Key Papers from the Most Recent Literature Relevant to Anesthesiologists

ANESTHESIOLOGY

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

Outcomes of pregnancy after bariatric surgery. N Engl J Med 2015; 372:814–24.

Anesthesiologists routinely care for bariatric surgical patients. In this large case-control Swedish study, bariatric surgery was shown to improve pregnancy outcomes. Pregnancy after bariatric surgery was associated with reduced risks of gestational diabetes and excessive fetal growth, shorter gestation, an increased risk of small-for-gestational-age infants, and possibly increased mortality. *(Summary: J. Mantz. Image: J.P. Rathmell.)*

Simulation in surgery: What's needed next? Ann Surg 2015; 261:846–53.

Simulation-based training in surgery has increased dramatically in recent years. Although several new simulators and curricula have become available, their optimization and integration into surgical training has been lagging. This review points out that skill acquired on simulators has repeatedly and consistently been demonstrated to transfer to the operating room, and proficiency-based training maximizes this benefit. Future research in surgical simulation should focus on demonstrating the cost-effectiveness of simulation-based training and its impact on patient outcomes. *(Summary: J. Mantz. Image: J.P. Rathmell.)*

Comprehensive geriatric care for patients with hip fractures: A prospective, randomised, controlled trial. Lancet 2015; 385:1623–33.

In this prospective, single-center, randomized, parallel-group, controlled trial including 400 patients aged 70 yr or older with hip fracture, the effectiveness and cost effectiveness of giving these patients comprehensive geriatric care on a dedicated geriatric ward *versus* usual orthopedic care was investigated. The primary outcome was mobility measured with the Short Physical Performance Battery 4 months after surgery. Mean Short Physical Performance Battery scores at 4 months were 5.12 (standard error, 0.20) for comprehensive geriatric care and 4.38 (standard error, 0.20) for orthopedic care (between group difference, 0.74; 95% CI, 0.18 to 1.30; $P = 0.010$). These results suggest that the treatment of older patients with hip fractures with specialized geriatric care improves recovery. *(Summary: J. Mantz. Image: ©Thinkstock.)*

Systemic inflammatory response syndrome criteria in defining severe sepsis. N Engl J Med 2015; 372:1629–38.

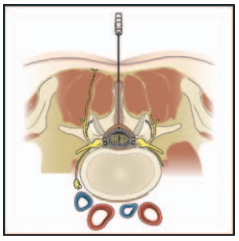
The consensus definition of severe sepsis requires suspected or proven infection, organ failure, and signs that meet two or more criteria for the systemic inflammatory response syndrome (SIRS). This paper aimed to test the sensitivity, face validity, and construct validity of using this consensus definition in a study including 172 intensive care units from Australia and New Zealand. Enrolled were 1,171,797 ICU patients, and a total of 109,663 had infection and organ failure. Among these, 96,385 patients (87.9%) had SIRS-positive severe sepsis and 13,278 (12.1%) had SIRS-negative severe sepsis. Over a period of 14 yr, these groups had similar characteristics and changes in mortality, and use of these criteria failed to define a transition point in the risk of death. *(Summary: J. Mantz. Image: J.P. Rathmell.)*

The timing of discharge from the intensive care unit and subsequent mortality: A prospective, multicenter study. Am J Respir Crit Care Med 2015; 191:1033–9.

An association between the timing of discharge from the intensive care unit (ICU) and mortality has been suggested, but the independent predictors of mortality after discharge remain unclear. This prospective observational international cohort study included 10,211 patients alive from the ICU. It was shown that after risk adjustment for markers of illness severity at time of ICU discharge including limitations of medical therapy orders, the time of discharge was no longer a significant predictor of mortality. In contrast, the presence of a limitation of medical therapy order was the strongest predictor of death (odds ratio, 35.4; 95% CI, 27.5 to 45.6). *(Summary: J. Mantz. Image: © Thinkstock.)*

Trial of early, goal-directed resuscitation for septic shock. N Engl J Med 2015; 372:1301–11.

This study is a pragmatic randomized trial of the effectiveness of early goal-directed resuscitation in improving mortality and secondary outcomes in patients developing septic shock, conducted in 56 hospitals in England. This is the third of a group of recent published trials demonstrating a lack of effectiveness of this approach. One explanation offered is that practices in managing septic shock have changed over the last 15 yr as illustrated by a lower absolute mortality rate. *(Summary: J. Mantz. Image: J.P. Rathmell.)*



Epidural steroid injections compared with gabapentin for lumbosacral radicular pain: Multicenter randomized double blind comparative efficacy study. BMJ 2015; 350:h1748. doi: 10.1136/bmj.h1748.

Chronic low back pain is an enormously problematic and costly healthcare issue worldwide. Accordingly, the medical literature is replete with studies focused on establishing the *efficacy* of specific treatments ranging from acupuncture to opioids to spinal surgery. Unfortunately, the comparative *effectiveness* of available options is seldom examined although there is a growing appreciation that such comparisons are critical when managing both patients and medical resources. In this blinded randomized trial, the effectiveness of epidural steroid injections was compared with gabapentin treatment in 145 patients with lumbosacral radiculopathy, two commonly used forms of therapy for this condition. Both treatment groups improved over the course of the study. However, the investigators found no intergroup differences in leg or back pain reduction at 1 or 3 months of treatment. Analyses of secondary endpoints suggested small transient advantages for the patients receiving steroids. These findings could directly impact advice given to patients concerning their options for management of radicular pain. The study design provides an excellent example of comparative effectiveness research as applied to a key issue in chronic pain management. *(Summary: J.D. Clark. Image: G. Nelson/J.P. Rathmell.)*

Customisation of an instrument to assess anaesthesiologists' non-technical skills. Int J Med Educ 2015; 6:17–25.

Learning, teaching, and actualizing nontechnical psychosocial behaviors is a constant challenge for physicians. Learning, teaching, and actualizing these behaviors is essential if anesthesiologists are to provide safe, effective, and efficient patient care. Without incorporating these behaviors into anesthesia patient care our knowledge and psychomotor skills fall short in the complete provision of error-free care. To define desirable nontechnical psychosocial behaviors, the authors employed an updated version of a structured interview instrument, gathering data from anesthesiologists, nurse anesthetists, surgeons, and operating room nurses. They defined essential nontechnical psychomotor behaviors that anesthesiologists need to learn, teach, and include in their approach to patient care: (1) situational awareness, (2) decision making, (3) teamwork, and (4) task management. Leadership by anesthesiologists in the clinical setting was highlighted. Defining desirable characteristics for anesthesiologists has obvious educational implications in development of curricula for teaching and assessment tools to evaluate how well practitioners apply these characteristics during patient care. *(Summary: A.J. Schwartz. Image: J.P. Rathmell.)*