

## **UC Irvine**

### **Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health**

#### **Title**

Emergency Department Thoracotomy Education Needs Assessment

#### **Permalink**

<https://escholarship.org/uc/item/59907979>

#### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 20(4.1)

#### **ISSN**

1936-900X

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#### **Publication Date**

2019

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# 29 Teaching and Evaluating Medical Students' Oral Presentations Skills in Emergency Medicine

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**Background:** Medical students receive generalized training in oral presentations yet lack preparation for emergency medicine (EM)-specific presentations, which differ in length, focus, and structure. Prior research suggests that students need further instruction in EM-focused oral presentations.

**Objectives:** In our pilot study, we assessed the need for training of EM-bound medical students in EM-specific oral presentations and trialed a multimodal curriculum. In this study we implemented a novel grading rubric to evaluate efficacy of the didactic curriculum.

**Methods:** Fourth-year, EM-bound students from 26 different medical schools rotating in July–October 2018 were voluntarily enrolled. Students (n = 49) completed pre- and post-intervention surveys. Attending physicians graded their oral presentations on their first shift (pre-intervention) and last shift (post-intervention) using a novel grading rubric (Figure 1). During the four-week rotation, students completed a self-paced, multimodal curriculum designed using expert sources (Figure 2). We analyzed data using paired t-test for statistical significance.

**Results:** In our study population, 61% of students had previous education in oral presentations, but less than 25% received EM-specific training. On pre-intervention surveys, students had an average of 6.4/10 when asked how prepared they felt presenting EM-specific oral presentations and 8.1/10 on post-intervention surveys (p<0.001). Our novel grading rubric assessed nine components of oral presentations with average scores increasing from 3.4/5.0 to 4.0/5.0 after implementation of the curriculum (p<0.05).

**Conclusion:** Our study suggests that medical students feel ill-prepared for presenting EM-focused oral presentations and have limited EM-specific prior training. Implementation of a multimodal, didactic curriculum created statistically significant increases in the students' feelings of preparedness. Use of a novel grading rubric demonstrated objective increases in students' performance on oral presentations.

## PATIENT PRESENTATION RATING TOOL

Note: Please use a score of 3 to indicate performance that is at the expected level for a fourth year student

**HISTORY**

1. Chief complaint noted as part of introductory sentence					Questions/Comments
1	2	3	4	5	
No Chief complaint	Chief complaint mentioned	Chief complaint clear			

**HISTORY**

2. HPI starts with clear patient introduction including patient's age, sex, pertinent active medical problems					Questions/Comments
1	2	3	4	5	
No introductory sentence	Intro included CC and most pertinent information	Intro painted a clear picture of patient			<input type="checkbox"/> too much <input type="checkbox"/> too little

**HISTORY**

3. The HPI includes only relevant PMH and ROS without non-relevant ROS or any physical exam findings					Questions/Comments
1	2	3	4	5	
Information has no clear connection to the active medical problems	Information adequately describes the patient's active medical problems	Information completely and concisely describes all active problems			<input type="checkbox"/> too much <input type="checkbox"/> too little

**PHYSICAL EXAM**

4. Includes a targeted physical exam including relevant vital signs stating the positive and negative findings that distinguish the diagnoses under consideration and any other abnormal findings					Questions/Comments
1	2	3	4	5	
Either too much or too little information given	Most important information is given with vitals	All important elements of vitals and PE given			<input type="checkbox"/> too much <input type="checkbox"/> too little

**SUMMARY STATEMENT**

5. Begins assessment with a summary statement that synthesizes the critical elements of the patient's chief complaint, HPI, and pertinent findings on physical exam					Questions/Comments
1	2	3	4	5	
No summary statement or restatement of story without synthesis	Most pertinent information synthesized; may repeat some unnecessary information	Summary statement concisely synthesizes all key information			<input type="checkbox"/> too much <input type="checkbox"/> too little

**ASSESSMENT AND PLAN**

6. Provides an appropriate differential diagnosis including top "not to miss" diagnoses					Questions/Comments
1	2	3	4	5	
No differential diagnoses are given	A <b>Dox</b> with several possibilities is given for major problems	Extensive <b>Dox</b> with most likely dx and "not to miss"			<input type="checkbox"/> too much <input type="checkbox"/> too little

7. States the diagnostic/therapeutic plan that targets each problem; each item in the plan relates to something listed on the prob list					Questions/Comments
1	2	3	4	5	
Patient plan is not described or is unrelated to the problem list	Plan for the patient addresses most important issues, may omit active but lower priority problems	Patient plan is complete and relates directly to the problem list; all active issues are included			<input type="checkbox"/> too much <input type="checkbox"/> too little

**GENERAL ASPECTS**

8. Body language and speaking style					Questions/Comments
1	2	3	4	5	
Difficult to understand with distracting gestures	Mostly understandable and engaging with acceptable body language	Understandable and engaging speaking style, professional body language			

9. Length of presentation					Questions/Comments
1	2	3	4	5	
Too long or too short in length	Mostly appropriate in length, may be a little too long or short	Appropriate length for complexity of patient			

Comments:

# 30 Emergency Department Thoracotomy Education Needs Assessment

Zaidi H, Fant A, Sanders S, Miller D, Pirotte M, Salzman D / Feinberg School of Medicine, Northwestern University, Chicago, Illinois

**Background:** Emergency department thoracotomy (EDT) is a rare and potentially life-saving procedure that emergency medicine (EM) residents must be able to perform correctly. Due to the infrequent occurrence of EDTs, studies evaluating whether EM residents are competent to perform this procedure are rare.

**Objectives:** To assess EM residents' baseline abilities to perform an EDT on a novel, simulated model.

**Methods:** This was a prospective, single-site study of EM residents in a four-year, urban, academic residency program. Residents were asked to individually complete an emergent

Multimodal Didactic Curriculum Components				
Modality	Author	Year	Title	Source
Primary Literature	Davenport <i>et al.</i>	2008	The 3-minute emergency medicine medical student presentation: a variation on a theme	1
Supplemental Outline	Davenport <i>et al.</i>	2008	Oral Presentations in Emergency Medicine	1
FOAMed Review	Javier Benitez, MD	2012	Academic Life in EM (ALIEM): "The 3-minute EM student presentation"	1, 2
Video	CDEM/EMRA	2015	Making the Most of Patient Presentations	3
Podcast	EMBasic: Steve Carroll, MD	2012	How to give a good ED patient presentation	4
Podcast Notes	EMBasic: Steve Carroll, MD	2012	How to give a good ED patient presentation	4
Flipped Classroom	Stella Yiu, MD	2013	FlippedEM Classroom: How to Present in the Emergency Department: Part 2: The EM Presentation	5

References:

- Davenport C, Honigman B, Druck J. The 3-minute emergency medicine medical student presentation: a variation on a theme. *Acad Emerg Med.* 2008 Jul;15(7):683-7
- Benitez, J. 2012. Academic Life in EM (ALIEM): "The 3-minute EM student presentation" <https://www.aliem.com/2012/08/the-3-minute-em-student-presentation/>
- Yip, M and Mitra, A. "Making the Most of Patient Presentations" <https://www.saem.org/cdem/education/online-education/medical-student-presentations-video>
- Carroll, S.EMBasic "How to give a good ED patient presentation" <http://embasic.org/wp-content/uploads/2012/03/17-how-to-give-a-good-ed-patient-presentation.pdf>
- Yiu, S. 2013. "How to present in the emergency department" FlippedEMclassroom.com

thoracotomy on a simulator. They were given a standardized prompt and their performance was evaluated in real time via a dichotomous, previously validated checklist. A score of 90.4% of checklist items correct was derived using the Mastery Angoff approach and was set as the minimum passing standard. All EM residents not involved with the development of the checklist were invited to participate. We compared the percentage of checklist items completed by postgraduate year (PGY) and self-reported prior experience with emergent thoracotomy, using one-way analysis of variance.

**Results:** Of eligible residents, 52/56 (92.8%) completed the needs assessment testing. Overall average performance on the checklist was 47% of actions performed correctly. We found a significant difference in performance by level of training ( $p < 0.01$ ). Trainees who had previously witnessed or performed an EDT performed significantly better than those who had not ( $p < 0.01$ ). No resident met the previously established minimum passing standard.

**Conclusion:** Baseline performance of residents performing an EDT is poor with no residents meeting the minimum passing standard. Senior residents (PGY-3 and PGY-4) performed better compared to junior residents (PGY-1 and PGY-2). Residents with prior exposure or experience to EDT performed better compared to residents without exposure or experience. However, routine training in residency is insufficient to ensure successful performance of this procedure. Further education regarding ED thoracotomy is necessary in residency training.

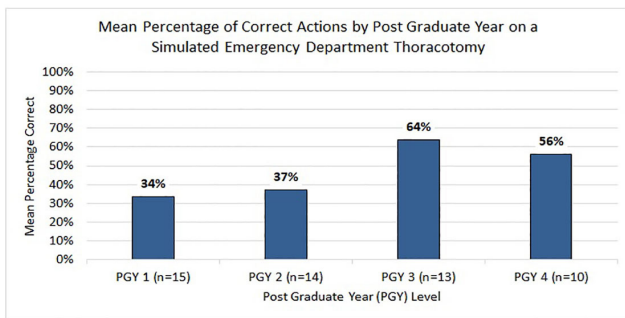


Figure 1: Comparison of Mean Percentage of Correct Actions by Post Graduate Year on a Simulated Emergency Department Thoracotomy by Emergency Medicine Trainees ( $p < 0.01$ ).

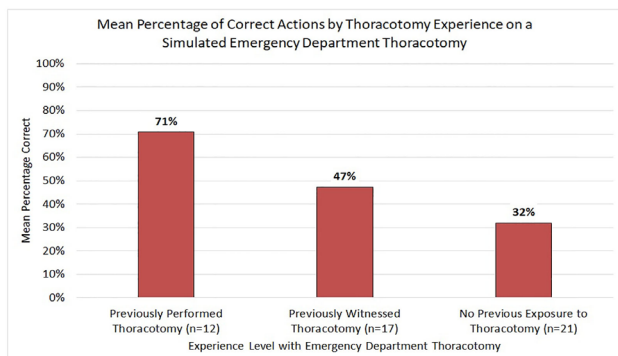


Figure 2: Comparison of Mean Percentage of Correct Actions by Thoracotomy Experience on a Simulated Emergency Department Thoracotomy by Emergency Medicine Trainees ( $p < 0.01$ ).

## 31 A Needs Assessment for the Development of “Orphan” Topic Curricular Toolkits

*Caretta-Weyer H, Tichter A, Fujimoto J / Stanford University, Stanford, California; New York Presbyterian, New York, New York; Temple University, Philadelphia, Pennsylvania*

**Background:** The Council of Residency Directors in Emergency Medicine (CORD) Education Committee was tasked with the development of curricular tool kits for dissemination to all emergency medicine (EM) programs. To understand existing educational gaps, the Curricular Toolkit Subcommittee sought to perform a targeted needs assessment.

**Objectives:** Our goals were to identify “orphan” curricular topics that are not effectively taught but are regarded as important for inclusion in the residency curriculum, and to determine which instructional methods are considered best for conveying the educational content for each “orphan” topic.

**Methods:** We conducted a national survey of EM residents and program faculty. Questions were developed iteratively by members of the Curricular Toolkit Subcommittee, with example topics chosen from the American Board of Emergency Medicine Model of Clinical Practice, as well as from the expert opinion of the subcommittee members. The survey was piloted among the membership of the CORD Education Committee, with feedback from the pilot incorporated into the final version, which was distributed to the CORD listserv in September 2018.

**Results:** There were a total of 105 respondents, of whom 58 (55%) were faculty, and 47 (45%) were residents. Fifty-one (49%) identified their primary training site as “university,” 20 (19%) as “community,” 16 (15%) as “county,” and 18 (17%) as “hybrid.” Seventy-eight (74%) described the setting of their primary hospital as urban, and 74 (70%) were from three-year programs. Resident respondents most strongly agreed that evidence-based medicine (67%), team management (47%), and resident as teacher (43%) should be included in the EM curriculum, of which resident as teacher was rated as most ineffectively taught (13%). Faculty responded that a dedicated curricular toolkit provided by CORD would be of highest value for billing and coding (46%), quality improvement (44%), and medicolegal (43%) topics. Both faculty and residents favored in-person lectures for medicolegal and billing & coding vs small groups for quality improvement as the best instructional method.

**Conclusions:** We found discordance between residents and faculty as to which “orphan topics” are more important to include in the residency curriculum, but more of a consensus with regard to best instructional method for each topic.