

**IN THE LITERATURE**

**Should Anesthesiologists and Surgeons Take Breaks During Cases?**

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**Abstract**

Anesthesiologists regularly take breaks during operations, whereas surgeons do so more rarely. This article considers the origins of this difference in practice in relation to different characteristics of the work of these 2 specialties as well as differences in professional identity, both of which can contribute to varying break practices and perceptions of the value of breaks. The authors draw upon current literature about the influence of breaks on attention, focus, and stamina and then reflect on the influence of breaks on the relationships between anesthesiologists and surgeons.

**Breaks in the Operating Room**

In virtually every context, the practice of modern medicine relies on teams of clinicians. The attitudes, interactions, and behaviors of these teams influence patient safety and have been the focus of a significant body of recent medical literature. Recognizing the [importance of teamwork](#) in the operating room, anesthesiologists and surgeons have collaborated in recent decades to improve patient safety through the development of shared mental models of the surgical plan and procedures, protocolized communication, checklists, and handoffs.<sup>1</sup>

Over the past 30 years, team training related to perioperative patient safety has drawn on safety literature in nonmedical industries, such as the airline industry.<sup>2</sup> One focus of this nonmedical literature has been on the role of breaks as a way to minimize error related to fatigue, distraction, and inattention.<sup>3</sup>

Anesthesiologists have embraced the concept of intraoperative breaks, which they describe as “relief” breaks.<sup>4</sup> For surgeons, however, intraoperative breaks are much more rare. In our experience as surgeons, we have witnessed conflict over breaks. We have seen surgeons experience an anesthesiologist’s break and the sign-out it requires as distracting or disruptive. Sometimes, tension arises between surgeons, present throughout the course of an operation, and covering anesthesiologists, who might not be fully aware of the events of a case that occurred prior to their arrival. After observing intraoperative tension related to breaks, we sought to examine breaks more closely, through both literature review and discussion with our anesthesia colleagues.

This article considers the origins of differences in break practices in relation to different characteristics of the work of these 2 specialties as well as differences in professional identity, both of which can contribute to varying break practices and perceptions of the value of breaks. We draw upon current literature about the influence of breaks on attention, focus, and stamina and then reflect on the influence of breaks on the relationships between anesthesiologists and surgeons.

### **Practice Norms in Surgery and Anesthesia**

*Common ground.* Anesthesiologists and surgeons have worked together since the differentiation of [anesthesia as a specialty](#) in the early 20th century.<sup>5</sup> They care for the same patient and share the physical space of the operating room. They work together to ensure that operations proceed safely and efficiently and share a common goal of good patient outcomes. They also depend on each other to co-manage unanticipated complications or significant events in the operating room. Despite these shared elements, the work of surgeons and anesthesiologists is actually quite different—not only in specialty knowledge, but also in the specific tasks and stressors that define their workdays and create their respective cultures.

*The work.* Although intraoperative decision making is critical to performing surgery, executing an operation is a physically demanding task. Surgeons stand or sit for hours, typically working with a narrow field of focus as they control hemorrhage, drain pus, resect abnormal tissue, and reconstruct functional anatomy. Standing for hours, holding a specific posture, and wearing headlights and magnifying glasses to augment vision and focus can be physically strenuous, especially when done for long hours without a break. In our experience, however, the continuous “doing” of one tangible task after another, although exhausting, promotes wakefulness and attention and a profound sense that the work is progressing.

In describing their work to us, our anesthesia colleagues identify their primary goal as the maintenance of patient homeostasis while surgery progresses. They emphasize vigilance and attention as key components of this work.<sup>6</sup> Positioned between the patient and the anesthesia machine, they monitor and record the vital signs, cardiac electrical activity, and pulmonary function of a sleeping, paralyzed patient. They continuously evaluate the patient for evidence of adequate perfusion or shock and for signs of pain or wakefulness. They assess the operative field, estimating blood loss and the degree to which the procedure is progressing in a timely fashion. This continuous monitoring of a patient, with the same level of attention and vigilance throughout the case, can be mentally exhausting.<sup>4,6</sup> As a result, anesthesiology is built around a systems-based care team model in which multiple anesthesiologists and advanced practice clinicians share the work of anesthesia during a single surgery and incorporate dedicated relief break time into their daily practice.<sup>7</sup> Moreover, through speaking with our anesthesia colleagues, we were surprised to learn

that taking a relief break often makes the most sense during the middle of an operation. Induction and reversal of anesthesia require a rapid succession of active maneuvers, such as inserting and removing a breathing tube. In contrast, maintaining anesthesia during a case that is running smoothly often requires more monitoring than it does procedural care. Furthermore, anesthesiologists use breaks between operations to meet their patients, obtain consent for anesthesia, and do procedures such as establishing intravenous access or performing nerve blocks to prevent perioperative pain.

*Relationships with patients.* Although surgeons and anesthesiologist share patients, the relationships they have with patients differ. Except in true emergencies, patients develop relationships with their surgeons before they undergo or even consent to an operation. In our experience, when patients consent to surgery, it is typically with the expectation that their surgeon will actively care for them throughout the operation and that their relationship will continue after completion of the surgery.

Anesthesiologists' relationships with patients, however, often start when they meet patients on the day of surgery in the preoperative work area. Often these relationships are physically limited to the perioperative area and temporally limited to the perioperative period. Most commonly, once patients leave the postanesthesia care unit, an anesthesiologist is no longer participating in their care.

Different perioperative tasks and unique characteristics of the [patient-specialist relationship](#) give rise to different values among anesthesiologists and surgeons. As the initiators and drivers of surgical procedures, surgeons typically feel tremendous personal "ownership" of their patients. This sensibility is best articulated by Miles Little, who argues that the defining principles of surgical ethics include the presence and proximity of the patient's individual surgeon and the commitment of that surgeon to personally witness both the ordeal and the aftermath of surgery itself.<sup>8</sup> Anesthesia clinicians are committed to ensuring that the patient is free of pain and maintained at an appropriate level of wakefulness. In their vigilant practice, great emphasis is placed on communication among clinicians, with handoffs that ensure the safe transfer of information that is critical to patient safety and [team efficacy](#). These differing commitments are at the root of anesthesia clinicians' and surgeons' differing attitudes toward breaks, with anesthesia clinicians embracing them and surgeons experiencing them as a part of anesthesia culture that can be associated with distraction and the potential for discontinuity of care.

### **Literature on Breaks**

The literature on breaks is relatively scant. Given the long acceptance of breaks within anesthesia culture, it is not surprising that much of the literature on breaks is written from the anesthesia perspective. Moreover, because anesthesia has embraced the patient safety movement, which emphasizes the

importance of clear communication during transitions of care, the anesthesia literature on breaks focuses on patient outcomes associated with intraoperative breaks. In contrast, the surgical literature on breaks focuses not on patient outcomes but on the physical and mental well-being of the surgeon.

*Anesthesia literature on intraoperative breaks.* To date, 8 large studies in the anesthesia literature specifically focus on breaks and handoffs among anesthesia clinicians.<sup>4,9,10,11,12,13,14,15</sup> Within this literature, a distinction is made between breaks that involve a complete care transition (with one clinician leaving permanently and a second clinician taking over the case) and relief breaks, in which the primary clinician is given a short respite by a temporary, secondary clinician. Unfortunately, only 2 of these studies clearly address relief breaks as distinct from complete care transitions.<sup>4,9</sup> The 6 remaining studies either address complete care transitions<sup>10,11,14,15</sup> or appear to include both care transitions and relief breaks as a combined exposure variable.<sup>12,13</sup> Both studies examining relief breaks in isolation, however, found that these breaks positively affected patient outcome, with multiple cases in which the clinician providing temporary relief identified a problem overlooked by the primary clinician.<sup>4,9</sup> All but 2 of the studies examining complete care transitions found that care transitions had a negative impact on outcome.<sup>10,11,14,15</sup>

*Surgical literature on intraoperative breaks.* The surgical literature on intraoperative breaks focuses on short surgeon breaks that are similar to relief breaks in anesthesia. In contrast to the anesthesia literature, however, the surgical literature focuses on the impact of breaks on surgeons' well-being and arises from concerns related to physician pain and injury from protracted standing in fixed positions during minimally invasive surgery. We identified few studies examining the health effects of surgeons taking breaks during the course of an operation. Two groups of minimally invasive surgeons have performed randomized, controlled studies investigating the impact on surgeon well-being of short "microbreaks" incorporating stretching and brief rest without breaking scrub or leaving the operating room.<sup>16,17</sup> Outcome variables in these studies included physician-reported physical comfort and mental alertness as well as stress hormone levels and tachycardia.<sup>16,17</sup> Both studies reported improved physician physical well-being in groups that participated in microbreaks. Although operative time did not increase significantly in either study, the samples were not large enough to detect the impact of microbreaks on the well-being of surgeons who experienced significant intraoperative complications, which were rare.<sup>16,17</sup>

Clearly, the existing literature is insufficient for us to draw conclusions about either patient or clinician outcomes associated with relief breaks of any sort. Unfortunately, in the absence of data, clinicians' attitudes and practice can be informed by habit, opinion, and dogma, which sometimes lead to stereotyping. Surgeons might feel that anesthesiologists are inattentive or distracted during an operation.<sup>18</sup> Anesthesiologists might find surgeons so absorbed with the

technical aspects of surgery that they fail to acknowledge their patients' health conditions and how these comorbidities could influence perioperative care.<sup>18</sup>

### Conclusions

At best, breaks function to promote and restore attention, efficiency, and physical stamina— important traits of surgeons and anesthesiologists alike. At their worst, breaks and the handoffs they require can be a distraction to people who continue working as others take breaks, creating concerns for patient safety. Unfortunately, as we note above, there is little guidance in the literature on best practices related to breaks in the operating room.<sup>19</sup> Clearly, transitions of care, including relief breaks, are an important component of anesthesia culture.<sup>20,21</sup> The American College of Surgeons Code of Professional Conduct affirms the importance of surgical presence, stating, “In general, the patient’s primary attending surgeon should be in the operating suite or should be immediately available for the entire surgical procedure.”<sup>22</sup> Nonetheless, the Code of Professional Conduct does allow “valid exceptions” to surgical presence, including “breaks during long procedures” that require preoperative discussion with the patient about any planned absence of the primary surgeon.<sup>22</sup> Certainly, the tenor of the Code is that breaks are the exception rather than the rule.<sup>22</sup>

We suggest that at least 4 questions would be worthy of more ethical and empirical investigation as part of the ongoing patient safety movement.<sup>10</sup>

1. Who should take breaks and when?
2. How long should a break be?
3. Where should breaks occur?
4. Should operating room charges include surgeons’ break time?

Better understanding of intraoperative breaks would likely help anesthesiologists and surgeons to take better breaks, regardless of whether they do so to promote their own wellness, teamwork, or patient safety. Acquiring more data and having more casual and scholarly discourse about breaks would likely help us debunk stereotypes that can undermine collegiality, self-care, and patient care.

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