**Source:** Endocrine Abstracts*(2021)****77****P255 | DOI:*[*10.1530/endoabs.77.P255*](https://doi.org/10.1530/endoabs.77.P255)  
**Author(s):** Mulla, K., Giri, R. S., Bahowairath, F., Mehta, A., Bhatti, T., O’Shea, T., et al. **Abstract:** We present a case of a young female, who was diagnosed with Graves’ thyrotoxicosis in 2019 with very high TSH Receptor antibody. She had a goitre and mild thyroid ophthalmopathy and was commenced on carbimazole. She was followed up in the Endocrine Clinic and carbimazole was titrated according to the clinical and biochemical picture. Her past medical history included epilepsy, generalised anxiety, and emotionally unstable personality disorder. She had difficult social circumstances with four young children, worsening anxiety and continued to smoke cigarettes. She did not attend numerous clinic appointments and was not diligent with repeat thyroid function tests. In March 2020, her carbimazole dose was increased due to worsening thyroid function and thyrotoxic symptoms. She was also experiencing obstructive symptoms from the goitre. The patient admitted to poor adherence with medication and was therefore given a dosette box. Coincidentally, in the same month she was found to be pregnant with MCMA twin pregnancy. The patient was keen to have thyroidectomy due to ongoing symptoms, swallowing difficulty and poor tolerance to carbimazole due to vomiting. She was admitted to Watford General Hospital for pre-operative optimisation of thyrotoxicosis, planned inpatient thyroidectomy and termination of pregnancy (TOP). She was started on high dose propylthiouracil (PTU) and Lugol’s iodine was considered if the patient consented to TOP. Euthyroidism was achieved with high dose PTU and Lugol’s iodine was not required. She had a successful TOP and thyroidectomy. In early pregnancy, patients can present with gestational thyrotoxicosis, which can worsen the pre-existing Graves’ biochemistry. This is an interesting and complex case involving the multi-disciplinary team. Management of thyrotoxicosis was laborious due to poor compliance, intolerance to high doses of carbimazole, complex social circumstances and unstable decision-making due to patient’s mental health disorder. This situation was further complicated by the unplanned pregnancy.

**Title:** **Identification of sick children in acute care settings**

**Source:** Pediatr Med 2021 | https://dx.doi.org/10.21037/pm-21-54  
**Author(s):** Platt, R., Priddis, K., Lawton, B., Hall, D., & Roland, D. **Abstract:** At the heart of every paediatric consultation is the clinician’s responsibility to determine ‘is this child sick?’ In paediatrics illustrative language communicates a clinical picture of the child before us. When we define ‘sick’ we are thinking about a child, from the neonate to the adolescent up to eighteen years old, who will continue to decompensate without medical intervention. We are not concerned about a minor cold or cough, instead we think about the ex-premature infant with bronchiolitis who has the potential to rapidly deteriorate or the child who is ‘irritable’ whom we have to assume has meningitis until we can call them ‘miserable but consolable’. As health care professionals we rely on experience, evidence-based knowledge, and clinical gestalt to determine whether we should be worried about our patients, and how we should approach the management of our patients whilst maintaining a holistic overview.

**Title:** **Three-month cardiac outcomes of survivors of COVID-19 presenting to a district general hospital in west Hertfordshire, UK**

**Source:** European Heart Journal*, Volume 42, Issue Supplement\_1, October 2021, ehab724.3137*  
**Author(s):** Pyae, P. K., Navarra, A., Webb, R., Newland-Smith, A., Vancheeswaran, R., Sehmi, J., et al. **Abstract:** COVID-19 is novel entity associated with significant morbidity and mortality. Most patients recover completely, however, a proportion describe persistent symptoms consistent with cardiopulmonary disturbance. The long-term cardiac and respiratory outcomes of COVID-19 are not known. The aim of this study was to undertake a comprehensive cardiopulmonary assessment of survivors of COVID-19 with post recovery symptoms. The cardiac findings are presented here. Survivors of COVID-19 presenting to a general hospital in West Hertfordshire between 18 March 2020 and 15 May 2020, were reviewed at 3 months using a structured prespecified protocol. Patients with persistent symptoms and those admitted to the intensive care unit (ICU) were invited to attend a clinical assessment comprising an electrocardiogram (ECG), echocardiography, chest x-ray (CXR) and pulmonary function tests. At follow up, patients were categorised according to disease course: 1) monitored via a community based virtual hospital, 2) admitted for supplemental oxygen, 3) requiring non-invasive ventilation and 4) ICU admission. 448 eligible patients were evaluated by telephone. 11 patients admitted to ICU and 147 patients with persistent symptoms were invited for further assessment. At presentation, hospitalised patients were older, had higher levels of obesity and increased rates of hypertension than those managed virtually (p<0.05). Among hospitalised patients, the degree of pulmonary infiltration on CXR was higher, ROX index for intubation lower, eGFR lower, C-reactive protein levels higher and lymphocyte counts lower, compared to those managed virtually (p<0.05). The prevalence of known respiratory conditions was higher among patients admitted to hospital, with a trend towards statistical significance (p=0.051). There were no differences in the prevalence of known cardiac disorders and other co-morbidities amongst both patient groups (table 1). At follow up, CXR appearances were improved and similar among patients monitored virtually, those admitted for supplemental oxygen, those requiring non-invasive ventilation and those treated on ICU. There were no differences in heart rhythm and ECG parameters in the four patient groups. Left ventricular systolic and diastolic dimensions, Simpson's biplane ejection fraction, left atrial volume and left ventricular filling pressures were similar in all four patient groups. There were no differences in right ventricular dimensions, right ventricular fractional area change, tricuspid annular plane systolic excursion and pulmonary artery systolic pressures among patients irrespective of disease severity (table 2). At 3 months, we identified no differences in ECG indices and echocardiographic parameters of left and right ventricular function among survivors of COVID-19, independent of disease course. The findings of this study argue against significant cardiac sequalae following COVID-19 infection.

**Title:** **An unusual presentation of bilateral adrenal haemorrhage/infarction and adrenal insufficiency associated with AstraZeneca COVID-19 vaccine.**

**Source:** Endocrine Abstracts*(2021)****77****P143 | DOI:*[*10.1530/endoabs.77.P143*](https://doi.org/10.1530/endoabs.77.P143)**Author(s):** Ravindran, S. G., Bahowairath, F., Mulla, K., Kabambe, G., Patel, D., Tauni, R., et al. **Abstract:** Bilateral adrenal haemorrhage is an uncommon but life-threatening condition which may result from trauma, sepsis, coagulopathy, underlying tumour or autoimmune conditions. We present a 62-year-old female with a history of well controlled hypertension and asthma who was admitted with sudden onset epigastric pain and suspected cholecystitis. She received her first dose of AstraZeneca (AZ) Covid-19 vaccine seven days prior to onset of symptoms. Her systolic blood pressure was more than 200mmHg initially, which normalized on day three of admission and amlodipine was discontinued. There were no clinical features of Cushing’s syndrome, phaeochromocytoma or skin hyperpigmentation. Investigations revealed normal full blood count. Abdominal ultrasound and subsequent MRCP identified no pathology. CT abdomen revealed bilateral adrenal oedema suggestive of haemorrhage/infarction. Vasculitis and autoantibody screen was normal. Both 9am and random cortisol were < 100nmol/l, consistent with adrenal insufficiency. Given that her symptoms had resolved, she was discharged on oral steroid replacement with urgent endocrine outpatient follow-up. A short synacthen test after holding fluticasone inhaler (four weeks later) confirmed adrenal insufficiency with a peak cortisol of 59nmol/l (>500). Significantly elevated basal ACTH raised renin activity and undetectable aldosterone, adrenal androgens, 17-hydroxyprogesterone, plasma metadrenaline and 3-methoxytyramine confirmed primary adrenal failure. Plasma normetadrenaline was normal. Interval CT adrenal at three months showed resolution of adrenal haemorrhage and patient is stable on glucocorticoid and mineralocorticoid replacement. Spontaneous bilateral adrenal haemorrhage is rare and secondary causes must be excluded. We postulate that this may be a rare complication of the AZ Covid-19 vaccine, which has been associated with thromboembolic phenomena. Up to 12 cases of adrenal infarction, haemorrhage and thrombosis linked to AZ vaccine have been reported to UK’s yellow card scheme over the last six months. Clinicians should have high index of suspicion to diagnose such a rare but potentially life-threatening complication.

**Title:** **535 A variation of laparoscopic ovarian transposition: The ovarian pedicle suspension (PS technique).**

**Source:** [International Journal of Gynecological Cancer](https://www.researchgate.net/journal/International-Journal-of-Gynecological-Cancer-1525-1438) 31(Suppl 3):A31.2-A31

**Author(s):** Stanciu, P., Oikonomou, M., & Padwick, M. **Abstract:** Laparoscopic Ovarian Transposition (OT) has already been proven to be a safe and effective procedure to preserve ovarian function in patients receiving pelvic radiotherapy for a variety of gynaecological malignancies. Different techniques have been described. Aim This video demonstrates our PS technique for OT in a 32-year-old patient with stage 1B3 poorly differentiated squamous cell carcinoma of the cervix who subsequently underwent radical chemoradiation. Laparoscopy was performed as usual, using a 10mm umbilical optic port and four 5mm ports placed in both iliac fossae and high in both flanks. Thorough inspection of the peritoneal cavity revealed no evidence of disseminated disease. Approximately 100mls of free blood was seen in the pelvis. Both ovaries were slightly enlarged, and the right ovary had a ruptured haemorrhagic cyst. She had previously developed OHSS after ovarian stimulation and egg retrieval. The uterus was bulky and retroverted. Both tubes were normal. All the upper abdominal organs looked normal and there was no evidence of disease on the ovaries or peritoneal surfaces therefore we decided to proceed to bilateral ovarian transposition. Result(s)\* Bilateral retrograde salpingectomy was performed using a Harmonic scalpel and specimens were sent for histology. Both pelvic side walls were opened and both ureters were identified. Both utero-ovarian ligaments were transected along with 2cm of round ligament on both sides and ovarian flaps were created. The ovarian flaps were mobilised and the infundibulopelvic ligaments were skeletonised. The para-colic gutters were incised approximately 10cm above the pelvic brim and were tunnelled. Both ovarian flaps were pulled through and stapled outside the irradiation fields to prevent them from falling back into the pelvis following the procedure. Titanium staples were used for easy identification of ovaries on imaging. At the end of the procedure both ovarian pedicles were tension-free with good mobility and no risk of necrosis or torsion. There were no intraoperative complications, and the patient experienced a good recovery. We consider that the ovarian flap allows the ovaries to have a degree of natural movement, while at the same time preventing torsion and minimising ovarian damage associated with the use of transfixed stitches.

**Title:** **Automated left ventricular dimension assessment using artificial intelligence**

**Source:** European Heart Journal*, Volume 42, Issue Supplement\_1, October 2021, ehab724.001*  
**Author(s):** Stowell, C., Howard, J., Cole, G., Ananthan, K., Demetrescu, C., Pearce, K., et al. **Abstract:** Artificial intelligence (AI) has the potential to greatly improve efficiency and reproducibility of quantification in echocardiography, but to gain widespread use it must both meet expert standards of excellence and have a transparent methodology. We developed an online platform to enable multiple collaborators to annotate medical images for training and validating neural networks. Using our online collaborative platform 9 expert echocardiographers labelled 2056 images that comprised the training dataset. They labelled the four points from where the standard parasternal long axis (PLAX) measurements (interventricular septum, posterior wall, left ventricular dimension) would be made. Using these labelled images, we trained a 2d convolutional neural network to replicate these labels. Separately, we curated an external validation dataset of the systolic and diastolic frames of 100 PLAX acquisitions. Each of these images were labelled twice by 13 different experts, and the average of the 26 measurements was taken as the consensus standard. We then compared the individual experts and the AI measurements on the external validation dataset to the consensus standard and calculated the precision standard deviation (SD) of the signed differences from the consensus standard. For diastolic septum thickness, the AI had a precision SD of 1.8 mm (ICC 0.81; 95% CI 0.73 to 0.97), compared with 2.0 mm for the individual experts (ICC 0.64; 95% CI 0.57 to 0.72). For diastolic posterior wall thickness, the AI had a precision SD 1.4 mm (ICC 0.54; 95% CI 0.38 to 0.66), and the individual experts 2.2 mm (ICC 0.37; 95% CI 0.29 to 0.46). The AI's precision SD for left ventricular internal dimension was 3.5 mm (ICC 0.93, 95% CI 0.90 to 0.94), and for individual experts was 4.4mm (ICC 0.82, 95% CI 0.78 to 0.95). Both the experts and AI performed better in diastole than systole (precision SD AI 2.5mm vs 4.3mm, p<0.0001; experts 3.3mm vs 5.3mm, p<0.0001). AI trained by a group of echocardiography experts was able to perform PLAX measurements which matched the reference standard more closely than any individual expert's own measurements. This open, collaborative approach may be a model for the development of AI that is explainable to and trusted by clinicians.

**Title:** **Fully automated global longitudinal strain assessment using artificial intelligence developed and validated by a UK-wide echocardiography expert collaborative.**

**Source:** [European Heart Journal](https://www.researchgate.net/journal/European-Heart-Journal-1522-9645) 42(Supplement\_1)  
**Author(s):** Stowell, C., Howard, J., Demetrescu, C., Bhattacharyya, S., Mangion, K., Vimalesvaran, K., et al. **Abstract:**  Left ventricular longitudinal strain has been reported to deliver reproducibility, sensitivity and prognostic value over and above ejection fraction. However, it currently relies on uninspectable proprietary algorithms and suffers from a lack of widespread clinical use. Uptake may be improved by increasing user trust through greater transparency. We therefore developed a machine-learning based method, trained, and validated with accredited experts from our AI Echocardiography Collaborative. We make the dataset, code, and trained network freely available under an open-source license. AI enables strain to be calculated without relying on speckle tracking by directly locating key points and borders across frames. Strain can then be calculated as the fractional shortening of the left ventricular perimeter. We first curated a dataset of 7523 images, including 2587 apical four chamber, each labelled by a single expert from our collaboration of 17 hospitals, using our online platform (Figure 1). Using both this dataset and a semi-supervised approach, we trained a 3d convolutional neural network to identify the annulus, apex, and the endocardial border throughout the cardiac cycle. Separately, we constructed an external validation dataset of 100 apical 4 chamber video-loops. The systolic and diastolic frame were identified, and each image was separately labelled by 11 experts. From these labels we then derived the expert consensus strain for each of the 100 video loops. These experts also ordered all 100 echocardiograms by their visual grading of left ventricular longitudinal function. Finally, a single expert calculated strain using two different proprietary commercial packages (A and B). Consensus strain measurements (obtained by averaging individual assessments by the 11 experts) across the 100 cases ranged from −4% to −27%, with strong correlations with the individual experts and machine methods (Figure 2). Using each cases' consensus across experts as the gold standard, median error from consensus was 3.1% for individual experts, 3.4% for Propriety A, 2.6% for Proprietary B, 2.6% for our AI. Using the visual grading of longitudinal strain as the reference, the 11 individual experts and 4 machine methods each showed significant correlation: coefficients ranged from 0.55 to 0.69 for experts, and for Proprietary A was 0.68, Proprietary B 0.69, and our AI 0.69. Our open-source, vendor-independent AI-based strain measure automatically produces values that agree with expert consensus, as strongly as the individual experts do. It also agrees with the subjective visual ranking by longitudinal function. Our open-source AI strain performs at least as well as closed-source speckle-based approaches and may enable increased clinical and research use of longitudinal strain.

**Title:** **Imaging considerations for laryngeal cancer surgery**

**Source:** [Head and Neck Imaging](https://link.springer.com/book/10.1007/978-3-030-80897-6) pp 369-401  
**Author(s):** Tatla, T. S., Kumar, R., Fiorini, F., & Weller, A. **Abstract:** Assessment in laryngeal cancer involves a multi-disciplinary team approach requiring clinico-radiological correlation. Clinical endoscopic assessment remains the gold standard approach for early mucosal disease with radiological assessment largely reserved for stage 2 disease and above. Utilisation of an appropriate imaging modality warrants an understanding of their benefits and potential pitfalls, particularly pertaining to CT, MRI and functional imaging. This must also be correlated with the patient’s history, the most suitable modality chosen based on the clinical question (staging, response evaluation or recurrence).

This chapter provides a detailed review of the clinically relevant laryngeal anatomy and the role of imaging in differentiating normal radiological appearances from disease, including the challenges of assessing laryngeal cartilage invasion, nodal disease and distant metastases. In addition, the surgical management of laryngeal cancer is explored, highlighting current best practice and recent technological advances. The importance of the multi-disciplinary team is also emphasised in reference to its role in staging, decision to treat and subsequent disease monitoring.

**Title:** **PTH-99 Faecal immunochemical testsfor younger patients presenting with bowel symptoms.**

**Source:** [Gut](https://www.researchgate.net/journal/Gut-1468-3288) 70(Suppl 4):A162.2-A162  
**Author(s):** Zacharopoulou, L., Cama, R., Kapoor, N., Mebarek, L., Bhatti, H., Sawyer, P., et al. **Abstract:** Quantitative faecal immunochemical tests (FIT) are recommended by NICE (DG30) guidelines for use in patients with suspected colorectal cancer in primary care. However, the utility of FIT in patients under the age of 50 versus the use of faecal calprotectin is unclear. In 2019, Herts Valleys CCG instituted the use of FIT for patients over the age of 40 years, presenting with symptoms meeting DG30 and some lower risk NG12 criteria, excluding those with higher risk symptoms of iron deficiency anaemia (IDA), mass or rectal bleeding. We aim to evaluate the accuracy of FIT for significant bowel disease (SBD) in patients under 50 years with those 50-59 and over 60 years in our population. The medical records of all patients undertaking a FIT sample with a minimum of 6 months follow up between June 2019 and July 2020 were reviewed. The outcome of SBD (a composite of either colorectal cancer, inflammatory bowel disease or high-risk adenomas (defined as polyps of ≥1cm, ≥5 polyps or high-grade dysplasia) was recorded. FIT analysis was performed using a single OC-Sensor io analyser (Eiken Chemical Co., Tokyo, Japan). The sensitivity, specificity, predictive values and accuracy of FIT for SBD were assessed for each age group. Fisher’s exact test was used to assess the differences in sensitivity and specificity of FIT between patients <50 and older age groups. MedCalc® statistical software was used for all calculations. 3460 patients with bowel symptoms undertook a FIT sample. 132 patients had SBD. 13% of patients were <50 with a FIT result ≥10µg/g in 12%. 22% were 50-59 with a FIT result ≥10µg/g in 16%. 65% were ≥60 with a FIT result ≥10µg/g in 26%. The sensitivity, specificity, PPV, NPV and accuracy of a FIT result ≥10µg/g for patients 50-59 were 85% (CI 66 to 95.8%), 87% (CI 84 to 89%), 19% (CI 15.8% to 23%), 99.4% (CI 98.5% to 99.8%) and 87% (CI 84% to 89%) and for patients ≥60 years were 86% (CI 77 to 92%), 77% (CI 75 to 78.5%), 14% (CI 13 to 16%), 99.2% (CI 98.7% to 99.5%) and 77% (CI 75% to 79%). The sensitivity, specificity, PPV, NPV and accuracy of a FIT result ≥10µg/g for patients <50 years were 87.5% (CI 47 to 99.7%) p=1.0, 89% (CI 85.7 to 91.9%) p=0.35 and <0.01, 13% (CI 9 to 17.8%), 99.7% (CI 98.4 to 99.96%) and 89% (CI 86 to 92%) respectively. FIT performed well for the detection of SBD in all age groups with equivalent sensitivity between age groups and improved specificity in younger age groups compared with patients ≥60 years.