

Implementation of an Undergraduate Surgical Skills Bootcamp

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Aims

Surgical skills are often inadequately taught and poorly represented in undergraduate medical education¹. Teaching surgical skills through simulation has shown positive results and allows us to fulfil student learning requirements whilst maximising patient safety².

In NHS Lanarkshire, we are piloting an Undergraduate Surgical Skills Bootcamp with the aim of improving student experience and learning whilst on surgical placements.



Methods

In our pilot we provided 8 of our 4th year medical students with practical teaching in some of the surgical techniques they will encounter during their surgical placement. The skills identified were suturing, laparoscopic instrument manipulation and endoscopy. This covers 3 skills seen in the operating theatre that junior doctors commonly assist with. Stations were led by experienced faculty making use of practical models as well as high fidelity virtual simulators. A pre/post course survey was used to collect student feedback and assess impact.



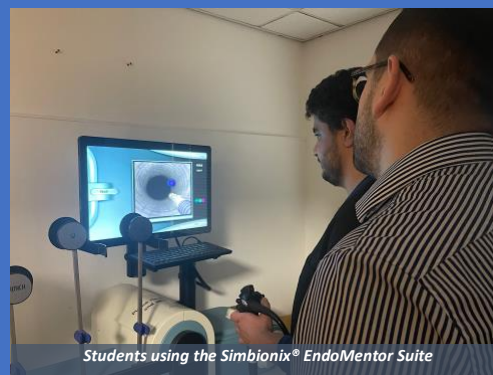
Outcomes

Results showed that all our students had improved confidence and understanding of the techniques demonstrated. Feedback also highlighted that students felt they could now apply their new knowledge into improved participation and learning whilst on clinical placement. Several students also stated that they were now more interested in pursuing a career in surgery.



Conclusions

Our pilot demonstrates that surgical skills simulation improves student confidence leading to increased engagement on clinical placement. By upskilling students we can help breakdown learning barriers as well as preparing them for life as a Junior Doctor. The use of advanced simulators helps provide high quality training for undergraduates without compromising patient safety. Relying on experienced staff to run the course is difficult in an under pressure workforce. Going forward collaborating with the whole multidisciplinary team is therefore vital.



Students using the Simbionix® EndoMentor Suite



Students practicing laparoscopic instrument manipulation on the Simbionix® LapMentor

“Really fun and engaging – will be able to follow what’s going on now”.

“I feel much more prepared to go into surgeries and actually get involved now”.



Learning to complete a buried suture knot

This project has been made possible through the support of the Department for Medical Education at NHS Lanarkshire and through the supervision provided by Caroline Martin (Clinical Skills Specialist). I would also like to thank the General Surgical Department at University Hospital Wishaw for their ongoing support.

¹ Glossop SC, Hari Bhachoo, Murray TM, Cherif RA, Helo JY, Morgan E, et al. Undergraduate teaching of surgical skills in the UK: systematic review. BJS open. 2023 Sep 5;7(5).

² Karmali RJ, Siu JM, You DZ, Spano S, Winthrop AL, Rudan JF, et al. The Surgical Skills and Technology Elective Program (SSTEP): A comprehensive simulation-based surgical skills initiative for preclerkship medical students. The American Journal of Surgery. 2018 Aug;216(2):375–81.

³ Royal College of Surgeons of England. National Undergraduate Curriculum in Surgery. 2023 Apr.