



**P154 An assessment of health workers' perception of cancer screening participation in Nigeria**

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**Background:** Breast and Cervical cancers are a global public health problem. Internationally, there has been substantial rise in the incidence of Breast and Cervical cancer and cancer screening has been advocated as a means of reducing cancer mortality. Cancer screening participation has been low in Nigeria due to various factors. This study aimed to assess health workers' perception of five factors affecting uptake of breast and cervical cancer screening by Nigerian females.

**Methods:** A cross-sectional study of fifty health workers from healthcare facilities in Lagos, Nigeria was carried out. Questionnaires were used for data collection and statistical analysis done using Statistical Package for Social Sciences (SPSS) version 20.

**Results:** 64% of the respondents were within the age bracket of 25- 39years, while 74% of them are married. 56% of the respondents were female and respondents were mostly doctors (38%) and radiographers (42%). The years of experience of the respondents were within 5-15years (52%) and less than 5years (30%) respectively. Majorly, Government owned health workers (86%) were the respondents of this study. Current equipment to patient ratio (40%) was rated as bad. 60% of respondents rated patients' perception of female screening staff as good, while staff availability (48%) and training programs for screening staff (42%) were majorly rated as fair and bad respectively.

**Conclusion:** Female screeners are preferred by patients, compared to male screeners. More screening staff and training programs for screening staff are required, increased number of equipment needed for screening is also indispensable for improved screening participation.

**SERVICE DELIVERY AND INNOVATION**

**P155 To formulate and implement a robust feasibility governance pathway for the use of 'healthy' volunteers for research test scans within the Imaging department at the University Hospital of North Midlands NHS Trust**

*Rachel Sutton*

University Hospitals of North Midlands NHS Trust

An incidental finding (IF) recommending further follow up care by a radiologist on a healthy volunteer research test MRI scan was found not to have been acted upon 15 months after the examination by a small audit. This 6 month project considered the causes that led to this incident and put forward a case for change, using both quantitative and qualitative data with the aim of improving governance for healthy volunteers using the model for improvement (plan do study act) approach. A pathway for the management of incidental findings for healthy volunteer scans, including the need for consent was formulated as this was found to be supported by literature and a wider audit. Measuring volunteer experience was also deemed crucial to the project to reflect the importance of patient experience within the context of the wider NHS constitution. Analysis of the methodology and findings and personal reflections on leadership skills and development were also incorporated into the project to emphasise lessons learned providing vital experience and knowledge for future projects. Despite a delay to implementation there is confidence that the pathway will improve governance for volunteers, however this will take time to measure as on average only 1 volunteer is scanned per month. Embedding the changes within the department will be the main challenge as research shows that up to 70% of change fails to survive (NHS 2010). In response to this the Sustainability Model (NHS, 2010) was used to identify strengths and weaknesses increasing its probability of success.

1. Maher, L. Gustafson, D. Evans, A. (2010) NHS Institute for Innovation and Improvement: NHS Sustainability Model, [Online].

[http://webarchive.nationalarchives.gov.uk/20160805122935/http://www.nhs.uk/media/2757778/nhs\\_sustainability\\_model\\_-\\_february\\_2010\\_1\\_.pdf](http://webarchive.nationalarchives.gov.uk/20160805122935/http://www.nhs.uk/media/2757778/nhs_sustainability_model_-_february_2010_1_.pdf).

**P156 Eliciting consent from patients with dementia in general X-ray departments: Law, ethics and interpretation of context**

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**Background:** While the numbers of individuals suffering from dementia syndromes in the UK steadily increase, many practitioners in the allied healthcare professions, and particularly junior staff, still feel ill-equipped for face-to-face communicative encounters with such individuals (Miller et al., 2019; Tullo et al., 2016). An elemental feature of effective communication in healthcare contexts is the seeking of proper consent to perform given procedures. The propositions above, however, raise questions regarding how 'properly' consent is being acquired when dementia is at stake. This paper, thus, reports findings from a qualitative study of general radiographers' experiences of acquiring consent from patients with dementia, specifically exploring participants' interpretations of correct legal and ethical practice therein.

**Methods:** With institutional ethical approval, N=6 general radiographers with less than ten years of clinical experience were recruited to sit for extended interviews. Verbatim transcripts were analysed using the domain-established techniques of Interpretative Phenomenological Analysis (Miller et al., 2017).



**Results:** Four key areas of extremely variable interpretation and practice were identified. (1) How to assess capacity for informed consent; (2) How to effectively modify communication when gaining consent; (3) Managing carer involvement during consent-acquisition and; (4) Constituting the 'best interest' of the patient.

**Conclusion:** Participants' own accounts often indicated that they were often not lawfully implementing the Mental Capacity Act (MCA) when acquiring consent. Moreover, as previously identified by Miller et al. (2019), the situational confusion did little for participants' confidence, with prospectively damaging import for future encounters. Stronger training in practical application of the MCA is recommended.

Miller PK, Booth L and Spacey A (2019) Dementia and clinical interaction in frontline radiography: Mapping the practical experiences of junior clinicians in the UK. *Dementia* 18(3): 1010-1024.

Miller PK, Woods AL, Sloane C and Booth L (2017) Obesity, heuristic reasoning and the organisation of communicative embarrassment in diagnostic radiography. *Radiography* 23(2): 130-134.

Tullo ES, Young TJ and Lee RP (2016) Medical students' views about person-centred communication in dementia care. *Dementia* 17(5): 573-584.

**P157 Imaging silver trauma: Outcome and resource implications**

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**Introduction:** Elderly trauma (>65 years old) accounts for more than 20% of all major trauma in the UK<sup>[1]</sup>. Older patients inevitably have reduced physiological reserve and a higher incidence of co-morbid disease, resulting in trauma such as low-level falls leading to significant injuries requiring radiological investigation. This has increased the demand on radiological services. Our study explored the differences and impact of trauma imaging on patients aged below and above 65.

**Methods:** A retrospective study was performed on all patients (n=213) referred for a trauma CT scan at West Middlesex University Hospital, a district general hospital in London from January to December 2018. Data regarding scan timings and report findings was collected.

**Results:** It took significantly more time from clinician request to CT scanning (p=0.0001), and from CT scanning to reporting (p=0.0099) for post-65 year olds compared to pre-65 year olds. Only 61% of scans were being reported within the 1-hour time-frame expected by RCR standards<sup>[2]</sup>. There were no liver, spleen or kidney trauma related injuries reported within both age groups. Furthermore, a higher number of incidental findings were reported amongst the post-65 age group. This included insignificant findings (p=0.00065) requiring no follow-up, and significant findings (p=0.00026) such as potential malignancies requiring further medical assessment. Follow-up imaging of this cohort reported no confirmed malignancies.

**Conclusion:** Our results suggest that silver trauma scanning is significantly more resource intensive and requires greater medical input. This calls for re-evaluation of trauma and radiological services to meet the increasing demands of silver trauma.

1. Kehoe, A, Smith, JE and Edwards, A (2015) The changing face of major trauma in the UK. *Emergency Medicine Journal* 32, 911-915.

2. The Royal College of Radiologists. (2015) Standards of practice and guidance for trauma radiology in severely injured patients, Second Edition. [https://www.rcr.ac.uk/system/files/publication/field\\_publication\\_files/bfcr155\\_traumaradiol.pdf](https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr155_traumaradiol.pdf).

**P158 Redefining best practice in radiology for patients with cognitive impairments experiencing 'Sundowning' phenomenon**

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It has long been reported that there is often a difficulty in obtaining optimal imaging in patients who are suffering from Alzheimer's or Dementia. This can result in a stressful experience for not only the patient, but also for staff and family/care-givers. A study was undertaken with the aim of reducing these stressful situations by educating staff and utilising the information about the patient not limited to just the clinical question. Sundowning is a phenomenon which is characterised by the emergence of symptoms such as agitation, confusion, anxiety and aggressiveness, particularly in the late afternoon <sup>[2]</sup>. Studies suggest that up to two-thirds of patients with dementia can suffer from this condition <sup>[3]</sup>. Initially, information was gathered from Radiographers about the compliance of patients in this patient group. It was found that more successful examinations were performed in the mornings <sup>[1]</sup>, with most difficulty in the late afternoon/early evening. In order to improve the situation for both patients and staff, referrers were asked to provide information about the patients cognitive state at the time of request, in a separate field to the clinical question and justification of the examination. This allowed Radiology staff to utilise this information to tailor the time of the examination to the needs of the patient whenever possible, allowing for a stress-reduced and patient focussed service for this those with cognitive impairment. Patients are given priority for early appointments. Initial feedback from care-givers and staff demonstrate an improvement in patient experience.

1. Edwards et al., (2015). *Dementia and Dentistry*. *Dental Update*;42: 464-472.

2. Khachiyants et al., (2011). *Sundown Syndrome in Persons with Dementia: An update*. *Review Article*. *Psychiatry Investigate*; 8: 275-287.

3. Uptodate., (2018). *Management of Neuropsychiatric symptoms of Dementia*.



**P159 New Concept: 'TARN Friendly Trauma Reporting' (What Radiologists say really does matter)**

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The regional trauma network consists of 1 trauma centre and 4 trauma units with an overarching governance structure. Trauma Audit Research Network (TARN) provides a national benchmark and assessment of networks, providing reports on mortality and key performance indicators at regular intervals. TARN database requires accurate injury description to provide an Injury Severity Score (ISS) which informs performance and best practice tariff (BPT), of which the majority of data is extracted from imaging reports. 6 months of TARN data was reviewed across the 5 trusts with information on imaging undertaken, MOI, ISS and injury descriptors. Patients with an ISS near to a BPT boundary of 9 and 16 (5-8 and 11-15) then had their imaging reviewed by radiology trainees with direct reference to the ISS coding manual. Injuries were then re-coded and ISS recalculated. 1693 patients were identified from the 5 hospitals over the 6 months. 169 (9.9%) patients met the inclusion criteria for review. 38 (22.4%) had a change in abbreviated (region specific) injury code, with 33 (19.5%) a change in the resultant ISS. 3 had a decrease in ISS and 30 increased ISS with all 30 moving across an BPT and 3 moving across 2 payment tariff boundaries. Data analysis demonstrated that with re-coding a potential of £15000 of lost revenue from the MTC alone. Reporting with reference to ISS description improves accuracy of ISS significantly. Radiologists improving the description specific injuries and adopting a TARN Friendly reporting may improve data accuracy for TARN and both performance and finances of the trust.

**P160 Primary care imaging pathway audit; Evaluating the effectiveness of a local GP CT KUB referral pathway**

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Acute renal colic is common, 12% of men and 6% of women. Gold standard for imaging acute renal colic is CT KUB. GP CT KUB pathways offer general practitioners direct access CT imaging for patients with suspected renal colic, avoiding the emergency department. This audit aims to evaluate the effectiveness of the local primary care renal colic pathway.

**Methods:** Retrospective study obtaining data from radiology database CRIS: 01/04/2017 - 17/04/2019 all patients on GP CT KUB pathway at a tertiary NHS trust. Renal colic defined as a stone within the ureter, or evidence of recent stone passage.

Alternative radiological diagnoses explaining symptoms were recorded. Demographics stratified patients into gender and age: 18-49 years and those aged > 50 years. Standards used were the CT KUB primary care pathway audit 2016.

**Results:** 521 patients; average positive renal colic 9% (47/521), significant alternative diagnosis 4% (20/521). Largest patient cohort female aged 18-49 years; lowest positive renal colic results 1.6% (2/148) and highest alternative diagnosis rate 6% (9/148). Conversely, male patients aged 18-49 years, smallest patient cohort; highest positive renal colic rates 15% (16/104) with lowest alternative diagnosis 1.9% (2/104). Male patients 50 years or older were most likely to have cause for their symptoms diagnosed 20.2% (29/143).

**Conclusion:** Imaging pathway at our institution has low yield and limited management impact as compared to the standard (diagnostic yield 20%). Recommend local GP forum feedback with pre-test probability STONE score to target imaging. Consider alternative diagnosis/referral delay in females 18-49 years.

1. Al-Bakir et al. Radiological investigation of renal colic following the introduction of CT KUB. RCR Audit-Live 2010. Available at:

<https://www.rcr.ac.uk/audit/radiological-investigation-renal-colic-following-introduction-ctkub>

2. Moore C et al. Prevalence and clinical importance of alternative causes of symptoms using a renal colic Computed Tomography protocol in patients with flank or back pain and absence of pyuria' *Acad Em Med* 2013; 20: 470 - 478.

3. Moore et al. Derivation and validation of a clinical prediction rule for uncomplicated ureteral stone- the STONE score; retrospective and prospective observational cohort studies. *BMJ* 2014; 348:g2191

4. O'Brien C et al. GP direct access to CT KUB for suspected renal colic - an evaluation of the local trust pathway *Clin Rad* 2016; 71 S10

5. Rosen MP et al. Value of CT in the emergency department for patient's with abdominal pain. *Euro Radiol* 2003; 13: 418 - 424

6. True C et al. 2015. Guidelines on Urolithiasis. European association of Urology

**P161 Adequate contrast enhancement of CT pulmonary angiograms**

*Maryam Paracha<sup>1</sup>; Afaq Saleem<sup>2</sup>; Kainat Tahir<sup>3</sup>; Abdul Wahab Paracha<sup>4</sup>*

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**Background:** Suboptimal enhancement of pulmonary angiograms leads to non-diagnostic studies and therefore unnecessary exposure to contrast and radiations. Published research suggests that a level of 210 HU is required in a vessel to identify chronic thrombus from enhancing thrombus. Acute thrombus has lower attenuation than chronic and therefore the vascular enhancement can be lower but still distinguishable from the thrombus.

**Method:** A retrospective study was done by evaluating 50 consecutive CTPAs -- June to August 2019. Level of 210HU in the main pulmonary artery was defined as level for acceptable enhancement. Target was defined as no more than 11% of CTPAs having HU <210 in the main pulmonary artery.



**Results:** 4 out of 50 scans had suboptimal opacification. It was found that overall 8 % of CTPAs had HU <210 in main pulmonary artery.

**Conclusion:** Researchers have suggested that approximately 10.8% of CTPAs can be suboptimal based on all causes including poor contrast enhancements and motion artefacts. Based on this Optimal enhancement target was achieved. However, it was advised to further educate the team and repeat audit in a year time to ensure that standards are maintained.

Wittram C, Maher MM, Halpern E, Shepard JO. Hounsfield unit values of acute and chronic pulmonary emboli. *Radiology* 2005; 235: 1050-1054.

Jones SE, Wittram C. The indeterminate CT pulmonary angiogram: imaging characteristics and patient clinical outcome. *Radiology* 2005; 237: 329-337.

**P162 Learning from radiation incidents: A 4-year evaluation of the causative factors in a single NHS Trust**

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University of Bradford

**Background:** Patient safety is a national priority and learning from incidents is an important method in improving safety in healthcare environment.<sup>[1]</sup> Although the number of nationally reported radiation incidents dropped in 2017-18, CT continues to yield a large proportion.<sup>[2]</sup>

**Method:** A retrospective mixed methods project was undertaken at a single multi-site NHS Trust. All incidents involving a CT radiation dose greater than intended were examined using data from the DATIX system (online incident reporting system), root cause analysis minutes and the radiology information system. Thematic analysis of the qualitative data was undertaken.

**Results:** A greater number of incidents were recorded on Mondays and Wednesdays, consistent with national data. Eight key themes were identified, including supply chain management, high reliability working, culture (both poor and open). The results revealed there is a 1:1000 chance of an incident occurring at this Trust with no significant difference between sites.

**Conclusion:** Where a systems approach to the incident review and management was adopted, the causative element was not repeated, whereas the person approach did not prevent recurrence.

1. Leistikow I, Mulder S, Vesseur J, Robben P. Learning from incidents in healthcare: the journey, not the arrival, matters. *BMJ Quality & Safety* 2017;26:252-256.

2. Care Quality Commission. IR(ME)R annual report 2017/18. November 2018. CQC-426-112018.

**P163 Audit cycle on image guided biopsy: Success rates, complication rates and documentation of consent**

*Haisum Qayyum; Konrad Csenki; Aws Al-Fahad*

Pennine Acute Hospitals NHS Trust

**Background:** Image guided biopsies require appropriate and contemporaneous consent<sup>[1]</sup>. This enables clinicians to explain and justify their involvement in the consenting process later. Inadequate biopsy samples cause diagnostic delays if on-site services are not available to assess adequacy of the sample at the time of the procedure.

**Purpose:** To assess 100% documentation of consent for all image guided biopsy procedures at our Trust. To report image guided biopsy yields with a view to build a case for introducing pathology services checking adequacy of samples for lab analysis if yields are deemed low.

**Summary:** Computerized Radiology Information System (CRIS) was searched for Ultrasound and CT guided biopsies occurring between January-December 2018. Data collected included written documentation of consent, adequacy of sample and any diagnostic delay. The re-audit included data between August-September 2019. Through random sampling, 60 biopsies were included in the initial audit with 58 adequate samples (96.7% yield) and a diagnostic delay of 3 months each for the two inadequate samples. Appropriate documentation of consent was done in 67% of cases. The audit was presented and discussed at the departmental meeting. Biopsy yields were deemed within acceptable levels. Plan agreed to standardize consenting by scanning all completed consent forms onto CRIS. Staff informed using email, posters and discussions. Re-audit included 50 biopsies with 48 adequate samples (96% yield) and no diagnostic delays. 100% of the procedures had appropriate consent documentation. Our audit led to a direct positive change in practice for consent documentation.

1. Royal College of Radiologists (2012). Standards for Patient Consent Particular to Radiology. Second Edition. BFCR(12)8.

**P164 Prudent reporting of plain films**

*Emily Mayo; Dawn Howes*

Princess of Wales Hospital

**Introduction:** In our local hospital all emergency department (ED) plain film reports are printed and physically delivered to the referrer, often several days after the x-ray examination. Individual communication methods vary regarding highlighting abnormalities ahead of formal reports. This historical arrangement reflects the ED paper-based notes system. Following mis-delivery of a radiology report, an ombudsman's report recommended robust systems to ensure the referrer reviews radiology reports appropriately and responsibly. We approached contemporary Radiology departments to compare local practice.

**Methods:** An electronic survey was emailed to Wales-based Radiologists and reporting radiographers. Questions explored how abnormal x-rays are communicated and recorded; who actions advisory repeat films and which reports are printed. Responses were collected over a 4-week period.



**Results:** 27 individuals from 6 health boards responded. 47% indicated all radiology reports are printed; 5% print abnormal films only. 38% were unsure which are routinely printed. 75% were unaware if plain film abnormalities have been identified prior to the formal report unless electronic radiographer highlights are placed. 70% highlight important findings to the referrer verbally or via email. 74% indicated ED actions advisory repeat films; 24% were unsure who actions them.

**Conclusion:** Inconsistency across South Wales was demonstrated regarding awareness of ED reporting practices, highlighting of plain film abnormalities and paper printing. Paper printing practice is a significant ongoing administrative cost and risks information governance breaches. We consider there to be an overwhelming argument for a national paper-free electronic reporting system to reduce printing cost and improve communication between clinicians and radiology.

**P165 Improving access to complex imaging for suspected scaphoid fractures: A feasibility study of extremity CT**

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**Background:** The confirmation, or exclusion, of scaphoid fractures is a diagnostic challenge with centres being unable to implement the 2016 NICE guidelines<sup>[1]</sup> around MRI as a first-line imaging tool. Clinical pathways vary across the UK with most following an overtreatment regimen to minimise morbidity and litigation.<sup>[2,3]</sup>

**Methods:** A 2-month prospective single-centre study has evaluated the impact of a new pathway incorporating cone beam CT (Carestream OnSight 3D Extremity System) on the day of initial ED attendance with virtual follow-up to ensure patient recovery. Comparison with a retrospective cohort has enabled comparison of healthcare resource utilisation, including imaging tests and patient visits.

**Results:** Data collection and analysis is ongoing. The CBCT scan has been effective in streamlining the patient pathway. Early results demonstrate greater efficiency, reduced staff time and patient follow-up whilst maintaining the quality of clinical care. Validated patient reported outcomes measures for this cohort are being used to determine the benefit of early access to CBCT.

**Conclusion:** The integration of new technology into patient care pathways requires robust evaluation. The reduction in patient and health service costs justifies the adoption of new technologies into practice however further research is required to compare different diagnostic pathways.

1. National Institute for Health and Care Excellence. Fractures (non-complex): assessment and management NG38. NICE. 2016.

2. Rua T, Parkin D, Goh V, McCrone O, Gidwani S. The economic evidence for advanced imaging in the diagnosis of suspected scaphoid fractures: systematic review of evidence. *J Hand Surg Eur* 2018; 43: 642-51.

3. Chunara MH, McLeavy CM, Kesavanarayanan V, et al. Current imaging practice for suspected scaphoid fracture in patients with normal initial radiographs: UK-wide national audit. *Clinical Radiology* 2019; 74 (6): 450-455.

**P166 Introducing audiologist led referrals for MRI scans of the IAM**

*Darren Hudson; Mohammed Al-Khateeb*

InHealth

**Background:** InHealth aims to deliver quality added diagnostics by introducing innovative pathways and extra procedures which will help audiologists manage patients more appropriately and guide GPs to better onward referrals. In keeping with our focus on innovation, we have set up an internal direct referral pathway allowing an audiologist to request MRI scans for patients presenting with certain clinical manifestations.

**Purpose:** Direct referral to MRI scan from audiology departments with suspected hearing loss is now becoming standard practice nationally, providing appropriate training and pathway(s) are in place. Traditionally, where unilateral symptoms exist, Audiologists refer to ENT, however it is becoming increasingly more common practice for Audiologists to refer directly to MRI. Audiologist led MRI direct referrals bring clinical, operational and financial benefits to the healthcare system. Clinical benefits include; reduced patient anxiety, rehabilitation and intervention. Operational benefits include; shorter waiting times, better appointment utilisation, less referrals made and direct access. Financial benefits include the elimination of two medical professionals (ENT and GP) unless relevant abnormal results are detected.

**Summary:** This poster provides an overview of the change in patient pathway as a result of introducing audiologist led referral to MRI and provides an outline of training given to support safe and effective referrals by this group of non-medical referrers.

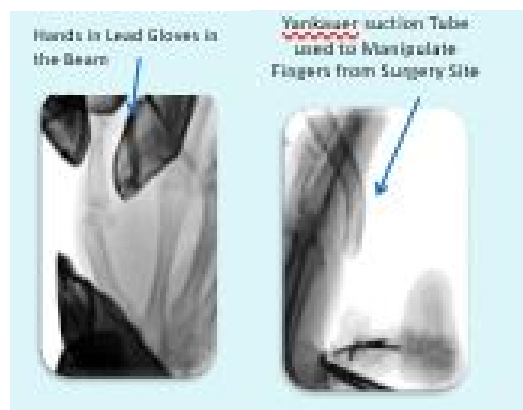


**P167 Radiology and theatres collaboration – Innovative idea to explore dose reduction and optimisation for image intensifier (mini c arm) - hand surgery**

*Janet Dark*

Queen Victoria Hospital

**Background:** IR(ME)R17 Section 12 Optimisation of Radiation dose as per Mini Image Intensifier Standard Operating Procedure, Radiology monitor mini II usage, recording dose, screening times and reviewing the saved images (a representation of the surgery performed). The images are reviewed: surgeons hands do not appear in the main beam, no excessive amount of 'non-essential' metal work present, the radiation dose is to be kept below a 9.44 cGycm<sup>2</sup>. Radiology wanted to offer an alternative solution to assist with dose reduction and optimisation. Specialist Hand surgeons require the digits to be moved during surgery



for assessment. Explore innovative ideas to reduce dose by reducing amount of metallic instruments used to move digits.

**Methods:** The suggestion to use of an alternative plastic instrument was taken by 2 leading hand surgeons and trialled. Selection criteria for any substitute/alternative should consider the following: as long as the forceps are rigid, not metallic or dense material, readily available, sterile already, no 'significant' cost implications and suitable for purpose First step answer: trial a Yankauer Suction tube.

**Results:** Radiation dose - No recordable change Surgeons Review - A very positive first step. Unexpected measurable result- Recorded 'fingers in the beam' cases have reduced by approx. 50% (2018 to 2019). It has assisted in bringing Radiation Awareness to the forefront for Consultants, Registrars and Theatre Staff alike.

**Conclusion:** Positive steps in raising Radiation Awareness. Collaboration and thinking outside of the box is how innovative ideas are born.

**P168 Cauda equina syndrome (CES): Are we scanning quick enough?**

*Ben Verburg; Emma Porter*

St Helens and Knowsley Teaching Hospitals NHS Trust

**Introduction:** Cauda equina syndrome (CES) is a severe type of spinal stenosis where the nerves in the lower back become severely compressed (NHS, 2018). This audit aims to investigate the timescale in which patients attending accident and emergency (A/E) are scanned after presenting with CES symptoms, since implementing the trust's rapid access spine pathway (RASP). RASP gives referrers the opportunity to discharge patients and organise an urgent MRI scan for the patient the following day as an outpatient. Prompt surgery is the best treatment for patients with CES and preferable within 48 hours for a more positive prognosis (AANS, 2019).

**Method:** A retrospective audit was undertaken sampling all accident and emergency (A/E) patients that had CES symptoms from October 2018-November 2019 (Including RASP patients). The time scale was measured from when the request for the scan was put on the Radiology Information System (RIS), to when the patient was scanned and then the scan was reported. The data will then be put into categories of 1-6, 6-12, 12-18, 18-24 and >24 hours.

**Results:** 378 patients were scanned during this period. 94.9% of patients were scanned within 24 hours. 128 were scanned in the first 6 hours. 19 scans were scanned after 24 hours. 93.4% of scans were reported within 3 hours of being scanned.

**Conclusion:** Recommendations from the audit include Band 6 radiographers being able to vet CES examinations. A designated CES scanning slot being made available daily for patients being discharged overnight to ensure a more efficient RASP.

1. American Association of Neurological Surgeons AANS (2019) Cauda Equina Syndrome <https://www.aans.org/Patients/Neurosurgical-Conditions-and-Treatments/Cauda-Equina-Syndrome>.

2. NHS (2018) When its used? Lumbar decompression surgery <https://www.nhs.uk/conditions/lumbar-decompression-surgery/why-its-done/>.

**P169 An analysis of referral pathways for open and upright MRI – Is there a variation in referrers' policies?**

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**Background:** Open MRI scanners lack a tunnel-like bore, being open at the front or sides, and so may be preferable for claustrophobic or larger patients. Most also allow upright scanning. A need exists to refer NHS patients for investigations using this niche imaging service. This study critically analysed NHS referral policies to document variations and suggest improvements.

**Method:** A search for policies in England relating to referral for open MRI available on the internet was undertaken. Selection criteria were applied including NHS referrers only and policies issued since 2016.

**Results:** 16 policies were identified. All allowed referral for large patients in terms of size, weight or obesity, ten related only to obese patients. 15 allowed referral for claustrophobic patients. 14 specified claustrophobic patients must have first attempted a



conventional MRI under sedation. Upright scanning was not routinely funded in 7 policies. 6 would allow referral if the patient was unable to lie flat, and 5 stated the patient must experience pain when lying flat. Only 4 would consider open upright referral if a weight-bearing scan was needed. Justification for non-referral for upright scanning was evidenced using literature but references were largely out-of-date.

**Conclusions:** Regional policy variations mean referral is inconsistent. Policies could be better constructed to take account of patient size rather than obesity alone. Policies need to acknowledge that many claustrophobics are unable to tolerate conventional MRI even with sedation. Upright referrals should not rely solely on pain criteria. Policies need up-to-date literature to justify decisions.

#### **P170 Post-mortem computed tomography in clinical application**

*Nawaraj Subedi; Simon Beardmore; Thomas Rogers*

Lancashire Teaching Hospitals NHS Trust

The introduction of multi-detectors row CT in post-mortem examinations has been recent innovative method of identifying the cause of death. Relatively low costs, quick turnover time and ease of operation make this more attractive to the conventional autopsy examination. Several studies in the literature have confirmed both post-mortem CT and conventional autopsy provide comparable findings with higher sensitivity of CT for skeletal and vascular lesions. With shortage of forensic pathologist in the NHS, the clinical utility of post-mortem CT is going to expand further. The purpose of our pictorial review is to familiarise audience with this innovative but expanding approach to identify cause of death. A brief discussion on imaging techniques will be outlined along with examples of interesting cases in our clinical practice at first NHS hospital to provide such a service to the local coroners.

1. Jeffery AJ. The role of computed tomography in adult post-mortem examinations: an overview. *Diagnostic histopathology*. 2010;16(12):546–551.

2. Roberts IS, Traill ZC. Minimally invasive autopsy employing post-mortem CT and targeted coronary angiography: evaluation of its application to a routine Coronal service. *Histopathology*. 2014;64(2):211–217.

### OTHER

#### **P171 Are you sitting comfortably? Tips for designing an ergonomic radiology reporting workspace**

*Natasha Hougham; Madeline Strugnell; Hannah Lewis*

Royal Cornwall Hospital

**Background:** With the ubiquitous use of digitized reporting, radiologists are amongst the most sedentary of doctors, spending up to 8 hours daily sat at reporting stations<sup>[1]</sup>. In addition to the inherent increased cardiovascular risks of IT based working, poorly designed workspaces can lead to musculoskeletal pain, headaches, eyestrain and fatigue<sup>[2]</sup>. Conversely, well designed, ergonomically considered workspaces have multifaceted benefits. By serving to improve staff wellbeing and health by preventing workplace injuries (e.g RSI) and improving comfort, staff absences are reduced and productivity increased leading to better workflow efficiency and preventing reporting backlogs. By reducing fatigue and providing efficient soundproofing and lightening, diagnostic accuracy is improved and clinical errors reduced<sup>[3]</sup>.

**Purpose:** As many hospital radiology departments plan to expand or redesign their reporting workspaces in response to increasing work volume, this poster offers a guide based on our recent experience at the Royal Cornwall Hospital, drawing on Health and Safety Executive workspace and Display Screen Equipment regulations and Royal College of Radiologists Ergonomics guidance. This poster details design features specific to the radiology reporting workspace with regards to soundproofing, lightening, temperature control and ventilation. Monitor and mouse placement, desk and chair ergonomics with particular reference to sit/stand desks are discussed including some features unique to our department which we feel improves our working environment and team cohesion.

**Summary:** After the successful redesign of our reporting environment at Royal Cornwall Hospital we would like to share this pictorial guide to designing ergonomic reporting spaces, summarises the relevant HSE/DSE regulations and RCR guidance.

1. Lamar et al. 2015. Sedentary Behaviour in the Workplace: A Potential Occupational Hazard for Radiologists. *Curr Probl Diagn Radiol*. 2016 Jul-Aug;45(4):253-7.

2. Carter JB, Banister EW. Musculoskeletal problems in VDT work: a review. *Ergonomics* 1994; 37:1623-1648.

3. Harisinghani et al. 2004. Importance and Effects of Altered Workplace Ergonomics in Modern Radiology Suites. *RadioGraphics* Vol. 24, No. 2.

#### **P172 JREQUEST – Appropriate clinical information pending**

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**Background:** The request information for each radiological study is the only formal communication between the referrer and the reporter. Accurate and relevant clinical information greatly aids the reporter in interpreting the study and leads to better and safer patient care<sup>[1]</sup>.

**Methods:** A 'JREQUEST' audit code was added to each report in all modalities where the reporter deemed the clinical information inadequate. A CRIS search between 13/08/19 - 31/10/19 produced 202 results. The data collected included study