ACS 2026 Surgeons and Engineers: A Dialogue on Surgical Simulation

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Research In-Progress

Reconceiving the Current Standard of Surgical Simulation Training in the UK - A Multi-Stage Initiative to Prepare Early-Stage Doctors for Careers in Surgery

Sai Kotecha; Patrick Garfjeld; Jeffrey Gilmour; Luke Solomons; and Mohamed Shams

Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom

Introduction: To sustainably address the prevalent challenge of adequate surgical skills preparation and development during early training through surgical simulation, building on the framework developed by our proof-of-concept.

Methods: Under the Association of Surgeons of Great Britain and Ireland (ASGBI) trainees council known as Moynihan Academy, six in-person peer-led surgical skills sessions were conducted across several hospitals within the Oxford/Cambridge Deaneries. Sessions tackled commonly identified trainee challenges in preparation for surgical rotations, providing trial data for our upcoming series. Sessions were free through donated equipment/volunteer facilitators, promoting course accessibility.

Preliminary Results: Results demonstrated a confidence increase for all domains assessed and high scores for sessions overall (n=43). Qualitative feedback mirrored the score's positive sentiments, with comments on the excellent tutor to attendee ratio and praise including 'some of the best teaching we've had on these topics'. The practical skills workshops were particularly effective in improving confidence in surgery amongst this cohort, and attendees valued the ability to receive individual feedback and access microsurgery/laparoscopic equipment typically restricted to paid courses. This pilot trial served as both a proof of concept for the achievability, and a framework to develop a more definitive series with support of the Oxford University Hospitals Trust.

Next Steps: We have produced a standard operating procedure book the course's sustainable replication beyond single-year cycles, and garnered further support from the Oxford Simulation Leads for our upcoming September cycle. This builds upon the previous course scope by including exposure to robotic surgery through VR training models with the objective to prepare trainees for an evolving surgical landscape where robotic approaches are increasingly prevalent.To supplement this, we have released a national survey designed to tailor the approach/content of future surgical simulation training sessions. This peer-feedback model promotes a trainee-focused teaching approach, allowing adaptation to the changing needs within surgical simulation.

Pre- and Post-Session Confidence Levels (/10)		
Domain assessed(on first occasion offered)	**Pre-confidence interval**	**Post-confidence interval**
Basic Suturing	3.43	7.43
Subcuticular suturing	3.57	5.89
Hand tying	3.14	7.57
Laparoscopic skills	3.11	5.78
Microsurgery	2.40	6.60
Working on the ward on a surgical rotation	6.70	8.30
Nontechnical Domains: Research/Leadership/ Education	6.70/6.60/6.40	7.80/7.80/8.30
Portfolio Building	6.20	8.30
Handling surgical emergencies (simulations)	5.86	8.00