Skills improvement after observation or direct practice of a simulated laparoscopic intervention

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Résumé en anglais	BACKGROUND: Laparoscopic skills are more and more often being learned on simulators. PURPOSE: To assess the respective roles of observation and direct practice in the retention of laparoscopic procedural skills. BASIC PROCEDURES: Twelve surgical residents were included in a two-session laparoscopic training course. During the first session (S1), one participant completed a cholecystectomy on the Simbionix LAPMentor™ and then observed his colleague carrying out a total hysterectomy and vice versa. During the second session (S2), each participant completed both interventions. Skills evaluation was assessed using the Objective Structured Assessment of Technical Skills (OSATS) global rating scale and LAPMentor™ metrics. MAIN FINDINGS: Mean OSATS score during the first session was 19.3±5.1, and increased by 37% in the group of former observer students (S2O, P=0.003), and by 54% in the group of former practising students (S2A, P=0.001). Self- and peer-grading results were concordant with the supervisor's evaluation. Detailed analysis of LAPMentor™ metrics showed a trend toward more parameters being improved in group S2A as compared to group S2O on both interventions. The most significant improvements concerned the time of completion for the hysterectomy and the efficiency of cautery for the cholecystectomy. CONCLUSIONS: Observation of laparoscopic skills still allows for surgical improvement, but direct practice on a virtual reality trainer provides better results. Self- and peer-grading were concordant with the supervisor's evaluation. This work may advocate the integration of both personal training on simulators and surgical observation into residents' surgical curricula.
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