

# Rare Events in Anesthesia: The Case for Emergency Manuals in the Perioperative Setting

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## Background

An increasing number of surgeries are being performed in ambulatory surgery centers (ASCs). Healthcare providers at ASCs must remain vigilant for the possibility of critical perioperative events despite limited resources and support staff. Emergency manuals (EMs), modeled after their use in the aviation industry, can provide a valuable cognitive aid when critical events occur. This Quality Improvement project sought to implement an EM in the Duke ASC.

## Methods

A lecture entitled, "Rare Events in Anesthesia: The Case for Emergency Manuals", was delivered to perioperative staff. Feedback about the implementation of EMs was obtained via post-lecture surveys. Two pre-implementation surveys were then sent to twenty anesthesia providers and nurses which also asked providers to give the correct dosing for two drugs used in critical events. If providers did not know the answers, they were asked to comment on where such information should be located. EMs were then purchased from the Stanford Anesthesia Cognitive Aid Group, a recognized leader in EM development and research.

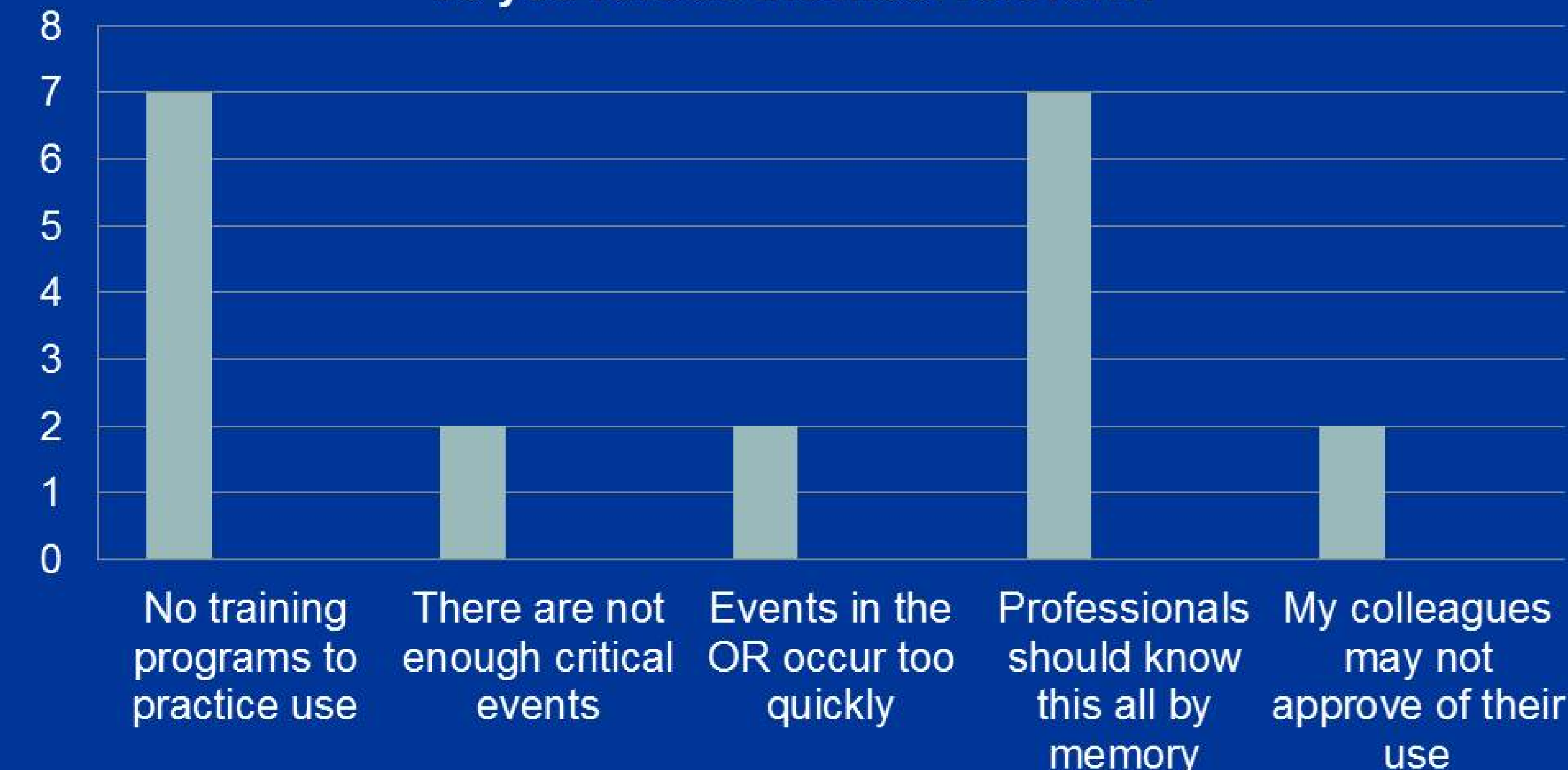
## Results

Survey completion rates were 100%. Of the twenty surveyed providers, there was an overwhelming positive perceived impact (90%) that EMs could play on the outcome of a critical event. However, only 60% responded that Duke has a culture that would support their use. The most commonly listed barriers to EM use included lack of formal training and a belief that the information provided on EMs should be known by perioperative providers. There was significant knowledge gaps concerning the correct drug dosing of two rarely used therapies. All but one responder (95%) stated that they would use EMs during the acute treatment of local anesthetic toxicity and malignant hyperthermia if available.

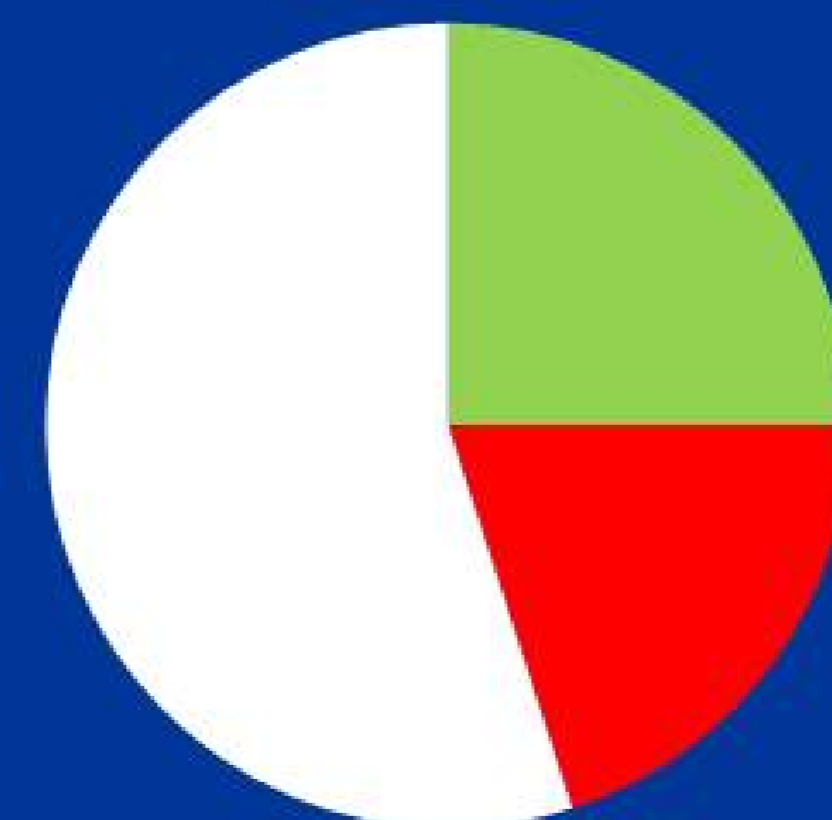
## Conclusion

Critical perioperative events, while rare, significantly increase a patient's morbidity and mortality. With more cases being performed in ASCs on patients with increasingly complex comorbidities, it is vital that all perioperative health care providers be facile in the rapid recognition, diagnosis, and treatment of critical events. The introduction of an EM to the Duke ASC may act as an essential resource to be utilized during an acute event. Further studies will be pursued to assess their use, acceptance, and limitations during both simulated and actual perioperative events in order to develop strategies that may maximize their clinical effectiveness.

Of the following criticisms of emergency manuals, what do you rate as the most relevant?



What is the initial bolus dose of a lipid emulsion during the treatment of local anesthetic toxicity?



Correct 25%  
Incorrect 20%  
I do not know 55%

What is the initial bolus dose of dantrolene for treatment of suspected malignant hyperthermia?



Correct 20%  
Incorrect 10%  
I do not know 70%

Having Emergency Manuals in operating rooms would improve patient care

