Stop the Bleed: Medical Students as Instructors of the Bleeding Control Basics (B-Con) Course

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INTRODUCTION

- Death due to exsanguination is a leading cause of preventable traumatic death.[1-3]
- Recent evidence suggests escalating mortality and severity of injuries related to gun violence, as well as increasing incidence of mass shootings over the last three decades.[4-5]
- In 2013 the American College of Surgeons (ACS), alongside federal government organizations, introduced the Stop the Bleed campaign and eventually the Bleeding Control Basics (B-Con) course.

Bleeding Control Basis Course (B-Con)

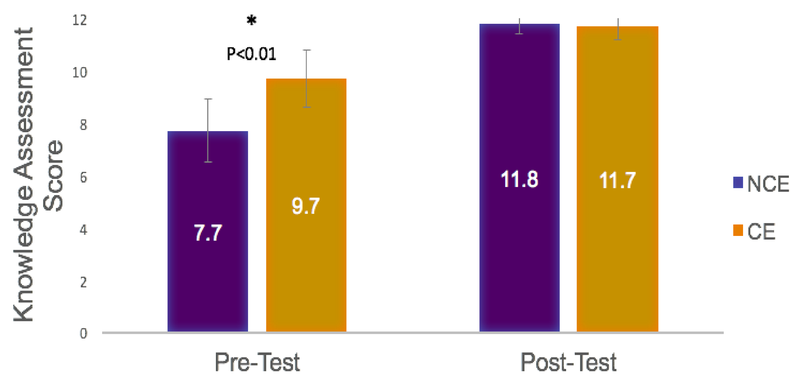
- Trains non-medical people in hemorrhage control techniques to act as immediate responders in the incident of life-threatening bleeding.
- Medical students remain a population that do not typically meet instructor criteria limiting their ability to teach the course.
- Medical Students are being under utilized and by allowing them permission as instructors may help increase outreach of the course.

MATERIALS & METHODS

- Two Phase Study
- *De novo* knowledge assessment created from fundamental concepts taught during the B-Con course
  - Pre-test and Post-test (max score =12)
- Phase I
  - 20 Medical Students, 6 with clinical experience that would qualify them to become certified instructors, 14 without clinical experience (CE)
  - Pre and Post Test scores compared with independent sample t-test.
- Phase II
  - 91 Medical students took the B-Con course during M1 orientation
    - 45 were taught by a medical student, 46 were taught by a certified instructor
- One-way analysis of co-variance (ANCOVA) of post-test scores
  - Controlled for pre-test scores and prior clinical experience

RESULTS

Pre- and post-test results in medical students with prior clinical experience (CE) and no prior clinical experience (NCE)

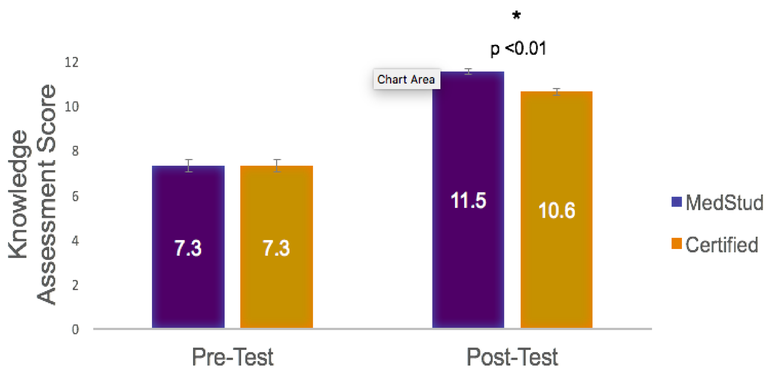


The covariate, **prior clinical experience,** was not significantly related to post-test scores

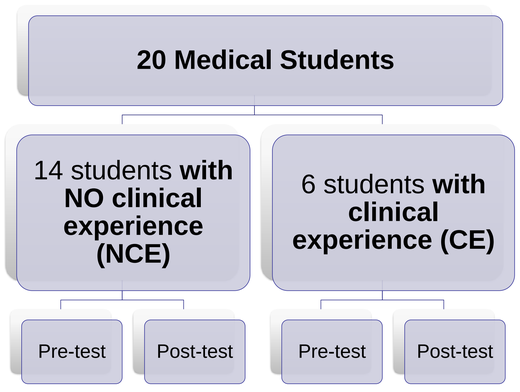
The covariate, **pre-test scores,** were significantly related to post-test scores

No significant difference between groups (MedStud v. Certified) even when controlling for prior clinical experience

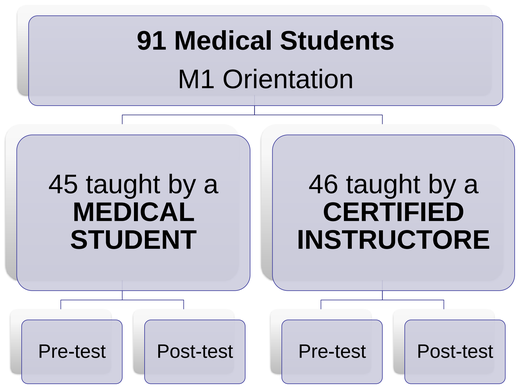
Post-test score in learners taught by a medical student vs. certified instructor



Phase I



Phase II



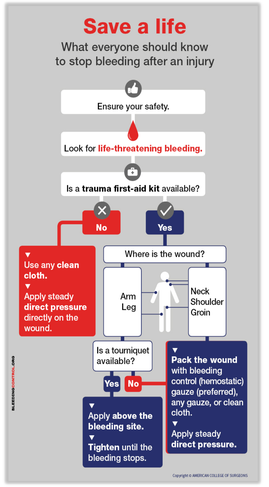
DISCUSSION

Phase I:

- Prior clinical experience had no impact on post-course knowledge assessment scores, and scores indicated near-perfect assimilation of course content
- The B-Con course improved student knowledge of bleeding control techniques

Phase II:

- A medical student-led bleeding control basics course is equally effective and successful at conveying important learning objectives of bleeding control techniques when compared to a certified instructor.
- Medical students who do not meet the current criteria of the ACS are able to convey fundamental learning objectives of the course as demonstrated by near-perfect assimilation of content in post-test scores of learners.



(Top) Medical Student, Andrew Piner, teaching the B-Con Course to group of ECU Employees

(Left) Image taken from the bleedingcontrol.org website created by the American College of Surgeons provided as free resource for flyers, posters, or other educational purpose.

REFERENCES

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