



St. Catherine University

From the Selected Works of Carrie Marzolf, MSPA, PA-C

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PAEA Education Forum 2020

James Johanning, MPAS, PA-C

Carrie Marzolf, MSPA, PA-C, *St. Catherine University*

Mehnaz Parvez, MBBS, MS, *St. Catherine University*

Kate Larson, MPAS, PA-C, *St. Catherine University*

Lauren Zarnek, MPAS, PA-C, *St. Catherine University*



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Title: Use of Cadavers for Procedural Education in the Didactic Curriculum

Abbreviated Title: Cadaver Use in Procedural Education

Proposal Type: Spotlight Presentation

Area of Focus: Transforming the Student Experience

Abstract:

This session demonstrates a unique utilization of human cadavers to teach procedural skills during the didactic phase. ARC-PA requires PA programs to include procedural skills training in their curricula.¹ In a 2018 survey, 33.8% of certified PAs reported that “performing procedures is a service provided to most patients.”² Studies have shown that medical students feel unprepared to perform medical procedures upon graduation.³ Our program’s graduate surveys contain similar sentiments: graduates desired more procedural skills instruction during the didactic phase. We hypothesize that our innovative cadaver-based procedural workshop will improve student confidence in performing procedures as they enter clinical rotations and clinical practice.

Our procedural skills training includes a cadaver workshop during the Emergency Medicine course, near the end of the didactic phase. The students observe procedural demonstrations performed by skilled PAs, then engage in supervised procedural practice. We selected procedures relevant to PAs in Primary Care and Emergency Medicine: digital block, joint aspiration/injection, tube thoracostomy, cricothyroidotomy, and trigger finger injection. This method allows students to develop the psychomotor skill of performing procedures in a safe, low-pressure setting, where mistakes can be corrected without potential harm to a patient. Procedural practice on cadavers is more realistic than other methods of instruction, such as models, manikins, or computer simulations.⁴ Student feedback regarding the workshop was overwhelmingly positive, with multiple students stating it was the highlight of the course. A cadaver-based workshop is an opportunity for PA programs to expand their procedural instruction using currently available resources.

Our presentation will begin with 5 minutes of small group discussion, during which each attendee will outline their program’s current methods of procedural education. We will then present our cadaver-based approach, including pictures and videos taken during the workshop. We will incorporate student feedback, particularly how the workshop contributed to their confidence and preparedness for clinical rotations. The presentation will close with our ideas for expanding this workshop in the future, followed by a 10-minute question and answer session.

At the end of the session, attendees should be able to:

- Explore commonly-used methods of teaching clinical procedures
- Outline steps to create a cadaver-based procedural skills workshop
- Evaluate the advantages of cadavers in procedural education

Session description for final onsite guide:

This Spotlight Presentation explores an innovative cadaver-based approach to procedural skills training during the didactic phase. The presenters will use pictures and videos to describe their procedural workshop. This workshop allows for more realistic procedural practice compared to other methods. Programs looking to enhance their procedural instruction should attend this session.

Relevance to PA Educators:

Seventy-nine percent of Physician Assistant programs use cadavers as part of their anatomy education.⁵ ARC-PA requires programs to include “instruction in technical skills and procedures based on current professional practice.”¹ The preclinical phase typically includes instruction pertaining to cognitive understanding of procedures; the psychomotor skill of performing procedures may not be adequately addressed for all common procedures. Our use of cadavers in procedural skills training in the preclinical phase gives students an opportunity to practice in a safe, low-pressure, supervised setting, where mistakes can be corrected. Procedures performed on human tissue are more realistic than those performed on models, manikins, or in computer simulations. Programs that are looking to expand or innovate their procedural instruction would benefit from attending this session. This approach to skills training can be instituted at programs currently using cadavers for anatomy education. Early exposure to procedural skills in the preclinical phase can increase students’ level of comfort with procedures and increase their confidence upon entering the clinical phase and clinical practice.

Statement of Qualification:

The moderators of the session are five experienced educators who are faculty of an established PA program that delivers an innovative integrated curriculum. They have in combination over 20 years of teaching and 30 years of clinical experience. Each educator brings in unique skills and work experience having come from varied disciplines; namely primary care, urgent care, hospital medicine, orthopedics, international family practice and human anatomy instruction. This team has developed a meaningful hands-on teaching method that will engage the audience and enhance discussion of the content.

References

1. Accreditation Standards for Physician Assistant Education. ARC-PA. <http://www.arc-pa.org/accreditation/standards-of-accreditation/>. Published March 2010. Updated March 2018. Accessed February 13, 2020.
2. 2018 Statistical Profile of Certified Physician Assistants by Specialty. NCCPA. <https://prodcmsstoragesa.blob.core.windows.net/uploads/files/2018StatisticalProfileofCertifiedPASbySpecialty1.pdf>. Published 2019. Accessed February 13, 2020.
3. Dehmer JJ, Amos KD, Farrell TM, et al. Competence and confidence with basic procedural skills: the experience and opinions of fourth-year medical students at a single institution. *Acad Med*. 2013;88(5), 682-687. doi: 10.1097/ACM.0b013e31828b0007.
4. Takayesu JK, Peak D, Stearns D. Cadaver-based training is superior to simulation training for cricothyrotomy and tube thoracostomy. *Intern Emerg Med*. 2017;12(1), 99-102. doi: 10.1007/s11739-016-1439-1.
5. Precht MC, Bennett CC, Cope JM. Quantifying cadaver use in physician assistant anatomy education. *J Physician Assist Educ*. 2017;28(4), 182-188. doi: 10.1097/JPA.000000000000171.