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1006 Supersized-Simulation vs Traditional Cardiothoracic Surgery Education: A Prospective, Randomised Controlled Trial

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Aim: Exposure to cardiothoracic surgery is limited during medical school in the United Kingdom. This study evaluated the effectiveness of a supersized simulation model (SSM) compared to traditional methods (TM) in developing coronary anastomosis surgical skills.

Method: This was a prospective, randomised controlled trial with a 1:1 allocation ratio. Undergraduate medical students with no prior cardiothoracic surgical skills training were eligible for inclusion. Both groups received a guided didactic lecture followed by modified Objective Structured Assessment of Technical Skills (OSATS) assessment for baseline. The control group then received traditional teaching and the intervention group received additional teaching with...
SSM before being reassessed. Modified OSATS score were the primary outcome, adjudicated by two senior cardiothoracic registrars. Performance time (PT), self-assessment (SA), confidence (CON) and global rating scale (GRS) were secondary outcomes.

**Results:** 48 novice medical students were randomised. OSATS scores were significantly higher in SSM group compared to TM group (13.2 vs 9.8, p<0.01). The secondary outcomes PT (17.7 minutes vs 22.2 minutes, p<0.01) and CON (3.04 vs 1.73, p<0.01) were also significantly different between groups, favouring SSM. SSM participants were more likely to want to pursue a career in cardiothoracic surgery (12 participants vs 2 participants). All participants agreed that SSM improved visualisation and comprehension of surgical procedure. SSM cost £0.75 per model.

**Conclusions:** Supersized simulation is effective for coronary anastomosis surgical training with technical skills successfully transferred to a clinical task. Supersized models can accelerate the novice trainee’s surgical skill progression and represents a valuable resource in one’s educational armamentarium.