



Safety Tip of the Month

Brought to you by the ASA Patient Safety Editorial Board

Promoting Safety in Less Familiar Situations: Highlights from ANESTHESIOLOGY® 2023

Anesthesiologists may be asked to work in atypical situations in which features of the environment or procedure require additional resources or increased cognitive load that threaten patient or staff safety.

Nonoperating room anesthesia

Nonoperating room anesthesia (NORA) is a rapidly growing anesthesia service that includes the MRI environment. NORA presents many challenges for patient safety due to increased patient and procedure complexity coupled with lack of access to familiar team members and equipment and technology that are typically found in

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ORs. NORA cases have higher safety risks and more risk of severe injury and mortality compared with OR cases. Follow the ASA guidance for NORA safety and align patients and families' perception with the risks of these procedures during the consent process.

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Why Discuss NORA Safety?

Growing Service

35% of cases, growing to 50% in the next decade

Advent of less invasive procedures

Aging population with increased comorbidities
• may not be surgical candidates

Lack of access to operating room time

New technology with expanding indications

Economic advantages
• improved value at lower cost
• convenience for patients and proceduralists

MRI suite

Magnetic fields in the MRI suite can turn equipment into projectiles, and radio-frequency energy can affect implanted devices, changing the programming in pacemakers or pumps or causing patient injury. The time-varying field can induce electric currents in conductors, resulting in monitor artifacts and patient burns. Hidden ferromagnetic objects, like clips or bullets, may move during the scan, causing injury. A strong partnership is needed with MRI technologists to screen patients and staff before entering scanning rooms. Staff education is essential, MRI-compatible equipment is needed, and patient resuscitations must never occur in the scanning room. At all phases of care, clear and timely communication is essential.

Medication shortages

Unfortunately, medication and medical supply shortages are now common and pose a threat to safe patient care. Practices

should be proactive and develop a plan for dealing with shortages before they occur, including establishing communication with supply chain personnel, considering an emergency stockpile, and staying informed of impending shortages. Hospitals need processes for managing scarce resources and tracking and reporting any complications that result from substitute medications/supplies. It is important that clinicians receive education whenever substitute or unfamiliar medications/supplies are introduced into clinical practice to reduce the possibility of errors. By taking a proactive approach to medication and supply shortages, clinicians can ensure that they continue to provide the right care to the right patient at the right time regardless of limitations imposed by the supply chain.

Crisis resource management

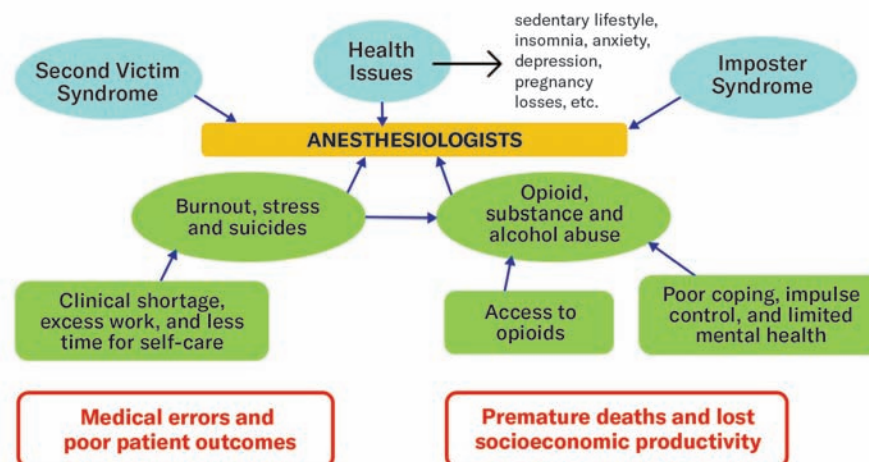
Crew/crisis resource management (CRM) is a foundational aspect of patient safety and

encompasses several principles and related domains. Foundational hallmarks of CRM from NASA include interpersonal communication, leadership, and decision-making. In *Miller's Anesthesia*, the listed five main elements of CRM are communication, task management, situation awareness, teamwork, and decision-making. Guidelines that embrace principles of CRM and human factors include considerations for team dynamics, post-event debriefing, calling for help, closed-loop communication, teamwork, organization, and the design of safe working environments. Overall, CRM is an essential aspect of patient safety when its principles are incorporated in the implementation of perioperative quality/safety initiatives.

Mass casualty incidents

Mass casualty incidents (MCIs) are events that result in an overwhelming surge of patients. Crisis standards of care (CSC) may be invoked to best utilize limited resources to save the most lives. Surgeries should be lifesaving rather than definitive. Standard safety principles pertain to MCIs, including CRM, system preparation, and care for team members. Most hospitals are not prepared. No-notice exercises illuminate areas for preparation before an MCI. Hospital incident command provides coordination that is flexible, scalable, and adaptable to any hazard. Priorities are life safety, incident stabilization, and property preservation, with deliberate distribution of Space, Staff, and Supplies. MCIs are stressful to systems and individuals, and health care providers may become second victims. Recovery may be prolonged.

Anesthesiologists | Occupational Safety Issues



Anesthesiologist safety

Anesthesiologists experience occupational safety hazards that include burnout, stress, substance use disorder (SUD), and second victim syndrome. Suicide risk is high among anesthesiologists (1.9 times higher than surgeons and 6.5 times higher than pediatricians). Minimizing drug diversion needs to focus on prevention, standardizing drug testing, reporting processes, treatment options, compliance, accountability, and reducing associated stigma. Primary prevention includes improving well-being by promoting autonomy and flexibility, self-awareness,

and self-care. Caring for colleagues with distress, depression, SUD, and suicidal risks is critical, as are peer-support programs for second victims. Robust resources for anesthesiologists' well-being exist via ASA and the American Medical Association, along with national suicide prevention hotlines.

Psychological safety

Psychological safety describes the felt permission for candor that enables teamwork to thrive and for others to speak up – to disagree with the leader, ask for help, and admit errors without the fear of being humiliated, blamed, or ignored. Psychological safety exists at the group level; the local authority figure has the

So, What Exactly Is Psychological Safety?

The ability to:

- Ask questions
- Share concerns
- Admit mistakes
- Request help
- Raise dissenting views

Without the fear of being:

- Humiliated
- Blamed
- Ignored

It is NOT:

- The same as a “safe space”
- Freedom from conflict
- Always easy
- A license to inflict harm
- Elimination of hierarchy
- The absence of accountability

most powerful influence on the climate of the team environment. In the OR, anesthesiologists are in a crucial position to create psychological safety. They can

ask open-ended questions to encourage contribution, such as, “What do I have wrong about this?” Always appreciate the thoughts and suggestions offered and

be willing to discuss. Such actions highlight to the team that they have been heard, not ignored, and serve as learning moments. ■



All references, resources, and recommendations from these authors on these topics can be accessed via the QR code.

Report medication errors related to medication shortages:

- ismp.org/report-medication-error
- forms.asahq.org/81783710213149

The Pulse: Obesity Care and Gastric Emptying

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contents retained with those recommendations, though many more undergo uneventful anesthetics. Clinical experience of obesity medicine experts is that there is wide variability in dose response and in side effects for these drugs. They must be tailored carefully, and we suggest that our drug hold times and NPO times will have to account for this variability. Objective measures via gastric ultrasound of stomach contents or similar procedures must be added to our preoperative assessment

for these patients to improve good decision-making and minimize both risk and unnecessary cancellations. Longer fasting for solids may prove effective, but controlled research regarding emptying times and which patients are at highest risk is required. Potential consequences of holding the drugs for prolonged periods of time should also be defined. We need to work with other groups of experts (obesity medicine, endocrinologists, pharmacologists, etc.) to refine our guidelines.

Now is a thrilling time for the treatment of obesity, with amazing breakthroughs in knowledge, surgery, pharmaceuticals, and a

growing community of experts in the field certified by the American Board of Obesity Medicine. But we have many miles to go, fighting the high incidence, myriad causes, and barriers to treatment. The GLP-1s are the start of many new anti-obesity drugs coming through the pipeline, to which we must adapt, just as we have with many other challenging drugs. As physicians, we owe it to our patients to educate ourselves and play an active, positive role, especially in how we treat our patients and each other. We must encourage our patients to continue accessing good, unbiased health care. Having

obesity is not a personal failure. Treating it is legitimate and necessary. ■

Disclosure: Dr. Fitch is an advisor for Novo Nordisk, Eli Lilly, SideKick Health, Jenny Craig, Vivus, Currax, and Carmot.

Contribute to The Pulse: If you have a news tip on a “hot topic” within your committee or specialty area, please share with the ASA Monitor’s editorial staff via the form at asamonitor.pub/ThePulse or emailing Robin Hocevar at robin.hocevar@wolterskluwer.com.

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Thoracic epidural analgesia for cardiac surgical patients (September 2023)

Neuraxial analgesia is not generally employed for cardiac surgery in the United States due to concerns about spinal epidural hematoma (SEH) after systemic anticoagulation for cardiopulmonary bypass. However, a recent meta-analysis including 51 randomized trials in cardiac surgical patients noted thoracic epidural analgesia (TEA) was associated with shorter lengths of stay in the intensive care unit and hospital (by approximately seven hours and one day, respectively), as well as lower pain scores and rates of delirium, transfusion, arrhythmia, and pulmonary complications.¹ No trial reported a case of SEH. These findings support the use of TEA in cardiac surgical patients.

Aerosol generation during noninvasive respiratory support modalities (October 2023)

Studies have reported conflicting data as to whether high levels of aerosols are generated when noninvasive ventilation (NIV) or high-flow nasal oxygen (HFNO) is used. In a 2023 systematic review including 12 studies in patients with respiratory infections and 15 studies in healthy volunteers, use of NIV or HFNO was not

associated with increased generation of pathogen-laden aerosols compared with controls with unsupported normal or labored breathing, low-flow nasal oxygen, or oxygen or nonbreather mask.² Inconsistency among studies may reflect differences in sampling and detection methodologies and operating room ventilation. Notably, the National Health Service in the United Kingdom has removed mask ventilation, intubation, and extubation from its list of aerosol-generating procedures.

1. Chiew JK, Low CJW, Zeng K, et al. Thoracic Epidural Anesthesia in Cardiac Surgery: A Systematic Review, Meta-Analysis, and Trial Sequential Analysis of Randomized Controlled Trials. *Anesth Analg* 2023; 137:587.
2. Zhang MX, Lilien TA, van Etten-Jamaludin FS, et al. Generation of Aerosols by Noninvasive Respiratory Support Modalities: A Systematic Review and Meta-Analysis. *JAMA Netw Open* 2023; 6:e2337258.

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Wolters Kluwer