Anesthesiologists Make a Difference

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It sounds like a marketing slogan for anesthesiologists. It is not. It is a statement of fact. In this issue of *Anesthesia & Analgesia*, Glance and colleagues[1] demonstrate that the choice of anesthesiologist affects outcome in cardiac surgery. It is a big effect. "Patients managed by low-performance anesthesiologists (corresponding to the 25th percentile of the distribution of anesthesiologist risk adjusted outcomes) experienced nearly twice the rate of death or serious complications (adjusted rate 3.33%; 95% confidence interval [CI], 3.09–3.58) as patients managed by high-performance anesthesiologists (corresponding to the 75th percentile) (adjusted rate 1.82%; 95% CI, 1.58–2.10%)."[1] I will restate that to be sure it is clear: patients managed by anesthesiologists in the lowest quartile had nearly twice the chance of dying or having a serious complication as patients managed by anesthesiologists in the highest quartile.

Is this a surprise to anyone? Don't we all recognize in our own institution the clinical superstars, the clinical workhorses, and the clinical dullards we never want to anesthetize us? Don't we all recognize that the best anesthesiologist in one subspecialty is rarely the best in others? As Maxwell and colleagues[2] point out in their editorial, "We are perceived as interchangeable cogs in the perioperative machine, at least within groups (e.g., those who routinely do cardiac cases). The assumption underlying this practice is that any similar anesthesiologist will do, and that substitution of Anesthesiologist A for Anesthesiologist B does not change patient outcome."[2] Those of us who live in the operating room know that is not true. We are not interchangeable cogs. The finding of Glance et al.[1] that the specific anesthesiologist makes a difference is not a surprise.

A dear friend recently required emergent mitral valve replacement for wide-open mitral regurgitation after papillary muscle rupture. In extremis when taken to the operating room, we were reassured that he had the best cardiac surgeon and the best cardiac anesthesiologist in the hospital. We met the surgeon 7 hours later. He gave us a generally positive report. We met the anesthesiologist an hour later, after transfer to the intensive care unit. He explained the high pulmonary pressures, the pulmonary edema so severe that he changed the circuit every few minutes until institution of cardiopulmonary bypass, and the miraculously capable left ventricle. "Everything went smoothly."

My friend awoke the following day. He returned to work a week later. With the best anesthesiologist, he sailed through the surgery. If I had been the anesthesiologist, he would have died. The humans in the perioperative machine are not interchangeable cogs.

The fact that anesthesiologists make a difference does not diminish the contribution of the cardiac surgeon, the nurses, and the other health care providers who participated in this routine miracle. Although mitral valve replacement is a routine operation, with a less skilled surgeon the outcome might have been different. By good fortune, the most skilled cardiac surgical nursing team was also mobilized. Every surgeon and anesthesiologist knows the difference skilled nurses make.

Modern health care is an intensely complex enterprise. Perioperative care, including intraoperative anesthesia management, is hugely challenging. The most difficult cases need the most skilled providers. That may have seemed obvious, but the report by Glance et al.[1] provides the hard data.

In their accompanying editorial, Maxwell and colleagues[2] address some of the strengths and limitations of the findings of Glance et al.[1] Because half of all anesthesiologists are below average by definition, they ask how we can leverage the findings of Glance et al. to improve the outcomes for all patients. Leslie and Merry[3] note that "cardiac surgery has only recently emerged from an era of invention and innovation and entered an era in which standardization of approach is the norm. This standardization should apply as much to cardiac anesthesiologists as cardiac surgeons."

In their editorial, Wijeysundera and Beattie[4] suggest that outcomes research such as provided by Glance et al. can help us distinguish the characteristics of the high-quality anesthesiologists (e.g., "hemodynamic management strategies, transfusion triggers, nature of team interaction") as part of our ongoing professional efforts to improve perioperative care. Dutton[5] follows up in his editorial: "Making a Difference: The Anesthesia Quality Institute." Anesthesiologists make a difference by rigorously examining outcomes. Yes, it is uncomfortable, although probably expected, that anesthesiologists at the lowest end of the performance spectrum have twice the risk of death or major morbidity as anesthesiologists at the highest end. However, anesthesiologists advance patient care by asking, and answering, tough questions. We know from the analysis of Glance et al. that it is possible to link providers to perioperative outcomes. The Anesthesia Quality Institute (AQI) is building the definitive database to apply a

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similar analysis across all perioperative health care. The data from the AQI should permit identification of the optimal distribution of anesthesiologists, certified registered nurse anesthetists, and other anesthesia providers to achieve the best outcomes for patients. The AQI is another way anesthesiologists make a difference.

Smoking kills. You know that. Did you know that you can help patients quit smoking simply by addressing it in your perioperative assessment? In this issue of *Anesthesia & Analgesia*, Lee and colleagues[6] demonstrate that a simple perioperative intervention can help smokers remain tobacco free for a year after surgery: "(1) brief counseling by the preadmission nurse, (2) smoking cessation brochures, (3) referral to a telephone quit-line, and (4) a free 6-week supply of transdermal nicotine replacement." Patients who received this intervention were almost 3-fold more likely to maintain smoking cessation at 1 year. Wow, talk about anesthesiologists making a difference! As Warner[7] notes in his accompanying editorial, "It is time for all surgical patients entering the perioperative surgical home to receive such interventions as a routine part of their care. All we need are anesthesiologists willing to open the door."

As previously mentioned, the fact that anesthesiologists make a difference in no way diminishes the contributions of our professional colleagues. Our nursing colleagues have made a difference. This issue of *Anesthesia & Analgesia* includes an article by Koch[8] on the contributions of nurse anesthesia to the early development of our field. Alice Magaw developed the fundamental principles of inhaled anesthetic induction without hypoxia. Her efforts allowed the Mayo brothers to transform American surgery. The surgeon-nurse team of Graham-Lamb transformed surgery at Barnes Hospital, introducing tracheal intubation and performing (unintentionally) the world's first 1-stage pneumonectomy. Certified registered nurse anesthetists make a difference. At every level of skill and training, it is the individual performing at his or her peak who makes a difference.

For more than 90 years, *Anesthesia & Analgesia* has published articles showing how anesthesiologists make a difference. Fundamental discoveries at the bench, innovative advances in patient care, and studies critically examining our outcomes are part of every issue of *Anesthesia & Analgesia*. Anesthesiologists relentlessly push the boundaries of scientific knowledge, clinical skill, and medical professionalism in advancing patient care. That is how anesthesiologists make a difference.

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Name: Steven L. Shafer, MD.
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RECUSE NOTE

Dr. Steven L. Shafer is the Editor-in-Chief for *Anesthesia & Analgesia*. This manuscript was handled by Dr. James G. Bovill, Guest Editor-in-Chief, and Dr. Shafer was not involved in any way with the editorial process or decision.

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