Use of Multi-Disciplinary High-Fidelity Simulation Training for Radiology Healthcare Professionals in the Management of Acute Medical Emergencies

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Background

Life-threatening medical emergencies are uncommon in the radiology department, but when they occur, pose a significant challenge to radiology healthcare professionals.

The Royal College of Radiology (RCR) have stated the importance of incorporating simulation in radiology training and the RCR curriculum [1,2].

OBJECTIVES

- **To identify areas where radiology healthcare professionals feel unconfident or that their skills are lacking**
- **To develop and implement a specific high-fidelity training course targeting these areas**
- **To show a sustained improvement in knowledge and skills as well as perceived confidence with dealing with these clinical scenarios**
- **To embed within the radiology healthcare curriculum an annual MDT training as part of continued professional development**

Summary of Work

- We introduced a multi-disciplinary, high-fidelity simulation course specifically designed for radiology healthcare professionals, focussing on early recognition and initial management of common emergencies.
- Delegates (including doctors, nurses and radiographers) attended the 3 hour course, which consisted of lectures, break out skill stations and simulation scenarios.
- Training included management of cardiac arrest, anaphylaxis and airway obstruction.
- Before attending the course, participants completed a questionnaire, assessing existing knowledge and perceived confidence. These questions were asked again immediately after the course and again six months later to assess retention of skills and knowledge.

Summary of Results

32 delegates have attended the course over four sessions.

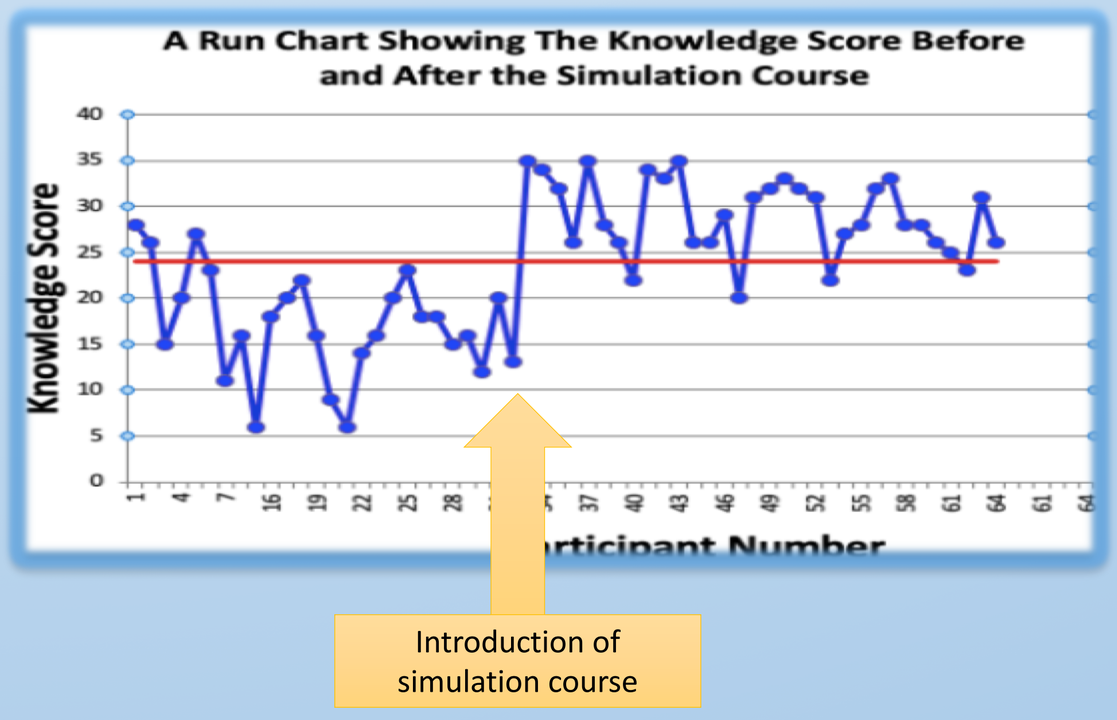
	Pre-course	Post-course
Average knowledge score	17/36	29/36
Average confidence score	4/10	7/10

After the first two sessions, we then introduced an airway skills workshop to focus particularly on airway manoeuvres and equipment. After this was introduced, there was a significant improvement in perceived confidence with managing an obstructed airway.

The questionnaires was completed six months later by 23 delegates. The average knowledge score had decreased by 5 points.

Discussion

- Simulation training is well-validated for rehearsing low frequency, high acuity events in a safe and supportive environment.
- We have demonstrated that high-fidelity simulation training enables healthcare professionals to build confidence and improve knowledge, as well as enhancing teamwork, communication and prioritisation skills.
- Follow-up results show a decrease in knowledge scores after 6 months, suggesting regular update sessions would be of benefit.
- In the future, this course will be integrated into the radiology training as part of clinicians continued professional development.



References

1. The Royal College of Radiologists. *Simulation in radiology.* London. The Royal College of Radiologists, 2010.
2. The Royal College of Radiologists. *Radiology training 2016-2026: a vision and a solution.* London. The Royal College of Radiologists, June 2016.

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