

Library Current Awareness Bulletin

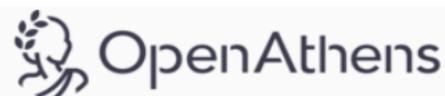
Radiology – February 2020

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Section	Page(s)
News	1-2
Diagnostic Radiology	2-3
Education and Research	4
Interventional Radiology	4
Patient Experience	4
Technology	5

Articles can be accessed from the links provided. An OpenAthens account may be required to access some of the articles. To create your free account please go to <https://openathens.nice.org.uk/>



News

[Apply for a UKIO attendance grant](#)

The Society of Radiographers

Jan 2020

[The United Kingdom Imaging and Oncology (UKIO) Congress will take place from 1 -3 June in Liverpool. An attendance grant offers full conference registration, accommodation and travel. The deadline for applications is Friday 28th February.]

[Mammography Associate Pilot Project](#)

NHS, Health Education England (HEE)

Jan 2020

[HEE is offering a limited number of training support grants of £9,000 to Trusts employing Mammography Associate apprentices. Priority will be given to Trusts with high levels of mammographer vacancy and/or round length or other KPI challenges. The deadline for applications is Thursday 27th February.]

[Patient information posters available to download](#)

The Society of Radiographers

Jan 2020

[A set of six patient information posters have been released by the Clinical Imaging Board (CIB). The series includes; nuclear medicine tests, dental x-rays, CT scans, symptomatic mammograms, x-rays, tests and treatments using fluoroscopy.]

[Radiography students to receive £5,000 annual maintenance payment](#)

The Society of Radiographers

Jan 2020

[The government has confirmed that diagnostic and radiotherapy students in England will receive a £5,000 annual maintenance grant, which they will not have to pay back. The grants will be available to new students and students already on pre-registration courses from September 2020.]

[Report calls for better imaging for patients with suspected bowel obstructions](#)

The Royal College of Radiologists (RCR)

Jan 2020

[A report from the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) compiled evidence from UK-wide case reviews and clinician surveys to make a series of recommendations for improving the care of adults with acute bowel obstruction.]

[Report calls for improved detection of aortic dissection](#)

The Royal College of Radiologists (RCR)

Jan 2020

[A report from the Healthcare Safety Investigation Branch (HSIB) has called for hospitals in England to improve the diagnosis and management of deadly aortic tears. The report also tasks the RCR to help create a national process for better case management of aortic dissection.]

[Top tips for writing service improvement case studies](#)

The Society of Radiographers

Jan 2020

[The Council for Allied Health Professionals Research (CAHPR) have released their top 10 tips to help healthcare professionals write and share an award-winning case study.]

Diagnostic Radiology

[An additional challenge for head and neck radiologists: anatomic variants posing a surgical risk – a pictorial review](#)

Farina, D. et al

Insights into Imaging, vol. 10(1)

Dec 2019

[In this pictorial review, anatomic variants posing a surgical risk are classified under four main categories: abnormal bone pneumatization, bone dehiscence and asymmetry, anomalous vessel course, and anomalous nerve course.]

[Appropriateness of radiology test requests by an emergency department: A retrospective study](#)

Martins, R. et al

Acta Medica Portuguesa, vol. 33(1) pp. 7-14

Jan 2020

[The authors retrospectively analyzed computed tomography and ultrasound scans requested by the Emergency Department at the Centro Hospitalar Universitário do Algarve and considered the following variables: requested test, clinical information provided (complete/incomplete), appropriateness of the test (appropriate/inappropriate), outcome (presence/absence of relevant findings) and findings related to the clinical information (yes/no).]

[Association of volume of self-directed versus assigned interpretive work with diagnostic performance of radiologists: an observational study](#)

Amemiya, S. et al

BMJ Open, vol. 9(12)

Dec 2019

[This study aimed to understand the sources of variability in diagnostic performance among experienced radiologists. All prostate MRI examinations performed between 2016 and 2018, at a university hospital in Japan, were retrospectively reviewed. Data derived from 334 pathology-proven cases (male, mean age: 70 years; range: 35-90 years) that were interpreted by 10 experienced radiologists were subjected to the analysis.]

[Chest imaging using signs, symbols, and naturalistic images: a practical guide for radiologists and non-radiologists](#)

Chiarenza, A. et al

Insights into Imaging, vol. 10(1)

Dec 2019

[The aim of this pictorial review is to highlight the main thoracic imaging findings that may be associated with signs, symbols, or naturalistic images: an "iconographic" glossary of terms used for thoracic imaging is reproduced-placing side by side radiological features and naturalistic figures, symbols, and schematic drawings.]

[Intervention to reduce interobserver variability in computed tomographic measurement of cancer lesions among experienced radiologists.](#)

Woo, M.J. et al

Current Problems in Diagnostic Radiology

Jan 2020

[In this retrospective study, 13 board-certified radiologists repeatedly reviewed 10 CT image sets of lung lesions and hepatic metastases during 3 non-contiguous time periods (T1, T2, T3). Each preselected case contained normal anatomy cephalad and caudal to the lesion of interest. Lesion size measurement under RECISTS 1.1 guidelines, choice of CT slice, and time spent on measurement were captured.]

[Radiologic imaging of bowel infections](#)

Duffin, C. et al

Seminars in Ultrasound, CT and MRI, vol. 41(1) pp. 33-45

Feb 2020

[Using a multimodality approach with ultrasound, computed tomography, and magnetic resonance imaging, the authors describe the spectrum of imaging findings that distinguish a number of infectious etiologies that affect the bowel.]

[Radiologic, pathologic, clinical, and physiologic findings of Electronic Cigarette or Vaping product use-associated Lung Injury \(EVALI\): evolving knowledge and remaining questions.](#)

Kligerman, S. et al

Radiology

Jan 2020

[Radiologists and pathologists help play an important role in the evaluation of patients suspected of having EVALI. Accurate and rapid identification may decrease morbidity and mortality by allowing for aggressive clinical management and glucocorticoid administration, which have been shown to decrease the severity of lung injury in some patients. In this narrative review, the authors summarise the current state of the art for the imaging and pathologic findings of this disorder and outline a few of the major questions that remain to be answered.]

[Radiological semantics discriminate clinically significant grade prostate cancer](#)

Li, Q. et al

Cancer Imaging, vol. 19(1)

Dec 2019

[This study assessed the ability of radiological traits (semantics) observed on multi-parametric Magnetic Resonance images (mpMRI) to discriminate clinically significant prostate cancer. Multi-parametric MRI studies were obtained from 103 prostate cancer patients with 167 targeted biopsies from the Moffitt cancer center, University of South Florida. Using the target locations, two study radiologists independently re-evaluated the scans and scored 16 semantic traits on a point scale (up to 5 levels) based on mpMRI images. A linear classifier model was built on these semantic traits and related to pathological outcome to identify clinically significant tumours (Gleason Score ≥ 7).]

[The current status and further prospects for lung magnetic resonance imaging in pediatric radiology](#)

Wolfgang Hirsch, F. et al

Pediatric Radiology

Jan 2020

[The authors discuss various factors that favour the establishment of lung MRI in the clinical setting. Among the many sequences proposed for lung imaging, respiration-triggered T2-W turbo spin-echo (TSE) sequences have been

established as a good standard for children. Additional sequences are mostly dispensable. The most important pulmonary findings are demonstrated in the form of a detailed pictorial essay.]

Education and Research

[Women in radiology: gender diversity is not a metric – it is a tool for excellence](#)

Kubik-Huch, R.A. et al

European Radiology

Dec 2019

[This article reviews the current state of gender diversity in academic and leadership positions in radiology internationally and explores a wide range of potential reasons for gender disparities, including the lack of role models and mentorship, unconscious bias and generational changes in attitudes about the desirability of leadership positions. Strategies for both individuals and institutions to proactively increase the representation of women in academic and leadership positions are suggested.]

Interventional Radiology

[Improving the effectiveness and efficiency of a skin dose investigation protocol in interventional radiology](#)

Harries, D. and Platten, D.J.

BMJ Open Quality, vol. 9(1)

Jan 2020

[To ensure the timely identification of cardiac catheterisation patients at risk of a radiation injury, a skin dose investigation protocol was implemented within the United Lincolnshire Hospitals Trust. Two shortcomings with the new protocol were identified: first, it was possible for a patient to receive a clinically significant skin dose without the protocol being triggered; second, the investigation protocol increased staff workload. The Radiation Protection Department undertook to resolve these issues by making use of two software packages (openSkin and OpenREM) to automate key processes in the skin dose investigation protocol.]

[Role of interventional radiology in the management of infection](#)

Hynes, D. et al

Seminars in Ultrasound, CT and MRI, vol. 41(1) pp.20-32

Feb 2020

[A narrative review which examines the emergent, urgent, and routine nature of various interventional radiology (IR) procedures in the infectious context and timelines for each in regards to the decision making process.]

Patient Experience

[What are the benefits and risks of sharing patients' diagnostic radiological images with them? A cross-sectional study of the perceptions of patients and clinicians in the UK.](#)

Cox, W.A.S., Cavenagh, P., and Bello, F.

BMJ Open, vol. 10 (1)

Jan 2020

[The objective for this work was to assess clinical experts' and patients' opinions on the benefits and risks of sharing patients' diagnostic radiological images with them. This study was conducted outside of the primary and secondary care settings. Clinical experts were recruited at a UK national imaging and oncology conference, and patients were recruited via social media. 403 usable questionnaires were returned consisting of responses from clinical experts (n=121) and patients (n=282). Both groups acknowledge the potential benefits of this practice.]

[Health care-associated infections and the radiology department](#)

Ilyas, F., Burbridge, B., and Babyn, P.

Journal of Medical Imaging and Radiation Services, vol. 50(4)

Dec 2019

[This review considers how patients and staff can be exposed to health care-associated infections in the radiology department, including contaminated inanimate surfaces, radiology equipment, and associated medical devices.]

Technology

[Attitudes and perceptions of UK medical students towards artificial intelligence and radiology: a multicentre survey.](#)

Sit, C. et al

Insights into Imaging, vol. 11(1)

Feb 2020

[484 responses were received from students at 19 UK medical schools to a survey which explored attitudes, understanding, and career intention with regards to artificial intelligence (AI). This article presents the results from that survey.]

[Basics of Deep Learning: A radiologist's guide to understanding published radiology articles on deep learning](#)

Do, S., Song, K.D., and Chung, J.W.

Korean Journal of Radiology, vol. 21(1) pp. 33-41

Jan 2020

[This review article aims to explain the concepts and terms that are frequently used in deep learning radiology articles, facilitating general radiologists' understanding.]

[Chest radiograph interpretation with deep learning models: assessment with radiologist-adjudicated reference standards and population-adjusted evaluation.](#)

Majkowska, A. et al

Radiology, vol. 294(2), pp. 421-431

Feb 2020

[Deep learning models were developed to detect four findings (pneumothorax, opacity, nodule or mass, and fracture) on frontal chest radiographs. This retrospective study used two data sets. Data set 1 (DS1) consisted of 759,611 images from a multicity hospital network and ChestX-ray14 is a publicly available data set with 112,120 images. Natural language processing and expert review of a subset of images provided labels for 657,954 training images. Test sets consisted of 1,818 and 1,962 images from DS1 and ChestX-ray14, respectively.]

[Evidence of the benefits, advantages and potentialities of the structured radiological report: An integrative review](#)

Rocha, D.M. et al

Artificial Intelligence in Medicine, vol. 102

Jan 2020

[This review highlights the factors that contribute to the consolidation of adopting the structured radiology report methodology, addressing a variety of studies focused on the structuring of the radiological report.]

[Redefining the structure of structured reporting in radiology](#)

Nobel, J.M. et al

Insights into Imaging, vol. 11(1)

Feb 2020

[According to the authors, "structured reporting" has become ambiguous and is often confused with "standardization," which may hamper proper evaluation and implementation in clinical practice. This paper provides an overview of interpretations of structured reporting and proposes a clear definition that differentiates structured reporting from standardization.]

Academic Radiology, vol. 27(1) is a special issue on **artificial intelligence in radiology**, edited by Saurabh Jha and Tessa S. Cook. The list of articles contained within the issue, and links to the full articles, [can be found here](#).

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