Waking Up Safer? An Anesthesiologist’s Record

To the editor: I would like to make AANA Journal readers aware of a recent book in which nurse anesthetists are omitted. Waking Up Safer? An Anesthesiologist’s Record by Berend Mets (Silverwood Books, 2018, 267 pages, ISBN: 978-1-78132-749-4) is an anesthesiologist’s memoir of his career and a partial history of anesthesia. It is also a tribute to physician-led attempts to make anesthesia safer. The title ends with a question mark, suggesting that there is some doubt that anesthesia safety has improved over the years. There is no such doubt, of course. Yet in this book, the author makes clear that he believes today’s anesthesia is safer only because of physician involvement.

First Dr Mets traces centuries of man’s efforts to control pain, dwelling on the well-known 1846 discovery of ether at Massachusetts General Hospital. Following the discovery, a Boston dentist and a Georgia physician were among 4 individuals who all claimed credit as the discoverer. Like most historians, Dr Mets credits the dentist. But, in his description of the 4 individuals, Dr Mets reveals his preference for the Georgia physician. The physician had successfully used ether 4 years earlier in 1842 but heedlessly neglected to publish his work. His “discovery” had no impact on the wider use of anesthesia. Instead, his negligence deprived the world of anesthesia for 4 years until the Boston dentist staged his demonstration. Dr Mets leaves this out, even though it is a customary and important part of the story. His soft spot against nonphysicians recurs later in his book in the form of bias against nurses.

Dr Mets then describes the next 100 years of anesthesia history as if chloroform, cyclopropane, and halothane were the only consequential developments of the entire century. Halothane, in particular, he says, “propelled the nascent practice of anesthesia to become the recognized medical specialty and the essentially safe practice it is today.” Strictly speaking, he is correct that halothane was better than the explosive ether. And certainly physicians have advanced anesthesia safety. However, Dr Mets overlooks the first and greatest safety improvement of the first 100 years of modern anesthesia.

Anesthesia safety improved substantially and incontrovertibly in the 1880s when nurses accepted surgeons’ requests to replace inattentive medical students at the head of the table. Nurses paid close attention to their patients, they used interpersonal skills to smooth the prolonged ether induction interval, and they carefully trained other nurses to do the same. By refining the administration of ether, nurses made anesthesia safe for the first time ever. The historian Virginia Thatcher noted this in her seminal History of Anesthesia: With Emphasis on the Nurse Clinician: “To women and to the discovery of ‘germs’ must go the credit for the greatest contribution to the relief of human suffering during the years between 1860 and 1900.”

The safety of nurse anesthesia gained wider attention during World War I. American nurse anesthetists traveled to Europe, where they advanced trauma anesthesia by administering nitrous oxide with narcotics, scopolamine, ether, and local anesthetics. This combination anesthetic afforded greater hemodynamic stability than ether alone. However, because it was less potent, patients were sometimes partially awake. So, nurses talked their patients through parts of the operation. They trained British and European nurses in this innovative method and thus enabled surgeons to save countless lives. Dr Mets only says “the key was the need to monitor the anesthetic depth, so that these little-trained personnel would know when to lighten the anesthetic, so as not to have the patient stop breathing.” Elsewhere he refers to nonphysician anesthetists as “tyros,” beginners or novices. This is clearly a disparagement.

Little trained or not, nurse anesthetists provided a level of safety that facilitated advancements in surgery. There exist examples of nurse anesthetists who made anesthesia safe for firsts in general, thoracic, cardiac, neurologic, thyroid, and pediatric surgery between 1889 and 1950. Nurses also formed a national organization that developed and implemented the first examination of graduates and established the accreditation of schools. Dr Mets mentions only developments such as better drugs and monitors, and such physician-led efforts as the Apgar and other scoring systems, and the Anesthesia Patient Safety Foundation. At best, his version is incomplete.

Dr Mets wrote that he hoped his
High-Flow Nasal Oxygen

To the editor: The goal of respiratory support is to maintain adequate ventilation and oxygenation. Use of airway support such as continuous positive airway pressure or high-flow nasally administered oxygen (HFNO) in higher-risk patients can prove useful in preventing airway obstruction and desaturation in the perioperative arena.

HFNO is a high-flow system that allows for delivery of up to 60 L/min of heated and humidified gas with a fraction of inspired oxygen (FiO2) range of 21% to 100%. The high flow minimizes carbon dioxide rebreathing and reduces dead space as well as reduces room air entrainment and dilution of delivered FiO2. It lessens the workload of breathing by decreasing upper airway resistance. The air is warmed and humidified, which decreases the viscosity of tracheobronchial secretions; decreases metabolic demands; and improves comfort through reduction of dryness in the upper airway. Ease of use and patient comfort translates to improved compliance.

HFNO may be particularly useful to the anesthesia provider during endoscopic procedures because it offers improved access to the airway and gastrointestinal tract compared with traditional oxygen masks. Schumann et al1 performed a retrospective study evaluating the use of HFNO during endoscopic procedures. Availability of HFNO was associated with improved oxygenation parameters compared with a standard nasal cannula, and HFNO did not increase the risk of hypoxemia.1

Patients with difficult airways, morbid obesity, obstructive sleep apnea, or compromised pulmonary status could benefit from HFNO during perioperative phases. Raineri et al2 conducted a study using HFNO at 60 L/min and FiO2 of 1.0 for rapid sequence induction cases. Their findings revealed maintenance of oxygen saturation measured by pulse oximetry (SpO2) within 3% of baseline with a 4-minute preoxygenation phase. They explain that HFNO offers the benefits of steady FiO2 administration, washing out of physiologic dead space, and generation of positive end-expiratory pressure, which augments functional residual capacity.2 HFNO has the potential to prevent postextubation respiratory failure and reintubation through guaranteed oxygen delivery, expectoration facilitation, and reduction in breathing efforts.3

HFNO is relatively inexpensive, easily applied, and common in the critical care arena. Sadly, the integration of this technology into anesthesia practice is scarce. We have become complacent with the scenario in which our apneic patient desaturates after induction and requires positive pressure ventilation to restore oxygen saturation to preinduction levels. We should be providing a constant high-flow oxygen source to avoid desaturation during the perioperative phase in our high-risk patient populations. Additionally, patients undergoing esophagogastroduodenoscopy or endoscopic retrograde cholangiopancreatography where shared airway and prone positioning pose increased risk to airway security would benefit greatly from the availability of HFNO devices.

We need to expand past the standards of care and seek out excellence. We must arm ourselves with all the available technology to provide the safest care to all patient populations.

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Opioid-free Anesthesia: A Required Skill for Anesthesia Providers?

To the editor: The story is one that is becoming more and more common for anesthesia providers. My next patient was requesting zero opioids for his surgery. He had been clean for only 9 months after becoming addicted to opioids prescribed to him after an injury and was more fearful of relapse than of the pain. He had been told the same thing by multiple people before I saw him, “We can manage your pain postoperatively without opioids as long as you can tolerate pain, but you may need some short-acting opioids during surgery while you are under anesthesia.”1 I was quick to have a very different conversation with the patient. I told him that opioids were not necessary during anesthesia and he would wake up from anesthesia without having been exposed to the drug he was addicted to. I emphasized that the lack of opioids did not mean a lot of “pain medicine” or analgesics. When he awoke, he had a very good chance of having his pain controlled to a level he could tolerate without opioids, but at that point he was in charge of his care. We would do everything possible to control his pain without opioids, but if the pain became too severe and he
requested an opioid, we would not withhold them.

The longer the opioid epidemic rages on in this country, the more patients we will see who have survived addiction and are in recovery. They come to us afraid of relapse, afraid of pain, requesting not to be exposed to the medication that they are addicted to and looking to us to have the answers on how to treat their pain and addiction throughout the surgical process. There are currently no recommendations from any organization on how to treat these patients for acute pain, and so we must use our judgment and knowledge of pharmacology to manage their pain without exposing them to the risk of opioid addiction relapse.

The story of Max Baker is especially poignant.1 The son of a physician, he became addicted to heroin in his late teens and was able to get clean through the use of buprenorphine and naloxone (Suboxone). A few years later, a car accident caused him to require surgery. He awoke from the anesthetic crying because the intraoperative exposure to fentanyl triggered his addiction and cravings. Within a month, he had relapsed and was dead from overdose.

There are several ethical and legal principles surrounding this issue that must be explored. Patients have the right to autonomy, or “The right to make choices regarding care and treatment, regardless of medical opinions and other recommendations.”2 This means that patients have the ethical right to refuse opioids as part of their care. In the same way that healthcare providers do not have the right to give a blood transfusion to a patient who has refused that treatment, it is not allowable to give opioids to a patient who has refused them as part of his or her care.

Giving opioids to a patient who has refused them as part of his or her care may open a provider up to medical malpractice or criminal charges. Medical battery is defined as the intentional violation of a patient’s right to direct his or her own medical treatments and is a criminal charge, unlike medical malpractice in which a patient seeks reimbursement for harm caused.3 The state of Massachusetts recently passed the Substance use, Treatment, Education, and Prevention (STEP) Act, which allows a patient to sign a legally binding, nonopioid directive form that does not allow the practitioner to administer or even offer an opioid to the patient. The form is to be recorded in the patient’s medical record and can be revoked by the patient at any time verbally or in writing.4 At least 4 states have a similar law, and as medical opioid use comes under increasingly closer scrutiny and regulation, this sort of law is going to become more common.

Statistics from the American Society of Addiction Medicine5 show that in 2015 more than 20 million Americans had opioid use disorder or addiction, and that number has grown since then. Some of these people are entering recovery and will need surgery at some point in their life. Anesthesia providers are increasingly going to be called on to provide an opioid-free anesthetic. The ability to successfully provide this sort of intraoperative anesthetic and postoperative pain management is quickly becoming a required skill for all anesthesia providers, and anyone not able to provide this sort of anesthetic should seek out the education and training necessary.

Providing an opioid-free anesthetic and postoperative pain management requires an advanced knowledge of surgical pain pathophysiology, how to treat that process with modern pharmacologic options, and acute pain management procedures such as peripheral nerve block. Certified Registered Nurse Anesthetists (CRNAs) are ideally suited to meeting this increasing need and are leading the way in providing this anesthetic modality. Using α₂ agonists, N-methyl-D-aspartate (NMDA) antagonists, anti-inflammatory drugs, other non-opioid analgesics, and acute surgical pain management procedures such as peripheral nerve blocks, CRNAs are able to protect this population from both postoperative pain and the risk of addiction relapse.

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Pictorial and Video-based Explanation of Central Neuraxial Block in a Deaf-Mute Patient for Major Abdominal Surgery

To the editor: Approximately, one-third of patients having surgery under regional anaesthesia are highly anxious before surgery.1 Patient anxiety along with poor patient cooperation make both positioning the patient and needle insertion more difficult. This difficulty may lead to prolonged timing, multiple attempts, and at times failure of administration of a central neuraxial or other regional blocks. The reasons are unfamiliar surroundings of the operating room and inadequate knowledge shared about the anesthetic plan, procedure, and position for central
neuraxial block and epidural catheter placement. Therefore, good preoperative patient counseling is important. The whole process becomes more challenging to an anesthesiologist in conditions in which a patient fails to understand our language. We would like to share our experience of a similar scenario and the method we adopted to overcome it.

During our regular preanesthetic checkup (PAC), we encountered a middle-aged woman scheduled for abdominopelvic-cytoreductive surgery because of ovarian carcinoma. She was deaf and mute, and she could only communicate with her husband using unconventional sign language. A day before surgery during the review of the PAC, we introduced ourselves as the anesthesiologists and assured her of taking good care of her during the perioperative period. We anticipated difficulty in communication in the perioperative period, especially during positioning of the neuraxial block. A pictorial representation and a video depicting the steps and position needed for the neuraxial block was shown to her in the presence of her husband. The pictorial included the position needed for the neuraxial block, and the video included the information related to the process of patient transfer to the operating room, positioning for the block, administration of the central neuraxial block, and the process of general anesthesia. The pictorial representation was shown in a sheet, and the video was shown on a mobile screen by the concerned anesthesiologist. We asked if she had any questions regarding the procedure and gave her the option to watch the video if she wanted. She was advised to consume nothing by mouth for 8 hours.

The next morning, she was shifted to the preoperative holding area and subsequently to the operating room. She was found to be calm with stable hemodynamics. After an intravenous cannula was secured, she was shown the picture to position herself for neuraxial block. She positioned herself in the lateral position for the central neuraxial block as was shown to her in the picture and video. An epidural needle followed by the epidural catheter was introduced in a single attempt. She did not move, maintained the position, and fully cooperated throughout the process, from the placement of local anesthetic until the epidural catheter placement. The whole process was uneventful. After successful placement of the epidural catheter, she was shown the picture to lie supine followed by administration of general anesthesia. The whole process was satisfactory both for the patient and the anesthesiologist, with no complications.

We conclude that a calm and relaxed patient is more likely to assume and maintain the correct position provided there is optimal exchange of knowledge, even in difficult situations. Good preoperative patient counseling followed by a supportive approach using pictorial representation and/or video for explaining the procedure are the keys to success in such rare difficult conditions.

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