Hi, this is Jim Eisenach, Editor-in-Chief of Anesthesiology, to tell you a few things about the February, 2016 issue. "There is a widespread belief in the medical community and lay public that anesthesia and surgery pose a substantial risk of producing long-term cognitive damage in elderly patients." Thus begins an editorial by Drs. Avidan and Evers, from Washington University, on whether major surgery and anesthesia result in long-term cognitive decline in the elderly. How many of us agree with our surgical and nursing colleagues, our patients and their families, that this is a substantial risk? What would you consider good evidence that such a risk exists? In this month's issue, 221 twins over the age of 70 from Denmark were followed with cognitive function testing at \( \frac{1}{2} \), 1, and 2 yr after surgery, comparing the patient who underwent surgery and their twin who did not. They found no evidence to support an effect of major surgery and anesthesia on long-term cognitive function. The twin who had surgery was equally likely to have better long-term cognitive function than the one who did not—the overall difference in the entire cohort was small (less than one tenth of a standard deviation)—and in some subgroups long-term cognitive function was significantly better in those who had surgery. If you're going to read one editorial this year, I suggest you spend 5 to 10 min reading this one by Drs. Avidan and Evers. They note that there is no high quality evidence to support a significant risk of long-term cognitive decline after major surgery in the elderly, and debunk the commonly stated belief that on-pump cardiac bypass surgery poses such a risk, citing, for example, a study of World War II veteran twin pairs of similar design to the current Danish study in noncardiac surgery. They describe nicely in a graph, which Drs. Rathmell and Wanderer have embellished in this month's infographic, the pyramid of evidence against this perception and use another graph to chart the gradual cognitive decline in the elderly that shows how we can be fooled by blaming such decline on a surgical event. They end their editorial with a charge to all anesthesiologists that we reassure our older patients that surgery and anesthesia are unlikely to be implicated in persistent cognitive decline, and that, as they say, "we must energetically seek to alter the dominant narrative on the platform of public opinion, and ensure that reputable media sources correct the misconceptions that they have previously promulgated."

This is, of course, not to say that acute changes in cognition after surgery, either delirium or transient postoperative cognitive dysfunction, do not occur, and we all agree with the editorialists that further research into risk factors, prevention, diagnosis, and treatment of these acute events is warranted. Delirium is particularly concerning, since it can occur in the absence of agitation, be missed, and is associated with significant perioperative morbidity and mortality. Delirium is common after cardiac surgery, and there is conflicting evidence in meta-analyses whether its incidence can be reduced by the choice of sedative agent in the ICU [intensive care unit]. In this month's issue, investigators at the University of Toronto randomized nearly 200 patients over the age of 60 after cardiac surgery to sedation in the ICU with propofol or dexmedetomidine. The quality of sedation was similar with the two drugs, but the incidence of delirium was not, with a 32% incidence of delirium in those receiving propofol compared to 18% in those receiving dexmedetomidine. As noted in previous meta-analyses, high quality, large clinical trials are needed, and the current study goes far to provide clinical guidance in drug selection to reduce delirium when sedation is needed after surgery.

There is increasing pressure to define individual quality of physicians and to make this information available to administrators, payers, and the public. For anesthesiologists, defining appropriate measures of quality and how to assess them remain perplexing. Investigators from the University of Iowa looked at one such measure of quality, time from end of surgery to endotracheal extubation, and report in this month's issue outcomes from a quality metric of prolonged time to extubation, defined by them as greater than 15 min. In this academic setting, prolonged extubation occurred commonly, 20% of the time, and, using simple statistics, they noted that 40% of anesthesiologists could be considered outliers. Applying more complex Bayesian statistical methods with covariate adjustment, only one anesthesiologist was an outlier, and they concluded that the variance in this outcome measure was so small that focusing on a few individuals would not meaningfully improve this measure of quality. Dr. Sandberg from Vanderbilt comments on this article, noting that we need as a specialty to define appropriate measures of quality and to educate those who will use these measures on the best rather than the simplest approach to gauge whether an individual is deficient. He comes up with no solutions, but notes that funding is needed for research in this area and identifies federal agencies and the ASA [American Society of Anesthesiologists] itself as important venues to seek such support.

Acute kidney injury, or AKI, has a higher 5-yr mortality than uncomplicated myocardial infarction, and AKI is remarkably common after major surgery, especially cardiac surgery. In this month's issue, investigators from Yale University followed up on previous observations that AKI may reflect activation of inflammation and platelets, resulting in platelet plugging in renal arterioles and subsequent injury and the association between thrombocytopenia in patients in the ICU and AKI. They examined platelet counts in over 4,000 patients undergoing cardiac surgery and noted a tight association between thrombocytopenia and AKI. Nearly half of these patients experienced AKI, with over 3% having a threefold rise in serum creatinine. Patients with the lowest platelet counts, below the 10th percentile for the population, were three times more likely to have this severe AKI and five times more likely to die. Dr. Spiess from Virginia Commonwealth University puts this work in perspective, noting that platelets per se are not as much the problem as inflammation, and that we should abandon the outmoded concept that it is the bypass machine itself which generates this inflammation.

This and much more awaits you in the February issue, including an updated ASA Practice Parameter on obstetric anesthesia, an investigation into morbidity and mortality after high dose transfusion, and another on whether using epidural analgesia during surgery alters opioid use after hospital discharge. There are also reviews on opioid tolerance, opioid-induced hyperalgesia, and on the future role of microRNAs in perioperative medicine. Check it out!