

Objectives

Post graduate surgical skill training has significantly changed over the last few years. A number of drivers for this include COVID-19 pandemic – which has reduced training opportunities available (1), a shift in focus on maintaining patient safety (2) and the importance of assessing skills before they are done on patients (3).

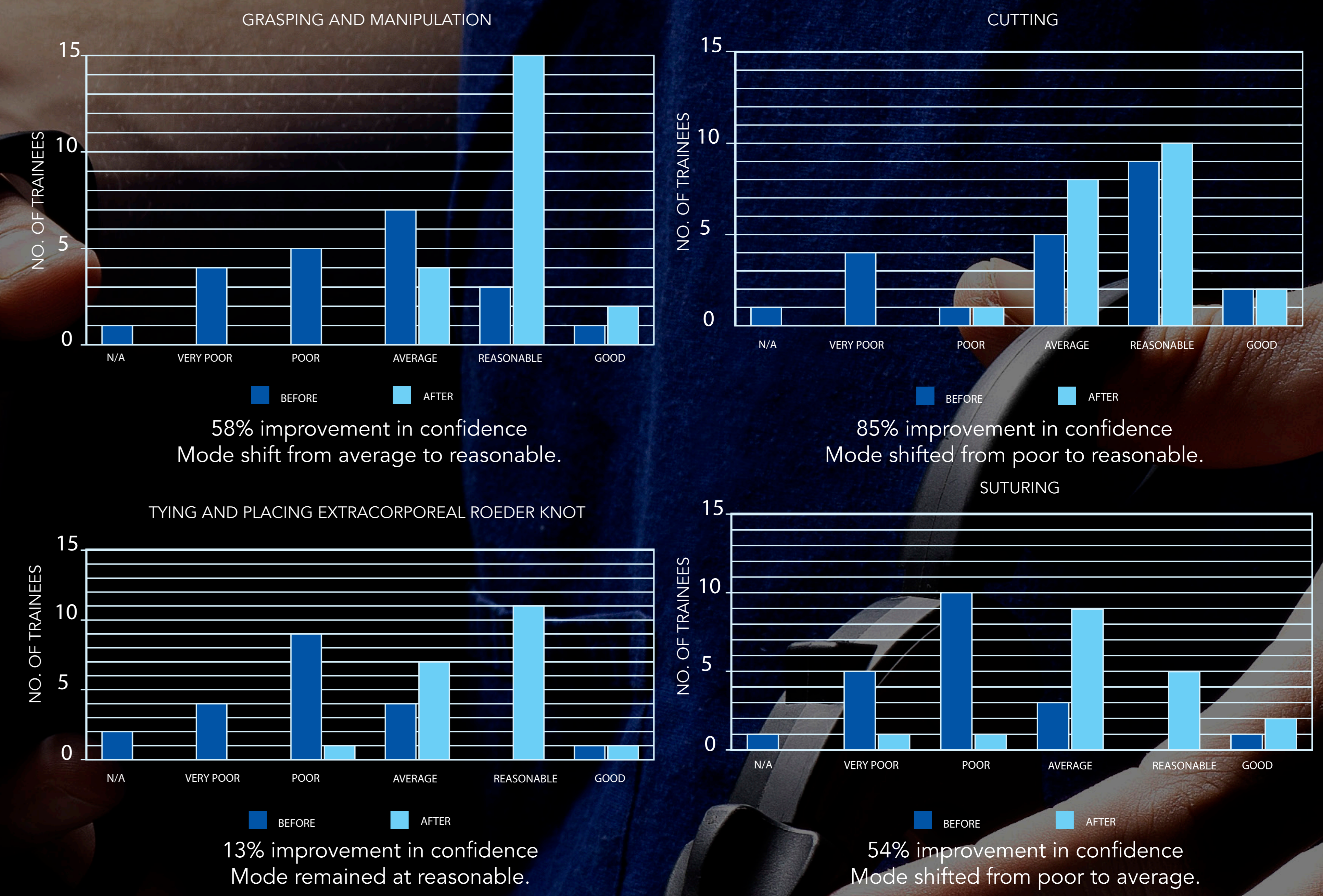
Simulation is felt to be an acceptable technique to recreate part of the clinical environment, in which clinical skills can be taught and assessed without exposing patient to risks (4).

In this project we assessed how confidence changed for both surgical and obstetric trainees following practicing laparoscopic skills on a task trainer.



Results

21 trainees in total. 15 general surgeons and 6 obstetric and gynaecology doctors.
 Trainee Grade: Fy1 to registrars (PGY1-Fellows)
 The following graphs shows trainees confidence levels before and after each task



Assessing confidence of surgical trainees following completion of a laparoscopic skills course.

Miss Sita Kotecha ¹, Dr David Rawaf ², Mr Ross Davies ²

¹- Chesterfield Royal Hospital, ² – Inovus Medical

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Technology and method of its use

2 laparoscopic skills training sessions were set up 6 months apart, for junior doctors of all levels from various surgical specialities.

Trainees were able to practice various skills according to their grade.

5 laparoscopic task trainers of low fidelity (3 Inovus and 2 EO-sim) connected to a monitor were set up. (Figure 1)

Skills ranged from grasping and manipulating tissues (moving polo mints and stacking dice), tying and placing extracorporeal roeder knots, cutting (various shapes from gloves) and suturing (normal, under tension and suturing in a straight line).

Data was collected looking at how confidence changed before and after the course in each of the above domains. Doctors graded their confidence level from NA, very poor, poor, average, reasonable and good.

Qualitative data was also collected about what trainees thought about the course.

Qualitative data

The course was well received by all the trainees and importantly, trainees were able to practice skills multiple times through the session.

Trainees felt that they needed more simulated skills sessions, to possibly include wet lab and more suturing practice.

Conclusion

Limitation of the study is that the sample size is small. However, this data shows the importance of practicing laparoscopic skills in a safe environment. Utilising the laparoscopic trainers is a safe method to achieve this. The skills obtained can be repeated to build confidence. It is cost effective and can be replicated over several different sessions easily to allow trainees to practice thus enhancing learning. These results are promising and with further research and a larger sample size we would be able to validate this as an integral component of surgical training.



Figure 1. A Kirkpatrick Evaluation Pyramid highlighting outcomes 1 & 2 satisfied through this study.

In a concurrent study, we collected surveys prior to and after: including demographics, prior experience, and self-confidence scores for key laparoscopic tasks on a 1-10 scale, as well as operative skill data using Inovus AR simulation software. Every area of student's self-confidence improved, with a mean improvement of 3.82 (p=0.03). The more junior the student, the greater their increase in confidence (Mean Pre-FY = 5.23)."