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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

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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.

