

22. ENHANCING SURGICAL SKILL PROFICIENCY IN MEDICAL STUDENTS: ANALYZING THE IMPACT OF STUDENT-LED SKILLS LABS

Jennifer Okei^{1,2}, Foluso Akinwande^{1,2}, Raphael Eloka^{1,2}, Adebola Damola-Okesiji^{1,2}, Timilehin Okeya^{1,2}, Olufemi Bankole³

¹ College of Medicine University of Lagos, Lagos, Nigeria

² Surgical Interest Group Lagos (SURGIL)

³ Lagos University Teaching Hospital

 <https://www.youtube.com/live/fSpXH-3Xy5w?t=4617s>

BACKGROUND: The development of surgical skills is an integral part of undergraduate medical education. Early exposure of medical students to these basic surgical skills can significantly improve interest in pursuing surgical careers during residency. Traditional teaching methods do not efficiently bridge this important gap in the development of the practical abilities of medical students hence warranting the need for more innovative approaches to improve proficiency. There has been an increasing rise in the popularity of student led skills training. This led the Surgical Interest Group, Lagos (SURGIL) to initiate the SURGIL Skills Lab (SSL), a 4-weeks student-led, faculty-supervised basic surgical skills training which was the first of its kind in our region. **AIM:** This study evaluates the impact of SSL on medical students' proficiency, confidence, and overall satisfaction with the training received. **METHODS:** A cohort study was conducted among medical students from the University of Lagos who participated in the SSL following ethical approval from the Institutional Review Board of Lagos University Teaching Hospital (LUTH). Data was collected from two SSL cohorts that had their trainings in the first and second quarter of 2023. Participants were assessed on their confidence levels in performing six basic surgical skills: forceps handling, two-handed knot tying, one-handed knot tying, instrument tying, simple interrupted suturing, and subcuticular suturing, both before and after the training sessions. Confidence was measured using a 4-point Likert scale. Data on participants' demographic characteristics, previous experience with surgical skills, and satisfaction with the lab were also collected. Statistical analysis was performed using IBM SPSS version 26. **RESULTS:** A total of 32 students participated in the study and filled the pre-test survey. 2 students dropped out of the research, hence only 30 students participated in the post test survey. The mean age of participants was 24.09 years with a 1.3:1 male to female distribution. Significant improvements were observed in all six surgical skills post-training. Confidence levels in simple running suture increased from a pre-lab mean of 0.69±0.821 to a post-lab mean of 2.93±0.254. Similarly, confidence in two-handed knot tying improved from 0.63±0.98 to 2.87±0.35. Satisfaction with the SSL was overwhelmingly positive, with all participants (100%) expressing satisfaction with the learning environment and recommending the workshop to others. Additionally, 96.7% of students felt the workshop was positively challenging with adequate practice time and increased their interest

in pursuing surgery as a career. **CONCLUSION:** SSL effectively enhances medical students' surgical skills, significantly improving their confidence in performing basic surgical tasks. The high levels of satisfaction reported by participants suggest that this student-led approach is not only effective but also well-received. Taking into cognizance the positive feedback, integrating student-led surgical skills lab into the medical school curriculum could help address gaps in surgical training especially in centers with reduced lecturer-workforce. This will help in better preparing students for clinical practice while enhancing their engagement and commitment in their education. The results of this study support the expansion of similar programs to other medical schools, potentially resulting to a greater impact on undergraduate surgical education.

Table: Pre- and Post-Training Confidence Levels in Surgical Skills Among Medical Students Participating in the Student-Led Skills Lab.

Variables	Mean±SD	Cannot perform at all n (%)	Can perform with guidance n (%)	Can perform independently but require guidance at times n (%)	Can perform independently n (%)
Forceps handling					
Pre	1.16±0.920	8 (25.0)	14 (43.8)	7 (21.9)	3 (9.4)
Post	2.87±0.434	0 (0.0)	1 (3.3)	2 (6.7)	27 (90.0)
Two handed knot tying					
Pre	0.63±0.976	20 (62.5)	7 (21.9)	2 (6.2)	3 (9.4)
Post	2.87±0.346	0 (0.0)	0 (0.0)	4 (13.3)	26 (86.7)
One handed knot tying					
Pre	0.56±0.982	22 (68.7)	5 (15.6)	2 (6.2)	3 (9.4)
Post	2.77±0.568	0 (0.0)	2 (6.7)	3 (10.0)	25 (83.3)
Instrument tie					
Pre	0.94±1.190	17 (53.1)	6 (18.8)	3 (9.4)	6 (18.8)
Post	3.00±0.000	0 (0.0)	0 (0.0)	0 (0.0)	30 (100.0)
Simple interrupted suture					
Pre	0.91±1.027	15 (46.9)	8 (25.0)	6 (18.8)	3 (9.4)
Post	2.93±0.254	0 (0.0)	0 (0.0)	2 (6.7)	28 (93.3)
Simple running suture					
Pre	0.69±0.821	16 (50.0)	11 (34.4)	4 (12.5)	1 (3.1)
Post	2.93±0.254	0 (0.0)	0 (0.0)	2 (6.7)	28 (93.3)
Subcuticular suture					
Pre	0.63±0.907	19 (59.4)	8 (25.0)	3 (9.4)	2 (6.2)
Post	2.67±0.547	0 (0.0)	1 (3.3)	8 (26.7)	21 (70.0)

Key Words: Medical Students, Clinical Competence, Undergraduate Medical Education.