Ambulatory Anesthesia and NORA: Anesthesia in the Room Where It Happens

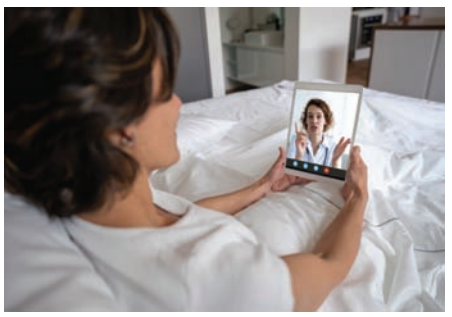
Ambulatory Surgery in the COVID-19 Era: Lessons Learned

Sher-Lu Pai, MD, FASA, SAMBA-F Kelly Lebak, MD, FASA

The coronavirus disease (COVID-19) pandemic has changed the world, and it may have changed the practice of medicine, including the specialty of anesthesiology (*Anesth Analg* 2020;131:31-6). From cancellation of elective procedures, perioperative testing protocols, lack of hospital inpatient beds, intraoperative airway management, infectious disease control, to COVID-19 related complications, we suspect that the practice of anesthesia is changed forever. Although many of these changes may seem disruptive to our traditional way of practicing medicine, a number of innovations and valuable lessons have also been learned from the pandemic.

Lesson 1: Telehealth may become the new normal for preoperative evaluation

Proper patient selection and preoperative optimization of existing comorbidities are crucial for safe outpatient procedures. The pandemic expedited the implementation of telehealth from the previously exploratory stage to an integral part of the preoperative evaluation. In addition to the goal of maintaining quarantine restrictions and social distancing, telehealth provides easier access for medically underserved communities and cost savings for both health care institutions and patients (*Curr Opin Anaesthesiol* 2021;34:672-7). Indeed, preoperative telemedicine encounters can be performed with 50% less time and scheduled earlier in the preoperative process than a face-to-face encounter, allowing more time to request outside medical records, coordinate specialty consultations, and ensure proper patient selection (*Adv Anesth* 2021;39:259-68). Although telehealth does not permit a thorough physical examination of the patient, studies have found similar surgery cancellation and delay rates when comparing virtual with in-person evaluations (*Adv Anesth* 2021;39:259-68; *J Clin Anesth* 2021;75:110540). In line with the focus on efficiency, patient safety, and patient satisfaction in ambulatory surgical settings, now ambulatory surgical patients can not only enjoy most of the recovery time in the comfort of their own homes, but they can also conveniently undergo preoperative evaluations via telehealth



without the need to spend time and money on traveling for an in-person appointment.

Lesson 2: Groups must prepare for changes in practice process and patient flow

As COVID-19 was declared a pandemic in 2020 and states mandated lockdowns, ambulatory surgical practices faced the challenges of establishing a clear understanding of elective versus urgent procedure categories. Once the practices determined criteria for proceeding with surgeries, they also had to quickly formulate a preoperative COVID-19 testing process to avoid procedure cancelations due to COVID-19 testing issues and a referral process for patients who tested positive for COVID-19 (*Am J Med Qual* 2020;35:444-9). COVID-19 infection accompanied by pulmonary complications has been associated with increased postoperative morbidity and mortality (*Adv Anesth* 2021;39:97-112). While the pandemic continued to evolve, the anesthesiology community was able to seek recommendations on perioperative testing and the timing of elective surgery from ASA and the Anesthesia Patient Safety Foundation (asamonitor.pub/3qYZR39; asamonitor.pub/3x1QfbJ). Practices learned to quickly establish plans for emergencies, improve communications, and provide ongoing educational programs to keep all members of the ambulatory anesthesia team updated on the newest changes in policies and patient flow.

Lesson 3: The field of ambulatory anesthesia is growing bigger and faster

The lack of hospital capacity due to the COVID-19 surges likely has accelerated the expansion of ambulatory anesthesia practice. For hysterectomies, total joint replacements, and other procedures that can be safely performed in an ambulatory setting but often still follow the traditional model of postoperative inpatient stays, hospitals were urged to eliminate unnecessary hospital stays. Even selected neurosurgical and thoracic procedures have expanded to the ambulatory setting with the recent advancement of minimally invasive techniques (*Adv Anesth* 2021;39:97-112). Enhanced recovery after surgery, opioid-sparing anesthetic techniques, regional anesthesia, and other perioperative anesthetic managements that allow fast emergence from anesthesia and adequate postoperative pain control with minimal postoperative nausea and vomiting have all gained wider acceptance along with the expansion of the ambulatory anesthesia practice. Innovations in the "Care Hotel" model also gained popularity for ambulatory surgical patients, offering a comfortable out-of-hospital environment while keeping both in-person and virtual postoperative care available after a procedure (*Ann Med Surg [Lond]* 2022;74:103251). For ambulatory surgical patients who do not have a caretaker at home, the model contributes to safe postoperative recovery while preserving hospital capacity. Hospitals and patients find ambulatory care to be cost-saving since an overnight stay at a hotel is cheaper than a hospital room. Many patients reported high satisfaction with this new postoperative care model.

Lesson 4: It is important to maintain supply chains

Prior to the pandemic, ambulatory surgical centers and non-operating room anesthesia practices typically obtained supplies from a limited number of vendors in countries with low labor costs and maintained minimal excess supplies to lower expenses (*JAMA Intern Med* 2021;181:1161-3). During the pandemic, many practices ran out of supplies, including personal protective equipment (PPE) and medications. Tracheal intubation, mask ventilation, and extubation are among the highest-risk procedures for aerosolization of particles (*Anaesthesia* 2021;76:182-8). PPE availability is crucial in the COVID-19 era to protect health care workers and prevent the spread of the disease. While practices learned how to reprocess used N-95 masks, they also learned to source products from non-contracted vendors. With medication shortages, many practices learned to substitute medications. Alternative supply chains for purchasing equipment and regional caches with rotation of expiring medications were also used during the pandemic (*JAMA Intern Med* 2021;181:1161-3).

Lesson 5: We need to recognize and reduce burnout

If there ever was a doubt that burnout was not a real or significant issue in anesthesiology, COVID-19 made it a true reality and a worldwide "pandemic uncovered by a pandemic" (*ASA Monitor* 2022;86:19-20). COVID-19 has resulted in unpredictable schedules and forced isolation or quarantine, leading to limited support systems and increased conflicts due to the need to triage patients with resource shortages (*ASA Monitor* 2021;85:28-29; *Mayo Clin Proc* 2017;92:129-46). With the fast OR turnover time and large patient load in ambulatory anesthesia, practices need committed and productive physicians and health care staff to stay focused while navigating through the challenges of the pandemic. Physician burnout, if not strategically reduced, would negatively influence the quality of care, patient safety, physician turnover, and patient satisfaction. Ambulatory anesthesia practices must not only acknowledge the problem but actively seek solutions for achieving well-being that impacts all members of the anesthesia care team (*ASA Monitor* 2021;85:28-9). ■

Sher-Lu Pai, MD, FASA, SAMBA-F
Chair, ASA Abstract Review Subcommittee on Ambulatory Anesthesia, Assistant Professor of Anesthesiology, Mayo Clinic College of Medicine and Science, Director, Preoperative Evaluation Clinic, and Consultant, Department of Anesthesiology and Perioperative Medicine, Jacksonville, Florida.
@sher_pai

Kelly Lebak, MD, FASA
Assistant Professor, Department of Anesthesiology and Pain Medicine, and Director of Ambulatory Anesthesiology, MetroHealth Medical Center, Case Western Reserve University, Cleveland, Ohio.
@KellyLebak