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Rotation Rigor and Resident Readiness: The Effect of Rotation Difficulty on EM In-Training Exam Performance

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of residents and advanced practice providers. Differences emerged across groups: residents emphasized job search skills, whereas attendings highlighted interhospital transfers. Open-ended responses reflected anxiety regarding solo coverage, legal responsibility, and unfamiliar systems.

Conclusions: This needs assessment demonstrates strong support for a structured, senior resident–focused TTP curriculum in EM. Respondents favored interactive, practice-relevant instruction targeting legal, supervisory, and administrative competencies. These findings provide a foundation for curriculum design and underscore the importance of tailoring training to prepare EM residents for the demands of independent practice.

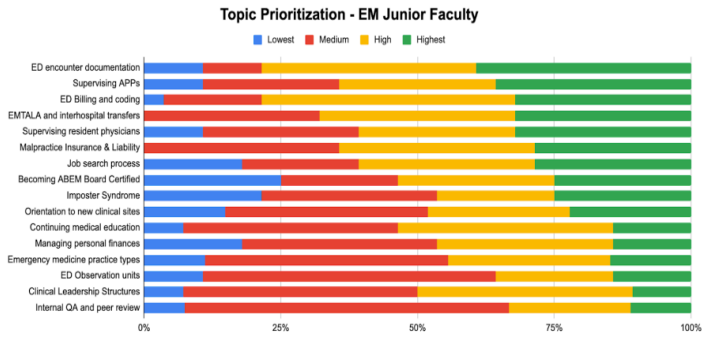


Figure 2: Overall agreement in value of PGY 4 curriculum

60 Bridging Training to Practice: How Simulation Shapes Procedural Confidence in EM Graduates

Holly Stankewicz, Andrew Mittelman, Shaila Quazi

Background: The ACGME defines procedural competency using minimum numbers of index procedures, but clinical opportunities to perform these procedures are inconsistent. Simulation-based training has been increasingly used to address experiential gaps, though resources and curricula vary widely, and standardized approaches are limited.

Objective: To examine the self-reported effect of simulation-based training on Emergency Medicine (EM) residents' procedural confidence at or soon after graduation.

Methods: A 25-item survey was administered in 2024–2025 to senior residents and recent graduates from a convenience sample of U.S. residency programs. Question items targeted the impact of simulation on each of the ACGME procedures as well as procedural training as a whole.

Results: Responses were received from 175 residents across 22 programs, representing all U.S. regions. All residents reported presence of simulation-based procedural training and 49% rated it "critical" to procedural proficiency. Greater simulation resources were associated with higher confidence in large-bore chest tube placement and cardiac pacing. Minimum requirements for cricothyrotomy (87%), pericardiocentesis (85%), lateral canthotomy (67%), and cardiac pacing (46%) would not have been met without simulation. In multilevel logistic regression models predicting composite confidence (≥70% of procedures rated competent), structured simulation curriculum (OR 1.89) and simulation faculty (OR 1.06) were positively associated with confidence. Procedural task trainers had the strongest impact, significantly increasing the odds of achieving procedural competence (OR 6.88).

Conclusion: Simulation is a high-resource strategy for EM procedural skill acquisition, considered essential or critical by many respondents to bridge opportunity gaps. These findings emphasize the importance of consistent, well-resourced simulation training to ensure all trainees graduate prepared for safe, independent practice.

61 Rotation Rigor and Resident Readiness: The Effect of Rotation Difficulty on EM In-Training Exam Performance

Abagayle Bierowski, Erin Hoag, Kelly Kehm, Peter Tomaselli, Jiten Patel, Kathleen Cruz, Cody Andreoni, Madeline Dwyer, Danielle Melisiotis

Background: The notion that demanding rotations immediately prior to the In-Training Examination (ITE) may affect performance is largely anecdotal. While one surgical study

demonstrated significantly lower exam performance among interns assigned to 'hard' rotations in the two months preceding their in-service exam, no comparable EM studies exist.

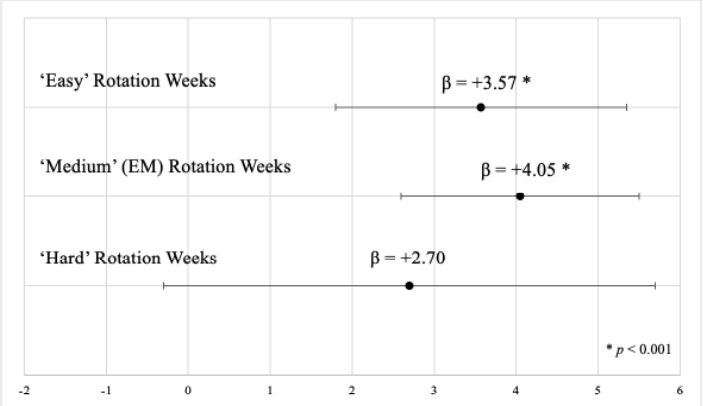
Objective: To evaluate whether rotation difficulty preceding the ITE was associated with exam performance.

Methods: This retrospective study included 166 residents from a single academic, urban EM residency program across 9 years (2017-2025), yielding 390 ITE data points. Rotation schedules and ITE percentiles were reviewed for the 12 weeks preceding the exam. Each rotation was rated 'easy' or 'hard' based on majority consensus (>75%) from surveys of current residents, recent alumni, and GME leadership; EM blocks were designated as a separate 'medium' category (Table 1). Week-specific differences in mean ITE percentile were evaluated using one-way ANOVA. The number of 'easy,' 'medium,' and 'hard' rotations in both the four and twelve weeks preceding the ITE was analyzed using Pearson correlations and multivariable regression, controlling for gender and prior ITE percentile.

Results: Rotation difficulty across the 12 weeks preceding the ITE was not significantly correlated with exam performance, nor was rotation difficulty during individual weeks in the month preceding the exam ($p>0.30$ for all). However, in multivariable analysis of PGY2 and PGY3 residents after controlling for gender and prior ITE performance, the number of 'easy' ($\beta=+3.57$, CI 1.80-5.35, $p<0.001$) and 'medium' EM weeks ($\beta=+4.05$, CI 2.60-5.50, $p<0.001$) in the month preceding the ITE were each independently associated with higher ITE percentiles; the number of 'hard' weeks ($\beta=2.70$, CI -0.30-5.70, $p=0.078$) was not (Figure 1). Prior ITE percentile was independently associated with ITE performance ($r=0.60$, $p<0.001$) and remained a significant predictor across all models.

Conclusions: Rotation difficulty in the immediate pre-exam period was associated with ITE performance, suggesting short-term workload may be a modifiable factor in exam preparation.

	'Easy' Rotations	'Medium' Rotations	'Hard' Rotations
PGY1	Vacation Ultrasound CDU (Observation Medicine) EMS OB Anesthesia Pediatric EM	EM (Academic Site)	ICU (Community) PICU (Academic) CCU (Academic) Trauma (Academic)
PGY2	Vacation Elective Procedure Block EMTCH (Teach Block) EMO (Admin) Pediatric Anesthesia Pediatric EM	EM (Academic and Community Sites)	EMNF (EM Night Float) Trauma (Community)
PGY3	Vacation Elective EMTCH (Teach Block) ICN (Neonatal ICU) ICU (Community) Pediatric EM	EM (Academic and Community Sites)	EMNF (EM Night Float)



62 Point of Care Ultrasound Improves Time to Confirmation in Central Line Placement

Christopher Serle, Jillian Stone, Stephen Leech, Shivani Ruf, Reshma Sharma, Tyler Moriarty, William Waite, Zakariya Hassouneh, Brooke Hoehn, Sadman Chowdhury

Background: Central Venous Line (CVL) placement is a common and emergent procedure performed in the ED. The majority of CVLs are placed under ultrasound (US) guidance as the standard of care, but the gold standard for confirmation of placement and assessing for complications remains CXR. Confirming CVL placement with CXR often has significant time delays in critically ill patients. In addition to CXR, we studied an US protocol performed immediately after CVL placement to confirm correct placement and assess for complications.

Objectives: The primary objective was to assess whether US is faster in confirming CVL placement as compared to CXR. The secondary objective was to assess if US can identify potential complications of CVL placement.

Methods: This was a prospective, observational, convenience study of ED patients at least 18 years old who required CVL placement. After CVL placement was completed, an US protocol was performed by ED providers. The protocol included a cardiac US view to visualize agitated saline in the right heart to confirm venous placement. Bilateral lung views were assessed for lung sliding to rule out pneumothorax. Images were archived and available in the electronic medical record for all providers to view. Key study variables included time to performance of CXR and time to interpretation by a board-certified radiologist. Statistical analysis was performed using descriptive statistics, paired t-test, and 95%CI.

Results: A total of 30 patients were included. Time from US to CXR performance had a mean time of 49 minutes, $p < .001$ (95%CI 32.9-65.1). Time from US to CXR interpretation by radiology had a mean difference of 93 minutes, $p < .001$ (95%CI 73.3-112.4). No misplaced lines, arterial placement, or pneumothoraces were identified by either imaging modality.