

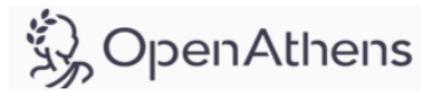
Library Current Awareness Bulletin Radiology – October 2020

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Section	Page(s)
News	1-2
Statistics	2
Artificial Intelligence	2
COVID-19: Impact on Radiology Services	2-3
Diagnostic Radiology	3-4
Education & Training	4-5
Interventional Radiology	5

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News

[More investment required to hit 45% recruitment target in radiography](#)

The Society of Radiographers
October 2020

[A new report by Cancer Research UK urges the government to increase the radiography workforce by 45% over the next decade to safeguard NHS cancer services.]

[New tool to help tackle health inequalities in radiography services](#)

The Society of Radiographers
October 2020

[A tool to tackle equity-related and inequality issues at work and in health services has been developed by Public Health England for healthcare professionals.]

[Planning an ultrasound academy during a pandemic](#)

The Society of Radiographers
October 2020

[This article by Famida Sadak, Lead Sonographer in Education and Training for Health Education England (HEE), explains how preparations for the opening of an Ultrasound Academy have continued despite the complications caused by the coronavirus pandemic.]

[RCR welcomes calls for major expansion of diagnostic imaging capacity in England](#)

The Royal College of Radiologists
October 2020

[A new report from the NHS' top cancer and screening advisor urges "major expansion and reform" of diagnostic services to enable the health service to recover from COVID-19 and improve care.]

[The role of sonographers during the pandemic](#)

The Society of Radiographers

October 2020

[Gill Harrison, SCoR Professional Officer for Ultrasound, considers the challenges for sonographers throughout the coronavirus pandemic, the lessons learnt and the guidance and policies needed going forward.]

Statistics

[Diagnostic imaging dataset for May 2020](#)

NHS England

September 2020

[The Diagnostic Imaging Dataset (DID) is a central collection of detailed information about diagnostic imaging tests carried out on NHS patients, extracted from local Radiology Information Systems (RISs) and submitted monthly.]

[Safer Radiotherapy: Triannual RTE analysis and learning report](#)

Issue 32 – Full radiotherapy error data analysis April to July 2020

Public Health England

October 2020

[Analysis of radiotherapy errors and near misses reported voluntarily by NHS radiotherapy departments.]

Artificial Intelligence

[Comparison of chest radiograph interpretations by artificial intelligence algorithm vs radiology residents](#)

Wu, J.T. et al

JAMA Network Open, vol. 3(10)

October 2020

[This diagnostic study aimed to assess the performance of artificial intelligence (AI) algorithms in realistic radiology workflows by performing an objective comparative evaluation of the preliminary reads of anteroposterior (AP) frontal chest radiographs performed by an AI algorithm and radiology residents. The study was conducted among five third-year radiology residents and an AI algorithm using a study data set of 1,998 AP frontal chest radiographs assembled through a triple consensus with adjudication ground truth process covering more than 72 chest radiograph findings. There was no statistically significant difference in sensitivity between the AI algorithm and the radiology residents, but the specificity and positive predictive value were statistically higher for AI algorithm.]

[Implementation of artificial intelligence \(AI\) applications in radiology: hindering and facilitating factors](#)

Strohm, L. et al

European Radiology, vol. 30(10) pp. 5525-5532

October 2020

[Using an embedded multiple case study, an exploratory, qualitative research design was followed to identify barriers and facilitators to the implementation of artificial intelligence (AI) applications in clinical radiology in the Netherlands. Data collection consisted of 24 semi-structured interviews from seven hospitals. The analysis of barriers and facilitators was guided by the recently published Non-adoption, Abandonment, Scale-up, Spread, and Sustainability (NASSS) framework for new medical technologies in healthcare organisations.]

COVID-19: Impact on Radiology Services

[Adapting lessons from SARS for the COVID-19 pandemic – perspectives from radiology nursing in Singapore](#)

Wong, A.S.K. et al

Journal of Radiology Nursing, vol. 39(3) pp. 164-167

September 2020

[This article describes the preparation and response of nursing in the radiology department in Singapore in SARS and coronavirus 2019 (COVID-19) outbreak. Protocols and measures taken during SARS and COVID-19 outbreak are described.]

[Recover wisely from COVID-19: Responsible resumption of nonurgent radiology services](#)

Vagal, A. et al

Academic Radiology, vol. 27(10) pp. 1343-1352

October 2020

[The authors report their practice implementation and experience of COVID-19 recovery during the resumption of routine imaging at the University of Cincinnati Medical Center.]

[SIR HELMET \(Safety in Radiology Healthcare Localised Metrological Environment\): a low-cost negative-pressure isolation barrier for shielding MRI frontline workers from COVID-19 exposure](#)

Ong, S. J. et al

Clinical Radiology, vol. 75(9)

September 2020

[a low-cost physical barrier was designed and developed for use within the MRI machine that could produce a localised negative-pressure containment area around the patient's head. The barrier has been named "SIR HELMET" from Safety in Radiology Healthcare Localised Metrological Environment. The "helmet" can potentially reduce the spread of pathogens via the patient's breath. In addition to assessing its functionality, the present study also evaluates the impact of the shield on MRI image quality.]

[Socio-economic and psychological impact of the COVID-19 outbreak on private practice and public hospital radiologists](#)

Florin, M. et al

European Journal of Radiology, vol. 132

September 2020

[An online survey was used with French radiologists to evaluate the socioeconomic and psychological impact of the COVID-19 outbreak on radiologists. The questionnaire was accessible for nine days. It covered socio-demographic information, exposure to COVID-19 at work and impact on work organisation, and included the Insomnia Severity Index and Hospital Anxiety and Depression Scale. Outcomes were moderate to severe insomnia, definite symptoms of depression or anxiety. Risk and protective factors were identified through multivariate binary logistic regression.]

[Technique, radiation safety and image quality for chest X-ray imaging through glass and in mobile settings during the COVID-19 pandemic](#)

Brady, Z. et al

Physical and Engineering Sciences in Medicine, vol. 43(3) pp. 765-779

September 2020

[This article describes the *through glass* technique, used within the Alfred Health network in Melbourne, to perform mobile chest X-ray imaging through glass, allowing the X-ray unit to remain outside of the patient's room, effectively reducing the cleaning time associated with disinfecting equipment.]

Diagnostic Radiology

[COVID-19 screening with chest CT in acute stroke imaging: A clinical decision model](#)

Qureshi, A.I. et al

Journal of Neuroimaging, vol. 30(5) pp. 617-624

September 2020

[This study aimed to determine the value of incorporating a chest computed tomography (CT) scan during acute stroke imaging, and the factors that influence this decision. A probabilistic decision tree was constructed to determine the value of acquiring a chest CT scan or not, expressed in quality-adjusted life months (QALM) of patients and medical professionals. The model was based on the chance of detecting infection by chest CT scan, the case fatality rates of COVID-19 infection, the risk of COVID-19 infection after exposure, the expected proportion of medical professionals exposed, and the exposure reduction derived from early disease detection.]

[Radiographers' assessment of referrals for CT and MR imaging using a web-based data collection tool](#)

Chilanga, C.C. et al

Radiography, vol. 26(4)

November 2020

[This study investigated radiographers' compliance with guidelines in the assessment of CT and MRI referrals and factors that influenced their performance. The research was facilitated by the European Federation of Radiographer Societies (EFRS) Research Hub at ECR 2019. Five radiology referral scenarios for CT and/or MRI were distributed to radiographers, as determined by their scope of practice, who volunteered at the Research Hub. A web-based data collection tool was used. The radiographers were required to determine the appropriateness of each referral, highlight any concerns and recommend suitable investigations if applicable. Linear regression analysis was used to determine whether postgraduate qualification, grade/role of the radiographer and use of guidelines influenced the radiographers' performance in assessing the referrals.]

[The effect of clinical information on radiology reporting: A systematic review](#)

Castillo, C. et al

Journal of Medical Radiation Sciences, online ahead of print

September 2020

[The aim of this study was to investigate the effects of clinical information on the accuracy, timeliness, reporting confidence and clinical relevance of the radiology report. A systematic review of studies that investigated a link between primary communication of clinical information to the radiologist and the resultant report was conducted. 21 studies met the inclusion criteria and 20 of these were included in the review following quality assessment.]

Education and Training

[Adaptive tutorials versus web-based resources in radiology: a mixed methods analysis in junior doctors of efficacy and engagement](#)

Wade, S.W.T. et al

BMC Medical Education, vol. 20(1)

September 2020

[A randomised controlled crossover trial was performed to evaluate the impact of adaptive tutorials on learning the indications for, and interpretation of, basic imaging studies, compared with peer-reviewed web-based resources. 91 volunteer junior doctors, comprising 53 postgraduate year 1 (PGY 1) and 38 postgraduate year 2 (PGY 2) at the University of New South Wales, were randomly allocated into two groups. In the first phase of the trial, focusing on head CT, one group accessed adaptive tutorials while the other received web-based resources. In the second phase of the trial, focusing on chest CT, the groups crossed over. Following each phase of the trial, participants completed exam-style online assessments. At the conclusion of the study, participants also completed an online questionnaire regarding perceived engagement and efficacy of each type of educational resource.]

[Effectiveness of flipped classroom vs traditional lectures in radiology education: a meta-analysis](#)

Lingling, G. et al

Medicine, vol. 99(40)

October 2020

[Studies were retrieved from six databases, including Pubmed, Embase, Web of Science, Wanfang Data, CNKI, and VIP, from their inception to 16 February 2020. Literature selection and data extraction were completed by two reviewers independently. A total of 19 studies with 2,114 participants were deemed to be eligible for inclusion.]

[Future interventional radiologists and where to find them – insights from five UK interventional radiology symposia for junior doctors and medical students](#)

Xu, Y. et al

Cardiovascular and Interventional Radiology

October 2020

[Anonymised questionnaires on undergraduate and postgraduate IR exposure were distributed to attendees of five UK IR symposia between 2019 and 2020. The aim was to understand the contributing factors that encourage junior doctors and medical students to consider an IR career. 220 responses were received from 103 (47%) junior doctors and 117 (53%) medical students.]

[Impact of COVID-19 on UK radiology training: a questionnaire study](#)

Veerasuri, S. et al

Clinical Radiology, vol. 75(11)

November 2020

[This study aimed to understand the impact of COVID-19 on radiology trainee experience and well-being. A questionnaire designed to capture the impact of COVID-19 on radiology training, working patterns, and well-being was sent to all speciality trainees in a regional UK radiology school. The survey was distributed at the beginning of May 2020 and responses collected over two weeks. Trainees were questioned about changes that had occurred over a time period starting at the beginning of the COVID-19 pandemic. All survey responses (n=29) were anonymised and the results were subsequently analysed. 62% (29 of 47) of trainees within the deanery, who were spread across seven different hospital sites, responded to the questionnaire.]

[The process of slowing down in clinical reasoning during ultrasound consultations](#)

Groenier, M. et al

Medical Education

September 2020

[This study explored the process of transitions between automatic and effortful reasoning by radiologists, at the Radiology department of the Amsterdam Medical Centre, who performed ultrasound examinations during consultations at the polyclinic. Manifestations of slowing down in clinical reasoning were explored in 41 outpatient consultations performed by five radiologists. Interviews before and after the consultations were combined with observations during the consultations to obtain proactively planned triggers, slowing down manifestations and situationally responsive initiators. Transcripts of the interviews and field notes of the observations were coded. The constant comparative method was used to classify slowing down manifestations.]

Interventional Radiology

[Cost effectiveness and the role of the National Institute of Health and Care Excellence \(NICE\) in interventional radiology](#)

Maudgil, D.D.

Clinical Radiology, article in press

October 2020

["Healthcare expenditure is continually increasing and projected to accelerate in the future, with an increasing proportion being spent on interventional radiology. The role of cost effectiveness studies in ensuring the best allocation of resources is discussed, and the role of National Institute of Health and Care Excellence (NICE) in determining this. Issues with demonstrating cost effectiveness have been discussed, and it has been found that there is significant scope for improving cost effectiveness, with suggestions made for how this can be achieved. In this way, more patients can benefit from better treatment given limited healthcare budgets."]

[Future scenarios and opportunities for interventional radiology in the post COVID-19 era](#)

Abadal, J.M. et al

Diagnostic and Interventional Radiology

September 2020

[This paper explores the future of interventional radiology from various perspectives, and forecasts the new opportunities that will be presented, from the adaptation of the interventional radiology staff and angiography suite, to the immunological environment, and through to digital medical education. The authors analyse the economic impact and the future relationship we can expect with the rest of the medical industry.]

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