

Enhancing Patient Safety During Pediatric Sedation The Impact of Simulation-Based Training of Nonanesthesiologists.

Authors: Shavit I, Keidan I, Hoffmann Y, Mishuk L, Rubin O, Ziv A, Ivan P, Steiner IP
Arch Pediatr Adolesc Med. 2007; 161:740-743.

Reviewer(s): Joseph P. Cravero, MD, Dartmouth-Hitchcock Medical Center

Abstract:

Objective To evaluate the impact of simulation-based education on patient safety during pediatric procedural sedation. *Design* A prospective, observational, single-blind, controlled study of pediatric procedural sedation outside the operating room. *Setting* Two university teaching hospitals in Israel. *Participants* Nonanesthesiologists, with or without training in simulation-based education on patient safety, who routinely perform procedural sedation outside the operating room. These comprise full-time pediatricians practicing emergency medicine and a cohort of pediatric gastroenterologists. *Intervention* The study investigators used the internally developed, 9-criteria Sedation Safety Tool to observe and evaluate nonanesthesiologists who were trained in sedation safety and compared their performance with that of colleagues who did not receive similar training. *Outcome Measure* For each of the 9 criteria on the evaluation form, odds ratios and 95% confidence intervals were calculated to compare the actions of the individuals in the 2 study groups. *Results* Thirty-two clinicians were evaluated. Half of the physicians were graduates of the simulation-based sedation safety course. Significant differences in performance pertaining to patient safety were found between those physicians who did and those who did not complete simulation-based training. *Conclusions* Pediatric procedural sedations conducted by simulator-trained nonanesthesiologists were safer. The simulation-based sedation safety course enhanced physician performance during pediatric procedural sedation.

Commentary:

We just wanted to provide a context for the paper reviewed here, entitled ***Scenario and checklist for airway rescue during pediatric sedation***. In essence, what we are observing here is an evolution of the literature surrounding different areas of simulation and sedation. In the case of simulation we have some case scenarios being developed that are intended to help with training providers and students (first paper). In the case of this second paper we see authors attempting to do the (even harder) work of proving that the training provided in simulation scenarios actually improves performance; what we might term “validation” of the simulation training. This paper indicates there is improved performance in several areas on their performance checklist when simulation training is completed, but the true outcome of interest (improving the care and/or survival of sedation patients) is lacking. Actually the tool they used to “grade” performance is not (technically speaking) completely validated, and there is no specific information on the outcomes of the sedations (in terms of patient state during procedures etc.) with or without simulation training. Having made these comments we would like to congratulate the authors on this really important work. Some may find this type of literature technical and less than exciting, but think of the possibilities! At the point where we know that good performance in a simulator truly correlates with good performance with sedated pediatric patients, it might finally end the debate as to who is qualified to give different levels of sedation using various medications, etc.