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perceived areas of need in a current simulated procedural curriculum that can be addressed in a novel, low-cost manner.

Methods: A needs assessment was performed at a large academic residency program. 59 residents were sent an electronic survey. 10 medical education faculty were invited for interviews. Survey questions assessed perspectives on procedural simulation and confidence performing specific procedures on 5-point Likert scales; results were descriptively analyzed. Interviews were assessed using a thematic approach over two rounds by two independent reviewers. Discrepancies were reconciled via consensus.

Results: 37 residents responded (62.7%). Five eligible faculty were interviewed (50%). Residents strongly agreed that procedural simulation is effective for teaching (median 5, interquartile range [IQR] 4-5), helps them learn new procedures (median 5, IQR 5-5), and improves confidence performing procedures in real life (median 4, IQR 4-5). They felt most confident with paracentesis (median 5, IQR 4.5-5) and intubation (median 4, IQR 3.5-5), and least confident with resuscitative hysterotomy and pericardiocentesis (median 1, IQR 1-1 each), as well as uterine packing and variceal tamponade (median 1, IQR 1-2 each). Faculty highlighted procedural simulation as important for initial teaching, individualized feedback in a safe environment, and maintaining skills for rare procedures. They desired realistic models but identified price and reusability as limitations. Frequently cited areas for improved models included chest tubes and obstetric and orthopedic emergencies.

Conclusions: Residents and faculty believe simulation is effective for procedural education. Important educational approaches and perceived areas for growth were identified. These findings can inform the development of a novel, standardized, low-cost procedural curriculum.

18 Examining the Experiences of Ultrasound Standardized Patients Involved in Medical Education

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Background: Ultrasound standardized patients (USPs) remain an important aspect of medical education. In their role, USPs are often placed in vulnerable conditions, underscoring the importance of ensuring comfort and modesty. Literature pertaining to ultrasound training protocols primarily focuses on the training's effectiveness, largely failing to explore its impact on USPs themselves. Literature that does emphasize the experience of standardized patients rarely includes specific references to ultrasound training. This quantitative survey intends to address this gap by examining the experiences of USPs in order to better inform training protocols.

Methods: The survey addresses demographics, USP comfort levels being scanned, ultrasonographer conduct, and overall sentiment on USP work performed. The majority of questions have scaled-response answer selections to allow for quantitative analysis. The survey was distributed to qualifying standardized patients at participating medical schools. To meet the inclusion criteria, participants must be at least 18 years of age, have participated as an ultrasound standardized patient, and be English-speaking. The survey was administered online through the UCI Research Electronic Database Capture program.

Results: Preliminary results were obtained (n=25). Participants ranged in age (range=18-66+) and gender [male(n=9), female(n=15), other(n=1)]. 96% (n=24) of participants were not students of the participating institution. 40% (n=10) did not sign a written consent form every time working as a USP. Despite that, 100% (n = 25) of participants did not feel pressured to expose body parts that they were not comfortable with, and 92% (n=23) felt comfortable asking for more coverage as needed. 92% (n=23) felt that their ultrasonographers treated them with dignity and respect and that their conduct remained professional during every experience.

Conclusions: Overall, USPs did not report negative experiences surrounding comfort levels or perceptions regarding ultrasonographer conduct and communication. 100% (n=25) of participants were willing to continue serving as a USP. Limitations of this study include insufficient sample size and potential sampling bias due to a lower likelihood that USPs with negative experiences continued working with institutions that the surveys were sent to.

19 Impact of a Low-Cost Ballistic Gel Phantom on Trainee Confidence in Ultrasound-Guided Fascia Iliaca Block

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Background: Ultrasound-guided fascia iliaca block (FIB) is an effective, opioid-sparing analgesic technique for hip pain in the emergency department (ED), yet many emergency medicine trainees receive limited hands-on procedural exposure. Low-cost simulation models may help address this educational gap. We evaluated the impact of a low-cost ballistic gel phantom model on emergency medicine trainee block-specific procedural self-efficacy in performing the ultrasound-guided fascia iliaca block.

Methods: We developed a reusable ballistic gel phantom incorporating 3D-printed pelvic anatomy for FIB training. Emergency medicine residents and fellows participated in a one-hour curriculum consisting of a brief didactic followed by supervised hands-on ultrasound scanning and in-plane needling practice. Learner outcomes were assessed using pre-

and post-intervention surveys with 5-point Likert scale items evaluating block-specific procedural self-efficacy, including sonoanatomy identification and ultrasound-guided in-plane needle visualization. Responses were dichotomized as not confident (0–3) or confident (4–5). Paired pre- and post-intervention responses were compared using McNemar's test.

Results: Paired pre- and post-intervention surveys were analyzed. Confidence in block-specific procedural skills demonstrated the greatest improvement. The proportion of trainees reporting confidence in identifying relevant sonoanatomy (fascia iliaca, iliopsoas, and femoral nerve) increased from 5% pre-intervention to 95% post-intervention ($p < .001$). Confidence in ultrasound needle tip identification and in-plane needle guidance similarly increased from $\leq 20\%$ pre-intervention to 95% post-intervention (all $p < .001$).

Conclusion: A low-cost ballistic gel phantom paired with a brief, structured curriculum significantly improved emergency medicine resident and fellow self-efficacy in key procedural components of ultrasound-guided fascia iliaca block. This scalable simulation approach may facilitate earlier and safer adoption of regional anesthesia techniques in emergency medicine training.

20 Prevalence of Secondary Traumatic Stress and Burnout Among Emergency Medicine Residents: A Cross-Sectional Needs Assessment to Guide Wellness Interventions

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Background: Emergency medicine (EM) residents are exposed to traumatic events resulting in secondary traumatic stress (STS) and burnout, potentially undermining resident wellbeing, team performance, and long-term workforce sustainability. Programs often lack local data to tailor effective support structures.

Methods: A cross-sectional needs assessment survey was administered to one county EM residency which included exposures to potentially traumatic events (PTEs), the Secondary Traumatic Stress Scale (STSS), and the abbreviated Maslach Burnout Inventory (MBI). The MBI has three components: emotional exhaustion and depersonalization (higher scores associated with higher burnout), and personal achievement (higher scores associated with lower burnout).

Results: 43/68 residents (63%) completed the survey. MBI data suggested emotional exhaustion (mean 13.7 ± 4.8) was greater than depersonalization (mean 10.1 ± 4.0), but residents scored highest on personal achievement (mean 15 ± 3.9). The total mean STSS was 45 ± 12 (high STSS category). 43/43 (100%) of residents reported receiving training in resiliency, grief, or stress reduction. 16/40 (40%) stated the residency has adequate support systems in place. 35/39 (90%) reported at least

one PTE during residency. The most frequent PTE exposures were systemic failures (100%), patient suffering and death (97%), violent patients (95%), and witnessing traumatic injuries (93%). The most common symptoms reported after PTEs were poor sleep (77%), decreased mood (70%), and anxiety (67%). Residents identified the following coping strategies as very effective or effective after PTEs: talking to a colleague (98%), spending time with loved ones (95%), exercise (85%), team debrief (70%), and talking to a mentor (70%). Residents stated they were very likely or likely to utilize the following resources for PTEs: debriefing (83%), mental health professionals (58%), and mobile health applications (53%). 31/40 (78%) stated they would be or may be interested in piloting a longitudinal incident support tool.

Conclusion: PTEs, traumatic stress, and burnout are common in EM residency but residents maintain a sense of personal achievement. Coping strategies outside the hospital are commonly used and debriefing appears to be both effective and likely to be utilized. Residents are receptive to trialing an incident support tool.

21 Artificial Intelligence-Powered Electrocardiogram Interpretation Identifies STEMI Earlier than Physicians

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Background: Rapid identification of ST segment elevation myocardial infarction (STEMI) and STEMI equivalent patterns on electrocardiogram (ECG) is critical to reducing patient mortality and achieving guideline-recommended metrics. Our goal in this study was to determine whether an artificial intelligence (AI) system for ECG interpretation can identify STEMI and equivalent patterns on ECG in emergency department (ED) patients more rapidly than physicians.

Methods: We performed a retrospective, observational study of patients from 1/1/20 to 12/31/23 at a single academic medical center who were found to have acute coronary occlusion on emergent coronary angiography and who had at least one ECG tracing prior to the start of coronary angiography that was diagnosed by Queen of Hearts™ AI-ECG model as STEMI/equivalent. The outcome was difference in diagnostic ECG time. Physician diagnosis was defined as the time of last ECG prior to cardiac catheterization lab (CCL) activation. If no ECG prior to CCL was available, the CCL activation time was used as the diagnosis time. The AI-ECG diagnosis time was defined as the time of the first ECG interpreted by the system as positive for acute coronary occlusion. If no ECG prior to CCL activation was available and the AI-ECG model interpreted the first available ECG as positive for acute coronary occlusion, the CCL activation time