

ECR2020

Book of abstracts

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Abstracts were submitted by the authors warranting that good scientific practice, copyrights and data privacy regulations have been observed and relevant conflicts of interest declared.

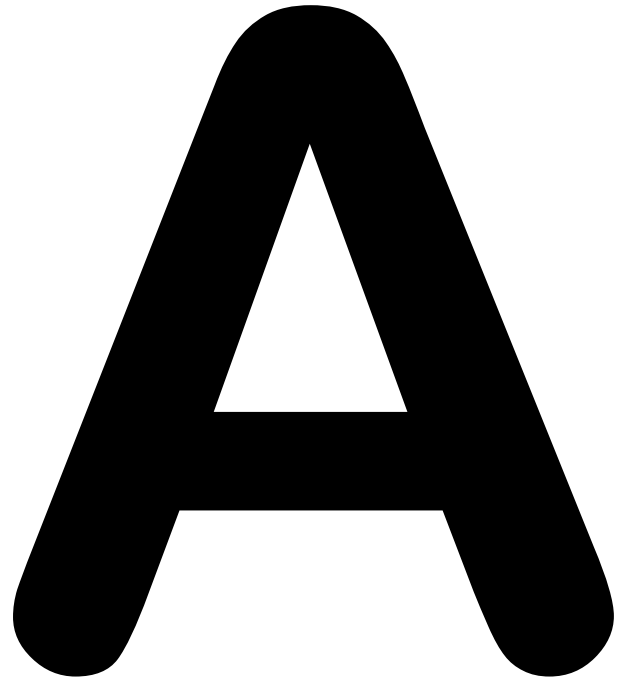
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Postgraduate Educational Programme

Children in Focus (IF)
Coffee & Talk (open forum) Sessions (C)
EFOMP Workshop (EF)
ESR at Work Sessions
ESR/EFRS/ISRRT meets Sessions (Meets)
European Excellence in Education (E³)
EuroSafe Imaging Sessions
Joint Sessions
Multidisciplinary Sessions (MS)
New Horizons Sessions (NH)
Plenary Lectures (PL)
Professional Challenges Sessions (PC)
Pros & Cons Session (PS)
Refresher Courses (RC)
Special Focus Sessions (SF)
State of the Art Symposia (SA)
Transatlantic Course of ESR and RSNA (TC)

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patients (80%) there were no metastatic lesion of SLN. This allowed avoiding of lymphadenectomy.

Conclusion: SLN scintigraphy with biopsy as a clarifying diagnostic method allows individualising the volume of operative intervention.

Limitations: This study has no limitations.

Ethics committee approval: n/a

Funding: No funding was received for this work.

Author Disclosures:

E. Zykov: nothing to disclose

A. Meldo: nothing to disclose

A. Ilyin: nothing to disclose

G. Bozhukhin: nothing to disclose

G. Lungu: nothing to disclose

V. M. Moiseenko: nothing to disclose

S. Maksimov: nothing to disclose

K. Shelekhova: nothing to disclose

MyT3 12-7 16:24

An investigation of post-registration PET/CT radiography training in Ireland

R. E. Whelan, K. Curran, L. A. Rainford; Dublin/IE
(rachel.whelan@ucdconnect.ie)

Purpose: A well-trained workforce is essential in a PET/CT department. There is a lack of published literature regarding the training and education of PET/CT radiographers in Ireland. This study investigated the PET/CT training offered in Ireland and investigated in which areas further training might be beneficial for PET/CT radiographers in Ireland.

Methods and materials: An online questionnaire was distributed to PET/CT radiographers across Irish centres. Open and closed questions were asked about PET/CT training and further training areas. The questionnaire sought information regarding participants' individual training, important areas for training, and participant demographics.

Results: Questionnaire responses (n=26) were received from 7 of 9 sites nationally (estimated staff response rate of 74% within these sites). 'In-house' induction PET/CT training programmes varied in duration from 1-2 weeks long to more than 9 weeks long. Observation and shadowing were among the most commonly used approaches to training. The use of a competency checklist during training and the level of agreement that the training fully prepared the participant to work independently in PET/CT were significantly associated ($p < 0.024$, $r = 0.672$). Radiation protection, pathology, radiopharmaceutical administration, artefactual variants and critical situations associated with contrast media/radiopharmaceuticals were identified as important training topics.

Conclusion: Key training areas were identified. Changes in practice—for example the introduction of a new Gallium service—were identified as matters that may affect future training needs. Further research is warranted to identify how the training needs identified should be addressed.

Limitations: The participant responses are representative of Irish PET/CT radiographers therefore further research is recommended to collect data from other European countries for comparison.

Ethics committee approval: This study was performed following ethical permission from the School of Medicine, University College Dublin.

Funding: No funding was received for this work.

Author Disclosures:

R. E. Whelan: nothing to disclose

L. A. Rainford: nothing to disclose

K. Curran: nothing to disclose

MyT3 12-8 16:28

Has the radiographer practice changed in the use of anti-scatter grid with the introduction of digital detectors: a scoping review

C. Campeanu; Lausanne/CH (cosmin.campeanu@hesav.ch)

Purpose: To scrutinise the changes in radiographer's practice regarding the use of the anti-scatter grid in flat-panel digital imaging.

Methods and materials: The scoping review method was applied to identify gaps in the existing literature and to formulate recommendations for practice and/or policy changings. The three major databases for healthcare literature have been consulted: Medline, CINAHL and EMBASE using a combination of key words (anti-scatter grid, digital radiography, radiographers practice).

Results: 149 studies were identified. After title and abstract reading, 25 articles were selected and 12 were retained for analysis/discussion based on inclusion criteria. The studies were divided into four groups: paediatric imaging, musculoskeletal and chest imaging in adults and "virtual-grid-like" radiographies. Based on phantom studies of paediatric abdomen, specific recommendations were provided for grid-use decision-making: the patient should be over 14cm thickness with small FOV (21x18cm) at 80kVp. For adults, the removal of the anti-scatter grid can promote a dose reduction (up to a maximum of 418%) on

specific anatomical areas such as shoulder and "virtual-grid-like" bedside chest radiographies, while keeping diagnostic image quality. This study was already clinically assessed, being possible a direct introduction on practice. The non-grid lateral cervical spine and horizontal beam hip radiographies need a further clinical assessment before changing the practice.

Conclusion: The introduction of digital detectors has potential to change radiographers practice regarding the use of anti-scatter grid. However, this change can be clinically implemented in just 2 specific radiographic examinations: AP shoulder and bedside chest acquisitions. Further clinical research should be designed considering the irradiated volume (measured thickness multiplied by the displayed FOV), through multiple parameters variations and different anatomical areas.

Limitations: This was an extensive scoping review but no experimental research was conducted to complement the findings.

Ethics committee approval: Not applicable.

Funding: Not applicable.

Author Disclosures:

C. Campeanu: nothing to disclose

MyT3 12-9 16:32

An investigation into the necessary considerations when giving patients online access to their health records

N. Seymour¹, M. D. Davis²; ¹Cork/IE, ²Dublin/IE (niall.seymour@ucdconnect.ie)

Purpose: The use of electronic health records is becoming widespread and with this comes the desire of many patients to have easy access to their stored imaging and healthcare records. This study aimed to investigate, on a global and national level, the necessary considerations for any stakeholder intending on giving patients online access to their health records.

Methods and materials: A rapid structured literature review was conducted to gain an international perspective on the primary concerns that arise when giving patients online access to their records. This review was supported by conducting interviews with people working in the Republic of Ireland who have experience relevant to this area. All data gathered was analysed quantitatively using NVivo, a qualitative data analysis programme.

Results: A total of 49 articles and seven interviews were subjected to thematic analysis, from which six key considerations have been identified. These are as follows: (1) accessibility and engagement barriers, (2) security, (3) results, (4) proxy access (5) patient-generated health data and (6) resources.

Conclusion: Giving patients online access to their health records has the potential to bring significant benefits to patients and healthcare providers. Addressing important considerations could help ensure that giving patients online access to their health records can be secure, beneficial and not cause unnecessary worry or concern for patients or unnecessary strain on healthcare providers.

Limitations: Given the time constraints for this research project, an in-depth analysis of each consideration identified was not possible. However, this study has provided an overview of the key considerations, which is a valuable starting point from which stakeholders could begin planning patient portal implementation.

Ethics committee approval: Exemption from a full ethical review was granted by the Undergraduate Research Ethics Committee in University College Dublin on November 5, 2018.

Funding: No funding received.

Author Disclosures:

N. Seymour: nothing to disclose

M. D. Davis: nothing to disclose

MyT3 12-10 16:36

Nutritional support in cancer patients: radiographers' perceptions

A. Y. Dimitrova, P. Jones, G. van Dijk; Msida/MT
(angelina.y.dimitrova@gmail.com)

Purpose: This study aimed to explore the perceptions of radiographers employed in an oncology centre regarding their ability to identify patients needing nutritional advice and to provide patients with the appropriate dietary support.

Methods and materials: A non-experimental, quantitative approach was employed. An existing questionnaire was modified, using published guidelines to suit the aim of this study, and distributed to all radiographers working in the radiotherapy department of the selected oncology centre. Data were analysed using descriptive statistics.

Results: With a response rate of 85% (n=22), 86% (n=19) of participants indicated that patients asked for nutritional advice. 36% (n=8) of the respondents did not have previous training on nutritional interventions. All participants expressed interest in receiving additional information or training regarding nutritional management of side effects and identification of cases needing a referral to a dietitian. 82% (n=18) of participants stated that a protocol for referrals to dietitians was available at their clinical site, however, only two respondents indicated that they referred patients to a dietitian. All radiographers

are self-rated as knowledgeable in identifying patients in need of dietary interventions and delivering the appropriate nutritional support. This was supported by the high level of agreement between literature recommendations and radiographers' responses.

Conclusion: Findings suggest that radiographers perceive themselves as knowledgeable and provide patients with the appropriate nutritional support. However, only two radiographers referred patients to dietitians and all radiographers indicated that they would like additional support. The researcher, therefore, proposed additional training, implementation of scripted nutritional advice and further studies into the lack of referrals to the dietetic team.

Limitations: Participants may have responded in their favour or sought assistance, leading to biased results. Use of close-ended questionnaires may have restricted data, limiting explanation of complex issues.

Ethics committee approval: N/A

Funding: No funding was received for this work.

Author Disclosures:

A. Y. Dimitrova: nothing to disclose

G. van Dijk: nothing to disclose

P. Jones: nothing to disclose

MyT3 12-11 16:40

SAFMEDS to improve medical students and trainees accuracy in interpreting chest radiographs: a pilot study

K. Dunne, D. Byrne, S. Lydon, P. McCarthy, C. Madden, Galway/IE (kevindunne04@gmail.com)

Purpose: To develop an efficient and effective educational tool that students can use in a self-directed manner to improve their chest x-ray (CXR) interpretation skills.

Methods and materials: Third-year medical students and medical interns took part in this study. Participants completed a pre-intervention assessment which required them to indicate a diagnosis for 25 CXR images. No clinical information accompanied the images. Participants then: 1) received a tutorial on CXR interpretation, and; 2) independently used a behavioural instructional methodology called SAFMEDS ("say-all fast-minute-each-day-shuffled"), which involved 60-second practice trials with a set of flashcards depicting CXR images, for six weeks. Subsequently, participants completed a post-intervention. Dependent t-tests were used to compare the performance of each group at the pre-intervention and post-intervention assessments.

Results: A total of 13 third-year medical students, and 14 medical interns completed the pre-intervention assessment with a mean overall accuracy of 34.2% and 63.1% respectively. Post-intervention accuracy increased to 67.6% (n=11, p=<0.001) for the medical students and 77.3% (n=9, p=0.02) for the medical interns.

Conclusion: SAFMEDS produced statistically significant improvements in accuracy for both groups in just six weeks when interpreting CXRs. This is in line with other research which has shown the efficacy of SAFMEDS in varied educational domains. As SAFMEDS constitutes a self-directed learning resource it is potentially a very valuable tool given the ever-increasing class sizes in medicine, and increasingly busy medical curricula, which impacts upon the time available to students in the class to master essential clinical skills.

Limitations: This study was limited by small sample size, single institution and only ten diagnoses included.

Ethics committee approval: Approval for the study was granted by the Research Ethics Committee at the National University of Ireland, Galway.

Funding: Received from National Doctors Training and Planning.

Author Disclosures:

K. Dunne: nothing to disclose

D. Byrne: nothing to disclose

S. Lydon: nothing to disclose

P. McCarthy: nothing to disclose

C. Madden: nothing to disclose

MyT3 12-13 16:44

Evaluation of haemodynamic changes in the middle cerebral artery in smokers: an ultrasonography study

M. D. P. Brazuna¹, L. P. V. Ribeiro², S. Rodrigues¹, A. F. Abrantes¹, R. P. P. Almeida¹, M. V. C. Reis¹, K. B. Azevedo¹; ¹Faro/PT, ²Parahal/PT (marciobrazuna@hotmail.com)

Purpose: The effect of cigarette smoking on the brain is not clearly understood but is probably multidirectional and complex, predominantly affecting the circulatory system, both general and cerebral. Transcranial Doppler (TCD) ultrasonography is a noninvasive bedside monitoring technique that can evaluate cerebral blood flow haemodynamics in the intracranial arterial vasculature. This study aims to evaluate haemodynamic changes induced by smoking habits in the middle cerebral artery.

Methods and materials: Mean flow velocity (MFV), peak systolic velocity (PSV), end-diastolic velocity (EDV), resistive index (RI) and pulsatility index (PI) were determined in the middle cerebral artery by a trained radiographer. A sample of 34 volunteer participants (17 smokers and 17 non-smokers) were examined using a dedicated ultrasound equipment for the TCD and a comparative study of the haemodynamic parameters measured in both groups was performed.

Results: The mean values of the blood flow velocities measured in the smoking volunteer participants (MFV=53.74cm/s; PSV=89.02cm/s; EDV=38.10cm/s) were lower compared to non-smokers (MFV=59.85cm/s; PSV=99.94cm/s; EDV=39.82cm/s), worsening with the intensity of their smoking habits. Smoking subjects also had a higher blood pressure on average. All these phenomena presented a greater magnitude in male subjects.

Conclusion: The findings provide additional novel evidence of the adverse effects of cigarette smoking on the human brain since smoking has negative effects on middle cerebral artery and haemodynamics. Therefore, smoking is a risk factor for alterations in middle cerebral artery haemodynamics and male smokers are more likely to develop vascular changes. Radiographers can play a key role in the detection of pathophysiological changes from a preventive perspective.

Limitations: This study is limited by the sample size.

Ethics committee approval: Ethics committee approved the study and written informed consent was delivered to the participants.

Funding: No funding was received for this work.

Author Disclosures:

M. D. P. Brazuna: nothing to disclose

L. P. V. Ribeiro: nothing to disclose

S. Rodrigues: nothing to disclose

A. F. Abrantes: nothing to disclose

R. P. P. Almeida: nothing to disclose

M. V. C. Reis: nothing to disclose

K. B. Azevedo: nothing to disclose

MyT3 12-14 16:48

Ultrasound measures of abdominal aortic caliber and quadriceps femoris muscle thickness: influence of physical activity and body mass index

H. S. Ponte¹, L. P. V. Ribeiro², S. Rodrigues¹, A. F. Abrantes¹, A. D. M. Ribeiro³, R. P. P. Almeida¹, M. V. C. Reis¹, T. C. P. L. Guerreiro⁴; ¹Faro/PT, ²Parahal/PT, ³Portimão/PT, ⁴Santiago Do Cacém/PT (henrique_s_ponte@hotmail.com)

Purpose: To evaluate the influence of physical activity level, body mass index (BMI) and gender on the ultrasound measurement of abdominal aortic caliber and quadriceps femoris muscle thickness.

Methods and materials: The International Physical Activity Questionnaire (IPAQ) was applied to 52 healthy volunteers to evaluate the health-related physical activity (PA) and BMI values were determined through a body composition analysis scale. Measurements of quadriceps femoris muscle thickness and abdominal aortic caliber were performed from B-mode ultrasound images, acquired twice by two independent radiographers. The thickness of the rectus femoris and vastus intermedius (RFVIMT), vastus medialis (VMMT) and vastus lateralis (VLMT) were measured. Standardised images of the aorta were recorded at three different levels: below the level of the origin of the splenic artery (AAC-SA), below the level of the origin of the renal arteries (AAC-RA) and 1-3 cm above the bifurcation (AAC-B).

Results: IPAQ showed that 21.2% of participants had a low PA level, 25.0% had a moderate PA level and 53.8% had a high PA level. Regarding BMI, 7.7% of the volunteers were classified as underweight, 63.5% as normal, 21.2% as overweight and 7.7% as obese. Significant positive correlations were observed between BMI and AAC-RA (r=0.298, P=0.032), BMI and RFVIMT (r=0.638, P=0.000), BMI and VLMT (r=0.442, P=0.001). Significant negative relationships were observed between gender and AAC-B (r=-0.424, P=0.002) and between gender and VMMT (r=-0.536, P=0.000).

Conclusion: A healthy lifestyle with proper physical activity levels is essential for the prevention of major cardiovascular diseases, obesity, muscular weakness, among others. However, further studies in this field are required.

Limitations: This study was limited by the sample size.

Ethics committee approval: Ethics committee approved the study.

Funding: No funding was received for this work.

Author Disclosures:

H. S. Ponte: nothing to disclose

L. P. V. Ribeiro: nothing to disclose

S. Rodrigues: nothing to disclose

A. F. Abrantes: nothing to disclose

A. D. M. Ribeiro: nothing to disclose

R. P. P. Almeida: nothing to disclose

M. V. C. Reis: nothing to disclose

T. C. P. L. Guerreiro: nothing to disclose