## Learning From Others:

# A Case Report From the Anesthesia Incident Reporting System

Anesthesia Quality Institute®
American Society of Anesthesiologists®

Review of unusual patient care experiences is a cornerstone of medical education. Each month, the AQI-AIRS Steering Committee abstracts a patient history submitted to the Anesthesia Incident Reporting System (AIRS) and authors a discussion of the safety and human factors challenges involved. Real-life case histories often include multiple clinical decisions, only some of which can be discussed in the space available. Absence of commentary should not be construed as agreement with the clinical decisions described. Feedback regarding this article can be sent by email to **airs@asahq.org**. Report incidents or download the AIRS mobile app at **www.aqiairs.org**.

### Case 2019-3: No Good Deed Goes Unpunished

*Called last minute to perform anesthesia for pediatric patient with autism, difficult patient. Politically prominent surgeon wanted to start procedure a half hour earlier than scheduled time and I was the only one available. When checking O.R., found no pediatric cuff, sevoflurane vaporizer empty, no anesthesia tech to help. While setting up room, received two phone calls asking if could bring patient to O.R. When meeting with patient and family, circulator nurse told family that everyone was waiting on me. Later received notice from administrator asking what I could do to increase my efficiency. Patient entered O.R. and finished 15 minutes before scheduled time. And I have a notice in my file of poor teamwork.*

### Discussion

Production and time pressure are mentioned frequently in reports from AIRS. For many of us, this pressure feels as though it is a new development or worse than it has ever been. However, production pressure likely began with the birth of the industrial age, when production could be measured in the number of shoes made in a day or bolts of cloth loomed. Interestingly, the topic of safety also begins to appear in newspapers and literature at the same time as production pressure began to result in worker accidents.

Every industry in modern times faces the hard truth that, as productivity increases, protection (safety) decreases. As Dr. Reason defines it, high productivity without protection results in catastrophe (terrible accidents), while high protection without productivity leads to bankruptcy (unsustainable low revenue due to low productivity).[1] Every industry must find the "zone of parity," that balance where the work can actually get done with a level of safety that is acceptable. Production pressure outside of this zone or parity has been implicated in the explosion of the Challenger space shuttle (launched on a very cold day, partly because it had already been delayed twice), in the Tenerife aircraft collision (pressure to take off as duty hour limits were fast approaching) and at Chernobyl.

In health care, pressure is brought to bear in two basic ways: the first is production pressure, where anesthesiologists feel compelled to do as many cases as possible in the allotted time; the second is time pressure, to get cases going as quickly as possible and to reduce turnover time as much as possible.[2] Production pressure likely contributed to the tragic death of young Libby Zion. When this young college student on antidepressants was admitted, she was febrile and agitated. That night, the intern and second-year resident had 40 patients on their service. Zion received a dose of meperidine, which was contraindicated due to her prescription for phenelzine. She became hyperthermic and later died, likely due to serotonin syndrome. The Zion case was the basis of restrictions in work duty hours for interns, but the unintended consequences were increased work hours for upper-year residents. This surely was not a solution to the dangers of production pressure.

Time pressure may be less well-defined but will be familiar to all readers in the form of a surgeon pacing back and forth while the anesthesiologist struggles to place an arterial line or an interscalene block. In some settings, anesthesiologists and circulating nurses are graded on their turnover times. In some completely unproductive efforts to reduce turnover time, circulating nurses face financial penalties for issues entirely outside of their control.

Both time pressure and production pressure can be external or internal. In the published results of a survey of California anesthesiologists by Gaba et al.[2] in 1994, internal pressures can be healthy and appropriate, given the fact that an unoccupied O.R. is very costly and that we should all strive to be good stewards of a precious resource. Healthy internal drivers can also come from a desire to work agreeably with surgeons, or not wanting to disrupt patients' lives by canceling their case. However, internal pressure can also come about due to less healthy drivers such as financial concerns, especially among fee-for-service anesthesiologists. In the later case, anesthesiologists may choose to work after a night on call, to do cases late into the night or to not cancel a case, primarily with an eye on the month's income statement.

Clearly, safety and efficiency can coexist. However, the survey demonstrated that after internalizing ubiquitous external pressures over their careers, many anesthesiologists automatically took shortcuts without anyone telling them to hurry. Decisions to do unsafe things can stem from individually "pure" intentions, but are never laudable.

Overt external pressures can come from 1) surgeons pressuring one to move forward without adequate information or workup or to not cancel a case, 2) administrators publishing first case on-time starts and turnover times for individual anesthesiologists and 3) patients who push for their case to go forward, even when poorly prepared. In a case known to us, a morbidly obese patient, poorly compliant with antihypertensive medications or glucose management, successfully cajoled both an anesthesiologist and the surgeon to move forward with a tonsillectomy for his obstructive sleep apnea. Most of the time we "get away" with these cases, but always at a significant risk to the patient, the surgeon and ourselves.

**At the time of the survey, anesthesiologists nearly always did the right thing for the right reason. Is this still the case today? The contemporary incident detailed above shows that doing the right thing can be difficult and can take a toll on emotional well-being.**

In the decades-old survey by Gaba et al., 49 percent of anesthesiologists had observed colleagues pressured to conduct anesthesia in a fashion felt to be unsafe, and 54 percent had observed patients anesthetized for elective surgery without appropriate evaluation. Reassuringly, respondents disagreed with the statement that patients were actually anesthetized for elective surgery with significant contraindications (69 percent), 72 percent said they had not seen non-emergent cases begin without adequate monitoring, and 66 percent said they had not been asked to do a case after another anesthesiologist had refused to do it or cancelled it.[2] But the vast majority said that they had been subjected to, or witnessed a colleague subjected to, undue pressure to proceed in less than optimal circumstances.

At the time of the survey, anesthesiologists nearly always did the right thing for the right reason. Is this still the case today? The contemporary incident detailed above shows that doing the right thing can be difficult and can take a toll on emotional well-being. The anesthesiologist who willingly took over an unassigned case found the O.R. unprepared and had to rectify deficiencies without any assistance, while still providing compassionate and empathetic care. Nevertheless, the anesthesiologist was ridiculed and called to account for perceived deficiencies – in a case that the majority of us would have applauded as excellent work.

We may be so inured to this constant barrage of comments designed to speed us up that we may not recognize these comments for what they are – a form of disrespect.[3,4] A culture of disrespect – including dismissal of an anesthesiologist's concerns or need to review, digest and synthesize a complex patient's history in order to provide a complex and safe anesthetic – has been identified by Dr. Leape as one of the greatest barriers to patient safety.[3,4] Most anesthesiologists want to be team players, to facilitate (not disrupt) our surgeons' cases and to make the workday flow smoothly, while still adhering to what we know to be safe patient care. Daily pressure to speed up, to perform perfectly every time or to ignore warning signs that require time to assess, is disrespectful of our professional contributions and endangers our patients.

Again, in the words of Dr. Leape, "Disrespect underlies the tensions and dissatisfactions that diminish joy and fulfillment in work for all health care workers and contributes to turnover of highly qualified staff." Dr. Leape goes on to state that "Disrespectful behavior is rooted, in part, in characteristics of the individual, such as insecurity or aggressiveness, but it is also learned, tolerated and reinforced in the hierarchical hospital culture. A major contributor to disrespectful behavior is the stressful health care environment, particularly the presence of 'production pressure,' such as the requirement to see a high volume of patients." This type of pressure is not only disrespectful and stressful, it is unlikely to achieve the desired goal. Having a surgeon pacing, glaring or making snide comments is more likely to impair one's ability to place an arterial line into a tiny radial artery or to speed our review of a complex chart ... and can increase the risk of errors (e.g., overlooking a key laboratory value) and patient harm.

Production and time pressure are not new or restricted to our specialty. It is pervasive among residents and medical students,[5] affects all disciplines of health care[6-8] and is a worldwide phenomenon.[9] Primary care physicians lament the pressure to see six to eight patients in an hour, diminishing diagnostic ability and accuracy, and decreasing patient satisfaction. Production and time pressure have been shown to be associated with clinician burnout; a U.S. health care workforce issue affecting not only anesthesiologists but up to 50 percent of all physicians and 40 percent of nurses.[10]

How can we best respond to these pervasive pressures in our work environment?[11] The first step is to not simply mutter under one's breath, but to specifically name the pressure when felt so that the potential danger is as apparent

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as the perceived benefit of moving faster. The table below provides some assertive, but not aggressive, techniques that can be used in the moment. In addition, the advocate/inquire technique to manage conflict can be used effectively. The anesthesiologist should first advocate for the patient: "I am feeling a lot of pressure to bring this patient into a room that is not adequately prepared. I am concerned that if I move as quickly as you want, I will miss something critical." And then inquire: "Is there a danger to the patient if I take an extra 10 minutes to set up the room safely?"

**Table: Sample Assertive Techniques**

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| Be overt about the need to preserve safety: "Your medical history is complex, Mr. Smith, so I'm going to take the time to understand it well." |
| Give the surgeon something to do: "You could help me by starting a second I.V." |
| Be proactive: when it is apparent that there will be a delay of even a few minutes, give the surgeon a clear time estimate: "I'll have the patient all lined up by 8:15, if you want to come back then." |
| Shelter students and residents ***and*** the patient by creating clear expectations and limits: "Take your time for one more try, then it's my turn." |
| Move the problem to the system level: "It seems like we never get this kind of case started on time; we should look at this in the O.R. Committee." |
| ... and then adjust either process or expectations: "Let's plan on bringing the acetabular reconstruction patients in 30 minutes early to get lined up." |
| ... and enlist stakeholders: "Dr. Jones, it must be tough for you to stand around with nothing to do; would you join me at O.R. Committee on Wednesday to talk about how we can fix this?" |

Ideally, local and national leaders would acknowledge and work to address the pervasive and unhealthy culture of production and time pressure, both internal and external. Additional research is needed to assess the current magnitude of the problem, measure the impact on patient care and clinician satisfaction, and to evaluate potential interventions to mitigate the adverse consequences.

Anesthesiologists are dedicated to providing quality and value-based care to our patients. The endless push to move more quickly, to do unsafe cases, to take short cuts and to work when fatigued does a disservice to our patients, is disrespectful, erodes the culture of safety and "diminish[es the] joy and fulfillment"[3] in our daily lives.

## References:


1. Reason J. *Managing the Risks of Organizational Accidents*. London, UK: Ashgate Publishing; 1997.
2. Gaba DM, Howard SK, Jump B. Production pressure in the work environment. California anesthesiologists' attitudes and experiences. *Anesthesiology*. 1994;81(2):488-500.
3. Leape LL, Shore MF, Dienstag JL, et al. Perspective: a culture of respect, part 1: the nature and causes of disrespectful behavior by physicians. *Acad Med*. 2012;87(7):845-852.
4. Leape LL, Shore MF, Dienstag JL, et al. Perspective: a culture of respect, part 2: creating a culture of respect. *Acad Med*. 2012;87(7):853-858.
5. Healzer JM, Howard SK, Gaba DM. Attitudes toward production pressure and patient safety: a survey of anesthesia residents. *J Clin Monit Comput*. 1998;14(2):145-146.
6. Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*. 2002;288(16):1987-1693.
7. Bui J, Hodge A, Shackelford A, Acsell J. Factors contributing to burnout among perfusionists in the United States [published online June 10, 2011]. *Perfusion*. 2011;26(6):461-466.
8. Hyman SA, Michaels DR, Berry JM, Schildcrout JS, Mercaldo ND, Weinger MB. Risk of burnout in perioperative clinicians: a survey study and literature review. *Anesthesiology*. 2011;114(1):194-204.
9. Chai JX, Chong SY. Production pressures among anaesthesiologists in Singapore [published online April 28, 2017]. *Singapore Med J*. 2018;59(5):271-278.
10. Dyrbye LN, Sanafelt TD, Sinsky CA, et al. Burnout among health care professionals: a call to explore and address this underrecognized threat to safe high-quality care. Washington, DC: National Academy of Medicine; July 5, 2017.
11. Kynes JM, Watkins SC. A 'wake up' call for our specialty-time to examine the impact of production pressure on patient safety. *Paediatr Anaesth*. 2016;26(6):667-668.