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Can video gaming help improve laparoscopic skills in medical students?

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Purpose: To investigate whether training using the Nintendo Wii™ system can improve laparoscopic skills in medical students. **Methods:** A total of 26 Pre-Clerkship medical students were enrolled in this prospective randomized controlled trial. The experimental group practiced gaming on the Nintendo Wii™ system for six supervised 30-minute sessions over a two-week period. The control group was asked to refrain from playing video games (or adhere to their usual gaming habits) for the same two-week period. All participants completed the same exercise on the validated LapSim® surgical simulator before and after the two-week period as a surrogate measure of their surgical skill. Both groups were compared on their ability to complete a surgical task on the LapSim®. The primary outcome was total time difference to complete the task. Secondary outcomes included difference in path length and angular path. Groups were compared using the Fishers Exact and Students t-tests. Regression analysis was also performed. **Results:** The primary outcome, total time difference, was less in the study group but was not significant. In the experimental group and control group, the total time difference was 4.2 +/- 7 sec and 6.8 +/- 11 sec, respectively ($p=0.51$). There were no significant differences in instrument path length ($p= 0.45$) or angular path ($p=0.39$). **Conclusions:** Video gaming did not appear to improve the laparoscopic skills of medical students, measured using the LapSim® surgical simulator. This is contrary to typical findings in the literature that video gaming improves surgical skill.