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Authors

Kotini-Shah, Pavitra
Chan, Megan
Goel, Pranshul
et al.

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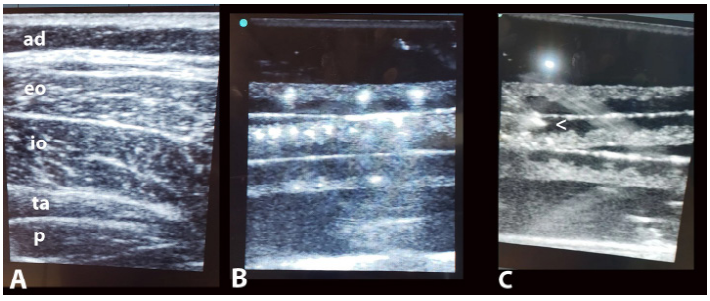
removed from the pan and set atop the remaining model to avoid reverberation. Even with double concentrated gelatin excessive downward force with the ultrasound probe could split models Image 1: A) Mid axillary line flank layers (ad=adipose, eo=external oblique, io=internal oblique, ta=transversus abdominis, p=peritoneum. B) Gelatine and tapioca model. C) needle at arrowpoint being advanced

Impact/Effectiveness: A 9x13 pan sufficed for 17 residents and medical students to practice injecting specific layers. It did require removal of squares of gelatine and stacking them to avoid artifact from the bottom of the pan and to decrease damage from the probe



13 Ultrasound Education: Knowledge Degradation during Residency

Pavitra Kotini-Shah, Megan Chan, Pranshul Goel, Reed Gilbert, Kayla Gross, Shaveta Khosla

Introduction: Proficiency in ultrasound skills is increasingly recognized as vital in medical training, particularly for residents facing urgent clinical situations. Literature indicates a concerning decline in ultrasound knowledge retention among first-year Emergency Medicine (EM) residents and a paucity of any evaluation for long-term retention. This gap in evaluation raises concerns about the effectiveness of current training methodologies and a lack of understanding regarding ultrasound knowledge degradation and retention during residency training.

Objectives: We sought to evaluate knowledge gained during a dedicated ultrasound rotation during PGY1 and then evaluate knowledge retention/degradation one year later during PGY2. **Methods:** We developed an online 50-question assessment tool that covered concepts for core applications and knobology pertinent to our ultrasound machines. The tool contained multiple-choice and matching questions. We evaluated EM and EM/IM residents with this same assessment tool as a pre-test, a post-test after their PGY1 ultrasound rotation, and then a 1 year post-test during the same month in their PGY2 year. The assessments were deployed for three consecutive years, from 2020-2021, 2021-2022, and 2022-2023. Paired t-tests were used to assess statistically significant differences.

Results: 18 residents were in each cohort. In all three cohorts, residents consistently showed improvement on the ultrasound assessment after the rotation with an average increase of 22%, 24% and 20% in the consecutive cohorts from pre to post throughout the academic year (July to June). Across the cohorts, residents' performance consistently declined on the one-year post assessment (on average the decline was 8% in the first two cohorts and 1% in the third cohort) with lower scores compared to immediately post rotation. Across the three cohorts, the improvement from pre- to post and degradation from post to 1-year post were both statistically significant ($p<0.01$).

Conclusions: Our data consistently revealed ultrasound knowledge degradation across multiple years, which the COVID-19 pandemic may have influenced, but the trend reinforces the necessity for ongoing educational refreshers and re-evaluation beyond initial training to ensure residents remain proficient.

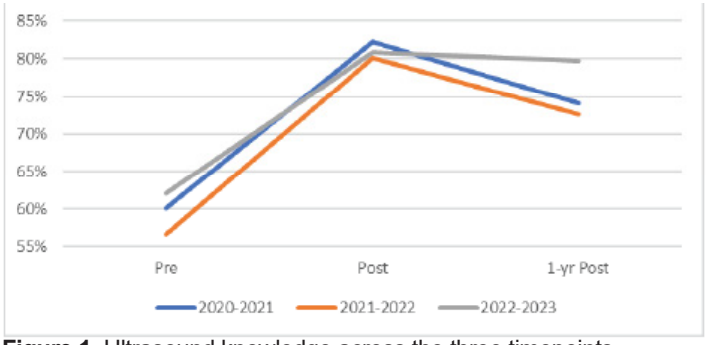


Figure 1. Ultrasound knowledge across the three timepoints.

14 Improvisation Clinic – Building Relationship-Centered Communication Skills and Enhancing Learner Feedback in Emergency Medicine through Applied Improvisation

Brendan Freeman, Abbas Husain, Jordan Valentin

Introduction: Improvisational techniques offer a novel approach to teaching relationship-centered communication (RCC) for patient care and enhancing learner feedback in emergency medicine. The "Yes, and" improv technique promotes these by accepting (yes) and building on (and) a partner's ideas.

Educational Objectives: Define "Yes, and" and its role in RCC and learner feedback. Review three evidence-based feedback models through a "Yes, and" lens. Apply "Yes, and" skills in improv exercises.

Curricular Design: Following Kern's six-step approach, this curriculum was developed to address identified gaps in RCC and feedback skills in EM residents and delivered in