



UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

Background

Minorities and women remain underrepresented in surgical specialties. While barriers exist before, during, and after medical school, this initiative focused on expanding medical school opportunities through early exposure and mentorship in a psychologically safe surgical education environment.

Aims

- Provide early exposure to surgical and microsurgical skills.
- Foster mentorship opportunities between faculty and students.
- Promote a supportive atmosphere with peer-to-peer teaching.
- Inspire diverse student cohorts to explore surgical careers.

Methods

Participants: Over 200 first and second-year medical students completed 4 training sessions

Session 1:

- Faculty-led 4-0 simple interrupted suturing
- Target: < 2 minutes (targeting OSAT criteria)

Session 2:

- Student-led 9-0 simple interrupted suturing
- Target: 100 knots

Session 3:

- Student-led chicken thigh femoral artery anastomosis
- Target: Eight 9-0 simple interrupted sutures

Session 4:

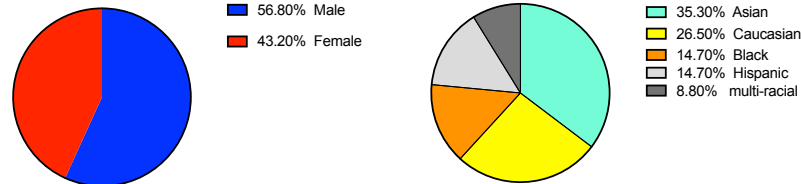
- Faculty-led 4-0 simple interrupted suturing
- Target: < 19 seconds (targeting OSAT criteria)

Empowering Diversity in Surgery: A Peer and Faculty Initiative in Surgical and Microsurgical Skills to Inspire Early Surgical Interest Among Underrepresented Medical Students

Michael Griego, Alan De Brito Carneiro, Palak Dutta, Amirali Monz, Adriana Ene, Tatiana Abou Mrad, Fady Charbel, Pier Giulianotti, Enrico Benedetti, Amelia Bartholomew

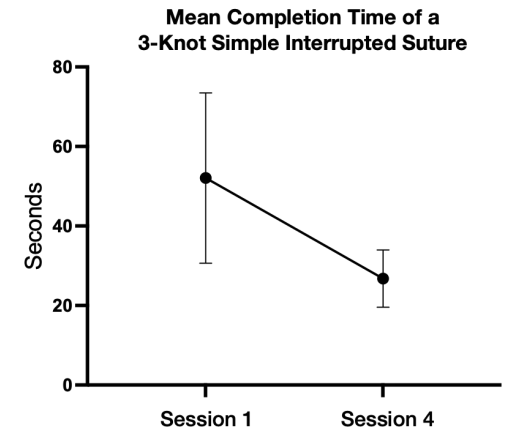
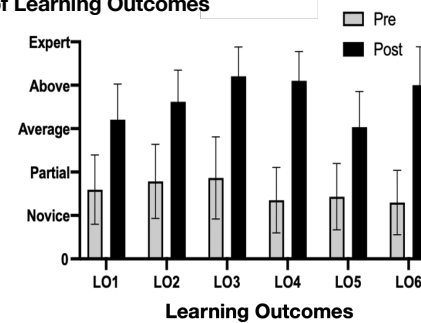
Results

Demographics

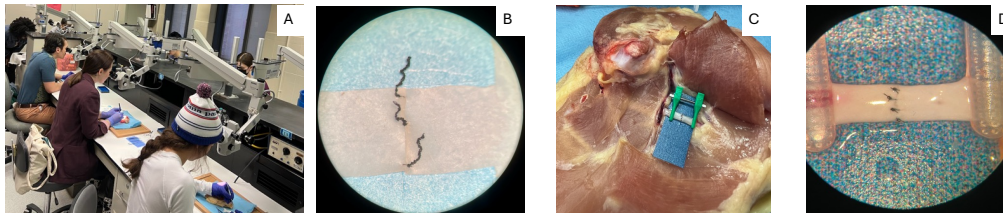


Mean Score of Perceived Skill Acquisition Assessments of Learning Outcomes

1. **Identify microsurgery indications:** pre-didactic 1.6 ± 0.8 , post-didactic 3.2 ± 0.8 ($p < 0.0001$)
2. **Identify physiology of suturing blood vessels:** pre-didactic 1.8 ± 0.8 , post-didactic 3.6 ± 0.7 ($p < 0.0001$)
3. **Identify instruments used in microsurgery:** pre-didactic 1.9 ± 0.9 , post-didactic 4.2 ± 0.7 ($p < 0.0001$)
4. **Identify steps of an arterial anastomosis:** pre-didactic 1.4 ± 0.7 , post-didactic 4.1 ± 0.7 ($p < 0.0001$)
5. **Identify complications of an arterial anastomosis:** pre-didactic 1.4 ± 0.8 , post-didactic 3.0 ± 0.8 ($p < 0.0001$)
6. **Demonstrate an arterial anastomosis:** pre-didactic 1.3 ± 0.7 , post-didactic 4.0 ± 0.9 ($p < 0.0001$)



Mean Completion Time of a 3-Knot Simple Interrupted Suture. Session 1: 52.07 seconds. Session 4: 26.75 seconds ($p = 0.0015$)



Microsurgery Lab. Sessions 2 and 3 were conducted in a microsurgery lab (A). During session 2, students tied microsurgical knot towers (B). During session 3, students performed a chicken thigh femoral artery anastomosis (C and D).

Conclusion

- A low-pressure, hands-on environment facilitated early exposure to challenging surgical techniques.
- Peer-led microsurgical sessions and faculty mentorship increased access and comfort with surgical skills.
- Meaningful faculty-student connections emerged, sustaining student interest in surgical careers.
- This hybrid peer-and-faculty approach shows promise in diversifying the surgical workforce and bolstering the pipeline of interested applicants.