

Preclinical Medical Students' Self-Perception on Surgical Skills

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Objective:

Medical students receive feedback throughout their medical education from clinicians regarding their clinical knowledge and patient care. However, there is a lack of instruction and feedback on surgical technique and skill during medical school. This study aims to compare medical students' ability to self-assess their surgical skills following a workshop with their instructors' evaluations.

Methods:

A surgical Skills Bootcamp was created which consisted of 3 sessions: fundamental surgical skills, application of skills in clinical context, and a cumulative surgical skills competition. Proctors consisted of surgical attendings and senior medical students who previously completed the workshop. At the final session, enrolled students and proctors both independently evaluated surgical technique based on the Objective Standardized Assessment of Technical Skills. Evaluations were analyzed using T-tests.

Results:

12 students and 16 proctors submitted evaluations for students' final products. Students had lower mean evaluations of themselves compared to the attendings in Time and Motion (2.75 ± 0.6 vs. 3.31 ± 0.6 , $P=0.023$; Table), Instrument Handling (2.67 ± 0.7 vs. 3.56 ± 0.9 , $P=0.010$), Quality of Final Product (2.67 ± 0.6 vs. 3.38 ± 0.5 , $P=0.003$), and in Overall Score (22.42 ± 6.1 vs. 26.94 ± 3.4 , $P=0.023$). Scores in Overall Setup, Respect for Tissue, Knotting and Suturing, Use of Assistant, and Procedural Flow were nonsignificant between students and attendings.

Conclusion:

Preclinical medical students who participated in a surgical skills workshop were more likely to under-evaluate themselves in surgical skills such as time and motion, instrument handling, quality of final product, and overall score when compared to surgical attendings. This data suggests that medical students may require more direct feedback and encouragement from attendings and mentors. The impact of these differences in perception warrant further investigation to help encourage and recruit medical students into a surgical field.

Table. Comparison of Student Self-Evaluations and Attending Evaluations

	Self-graded (n=12) (mean \pm SD)	Attending graded (n=16) (mean \pm SD)	P
Overall setup	3.08 \pm 0.76	3 \pm 0.87	0.80
Respect for Tissue	3.17 \pm 0.99	3.44 \pm 0.50	0.37
Time and Motion	2.75 \pm 0.60	3.31 \pm 0.58	0.02
Instrument Handling	2.67 \pm 0.75	3.56 \pm 0.86	0.01
Knotting and suturing	2.75 \pm 0.60	3.25 \pm 0.75	0.08
Use of Assistant	3.18 \pm 1.27	3.44 \pm 0.50	0.50
Procedural Flow	3.08 \pm 0.64	3.56 \pm 0.86	0.13
Quality of Final Product	2.67 \pm 0.62	3.38 \pm 0.48	0.003
Overall Score	22.42 \pm 6.06	26.94 \pm 3.36	0.02

Fig 1 Comparison of Student Self-Evaluations and Attending Evaluations