Catheter Lab Emergency Management Simulation (CLEMS)

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Introduction: Work within cardiac catheter lab is rapidly advancing with increasingly complex procedures on patients with multiple co-morbidities. This results in a steep learning curve for team members and an increase need for vigilance, situation awareness, and effective teamwork. The rapid development of simulation technology provides a safe and realistic environment in which to develop important non-technical skills as part of a multidisciplinary team.

Methods: A multidisciplinary team of catheter laboratory staff from the University Hospital of South Manchester developed a two-day simulation course using a multimodal format including lectures, high fidelity simulations and small group workshops. The course focuses on a structured approach to the recognition, assessment and management of the critical ill patient, effective use of pre-procedure checklists and team role allocation. Candidates develop their non-technical skills through experiential learning simulating clinical scenarios. Six high-fidelity simulations are based in the laboratory and recovery room followed by debriefing. Scenarios include ventricular fibrillation, anaphylaxis, tamponade and major haemorrhage. Workshops and lectures are designed to teach and develop practical skills and knowledge used in the initial management of a deteriorating or critical ill patient including basic airway skills, post-resuscitation care and safe sedation.

Results: Feedback on lectures has revealed that 100% of candidates agreed or strongly agreed that lectures were easy to understand, relevant and useful for future clinical practice. 100% of candidates believed that the knowledge and skills gained would be useful to their future clinical practice, that it helped consolidate their learning and that the facilitation of their debriefing was effective.

Discussion: This multidisciplinary course has been designed to develop an effective team approach to critical situations in the cardiac catheter laboratory. Course development includes investigating the link between attendance on the course and change in practice and improved patient care.

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