



IN PRACTICE

A106

**“ALMOST AS GOOD AS THE REAL THING”:
PROGRESSING THE ROLE OF SIMULATION-
BASED EDUCATION IN REGIONAL TRAUMA
AND ORTHOPAEDIC TRAINING**

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Introduction: Simulation-based education (SBE) has been shown to be an effective training tool within clinical medicine, conferring ‘real-world’ benefit within trauma & orthopaedics (T&O) [1]. A recent survey of T&O trainees demonstrated that

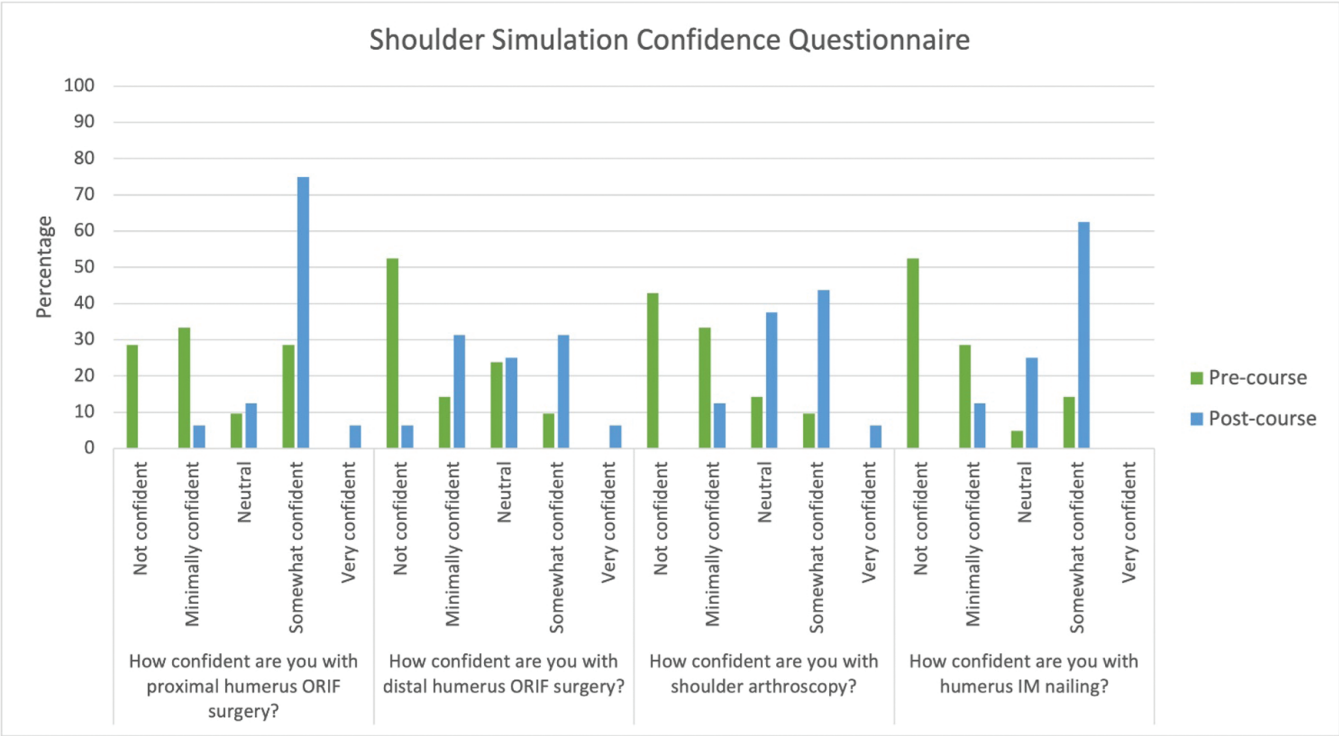


Figure 1-A106.

100% felt SBE was important for their training [2]. Within the regional T&O training programme in Northern Ireland, the implementation of novel SBE events has been piloted to help address curriculum deficits, allow safe skill acquisition, and make T&O training more attractive to junior doctors with excellent outcomes [3].

Methods: A hybrid-model Upper Limb simulation course was developed by simulation and education leads targeting shoulder arthroscopy and humeral fracture fixation. This was delivered in November 2023 using a group simulation framework model with pre-brief and introductory lecture, followed by groupwork, and completed with debrief and feedback.

The groupwork comprised of four stations through which the candidates rotated: passive haptic feedback virtual reality (VR) trainer and three consultant-led sawbone procedural stations (Proximal Humerus Fixation, Distal Humerus Fixation, and Humerus Intramedullary Nailing). The course was facilitated by shoulder fellowship trained faculty. Feedback was collated pre- and post-course using Likert-scale questionnaires to identify learner needs and outcomes.

Results: Pre-course, learners reported confidence levels in four domains: Shoulder Arthroscopy, Proximal Humerus Fixation, Distal Humerus Fixation and Humerus Fracture Intramedullary Nailing. Confidence was reported as 'Not Confident' or 'Minimally Confident' in 71% of responses across all domains. The learning requests were technical tips and increased confidence and practice.

Post-course, there was a significant improvement in confidence across all four areas, with the biggest improvement seen in junior trainees. Fifty-eight percent of trainees selected 'Somewhat Confident' or 'Very Confident' across all the domains. 'Not Confident' or 'Minimally Confident' was only selected in 17% of responses (Figure 1-A106). Positive feedback included the fidelity of the VR trainer and consultant teaching. Suggestions for improvement included more demonstrators and time for each station.

Discussion: We have further demonstrated that SBE is a powerful tool in regional T&O training, building on the work of lead educator focus groups. High and low-fidelity scenarios empowered trainees to acquire new skills and develop existing ones in a psychologically and clinically safe environment. Due to its success locally and within the literature, SBE will be used to augment regional T&O training. We aim to make it a staple feature of the regional teaching programme to drive development of new, validated learning methods for trainees.

Ethics statement: Authors confirm that all relevant ethical standards for research conduct and dissemination have been met. The submitting author confirms that relevant ethical approval was granted, if applicable.

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