

Emergency Medicine Resident Self-Assessment of Clinical Teaching Compared to Student Evaluation Using a Previously Validated Rubric

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ABSTRACT

Purpose: The quality of clinical teaching in the emergency department from the students' perspective has not been previously described in the literature. Our goals were to assess senior residents' teaching ability from the resident/teacher and student/learner viewpoints for any correlation, and to explore any gender association. The secondary goal was to evaluate the possible impact of gender on the resident/student dyad, an interaction that has previously been studied only in the faculty/student pairing.

Methods: After approval by an institutional review board, a 1-year, grant-funded, single-site, prospective study was implemented at a regional medical campus that sponsors a 4-year dually approved emergency medicine residency. The residency hosts both medical school students (MSs) and physician's assistant students (PAs). Each student and senior resident working concurrently completed a previously validated ER Scale, which measured residents' teaching performance in 4 categories: Didactic, Clinical, Approachable, and Helpful. Students evaluated residents' teaching, while residents self-assessed their performance. The participants' demographic characteristics gathered included prior knowledge of or exposure to clinical teaching models. Gender was self-reported by participants. The analysis accounted for multiple observations by comparing participants' mean scores.

Findings: Ninety-nine subjects were enrolled; none withdrew consent. Thirty-seven residents (11 women)

and 62 students (39 women) from 25 MSs and 6 PA schools were enrolled, completing 517 teaching assessments. Students evaluated residents more favorably in all ER Scale categories than did residents on self-assessments ($P < 0.0001$). This difference was significant in all subgroup comparisons (types of school versus postgraduate years [PGYs]). Residents' evaluations by type of student (MS vs PA) did not show a significant difference. PGY 3 residents assessed themselves higher in all categories than did PGY 4 residents, with Approachability reaching significance ($P = 0.0105$). Male residents self-assessed their teaching consistently higher than did female residents, significantly so on Clinical ($P = 0.0300$). Students' evaluations of the residents' teaching skills by residents' gender did not reveal gender differences.

Implications: MS and PA students evaluated teaching by EM senior residents statistically significantly higher than did EM residents on self-evaluation when using the ER Scale. Students did not evaluate residents' teaching with any difference by gender, although male residents routinely self-assessed their teaching abilities more positively than did female residents. These findings suggest that, if residency programs utilize resident self-evaluation for programmatic evaluation, the gender of

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the resident may impact self-scoring. This cohort may inform future study of resident teaching in the emergency department, such as the design of future resident-as-teacher curricula. (*Clin Ther.* 2018;■:1–9) © 2018 Elsevier Inc. All rights reserved.

Key words: clinical teaching, emergency medicine, gender.

INTRODUCTION

The emergency department (ED) presents numerous opportunities for education. Unfortunately, parallel processing of patients, significant patient volume, and inpatient holds are challenges that may impact clinical teaching.^{1–3} As ED shifts rarely permit consistent, dedicated time for educational sessions, the study of teaching in this environment has proven to be difficult.⁴ Most research has examined the dynamic between faculty and residents.² One such prior study investigating the efficacy of teaching by attendings from residents' perspective validated a rubric, known as the ER Scale, to assess clinical teaching in the ED.⁵ The ER Scale converts Likert stems ranging from Unacceptable to Outstanding to a numeric 1 to 5 points for analysis in each of 4 areas: Didactic, Clinical, Approachable, and Helpful.

Despite the challenges of teaching in the ED, previous study has demonstrated that the ED represents a significant part of medical students' (MS) education, notably procedural.⁶ While it has been estimated that ~33% of MSs' learning comes from residents, there is limited literature documenting emergency medicine (EM) residents' teaching effectiveness from the medical student's perspective.⁷ EM residents also supervise other learners in the ED, such as physician's assistant (PA) students. Other specialties with fewer teaching challenges have seen the development of pedagogic models. Examples include the One-Minute Preceptor (or Microskills) and SNAPPS (summarize, narrow, analyze, probe, plan, and select).^{8,9} Both models use a stepwise, systematic approach for case presentations and feedback. This consistent methodology allows learners and teachers to understand expectations and recognize that teaching and learning are to occur.

To support the EM "resident as teacher," a suggested teaching curriculum has been developed.¹⁰ Residents often respond positively when undergoing "resident-as-teacher" curricula, improving their attitudes toward teaching.¹¹ This improved attitude has been demonstrated within EM.¹² There is some

evidence that participating in teaching courses correlates with improved self-assessment¹³ and student evaluations.⁷ Of note, the reviews did not identify a study directly correlating the two.

Despite the limitations of current studies of the efficacy of resident teaching, EM educators are charged with documentation of resident-teaching efficacy. After eliminating a dedicated Resident as Teacher Milestone present in drafts, several of the Accreditation Council for Graduate Medical Education (ACGME) Milestones for EM have, as level 5 anchors, the ability to teach, particularly related to procedures.¹⁴ The suggested evaluation methods for these Milestones focus on simulation, checklists, and procedure logs to assess technical competency.¹⁴ Means of assessing clinical teaching are not formally suggested, which increases the complexity for residency Clinical Competence Committees (CCCs).

Evaluation of teaching through the lens of gender has yielded mixed results. A multispecialty faculty self-assessment and resident evaluation of clinical teaching, which included EM, found gender differences: here women significantly self-assessed their teaching to be better than men.¹⁵ In contrast, when MS rather than residents are the learners, it has been shown that the evaluations of female faculty on the "overall quality of teaching" receive lower scores than male faculty.¹⁶

Given these gaps in the existing literature, the primary aim of our study was to correlate students' evaluations and senior residents' self-assessments of EM residents' clinical teaching on-shift. Secondly, participant demographic characteristics including gender were analyzed.

MATERIALS AND METHODS

After obtaining our institutional review board's approval, this prospective, observational, educational study was conducted at a suburban health care system serving as a regional allopathic medical campus for dedicated 3rd- and 4th-year MS. It has a 4-year EM residency with both allopathic and osteopathic approval. Within the program, postgraduate year (PGY) 3 and 4 residents are considered senior residents, and supervise students. Our medical school does not have a required 3rd year EM clerkship, and all MSs' EM experience is during a 4th-year elective. The institution also hosts visiting 4th-year MSs from multiple, geographically diverse medical schools, along with PA students from multiple regional schools.

Students are assigned anonymous evaluations of the senior residents with whom they work, electronically via

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