Anatomy Lab Suturing Workshops: Another Gift to Students from Donors

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BACKGROUND

- Previous medical education studies have shown that pre-clinical training in suturing can improve a student's confidence in suturing and interest in surgical skills.
- There are no data on improvement of suturing skill competencies during clinical rotations.

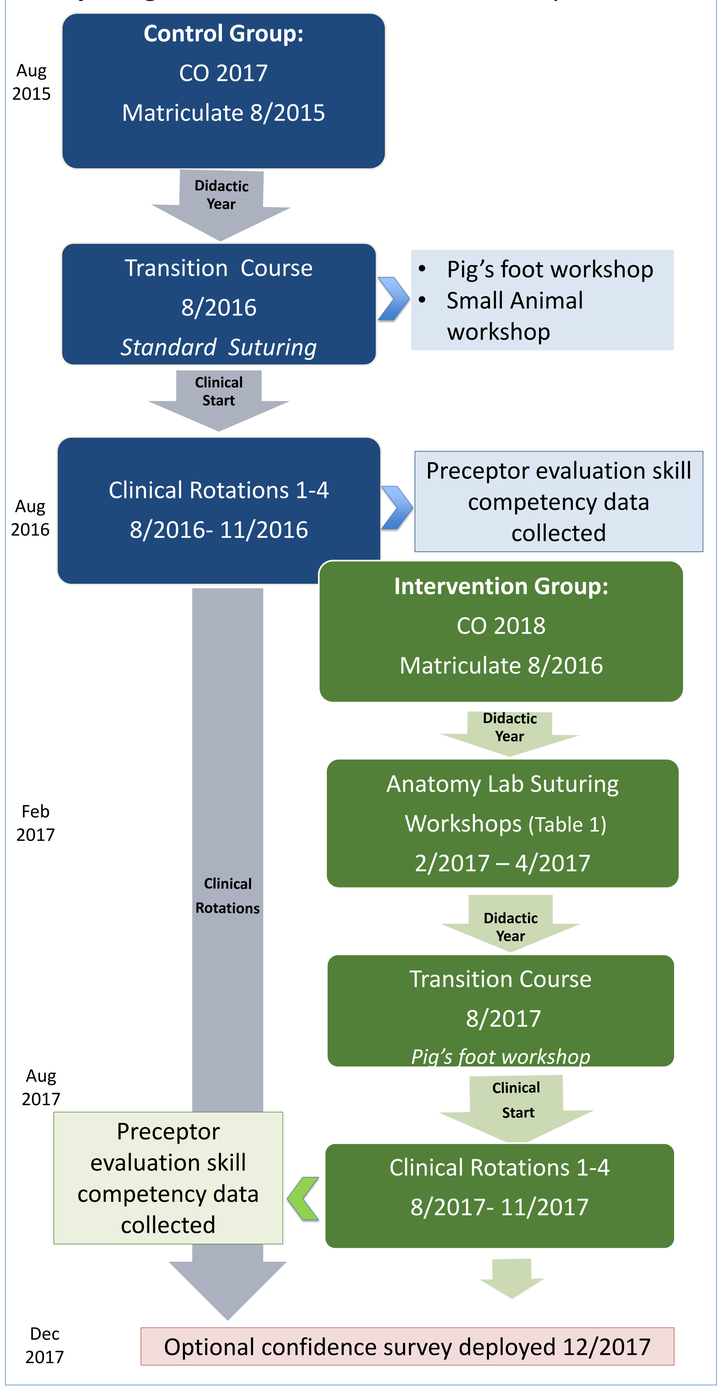
OBJECTIVES

- To test the outcomes of an innovative anatomy lab suturing curriculum delivered during didactic year as it relates to suturing competencies during clinical rotations.

METHODS

Setting and Participants:
- Yale PA Students from the Class of 2017 (CO 2017) (n=39) and Class of 2018 (CO 2018) (n=37).

Study Design: Controlled before-and-after study



Anatomy Lab Suturing Workshops	
Workshop 1	Basic Instrumentation of the needle driver and forceps
Workshop 2	Safe handling of needles/sharps
Workshop 3	Simple interrupted sutures
Workshop 4	Basic instrument knot tie
Workshop 5	Running subcuticular suture closure
Workshop 6	Running subcuticular suture closure, instrument tie
Workshop 7	Running subcuticular suture closure, instrument tie, two hand tie
Workshop 8	Running subcuticular suture closure, instrument tie, two hand tie
Workshop 9	Running subcuticular suture closure, instrument tie, two hand tie, multiple layer incision closure
Workshop 10	Running subcuticular suture closure, instrument tie, two hand tie, multiple layer incision closure

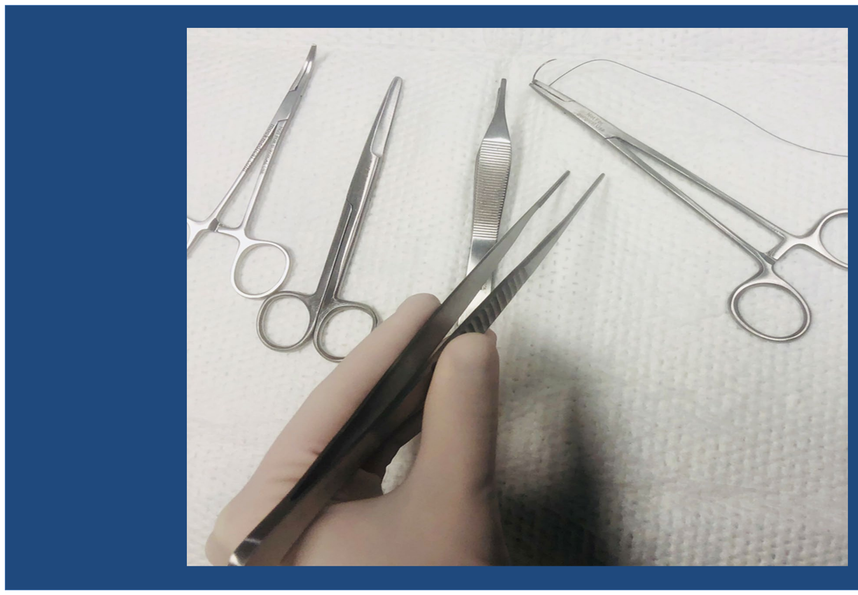


Table 2. Characteristics of Study Participants

PA Student Cohort	**Control** CO 2017 (n=39)	**Intervention** CO 2018 (n=37)
Percentage of students with previous suture training (Optional Survey)	6.06%	7.41%
Percentage of surgery rotations completed in Blocks 1-4	16.31%	17.55%

Table 3. Clinical Skill Competency Data

PA Student Cohort (n = total number of rotations in Blocks 1-4)	**Control** CO 2017 (n=141)	**Intervention** CO 2018 (n=131)	**Percent Change**
Percentage of rotations where a student was deemed competent at **suturing** (Blocks 1-4)	**26.24%**	**41.22%**	**+ 14.98% ***
Percentage of rotations where a student was deemed competent at **bladder catheterization** (Blocks 1-4) (skill competency control)	14.89%	11.45%	- 3.44%

* Statistically significant at $p < 0.05$

RESULTS

Clinical Skill Competencies :
- Data showed 14.98% increase in preceptor-reported suturing competence between control and intervention group. Two proportion Z-test verified statistical significant ($p < 0.05$).
- No statistically significant difference preceptor-reported bladder catheterization competency (used as an internal control)

Survey Data
- CO 2017 (84.6% response rate) and CO 2018 (72.97% response rate) showed no statistical significance in self-perceived confidence in suturing skills.

CONCLUSIONS

Discussion:
- After introduction of a suturing curriculum in anatomy lab, students demonstrated significant improvement in suturing competency as measured by preceptor evaluations.

Limitations:
- Self-reported confidence in suturing did not statistically improve. This finding was likely influenced by a low power and survey bias since both cohorts were surveyed at the same time, hence at different points in their training.

Implications:
- Pre-clinical training in suturing and Anatomy lab are part of many PA programs' curricula.
- It can be cost effective to integrate suturing workshops with Anatomy lab.
- Anatomy lab provides an ideal venue to offer multiple suturing workshops throughout didactic year.
- This curriculum could be incorporated into Medical and Advanced Nursing student Anatomy labs.

REFERENCES

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