

Training with Whole Task Human Simulation Improves Difficult Airway Competency in Anesthesiology Residents

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Introduction

Limited studies suggest that a significant proportion of practicing anesthesiologists do not follow the ASA Difficult Airway Algorithm and by this definition, therefore are not competent managers of the difficult airway.¹ We believe that one way to remedy this in future anesthesiologists would be to introduce formal training and assessment of competency in Difficult Airway Management (DAM) into resident education. Anesthesiology residents in our program receive annual DAM training using human simulation. We hypothesized that residents would become more competent in difficult airway management during the course of their residency training.

Methods

Our residents participate each year in a whole task simulation course that focuses on the ASA Difficult Airway Algorithm, the tools used in this algorithm and management of situations within these guidelines. The course consists of eight hours of dynamic simulation preceded by two hours of internet based self-study. Prior to participating in the course, residents must demonstrate knowledge of the algorithm by passing a written pre-test. During the course, the four main pathways of the ASA Difficult Airway Algorithm are tested which include: awake, non-emergent, emergent/ non-surgical and emergent/ surgical. Residents could either pass the scenario or fail by not following the algorithm or not securing the airway within the allotted time. Two years of resident data was reviewed for this study. Residents who successfully passed all four scenarios were considered competent.

Results

CA-1's showed a competency rate of 27% (6/22), CA-2's 40% (12/28) and CA-3's 63% (15/24).

Discussion

The progressively higher pass rates observed over the course of the residency suggests to us that residents retain the cognitive and psychomotor skills necessary for DAM in the simulated patient. Other explanations would include that residents who gain experience would do better even without the DAM training. We believe that this type of training should be incorporated into the anesthesiology training program requirements.

References

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