

Purpose: A diagnosis of prostate cancer following TRUS guided biopsy frequently leads to related imaging, particularly bone and MRI scans. Local guidelines created in late 2009 define criteria based on risk factors to determine which patients with prostate cancer would benefit from further imaging. The aim of the study was to assess the effectiveness of these guidelines.

Methods: All men undergoing prostate biopsy in 2009 and 2010 had their electronic records examined to determine the result of their biopsy. Men with a diagnosis of cancer had their records searched for all related imaging and data was collected on risk factors for metastatic disease including PSA level and Gleason score.

Results: 613 patients underwent a prostate biopsy. 386 (63%) men were diagnosed with prostate cancer, 197 (51%) underwent a bone scan and 260 (67%) had an MRI scan. Since local criteria were created in 2009 the proportion of bone scans meeting the criteria increased from 69% to 88%, while MRI scans meeting criteria improved from 55% to 61%. The absolute number and proportion of men undergoing bone scans also fell from 108 (34%) in 2009 to 89 (29%) in 2010.

Conclusion: The proportion of men undergoing inappropriate bone and MRI scans has reduced since the implementation of local guidelines. Furthermore the number of bones scans carried out has also been reduced. Unnecessary bone scans and related imaging leads not only to potentially avoidable radiation exposure but also constitutes a significant cost to the health service which given the current financial climate it can ill afford.

P-113 **Radiology services provision at the games of the XXX Olympiad**

*Peter Chapman; Jon Crighton; Anish Patel; Jalpesh Jethwa;
Peninsula Radiology Academy*

Aims/ Objectives

To present an overview of the imaging services provision at the Games of the XXX Olympiad.

Content: A review of the planned radiology services across the various venues of the 2012 games.

Relevance/Impact: The role of radiology is central to the successful provision of world class sports medicine. In this poster we outline the planned radiology services for the 2012 summer Olympic games.

Outcomes: A better understanding of the central role of imaging in the successful delivery of a world class Olympic games.

Education/Training

P-114 **Are radiology reports read and acted on?**

*Nevine Anandan; Carl Sullivan; Sharon Evans;
Morriston Hospital, Swansea*

Relevance: A request by the Ombudsman to the Hospital Trust Directors followed an occasion where a patient underwent a radiological investigation from which concern was raised in the radiology report. The referring clinician failed to act which resulted in significant harm to the patient.

Objectives:

- 1) Assess if radiology reports are read and acted upon by referring health professionals.
- 2) Identify clinical areas which do not meet the standard (100%).
- 3) Discuss ways improve outcomes.

Methods: Retrospective audit of 100 patients, from 20 clinical areas across specialities. Assess for presence of clear documentation of the radiology report and subsequent management.

Results:

1 st Cycle	Number of cases	Reports documented	Management documented

Acute areas	20	95%	95%
Out-patients	40	85%	98%
In-patients	40	75%	90%
Total	100	85%	94%

2 nd Cycle	Number of cases	Reports documented	Management documented
Acute areas	20	85%	100%
Out-patients	40	95 %	92.5%
In-patients	40	90%	95%
Total	100	90%	96%

Conclusion: Following the 1st cycle, changes were implemented and the 2nd cycle performed 12 months later. The 2nd cycle results show that the implemented changes were effective; Overall, there was an improvement in documentation. The standard of 100% was achieved in the acute areas for documenting management following radiological investigation. Although there was no improvement in overall in-patient results, it is important to note that **all** patients with significant pathology had appropriate management documented.

Possibilities for future improvements include:

A system of in-built report acknowledgement into the existing PACS system.

Direct Radiologist organisation of appropriate investigations/referrals.

P-115 **Skeletal reporting by radiographers: a review of 27800 cases**

Keith Piper, Canterbury Christ Church University

Aim: To analyse the objective structured examination (OSE) results of 11 cohorts of radiographers (n=278) who completed an accredited postgraduate programme in reporting of appendicular and/or axial skeletal examinations.

Content: 100 skeletal examinations were used in each appendicular and/or axial OSE, which included the following appearances: trauma/arthritis/tumour/ infection/metabolic/congenital/miscellaneous conditions/incidental findings and/or normal variants. The prevalence of abnormal examinations approximated 50%. Radiographers a) noted if an examination was normal or abnormal (b)described the abnormal appearance/s and (c)indicated the most likely pathology/pathologies present. Sensitivity, specificity and total % agreement rates (and 95% confidence intervals) were calculated using all reports (n=27800) for the first 11 cohorts, recruited nationally between 1998 and 2010.

Relevance: To review the standards achieved and compare appendicular/axial OSE performance rates.

Outcomes: The mean sensitivity, specificity and agreement rates; and 95% confidence intervals, for the 278 radiographers were: appendicular; 95.9% (95.4% - 96.3%); 96.5% (96.0% - 96.9%); and 95.1% (94.7% - 95.4%); axial; 95.6% (95.1% - 96.1%); 94.4% (93.8% - 94.5%); and 94.1% (93.8% - 94.5%) respectively. Although, no significant difference was demonstrated (p=0.41) between the sensitivity rates, the appendicular specificity and agreement rates were both significantly higher (p<0.001). The

appendicular rates all improved (1.5% - 4.0%) and this trend increase was significant ($r=0.75$, 0.63 , 0.59 ; $p<0.05$). The trend improvement for axial rates was significant for specificity ($r=0.82$, $p<0.01$) but unchanged at 95% and 94%, respectively, for sensitivity and agreement rates.

Discussion: The results confirm that radiographers can report both appendicular and axial examinations to a high standard and that wider implementation is indicated.

P-116 Radiology competence; Trust me, I'm a junior doctor!

*Jen-jou Wong, Azadeh Taheri;
University Hospital Aintree*

Purpose: As early as the first week in post, the newly appointed house-officer is expected to detect abnormalities, correctly interpret and develop action plans when reviewing plain radiographs. During on-call duties, circumstances often dictate that the house-officer may be required to act promptly without senior advice being readily available, for example in patients with compromising pneumothorax. This study was designed to assess the radiological competence amongst foundation trainees and final year medical students. Competence was defined as detecting obvious "life or death" abnormalities with misinterpretation having a potential bearing on patient safety and outcome.

Material/Methods: A mix of 73 foundation trainees and final year medical students were shown radiographs depicting: tension pneumothorax, pneumoperitoneum, dilated small and large bowel loops, incorrect NG tube placement. The correct recognition of the aforementioned diagnoses constituted a 'competent' candidate. A large pleural effusion, large atelectasis, fracture of the neck of femur, consolidation and surgical emphysema. Correct recognition of these additional films was deemed as 'satisfactory' basic radiology knowledge. The candidates were asked to pick the most appropriate diagnosis from a list of 30 possible answers.

Results: 65% of second year and 45% of first year foundation trainees and 30% of final year medical students achieved core competency. However 100% of candidates detected that there was an abnormality and stated that they would seek senior advice regarding further management.

Conclusions: This study highlights significant room for improvement in the performance of undergraduates and foundation trainees in interpreting important specific diagnoses. Encouragingly, an abnormality was recognised in all cases. The lack of specificity about particular diagnoses has potential critical implications on the day-to-day running of the wards and initial management of acute admissions.

P-117 Assessment of the effect of clinical rotation in radiology on medical students' awareness level of ionising radiation and radiation protection

*Sarah Haqj, Mawya Khafaji;
King Abdulaziz Univesity Hospital*

Purpose: Doctors' knowledge of ionising radiation and radiation protection is very vital specifically when requesting radiological investigations that involves patients' exposure. A cross-sectional study was conducted to evaluate medical students' awareness of ionising radiation after their clinical rotation in the Department of Radiology at King Abdul-Aziz University (KAU), Jeddah- Saudi Arabia..

Methods: A self-administered structured questionnaire was used to collect data from final year undergraduates after completion of their clinical rotation in the Department of Radiology. Results: Out of the 447 sixth-year medical students at KAU in 2010, 326 (73%) chose to participate in this study and represented the main study population. Nearly 38% of the students thought that objects in the room would still emit radiation after completion of the exposure. Only 42% knew that intravenous contrast material used in angiograms is not radioactive. Twenty-five percent of the students underestimated the Computed Tomography (CT) exposure dose. More than 50% of the students thought that magnetic resonance imaging (MRI) involves ionizing radiation. On the overall questionnaire, 163 students (47%) scored above 60% , which is considered the passing score.

Thirteen (4%) students got all their answers wrong and scored zero. Only 22 students (7%) scored over 85%.

Conclusion: The results highlight deficiency of doctors' knowledge with regards to ionizing radiation and radiation protection and modifications to the existing curriculum should be considered to minimize unnecessary exposure of patients and the community to radiation.

P-118 Radiology training in the UK - a survey of trainee opinion

Andrew Yeung; Sylvia Worthy;

Department of Radiology, Royal Victoria Infirmary, Newcastle upon Tyne

Aims/Objectives: To present the findings of a national survey of radiology trainees in the UK. To link this in with an overview of current 'hot topics' in UK radiology training.

Content: A national survey of UK radiology trainees was conducted. Invitations were sent out to UK radiology trainees to survey their views on the current radiology training landscape. The areas covered included: eportfolios, the new radiology curriculum, annual review of competence progression (ARCP), European working time directive (EWDT), radiology schools, consultant positions, national recruitment and interdeanery transfers.

Relevance/Impact: Radiology training is undergoing significant change with a greater emphasis on attainment of competencies and the evidence required to demonstrate these. Significant changes are also occurring at the recruitment stage with the development of national recruitment. This presentation aims to provide an overview into the components affecting radiology training today. The results of our survey will be presented to provide a snapshot of the trainees' views on these developments.

Outcomes Trainees find the eportfolio a useful tool and most found it easy to use although a number of concerns were raised about the new curriculum. Most trainees (69%) found the ARCP process worked well in their deaneries and had a good understanding of the process. The impact of EWDT on training caused considerable polarisation of trainee opinion.

Discussion: This presentation provide an insight into the changing landscape of radiology training in the UK and combines delivering the results of our trainee survey with an overview of the changes in question.

P-119 Can a short intensive learning experience abroad provide benefits to a student's development?

Susan Norton; Elaine Norton; Amanda Rogers; Sana Khalid; Prasanna Byrarapu;
University of Salford

Aim: To reflect on students experiences from a short intensive learning experience abroad

Content: Four second year Radiography students from the University of Salford participated in a pilot curriculum development opportunity to create a research in teaching experience (RITE 2) for a BSC hon Diagnostic Radiography programme. To extend this pilot research the students and one lecturer spent a week in Switzerland undertaking research into image interpretation. This poster reflects on their experiences and perceived benefits from this opportunity using Kolbs model. Conclusions were drawn from a debriefing session and a presentation that these students gave to a cohort of their peers.

Relevance: Not all students can commit to a period of 3 months away from their responsibilities at home.

Outcomes: Some of the main benefits were improvement in research skills such as data analysis, presentation of the findings. In addition secondary benefits such as improvement in communication skills were also identified. The students also experienced a different model of Healthcare provision to the British one as part of the visit.

Discussion: In conclusion the four students who participated in this experience would not have been able to participate in the usual length of study experience offered. There is a place for shorter visits,

exchange schemes should consider offering funding for shorter exchanges to widen the opportunity to more students.

P-120 Communication and patient diversity

Gemma Lynes, Zainab Hussain

University of Liverpool

Aims: The aim of this study was to review literature of the issues involved with regard to communicating effectively with patients who have a hearing or visual impairment or who are not fluent speakers of English.

Content: A review of the literature regarding communications and service delivery in the NHS and patients who are hearing or visually impaired or who are non-fluent speakers of English. Policies and procedures from a number of NHS trusts were also reviewed to locate the availability of staff training and diversity and equality. This training was not mandatory and also did not include communication skills and patient diversity.

Relevance: The National Health Service describes itself as an organisation in which equality and diversity are at the heart of its NHS strategy. Equality relates to fairness and developing practices and policies that recognise and address inequality. Diversity is about recognising and valuing the multiple differences and rights of all sections of the community and also addressing the multiple inequalities, disadvantages and discrimination experienced by these sectors of the community. However despite this and also past and recent legislation regarding race and disability there are still reported deficiencies regarding effective communication and patient diversity.

Outcomes: NHS Trusts provide a policies regarding use of interpreters and also have policies regarding the availability of patient information in differing formats. However there was no training provided for communication skills and patient diversity. The literature available does report that there are significant problems regarding effective communication with patients who are visually or hearing impaired or are non-fluent speakers of English. Interpreter services are still limited, especially in the emergency setting.

Discussion: NHS Trust policies are very important, as the NHS must comply with current legislation such as the Equality Act 2010 however staff need to be adequately trained in the implementation of policies and this should be addressed by the Trust and also and also embedded into the curricula for medical and allied health degree programmes.

P-121 Too much imaging; think Munchausen's

Nick Ridley; Victoria Brown; Katie Bayley;

The Great Western Hospital

Aims/Objectives: We aim to increase awareness of the excess use of Imaging as a dominant feature of Munchausen's Syndrome. We present two patients with Munchausen's syndrome who attended on multiple occasions, resulting in a large number of Imaging tests performed unnecessarily. At no stage was there any evidence of significant underlying abnormality.

Content: Patient A: 35 year old female with 181 presentations to the Emergency Department. Over a nine year period the patient presented to the imaging department on 80 occasions. This included 7 CT's 1 Barium Enema, 1 IVU, 1 Small bowel meal, and multiple plain films. Patient B: 36 year old male with 42 presentations to the Emergency Department. Over a 4 year period the patient presented to the imaging department on 46 occasions. This included 6 CT's, 8 MRI's, and multiple plain films.

Relevance/Impact: If unrecognised patients with Munchausen's syndrome can present on multiple occasions to the Radiology department. Not only does this result in a large amount of unnecessary imaging, the high radiation dose can be dangerous. Radiology staff need to be aware of this syndrome and work carefully with their clinical colleagues to manage these patients appropriately.

Outcomes: Once it was realised that both patients were fabricating their illness and obtaining unnecessary investigations, not only from our institution but several others, an electronic alert was

placed on each patient's file and staff educated accordingly. If any further investigations are required then this has to be by consultant only.

P-122 Audit of radiographer practice in performing stereotactic wire localisation procedures prior to surgery in the UK

*Amrita Kumar; Furhan Razzaq; Helen Chambers; Virginia Higgins;
Warrington & Halton Hospitals NHS Foundation Trust*

Purpose: To assess the effectiveness of radiographers in their performance of stereotactic wire localisation procedures.

The increasing number of women being screened annually, together with the widespread practice of double reporting has led to an incremental increase in the workload of the NHS Breast Screening Programme without a corresponding rise in radiology manpower. The concept of skill mix has entered and been supported by the NHSBSP to free up the radiologist from work that could be performed by radiographers with appropriate training. This also allows the radiographers to build on their professional development which leads to greater job satisfaction. In order to carry out this procedure radiographers are required to follow the British Association of Surgical Oncology (BASO) guidelines that state that in >95% of cases, the tip of the localisation wire should be within 10 mm of the lesion in any plane.

Methods: A retrospective study was carried out on radiographer-led stereotactic wire localisations over a two-year period (Jan 2009-March 2011). This identified 61 patients who underwent this procedure with a total of 67 wires. The procedures were carried out by two senior appropriately trained radiographers.

Results: Of the 67 wires, 66 (98.5%) wire localisation tips were within 10 mm of the lesion in any plane. Statistical analyses with chi-square test revealed the presence of clinical significance with a p value < 0.001.

Conclusion: Wire placement within breast lesions prior to surgical excision by radiographers has been shown to be safe and effective practice which meets and exceeds the guidance set by the BASO.

P-123 Radiographers' experience of violence and aggression in a major South Wales accident and emergency department

*Hywel Rogers; Chloe Bowditch;
Cardiff University*

Background. Violence & aggression in the workplace is a growing problem worldwide. The healthcare sector is particularly affected with staff in the accident & emergency (A&E) department being the most at risk. Investigation has centred on medical staff in particular with a distinct lack of research regarding radiographers. The aim of this study was to gather the opinion of radiographers on their experience of violence and aggression in A&E.

Method. The sample was chosen by use of convenience sampling, thus the sample group consisted of all radiographers (n=31) in a major trauma centre in South Wales. The data was collected by a self administered questionnaire and good internal consistency reliability was found using Cronbach's alpha test. The questionnaire was piloted and readability issues were rectified for the final questionnaire. Face and content validity were assured by the use of a focus group and reviewing appropriate literature.

Results. 94% (n=29) of respondents had experienced violence & aggression at least once. Also it seems that radiographers have little knowledge of the Welsh Assembly Government violence & aggression passport. In addition, some respondents (n=19) felt that training should have an increased "hands on" approach and only 12 respondents reported high confidence of dealing with physical aggression following training.

Conclusions. The study shows that violence & aggression is an alarming issue for A&E radiographers and is a greater problem than has been found previously. Additionally, it appears that even with training, there is a low level of confidence in dealing with physical violence.

P-124 Ethics in radiology: a gap in the specialist training curriculum?

*David Minks; Jeremy Jones; Kshitij Mankad; Daniel Sokol;
Leeds Radiology Academy; Leeds General Infirmary; Imperial College London;*

Introduction: Ethical issues regularly present in daily radiological practice. Our aim was to investigate radiology trainees views on radiology ethics and its teaching on the specialty training curriculum.

Methods: An online survey was disseminated to trainees nationally. Data was collected over six weeks during February and March 2011.

Results: 59 trainees from 18 training schemes completed the questionnaire.

Would training in various aspects of radiology ethics be a useful measure?

Strongly agree	5
Agree	31
Neutral	13
Disagree	8
Strongly Disagree	2

Over 60% agreed that training in radiology ethics would be useful. However, little over a quarter had received any ethical training and less than a third of these had undertaken formal teaching. 4 had received formal training in radiology ethics, 10 had informal training, and 45 had not received any training. Only 12 responders were aware an ethics curriculum was incorporated into their training.

Discussion: Teaching consisted of small group discussion, lectures by radiology staff or medical ethicists. Only 20% thought ethical training represented part of the curriculum and 97% were unsure if there was a lead for ethics in their training scheme. Our survey shows that most trainees believe the RCR ethics curriculum topics and non-curriculum topics are of interest and useful, but most have not received training and believe that it would be beneficial. We suggest that each training scheme considers appointing a lead in ethics teaching, who can investigate the need for introducing an ethics curriculum.

P-125 Oncall CT scanning- recent trends seen in a district general hospital and the implications for radiology service provision in the future

*Reena Dwivedi; Nabile Mohsin;
St Helen's and Knowsley NHS Trust*

CT scanning out of hours with immediate reporting has been recognised as an important step with in the management pathway of emergency patients. However, this has to be accommodated within the European Working Time Directive for radiology trainees.

Within our District General Hospital there has been a subjective increase in the number of CT scans performed out of hours.

We present an audit to assess the burden of oncall CT scanning and how it has changed over the last three years. We also evaluate effect on registrar training from the number of sessions lost by trainees. Potential options to enable a more economically efficient and trainee-friendly service are explored.

P-126 Non-ketotic hyperglycaemia associated hemichorea-hemiballismus (HC-HB)

*Zahia Zaitout, Ruth Batty; Kavitasagary Karunasaagarar; Sheetal Gagrani; Daniel Connolly;
The Neuroradiology Department, The Royal Hallamshire Hospital, Sheffield; Paediatric Radiology Department, Sheffield Children's Hospital; Worcestershire Acute Trust;*

Hyperglycemia associated with hemichorea-hemiballismus is a diagnosis that has been described in the medical literature. It was reported as the presenting symptom of new onset diabetes, with type 2 and rarely with type 1 diabetes. However, this condition is relatively under-recognised by clinical radiologists. It can give unilateral hyperdense basal ganglia on CT and it is part of the differential diagnosis for high T1weighted signal in the basal ganglia. On magnetic resonance imaging there is a limited differential diagnosis for pathologies presenting with T1 weighted spin echo hyperintensity within the central nervous system in general and the basal ganglia in particular. The aim of our poster is to explore the pathological process and provide computed tomography and magnetic resonance image illustrations of three different clinical cases of non-ketotic hyperglycemia associated hemi-chorea-hemiballismus.

P-127 Nasogastric tubes in critical care

Matthew Newport; Marc Williams;

Fairfield General Hospital; The Pennine Acute Trust;

Objectives: NG tubes are essential in critically unwell, sedate or ventilated patients. National Patient Safety Agency (NPSA) publications in 2005, 2009/10 and 2011 have identified NG misplacement as a 'never ever' event. Audit undertaken to assess the quality of plain film requests for NG placement, the protocol for checking placement clinically and the equipment in use. The standard educational training for junior doctors was also assessed. 35 ITU/HDU radiology requests for NG placement were assessed over a 10 month period.

Results, Relevance & Impact: Only 57% of the plain films visualised the NG tube to be in the correct position. Of the remaining 43%, it was uncertain where the tube lay in 63% of cases. The remaining 47% (6 placements) were incorrectly placed in the lungs. NG tubes and pH paper were found to be noncompliant with NPSA standards. There is no formal or informal teaching for junior doctors in the interpretation of plain films for NG placement checks. Relevance- Education of junior medical staff into radiological interpretation. Patient safety area, highlighted by the NPSA, with evidence of persistent patient harm nationwide.

Outcomes: NPSA safety alert is displayed prominently in the ITU/HDU department. Focus on clinical confirmation of NG placement before radiological confirmation has ensued. Flow chart to assist medical staff in interpreting images displayed prominently in the department at the monitor where such images are interpreted. Foundation Doctors are now undertaking a relevant online module as part of their induction program in the hospital.

P-128 CT urography- often used but frequently misinterpreted

Kirsty Wilde; Vincent Helyar; Zaid Viney; Giles Rottenberg;

Department of Radiology, Guys hospital, Guy's and St Thomas NHS Foundation Trust, London

CT Urography (CTU) has become a standard investigation in the evaluation of the upper urinary tract. Reporting techniques and experience vary amongst radiologists. This poster aims to educate radiologists who report these examinations by highlighting pitfalls in reporting.

A retrospective review of the discrepancies added to the PACS folder over the past 4 years was made.

Discrepancies included missed ureteric and renal tumours, as well as missed stones. Extra renal abnormalities were also missed, and included lung metastases, and colonic tumours. The poster will highlight the types of discrepancies, and demonstrate how they can be avoided, and will include tips on reporting techniques, and post processing

P-129 Artifacts in MRI – back to basics

Shalini Wijesuriya; Mani Thyagarajan;

Musgrove Park Hospital, Taunton; Bristol Royal Hospital for Children;

Aim: A reminder of the different types of MRI artefacts and the physics behind why they occur.

Content: We present a comprehensive pictorial review of different types of patient-related and signal-processing related MRI artefacts. We explain why they occur, their imaging features on MRI and methods used to reduce the likelihood of them occurring.

Discussion: The use of MRI in the investigation and surveillance of patients has increased dramatically over the years. Its main advantages include the lack of radiation and high quality images. However, one of the key disadvantages is the presence of artefacts, which commonly occur. These can be broadly divided into patient-related artefacts and those related to signal processing. Common patient-related artefacts include those related to patient motion, pulsatile flow and in situ metalwork. These can cause ghost images, spatial misregistration or distortions in the magnetic field, all of which may make image interpretation difficult. Signal-processing artefacts include chemical shift, partial voluming, wrap-around and Gibb's phenomenon, just to name a few.

Relevance: The physics behind artefacts can be very complicated and many shy away from understanding them. However, it is essential that radiologists and radiographers are aware of the underlying principles and their imaging features as they can potentially mask, or even be confused with true pathology.

Outcomes: We hope that this series will serve as a reminder of the different types of MRI artefacts that we encounter in our daily practice and increase confidence amongst radiologists and radiographers, notably trainees, in correctly interpreting them on imaging.

P-130 **Understanding the tools of the trade, from amplatz to zenith**

*Amit Goyal; Katherine Augustine; Shalini Wijesuriya; Tim Ward;
Musgrove Park Hospital NHS Trust*

The Royal College of Radiologists has recently introduced interventional themed speciality training posts to address a change in the way common diseases are managed, in particular vascular diseases (1). Streamlining trainees begins with early exposure to interventional procedures and compiling a record of experience akin to a surgical logbook.

Learning begins by observing, then progresses with supervision to performing independently. In our experience the greatest hurdle to trainees, lies in awareness of the multitude of interventional devices available and understanding how to best manipulate these to achieve the desired result. We present an educational guide demonstrating basic conventional vascular interventional instruments and how they can be used to negotiate common obstacles and complexities. We discuss the evolution of the 'guide wire' from selective catheterisation first described by Dotter and Judkins (1) to composite recanalisation devices used across most UK centers today.

Although interventional technique is best learnt by practical experience, we believe this article will provide an invaluable insight into the strategy employed by current practitioners.

Ref:

1) The Royal College of Radiologists. Standards for providing a 24-hour interventional radiology service. London: The Royal College of Radiologists, 2008.

2) Dotter CT. Cardiac catheterization and angiographic technics of the future. Background and current status of clinical catheter angiography. *Cesk Radiol* 1965;19:217–36

P-131 **A radiological repast: a gastronomic foray into food signs in radiology**

*Sakthivel Gnanasambandam; Matthew D Bull; Praveen Konala; Tarig Adlan; Hazan Nizami;
David Gay*

Derriford Hospital NHS Trust, Plymouth

Aims: Radiology, like the rest of medicine, is full of weird and wonderful terms for various diseases, signs and features. Food stuffs are commonly encountered in radiology parlance, and often allow us to more easily remember the conditions to which they apply. In this poster we illustrate and discuss various food signs with radiological descriptions and underlying the pathologies implied by these findings, in the format of a restaurant menu with correlative images. By using a fun as well as educational approach, we hope that the radiologist may more easily recall the signs, and the associated differentials, thus aiding with reporting of images.

Content: A restaurant-style menu comprising including foods commonly encountered in radiological descriptions.

P-132 Evidence based practice in radiography: nephrogenic systemic fibrosis- a case in point

Sharon Stewart, Glasgow Caledonian University

Aims/ Objectives: This poster will outline the importance of evidence-based practice in radiography using NSF as a case study.

Content: Define NSF and the historical context of this disease. Explain the importance of Clinical Effectiveness & Evidence based practice. Outline the role of the radiographer regarding the safe use of gadolinium contrast agents in light of the serious and life-threatening risk of nephrogenic systemic fibrosis. Discuss the evidence radiographers can review to ensure they are practicing evidence-based medicine/radiography.

Relevance/Impact: Radiographers have extended their role to include administering contrast injections in MRI examinations. To protect their patients from harm, and themselves from litigation, radiographers require ensuring they are up-to-date.

Outcomes: Evidence based practice (EBP) is an essential requirement for radiographers, and NSF is a classic example to emphasise why we need to understand and implement EBP

Discussion: Radiographers are autonomous and accountable practitioners who require to use the evidence base to inform practice and ensure high standards of patient care.

P-133 Pearls and pitfalls in interpretation of PET CT scan

*Uma Viswanathan Nair; C Bell; R Hanlon; H Wieshmann;
University Hospital Aintree*

18-F FDG PET CT is used routinely in the diagnostic work up of oncology patients. As with other imaging modalities FDG PET CT can reveal expected and unexpected findings including image artefacts. It is vital that the radiologists involved in MDT's are familiar with the normal appearances, incidental findings and their relevance with regards to management of patients. There are benign conditions which can be FDG positive on PET CT and cause diagnostic dilemma and there are certain neoplasms which are not associated with increased metabolic activity resulting in false negative studies. This pictorial review aims to familiarize the general radiologists and trainees with the diagnostically challenging imaging patterns including artefacts which we have come across in our clinical practice.

P-134 Pseudo subarachnoid haemorrhage - a diagnostic quandary

*John Emelifeonwu, Joseph Lang;
University Hospital of Wales*

Early computer-assisted tomography (CT) of the brain is the cornerstone of diagnosing subarachnoid haemorrhage (SAH) and hyperdensity in the basal cisterns and subarachnoid spaces on unenhanced CT scan is a characteristic finding. However, several radiological mimics of these appearances have been reported in the literature. These 'pseudo SAHs' can be caused by a wide range of conditions including diffuse cerebral oedema and high density cerebro-spinal fluid secondary to intra-thecal contrast. Here, we present one such case of 'pseudo SAH' secondary to pyogenic meningitis and describe a range of conditions that can produce this interesting radiological finding.

P-135 Non-small cell lung cancer in 15 year old child presenting as pneumothorax with an incidental peripancreatic cystic lymphangioma

Zahia Zaitout, Win Thuzar

The Neuroradiology Department, The Royal Hallamshire Hospital, Sheffield; Paediatric Radiology Department, Sheffield Children's Hospital;

Primary lung neoplasm in the paediatric population is a rare occurrence. Secondary metastases represent a large proportion of paediatric malignancy. There has been few case reports of lung

cancer presenting with pneumothorax in the adult population. However, to the best of our knowledge paediatric non small cell lung cancer presenting with pneumothorax has not been described. Our patient also had an incidental abdominal lymphangioma as double pathology, which is on its own uncommon in all age groups. We present the chest radiographs, US and CT findings of 15 year old male patient, who presented with left sided pneumothorax due to underlying malignancy with histologically confirmed non small cell lung cancer and abdominal (peripancreatic) cystic lymphangioma.

P-136 Pictorial review of the less common sites for malignant melanoma metastases seen in our regional centre (over a four year period)

Benjamin Pinkey; John Herbert; Andrea Howes;

St Helens and Knowsley NHS Teaching Hospital Trust; Countess of Chester Hospital;

Aims: This pictorial review aims to demonstrate the wide variability of melanoma metastases

Content: This pictorial review demonstrates our local experiences of metastatic melanoma. There is a wide variability in where melanoma can metastasise to. In this review we will give illustrations of some of the less common extra nodal sites. Images will be from common cross sectional modalities including CT, PET-CT and MRI.

Relevance: Malignant melanoma is an aggressive skin cancer that routinely metastasises. There has been a well publicized increase in the number of melanoma cases seen each year in the UK. We work in a regional skin cancer centre which is one of the largest in the UK. During patient's initial work up and subsequent follow up care they undergo numerous radiological investigations which we are asked to report or review (CT, PET-CT, MRI).

Outcomes: Cases were acquired over a four year period by going through old MDT lists. The skin cancer MDT occurs weekly. Patients with both common and rare sites of metastasis had their imaging reviewed. Specific cases were then carefully selected to demonstrate the appearance and site of melanoma metastases. Whilst sites such as liver and lung are common, we aim to show some of the less common sites encountered many of which have been histologically confirmed.

Discussion: This pictorial review aims to be an aid memoir to all radiologists and clinicians dealing with melanoma. It demonstrates the wide variability of melanoma metastasis and emphasises that melanoma can essentially metastasise anywhere.

P-137 Pictorial essay on the radiology of knee swellings

K Prescod; Z Al Ani; Joseph Alex; E Kweka;

North east Lincolnshire and Goole NHS; Manchester Radiology training scheme;

Aims/objectives. Anatomic –radiologic description of knee pathology presenting as swellings

Content: Classically, in the clinical examination of a lump, certain clinical features would lead a medical practitioner to a relatively accurate diagnosis. With further advances in musculoskeletal radiology, we look at a variety of common masses that can present around knee with a look at the typical imaging findings correlated across the modalities and differentials to be considered. An emphasis on the radiologic- clinical correlation and anatomy is made. From tumors as simple as ganglions and effusions to synovial chondromatosis and malignancies are described pictorially.

Relevance. The cardinal features of site , size , shape and dynamic features such as sensitivity and mobility are essential in the radiologic evaluation and diagnosis of knee swellings. This is a good guideline to all clinicians in evaluation and referral of knee tumors.

P-138 Knee MRI scan requests from primary care - an audit following introduction of requesting guidelines

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Over a period of three years from 2007 to 2010 the number of knee MRI requests from primary care rose from 7 per month to 100 per month with little change in the number of consultant referrals.

Both the orthopaedic department and radiology department felt that many of these MRI scans were unnecessary particularly in patients with clinical or plain film evidence of osteoarthritis, in fact many older patients with clinical signs of osteoarthritis had not had a plain film performed prior to the MRI request being made.

Guidelines were drawn up and distributed.

A re-audit showed a dramatic decrease in unnecessary scans performed from primary care and no subsequent rise in consultant referrals for MRI scans.

P-139 A pictorial review of shoulder instability

Jonathan Crighton; Philip Hughes; Iuliana Botnarenco; Alexander Crowther; Peter Chapman; Plymouth Hospital; Peninsula Radiology Academy;

A review of surgically occult lesions, lesions that influence operative intervention and MR findings that are often missed or incorrectly diagnosed. These lesions will include humeral avulsions of the glenohumeral ligaments (HAGL) which are frequently arthroscopically occult, labral lesions that are often missed or incorrectly diagnosed and Hill-Sach's lesions of varying sizes that modify surgical procedures.

We will illustrate the lesions and discuss the issues relating to the abnormalities along with their clinical and surgical significance.

P-140 "Elementary my dear Watson!": the relevance of artefactual knowledge in imaging the skull and spine

Trupti Kulkarni, Sacha Niven; Walton Centre for Neurosciences; Whiston Hospital;

Objectives : To draw attention to the tubes, wires and prostheses seen on imaging of the skull and spine. To illustrate some common artefacts and complications caused by these with relevant examples.

Content: There is a bewildering array of implants, wires and tubes which are inserted at various sites in the skull and spine. These may be incidentally seen, for example, in the setting of trauma, where previous history is unavailable to the clinician. Complications of these artefactual bodies are also well recognized.

Relevance : With increasing sub-specialization, role extension, and shift system working, junior clinicians have arguably less exposure to even basic procedures. A collapse of the firm system of clinical practice means junior clinicians are more and more dependent on radiologists for help and an interpretation of unusual appearances. The burden of responsibility thus falls on the radiologist to inform referring clinicians of the various artefacts (implants, tubes and wires) and also related complications in an expedient manner. It is also important for the radiologist to correctly interpret various artefactual difficulties caused by the presence of these foreign bodies. We provide selected images of a variety of implants, tubes and wires in various locations within the brain and spinal column. Selected cases where these cause complications or artefactual difficulties in interpretation are shown as learning tools, with discussion in each instance.

Conclusion: The knowledge and interpretation of artefacts on skull and spine imaging and possible complications is important to the radiologist as it has an impact on clinical care.

P-141 Heal with steel: a pictorial review of proximal femoral fracture surgery

Neeraj Purohit; Liam Ingram; David Higgs; Leonard King; Department of Radiology, University Hospital Southampton, Southampton

Aims/Objectives: In this pictorial review we will be providing an overview of orthopaedic implants used in the management of proximal femoral fractures as well as their indications. We will be presenting some of the complications associated with these implants.

Content: Around 75,00 hip fractures occur in the UK per annum with figures expecting to rise with an ageing population. Due to evolving technology, and advancements in engineering, there are an increasing number of different orthopaedic implants used in managing these fractures. There will therefore be more images that will need to be reported by Radiologists.

We will be reviewing intracapsular and extracapsular fractures in turn. We will demonstrate the various implants and fixation devices used in treating these fractures as well as their indications. We will cover some of the common recognised complications as well as a few unusual ones.

Relevance/ Impact: A broad understanding of the various orthopaedic implants used in the surgical management of proximal femoral fractures is important for a Radiologist. It can help the individual to better appreciate the biomechanics of the fracture and fixation, and it can develop an interest in musculoskeletal radiology. It can provide the trainee with knowledge to facilitate active participation in MDT meetings.

Outcomes: We believe this poster will be of educational value, especially for trainee radiologists.

Other

P-142 **MRI negative invasive breast cancers**

*Neeraj Purohit; Liam Ingram; David Higgs; Leonard King;
Royal Free Hampstead NHS Trust*

Objectives: To analyse breast MRI of all patients who had histological proven invasive breast cancers and to correlate with the mammographic and ultrasonographic findings, reviewing the imaging findings in MRI negative invasive breast cancers.

Content : A retrospective analysis of the histological diagnosis of all newly diagnosed invasive breast cancers was done over a 3 year period from January 2009 to October 2011. These were then further analysed to find out the number of patients who had MRI scans as part of their investigations. Correlation of MR findings was done with the mammographic and ultrasonographic features.

Relevance: This analysis emphasises the importance of multimodality imaging in suspected breast masses. Outcome: Over a 3 year period of the total 339 patients with invasive breast cancers, 148 patients had MRI. The patient selection was based on the density of breast tissue, multifocality of cancer and histology on core biopsy. 144 (97.2 %) patients had true positive results and 4 (2.7 %) were false negative. All the false negative patients had normal mammogram. Ultrasonographic findings were benign in three patients and was normal in one patient.

Discussion: Invasive breast cancers can be mammographically occult and can present with benign features on USS. Breast MRI detects most invasive breast cancers but it is important to recognise that there are a small number of false negatives. Combination of multimodality imaging features with clinical and histological correlation to be done in all suspected breast masses.

P-143 **Radiology of the pan corpus manifestations of histiocytosis x (LCH) seen in a 15 year old boy**

*Kamaria Prescod, Hussein Hassan; Z Al Ani; N Sumbwanyambe;
North East Lincolnshire and Goole NHS trust*

Aims/Objectives: A look at the multisystem multifocal expression of LCH

Content LCH is one of the rarer but known conditions that children can present with. Typically apart from presenting systemic feature of bone pain and fever, skeletal manifestations are seen which help in guiding biopsy to establish the diagnosis. The disease on one of a spectrum of organ infiltration with epidermal dendritic cells(Langerhans cells) and can range from a variety of presentations. Most commonly radiologists see the skeletal manifestations(monosystemic) of lytic lesions. We have here a case of a teenager presenting with multisystem LCH with typical symptoms but aggressive course of the disease.