LAPAROSCOPIC SIMULATION: WHO CAN BE TRAINED?

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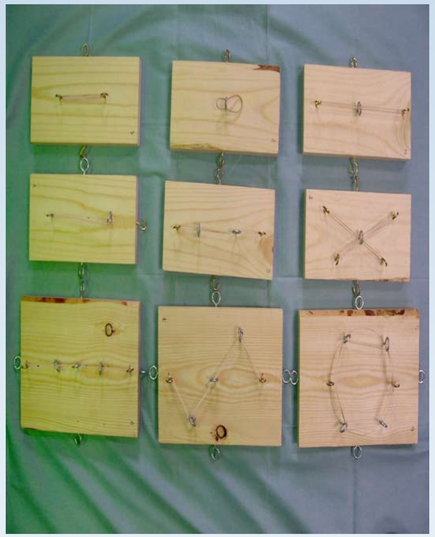
INTRODUCTION

Simulation is of proven value in medicine, and especially in minimally invasive surgery (MIS) training, where the acquired skills are known to be transferable into the clinical practice. MIS is well known to have long and variable learning curves. If successive generations of surgeons were able to cut down on training time, and learning curves could plateau earlier with each generation of surgeons, then how early in the medical education can we integrate simulated laparoscopic skills?



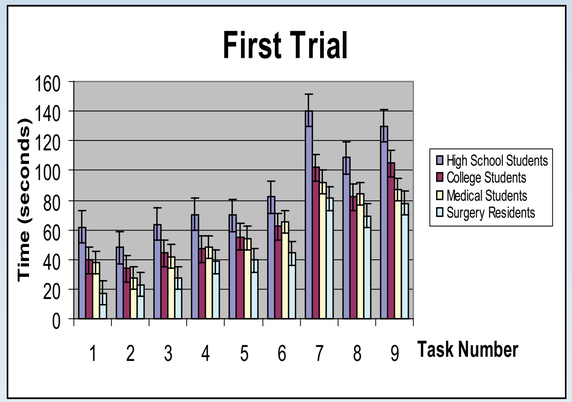
MATERIAL AND METHOD

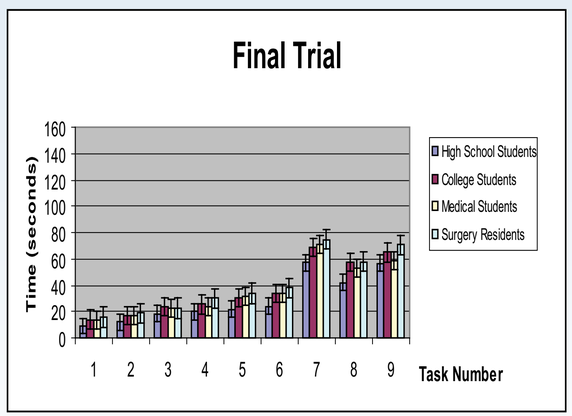
Thirty two trainees at various educational levels and ages were recruited to our study. Trainees were divided into four groups of eight individuals. The first group was composed of senior high school students, the second senior undergraduate college students, the third medical students, and the fourth PGY1 & PGY 2 surgery residents. The trainees were asked to perform nine successive assigned tasks in a laparoscopic training box. Each task was repeated five times to assess the maximum efficiency of carrying out the skills.

RESULTS

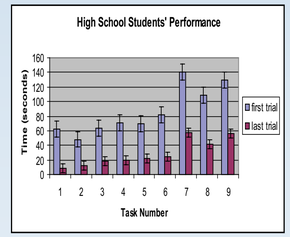
Surgery residents carried out the first trial with the shortest time. There was no significant difference in the time between the medical students and the college students. However, the high school students exhibited the longest time in the first trial.

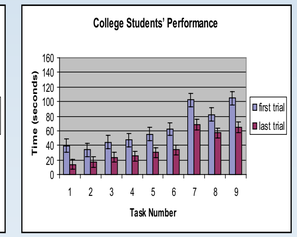
At the end of the five trials the high school students exhibited the fastest time (289 ± 24 seconds). They were followed by the undergraduate students (329 ± 33 seconds) and the medical students (328 ± 29 seconds). Interestingly, the residents were the slowest (366 ± 52 seconds).

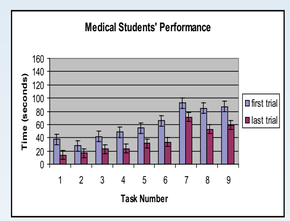


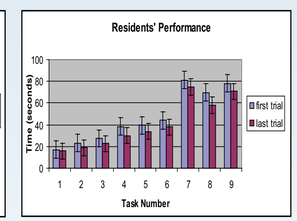


The high school students achieved the largest decrease in their time and were followed by the college and medical students. The residents however saw the smallest reduction in time.









CONCLUSION

This preliminary data suggests that younger individuals may be able to acquire laparoscopic skills with more efficiency than more senior students and residents. This raises the larger question of how we may need to select future candidates for surgical training based, in part, on psychomotor information and skills acquisition.