

P097 Early experiences of the use of a Virtual Reality Environment to prepare adult patients for MR imaging

Christine Heales; Kelly Sargent

University Hospitals Plymouth NHS Trust

Background: MRI can be a challenging examination to undergo due to a combination of factors including the length of the imaging procedure, scanner noise, the use of coils and the size of the scanner bore. This can be exacerbated for individuals who experience claustrophobia. MRI radiographers typically utilise a patient centred approach to identify a strategy to best support patients who find undergoing MRI challenging.

Purpose: The use of Virtual Reality is increasingly being explored as part of the MRI radiographer's toolkit. The purpose of this communication is to describe early experiences (from a small-scale service evaluation) of the use of a bespoke MRI Virtual Reality Environment (VRE) tool within a busy MRI department in terms of impact upon patient experience and scan outcome.

Summary: A pictorial overview of the MRI VRE tool will be provided together with service evaluation data outlining early experiences of its use in practice. These data will include practical information about implementation such as the radiographer's perception of ease of use and amount of time taken. Limited data (within the scope of a service evaluation) about patient experience will also be provided together with outcomes in terms of whether patients subsequently underwent an MRI scan of diagnostic quality. Limitations to the data set will be discussed and suggestions for future research made.



EDUCATION AND RADIOTHERAPY POSTER PRESENTATIONS

P099 Clinical research placement for radiotherapy students - a pilot study

Elaine Smith; Gillian Bestwick; Emma Delaney; Emma Charman

Gloucestershire NHS Foundation Trust

Background: The College of Radiographers released their new 5-year research strategy (CoR 2021) which aims to embed research, improve patient care and service delivery and expand UK radiography research capacity. The Council for Allied Health Professions in Research have also published a Practitioner Research Framework (CAHPR 2019) which sets out the knowledge and skills required by an AHP to perform and apply research in different health care settings. To ensure newly qualified radiographers were equipped with research knowledge and skills our Radiotherapy department developed a placement opportunity for students.

Method: Third year students undertook a week placement alongside the Radiotherapy research radiographers. This gave them an insight into the role of a research radiographer and gain experience of clinical trials, local service evaluations and research. To assess the efficacy of the placement the students were asked to complete a pre and post placement questionnaire and to take part in a focus group to expand on any themes raised from the questionnaires.

Results:

Results

Table 1 Comparison of Pre and Post Placement Responses.

	Pre Placement Mean	Post Placement Mean
Current Knowledge of research	3.8	5.8
Current confidence level of undertaking research	3.6	5.4
Current knowledge of Radiotherapy Trials	3.8	6.8

Conclusion: The increase in the mean response shows that there has been an increase in knowledge and confidence in research. The main themes raised were regarding the impact it would have on their clinical time and that there were no set objectives for the placement, however, they were pleased that they had a valuable insight into how to undertake their dissertation. As this was a pilot study the results are to be shared with the academic institutions to see if a research placement could be incorporated into the curriculum.

The College of Radiographers. (2021). Research Strategy 2021-2026. Available from: <https://www.collegeofradiographers.ac.uk/getattachment/Research-grants-and-funding/cor-research-strategy/cor-research-strategy-2021-26.pdf?lang=en-GB> [Accessed 27th November 2021].

NIHR, CAHPR. (2019). Shaping better practice through research: A practitioner framework. Available from: <https://cahpr.csp.org.uk/documents/cahpr-research-practitioners-framework> [Accessed 24th November 2021].

P100 Therapeutic radiographers - Image and Images

Elizabeth Joyce¹; Marcus T Jackson¹; Jennifer Skok¹; Bianca Peet²; Helen A McNair²

¹St George's University of London; ²Royal Marsden Hospital

Background: Advanced practice, 'a level of practice characterised by a high degree of autonomy and complex decision making' (HEE, 2017) is very relevant to therapeutic radiographer (TR) roles and implementation of on-line adaptive MRI-guided radiotherapy (MRIgRT) will require role development. In preparation, we have established the current TR role description and involvement in off-line ART.

Methodology: A training needs analysis was created and TR's were invited to participate via departmental emails and social media. Descriptive statistics were used to describe and define current roles and responsibilities.

Results: 261 responses were received from 77 UK NHS centres. The UK protected title of 'therapeutic radiographer' was the most common reported title but was only used to describe 26% of participants roles. The majority of TR's were involved radiotherapy setup and/or delivery (85%) with pre-treatment pathway the second most common (53%). Although 90% were involved in image verification and 95% of those referred images for plan assessment, only 25% could undertake the assessment. Only 23% of TR's could authorise a subsequent decision. A minority (32%) had the option to rotate through planning and dosimetry. Experience in planning and checking was reported by less than half of TR's (42%). A traffic light decision tool was used by 32%.

Conclusion: There is a lack of clarity in the description of the TR role by TR's. Although TR's are the professional expert in image verification acquisition, the responsibilities for decision making lies elsewhere. In order to undertake on-line ART and MRIgRT the TR's role must evolve.

1. HEE. (2017). Multi-professional framework for advanced clinical practice in England. Available: <https://www.hee.nhs.uk/sites/default/files/documents/multi-professionalframeworkforadvancedclinicalpracticeinengland.pdf>. Last accessed 15th December 2021.

P101 Training and developing radiographers' knowledge, skills and competency to work on an MR Linac

Lisa McDaid; Abigail Clough; Wesley Doherty; Rebecca Benson; Cynthia Eccles

The Christie NHS Foundation Trust

Background: Hybrid technologies combining linear accelerators (linacs) and MRI scanners (MR Linacs) have recently become available commercially and are being implemented worldwide. The introduction of an MR Linac at our site warranted review of existing radiographer competencies, and development of new ones, to ensure safe working practice and fully exploit the potential benefits of the MR Linac.

Purpose: It was decided that a hub and spoke model would provide an appropriate framework on which to build an education and training curriculum. A central, or "hub", competency was developed initially, to be attained by all staff. From this, emanates multiple spoke competencies that are independently attained by radiographers. Within each competency lies an interactive learner guide to be completed "on the job". These include directed and self-directed elements. Activities designed to test understanding and application of knowledge and skills were included. These activities were based on Bloom's taxonomy and were developed to deepen understanding of the material as well as developing critical thinking skills. Trainer and assessor guides were developed to ensure parity for learners when both introducing the learner to the material and assessing their learned knowledge and application to practice. Formal

assessor guides also allow us to measure learning outcomes. Prior to implementation, the competencies were piloted on 4 new staff members and feedback gained.

Summary: The poster will pictorially display the framework in its entirety with supporting text outlining competency content, along with benefits and challenges experienced.

P102 Evaluating therapeutic radiographers' role in instigating prehabilitation and rehabilitation advice

Jo McNamara¹; Yuchen Wang²; Daniel Hutton²; Hazel Pennington³

¹Sheffield Hallam University; ²The Christie NHS Foundation Trust; ³Lancashire and South Cumbria NHS Foundation Trust

Background: Investigating therapeutic radiographers' (TR) perception of their role in delivering prehabilitation and rehabilitation advice before and after completing an e-learning resource. Role of e-learning resource to provide knowledge and professional skills to enable TRs' inclusion of prehabilitation and rehabilitation into cancer pathways.

Purpose: Knowledge gap and lack of skills for TRs in providing prehabilitation and rehabilitation advice. The e-learning resource improved TRs' knowledge and increased awareness of prehabilitation and rehabilitation. The e-learning resource equipped TRs with the necessary tools to initiate a conversation about prehabilitation and rehabilitation and refer patients to other cancer services. Remaining challenges for TRs to incorporate a comprehensive prehabilitation and rehabilitation service. It is also vital to eliminate barriers and support TRs in providing prehabilitation and rehabilitation to patients through the radiotherapy treatment pathway. Promoting the role TR's can play in prehabilitation and rehabilitation is important within the MDT.

Summary: In total, 62 TRs were recruited from three radiotherapy departments in the northwest of England. 36 TRs responded to the pre-questionnaire (58% response rate) and 18 participants submitted the post questionnaire (response rate 29%) after completing the e-learning resource. Findings showed the level of confidence to deliver prehabilitation and rehabilitation advice was low, with less than 25% of participants having high confidence levels. Lack of knowledge, training, confidence, time and concern about upsetting patients were identified as barriers. Surveys also identified 24% of participants have considered prehabilitation and rehabilitation as part of a TR's role.

P103 The value of a clinical therapeutic radiography simulation role within practice

Leah Untisz-Sly; Joanna McNamara; Alex Robinson

Sheffield Hallam University

Background: Therapeutic radiographers are a small profession, with approximately 3000 posts in 2019 (SOR, 2020). In cancer services approximately 50% of all patients will receive radiotherapy and that figure is set to rise to 60% by 2025 (All party parliamentary group, 2019). Workforce expansion and development to support the growth of demand for cancer services is required. It is predicted that a 45% increase in therapeutic radiographers is needed by 2029 (Cancer Research UK, 2020). The challenges documented surrounding recruitment and retention (Health Education England, 2018) has resulted in clinical placement expansion becoming a priority to increase student numbers.

Purpose: Simulation has been identified as an opportunity to facilitate student education in a risk-free environment, allowing students opportunity to take time in their practice, have instant debrief and opportunities to pause and reflect (Chamunyonga et al., 2020). Radiotherapy departments are fast paced with staff juggling their commitments in patient care, staff wellbeing and student education. Simulation allows bridging of the academic and clinical environment. The purpose of this role is to investigate how a blended learning approaches can potentially increase placement capacity without impacting student experience.

Summary: The simulated placement will utilise a range of effective strategies - The use of HEI treatment suites, virtual environment of radiotherapy treatment room, eclipse planning, role play, service user involvement and peer learning. With successful implementation of simulated placements, the equivalent 112.5 hours of placement would be created for one student over the academic year, resulting in placement capacity increase.

1. Cancer Research UK (2020). Estimating the cost of growing the NHS cancer workforce in England by 2029. Available at: https://www.cancerresearchuk.org/sites/default/files/estimating_the_cost_of_growing_the_nhs_cancer_workforce_in_england_by_2029_october_2020_-_full_report.pdf [Accessed 10 December 2021] 2. Chamunyonga, C, Rutledge, P, Caldwell, P, Burberry, J & Hargrave, C. (2020) "The

application of the virtual environment for radiotherapy training to strengthen IGRT training", Journal of Medical Imaging and Radiation Sciences, 51 (2), pp. 207 - 213. Available at: https://www.sciencedirect.com/science/article/pii/S1939865420300138?casa_token=065SR22xTtIAAAAA:7Wk1-Hs62-KkQGLfhUjRjwpFdoxlnmWQPv_IrUFtTeYzT2_-s4pESkZmkGgGm0XL6ptFn5PY7Aj [Accessed 10 December 2021] 3. Health Education England (2018). Reducing Pre-registration Attrition and Improving Retention Report (RePAIR). Available at: <https://healtheducationengland.sharepoint.com/Comms/Digital/Shared%20Documents/Forms/AllItems.aspx?id=%2FComms%2FDigital%2FShared%20Documents%2Fhee%2Enh%2Euk%20documents%2FWebsite%2Ffiles%2FRePAIR%202018%2FRePAIR%20Report%202018%5FFINAL%2Epdf&parent=%2FComms%2FDigital%2FShared%20Documents%2Fhee%2Enh%2Euk%20documents%2FWebsite%2Ffiles%2FRePAIR%202018&p=true> [Accessed 10 December 2021] 4. All Party Parliamentary Group for Radiotherapy (2018). Manifesto For Radiotherapy Improving cancer survival with modern world-class radiotherapy. Available at: https://e8604b0e-5c16-4637-907f-3091e4443249.filesusr.com/ugd/4fcdc3_3aab4951c062443e9192d27bae054b8b.pdf?index=true [Accessed 10 December 2021] 5. Society of Radiographers (2021). Radiotherapy radiographic workforce UK census. Available at: https://www.sor.org/getmedia/94f80de1-d982-4a3d-83b9-0ab1215630a6/CoR_radiotherapy_radiographic_workforce_uk_census_2020_report_v2-21062021 [Accessed 10 December 2021].

P104 Creating a culture: Benchmarking research activity, capability and ambition of Allied Health Professionals

Gillian Bestwick; Elaine Willmore; Sarah Williams; Leanne Raybould; Paul Donachie

Gloucestershire Hospitals NHS Foundation Trust

Background: Driving research has been identified by our Hospital Trust as a strategic priority. The aim of this project was to benchmark the current level of research awareness, capability and activity of Allied Health Professionals (AHPs) across the Trust.

Method: A cross-sectional self-administered questionnaire was developed based on the CAHPR framework (1) and distributed to AHPs across the trust. Results from Diagnostic and Therapeutic Radiographers were compared to results from all AHPs.

Results: 265 AHPs responded (50.3% response rate) including 35 Diagnostic Radiographers and 33 Therapeutic Radiographers. Most AHPs (>70%) do not have job plans that facilitate research activity. Fewer than 30% have personal objectives that relate to research and research career development was discussed in less than half of recent appraisals (all AHPS 33%, Therapy Radiographers 43%, Diagnostic Radiographers 10%). Over the last 12 months, 131(49.4%) of responding staff had engaged with some form of research activity and 71.1% of responders regarded themselves as being research aware and able to look for relevant research. The majority lacked confidence with critical appraisal skills. Research activity is not equally spread across professional groups. 60% of Diagnostic Radiographers could not see themselves becoming involved in research in the next 5 years compared to 12% of Therapy Radiographers and 23% of all AHPs.

Conclusion: The SCoR and HCPC require AHPs to engage with research and whilst pockets of research activity and capability exist across AHPs in the Trust, there is not an embedded research culture across the organisation. Work is being done to develop this.

1. NIHR, CAHPR. (2019) Shaping better practice through research: A practitioner framework. Available from: <https://cahpr.csp.org.uk/documents/cahpr-research-practitioners-framework> [Accessed 10th December 2021].



RADIOTHERAPY AND CLINICAL ONCOLOGY POSTER PRESENTATIONS

P105 Enhancing the safety of paperless radiotherapy

Paul Roxby; Jonathan Hughes; Matthew Walsh; Stephen Tozer-Loft, Emma Prince

Sheffield Teaching Hospitals NHS Foundation Trust

Background: Patient set-up instructions for radiotherapy treatment are increasingly moving from paper to computer systems with displays inside the treatment room. A different patient could be selected on these systems than on the linear accelerator. If so, a patient could be set up for incorrectly for treatment. Two CQC IRMER reports (2018/19 and 2020/21) have highlighted this danger, which we addressed.

Method: A computer program was written to display a coloured box on the monitors of computers displaying set-up information (Aria) and breathing management information (Varian RPM). The box is green when the patient selected