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.

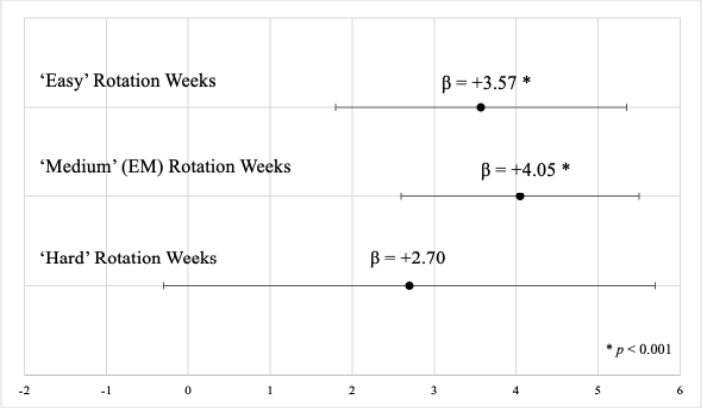
Objective: To evaluate whether rotation difficulty preceding the ITE was associated with exam performance.

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.

Conclusion: In our prospective observational study, US significantly reduced time to confirmation of correct CVL placement. In addition, there was no significant difference in complication assessment when compared with standard CXR. We question if the routine use of CXR is necessary to confirm placement of CVLs.

Comparison	Mean Difference	P-Value	95% Confidence Interval (CI)
POCUS vs CXR capture	49 minutes	p<0.001	32.9-65.1
POCUS vs CXR confirmation	93 minutes	p<0.001	73.3-112.4

Image/Table 1

63 Low-Cost, Reusable, Three-Dimensional-Printed Phantoms for Resident Training in Ultrasound-Guided IV Access

Shivani Ruf, Reshma Sharma, William Waite, Jillian Stone, Stephen Leech, Christopher Serle, Maria Valeria Ortega

Background: Commercially available simulation phantoms are prohibitively expensive and unaffordable for most training programs. Low-cost, reusable, three-dimensional (3D)-printed simulation models may bridge this gap by enabling learners to practice performing ultrasound (US)-guided procedures.

Objectives: This study evaluated the feasibility and educational value of a 3D-printed US-guided peripheral intravenous (PIV) simulation model for point-of-care ultrasound (POCUS) education.

Methods: Emergency medicine (EM) residents received a demonstration on model use and performed a single US-guided PIV insertion attempt on the 3D-printed phantom. US trained faculty observed and graded residents on several performance metrics. Time to completion was recorded, and residents then completed a survey assessing ease of use, realism, and confidence improvement.

Results: A total of 20 EM residents tested this model. 18 residents (90%; 95% CI 68–98) completed the procedure within 2 minutes and 19 residents (95%; 95% CI 75–99) achieved successful cannulation. The median procedure time was 52 seconds. Residents rated the phantom positively. Anatomic realism received a mean score of 8.01 on a 10 cm likert scale (95% CI 7.23–8.79). US image quality was rated 8.84 (95% CI 8.25–9.42). The phantom's impact on improved