

a completed HCP form. A secondary goal was to determine the feasibility of HCP form completion using undergraduate volunteers without clinical experience in the ED environment.

**Methods:** After completing ACP and HCP training, volunteers approached ED patients over a six week period. One of three potential outcomes were recorded: (a) HCP completed and patient educated, (b) education provided but HCP not completed, and (c) patient unable to receive education. Subsequently, volunteers completed a survey that recorded the patient’s personal information, demographics (e.g. age, language spoken), and outcome.

**Results:** Of the 109 patient responses recorded, 67.9% [74/109] of patients received education about the importance of HCP forms, 60.8% [45/74] of whom opted to complete a HCP form immediately following provided education. Though 38 HCP forms were successfully processed and uploaded to patients’ electronic health records (EHRs), 7 forms were not uploaded due to ED workflow errors or improper completion.

**Conclusions:** This study establishes the feasibility of HCP form completion in an ED environment by nonclinical persons. There was an increase in HCP form completion in the ED from near 0 persons to over 30 persons in a six week period. Primary HCP enrollment limitations included the ED environment and workflow gaps in uploading the paper form to the EHR. Overall, with minimal training, undergraduate volunteers can have an impact on ACP in the ED.

## 18 The Breakfast Club: Enhancing Emergency Medicine Education through Spaced Retrieval and Elaborative Interrogation Techniques

*Shayne Gue, Abigail Alorda, Stephanie Cohen, Joseph Ray*

**Background:** Emergency Medicine residency presents a challenging educational environment where clinical demands can limit traditional didactic learning opportunities. Despite extensive research supporting cognitive psychology techniques in improving knowledge retention, these strategies remain underutilized in GME settings. This study aims to address this gap by integrating spaced retrieval and elaborative interrogation techniques in an innovative, low-resource curriculum titled “The Breakfast Club.”

**Objectives:** To assess the impact of incorporating spaced retrieval and elaborative interrogation techniques on resident performance and knowledge translation.

**Curricular Design:** The curriculum was implemented in a single-institution EM residency program. PGY1 and PGY2 residents self-selected into an intervention group (n=7), participating in a 1-hour study session teaching spaced retrieval and elaborative interrogation techniques, and a

control group (n=7) with no intervention. The intervention group engaged in active recall and explanatory discussions on selected topics related to gastrointestinal pathophysiology. Pre- and post-intervention assessments consisting of five multiple-choice and five short-answer questions were used to measure knowledge gains. Questions were developed by expert faculty and reviewed by five additional EM educators for content validity and quality assurance.

**Effectiveness:** Preliminary results revealed a non-significant trend toward greater knowledge translation in the intervention group compared to controls (77% vs 70%, p=0.28). However, given the small sample size, it remains unclear whether this observed trend would reach statistical significance with a larger cohort of learners. Despite this limitation, participant feedback highlighted the potential benefits of spaced retrieval and elaborative interrogation for reinforcing foundational knowledge. The structured approach is easily scalable, requires minimal resources, and is adaptable across multiple specialties, supporting broader implementation. Further exploration will help establish whether these techniques can serve as a cornerstone for evidence-based teaching strategies in emergency medicine education.

## 19 Practice Makes Perfect: Using Soft-Embalmed Cadavers as a Teaching Model for Hip Reduction

*Marcus Nash, Joshua Altman, Jeremy Taylor, Meredith Thompson, Nicholas Maldonado, Caroline Srihari, Sarah Chrabaszcz*

**Background:** Mastery of hip reduction techniques is a critical skill for emergency medicine physicians. Resident physicians often face challenges in acquiring necessary hands-on experience with this procedure, with limited or variable exposure in the clinical learning environment. Soft-embalmed cadavers have unique properties that maintain joint range of motion and may provide an innovative model for training hip reduction techniques in a simulated environment.

**Objectives:** This project sought to assess the feasibility and physical resemblance of soft-embalmed cadavers as a novel hip dislocation-reduction model.

**Curricular design:** The model was created using two soft-embalmed cadavers. An orthopedic surgeon conducted a dissection of the femoroacetabular joint to facilitate repeated dislocations and reductions without compromising the model’s integrity (Image 1). This model was tested by a multidisciplinary group of subject matter experts (SMEs) including six physicians specializing in emergency medicine, sports medicine, and orthopedic surgery who performed hip reductions on the cadaveric model. The experts then completed a survey to assess physical resemblance and utility

of the cadaveric model for teaching hip reductions.

**Effectiveness:** All SMEs noted near complete realism regarding the model's anatomy and range of motion. For replicating a hip dislocation, 83% of SMEs stated the model was realistic. While 66% of SMEs stated the cadaver gave a realistic representation of a hip reduction, only 33% reported the cadaver was able to simulate forces of a real patient. Additional responses are in Table 1. Overall, 66% of SMEs expressed a strong inclination to use this model for teaching learners. In sum, soft-embalmed cadavers are a feasible model for hip reduction training, limited in their ability to simulate forces required for reduction. In the absence of other available simulators, they may provide learning opportunities for training hip reduction and have potential as a training model for other orthopedic procedures.



## 20 Addition of a Screen-Based Human-Like Avatar to Traditional Mannequin-Based Simulation for Emergency Medicine Resident Training

*Salil Phadnis, Lisa Clayton, Patrick Hughes, Scott Alter, Christopher Williams*

**Background:** Medical simulation education can be broken down into three methodologies; Manikin based simulation (MBS), virtual screen-based simulation (SBS), and partial task simulation. SBS uses a human-like animation, or avatar, which can improve recognition of acute medical conditions. However, the combination of MBS and an avatar has not been explored in publications. We hypothesize that integrating SBS and MBS into a single simulation can

enhance emergency department resuscitation training.

**Methods:** Four emergency medicine cases were selected from a board review text. Each case had two versions: control (SimMan only) and treatment (SimMan with avatar). The avatar, displayed on a monitor above the manikin, visually showed changes in illness severity. In the control group, the proctor verbalized exam findings and changes. In the treatment group, the avatar displayed these changes. Participants were emergency medicine residents. Case assignments were block-randomized so each resident participated in 2 control and 2 treatment cases. Critical actions were recorded, and average completion times were compared using a t-test. A survey using Likert scales and free-response questions assessed simulation strengths and weaknesses.

**Results:** Fifteen residents completed four scenarios: 30 with the manikin alone and 30 with the manikin plus avatar. There was no significant difference in time to critical actions. Post-simulation Likert ratings (1 = strong disagreement, 5 = strong agreement) showed agreement with realism, learning effectiveness, and knowledge testing in combined manikin-avatar cases, with median scores of 5. Visual exam recognition and virtual monitor ease also scored highly. Respondents preferred future simulations to use the combined format. Free responses noted that the avatar improved visualization and realism, though technical improvements, such as interactive elements and better color accuracy, were suggested.

**Conclusion:** Adding a screen-based avatar to manikin-based simulations enhances realism and perceived educational value, ultimately improving training effectiveness.

