

ANESTHESIOLOGY



Jean Mantz, M.D., Ph.D., Editor

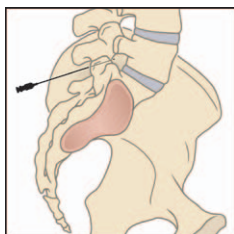
**Choosing wisely in anesthesiology: The gap between evidence and practice. JAMA Intern Med 2014; 174:1391–5.**

Despite efforts to advocate for just and cost-effective use of medical resources, overuse of low-value services in low-risk patients undergoing low-risk surgeries continues to rise. Starting with a list of 18 low-value perioperative activities from American Society of Anesthesiologists Practice Parameters and the literature, and proceeding with a two-step survey using a five-point Likert scale questionnaire, the authors identified common activities that are of low quality or benefit and high cost and have poor evidence supporting their use. Through a robust and transparent process, the authors developed a list of five activities in anesthesiology that should be avoided, including unindicated baseline laboratory studies or diagnostic

cardiac stress testing, use of pulmonary artery catheterization for cardiac surgery and use of packed erythrocytes or colloids when not indicated. Although the limitation is that recommendations were based on the opinions of participating physicians rather than empirical data or actual implementation in practice, these data accurately point out potential improvements in perioperative cost-effective strategies. (Summary: J. Mantz. Image: American Society of Anesthesiologists.)

**Anesthesia technique, mortality, and length of stay after hip fracture surgery. JAMA 2014; 311:2508–17.**

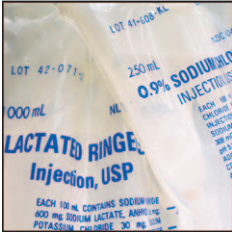
Increasing the use of regional anesthesia has been proposed by recent practice guidelines as a strategy to improve the quality of hip fracture care. This matched retrospective cohort study included more than 50,000 patients 50 yr of age or older who were undergoing surgery for hip fracture at general acute care hospitals in New York State between July 1, 2004, and December 31, 2011. The 30-day mortality rate was similar between patients who received regional anesthesia compared with general anesthesia but a modestly shorter length of stay was reported in the regional anesthesia group. These findings may impact clinical practice. (Summary: J. Mantz. Image: P. Firth.)

**A randomized trial of epidural glucocorticoid injections for spinal stenosis. N Engl J Med 2014; 371:11–21.**

Symptoms of lumbar spinal stenosis are often treated with epidural glucocorticoid injections, despite evidence of safety and efficacy in well-controlled studies. In this double-blind, multisite trial, 400 patients who had lumbar central spinal stenosis and moderate-to-severe leg pain and disability were randomly assigned to receive epidural injections of glucocorticoids plus lidocaine or lidocaine alone. There were no significant between-group differences in the Roland–Morris Disability Questionnaire score (primary outcome) at 6 weeks. These findings suggest minimal or no short-term benefit of epidural injection of glucocorticoids plus lidocaine as compared with epidural injection of lidocaine alone in the treatment of lumbar spinal stenosis. (Summary: J. Mantz. Image: J.P. Rathmell/G. Nelson.)

**CPAP versus oxygen in obstructive sleep apnea. N Engl J Med 2014; 370:2276–85.**

Obstructive sleep apnea is a frequent situation anesthesiologists have to deal with and is associated with hypertension, inflammation, and increased cardiovascular risk. In this randomized controlled trial, patients with cardiovascular disease or multiple cardiovascular risk factors as well as sleep apnea and an apnea–hypopnea index of 15 to 50 events/h received either education on sleep hygiene and healthy lifestyle alone (the control group) or, in addition to education, either continuous positive airway pressure (CPAP) or nocturnal supplemental oxygen. Treatment of obstructive sleep apnea with CPAP resulted in a significant reduction in 24-h mean arterial pressure at 12 weeks, whereas nocturnal supplemental oxygen or education alone did not. Therefore, this study does not support the common clinical practice of oxygen supplementation for patients with obstructive sleep apnea. (Summary: J. Mantz. Image: J.P. Rathmell.)



Association between the choice of IV crystalloid and in-hospital mortality among critically ill adults with sepsis. Crit Care Med 2014; 42:1585–91.

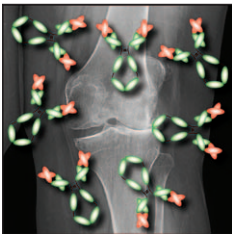
Despite the common use of isotonic saline in intensive care units (ICU), recent studies suggest crystalloid alternatives, such as lactated Ringer's solution, may improve outcomes in patients with sepsis. In this retrospective cohort study of patients admitted with sepsis, propensity score matching was used to control for confounding factors and compared mortality, acute renal failure, and hospital and ICU lengths of stay after resuscitation with balanced *versus* with no-balanced fluids. Among 6,730 critically ill adults with sepsis, receipt of balanced fluids was associated with a lower risk of in-hospital mortality; however, in-hospital and ICU length of stay were not significantly different. Randomized trials are needed to confirm this finding which may have significant public health implications. (Summary: J.F. Pittet. Image: J.P. Rathmell.)



Long-term survival in patients with severe acute respiratory distress syndrome and rescue therapies for refractory hypoxemia. Crit Care Med 2014; 42:1610–8.

Patients with severe acute respiratory distress syndrome (ARDS) may develop life-threatening refractory hypoxemia unresponsive to the use of conventional lung-protective ventilation strategies. In clinical practice, as an effort to improve oxygenation in these patients, several different "rescue therapies" are often advocated, including inhaled nitric oxide, inhaled epoprostenol, and prone position ventilation, although the long-term survival of these patients is unknown. This study examined the long-term survival of 428 patients diagnosed with severe ARDS within 72 h of intensive care unit admission. Sixty-two patients were initiated

on a rescue therapy and these had a significantly higher in-hospital mortality. However, among patients that survived to hospital discharge, the long-term survival was comparable to that of other ARDS survivors. (Summary: J.F. Pittet. Image: J.P. Rathmell.)



Fasimumab (REGN475), an antibody against nerve growth factor for the treatment of pain: Results from a double-blind, placebo-controlled exploratory study in osteoarthritis of the knee. Pain 2014; 155:1245–52.

Nerve growth factor (NGF) has become a target in our efforts to provide relief from chronic pain due to osteoarthritis, degenerative disease of the spine, and other causes. "Biologic" monoclonal antibody preparations have shown tremendous promise in both laboratory and clinical studies, though side effects have come under scrutiny. In their randomized, placebo-controlled, blinded multidose study of patients with osteoarthritis of the knee (N = 217), Tiseo *et al.* demonstrated that a fully human anti-NGF antibody (fasimumab) has both a favorable side effect profile and significant efficacy against osteoarthritis pain at 24 weeks. The main

treatment-related effects included arthralgia, hyperesthesia, myalgia, peripheral edema, and joint swelling. Unfortunately, data from much larger groups of patients collected over much longer periods of time will be required to fully define the side-effect profile of long-term anti-NGF therapy. (Summary: J.D. Clark. Image: J.P. Rathmell.)



Raising the bar for the care of seriously ill patients: Results of a national survey to define essential palliative care competencies for medical students and residents. Acad Med 2014; 89:1024–31.

The generalist education of undergraduate and graduate medical learners does not include sufficient detail regarding palliative care. The deficiency in this educational area may stem from a lack of defined competencies from which a palliative care educational curriculum can be developed. The authors of this national survey sought to identify palliative care competencies as defined by 71 educational experts in this discipline. The most important competencies were focused on (1) communication with patients and

their families and (2) pain management. The recommendation of the authors is that the identified competencies become the basis for educating all physicians. (Summary: A.J. Schwartz. Image: MGH Medical Photography.)