

## **A Novel Approach to Differential Diagnosis and Crisis Management in the Operating Room.**

Today's nurse anesthesiologists have access to cognitive tools within the Operating Room (OR) that can assist them during crisis management. Examples are OR Crisis Checklists such as The Nurse Anesthesia Crisis Checklists, Crisis Resource Management training, and pocket guides such as Emergency Management in Anesthesia and Critical Care (EMACC) focus on anesthesia and critical care emergencies. However, in order to effectively use these cognitive aids and effectively manage the myriad of potential perioperative emergencies, the nurse anesthesiologist must first identify the correct emergency.

The overall goal of this presentation will be to provide the nurse anesthesiologist with a standardized approach to confidently and effectively identify, diagnosis, and manage different crisis events in the operating room.

This standardized approach consists of 6 steps (Swerdlow B, Osborne-Smith L. A Cognitive Template for Management of Perioperative Adverse Events. *AANA J.* 2023;91(2):137-143.):

1. **Verification**: Does the adverse event represent artifact or is the value correct?
2. **Generic Response**: What are the general steps that will likely initiate appropriate therapy for the adverse event regardless of the etiology?
3. **Identification of precipitating incident**: Cause and Effect – What event(s) preceded the adverse event?
4. **Formulate a broad differential diagnosis**: Develop both “Front Shelf” and “Back Shelf” diagnoses...consider what makes sense based on presenting information.
5. **Formulate a narrowed differential diagnosis**: Identify overlapping signs and symptoms, multiple pieces of monitoring data, and employ specific diagnostic examinations.
6. **Targeted Response**: Provide specific treatment(s) for the emergency.