

ANESTHESIOLOGY



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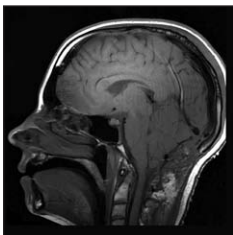
Reforming the financing and governance of GME. *N Engl J Med* 2014; 371:792-3; Innovation in medical education. *N Engl J Med* 2014; 371:794-5.

What if graduate medical education (GME) as we know it today changed dramatically? When will educational research be ratcheted up to document, rather than assume, that resident competency is linked to patient outcome? The answer to this question is an emphatic IT MUST HAPPEN NOW! When will educational investigation provide an evidence base for the GME curriculum we teach and address such questions as whether the current time-based apprenticeship model should be replaced with a competency-based approach? When will GME catch up with the times and focus on innovations that can improve medical care delivery like the use of big data and information technology? What if the way GME is funded were to change, for example, and dollars flowed into programs where patient outcomes were the determinate? What will change when physician GME is designed to educate generalists and specialists in sync with national population healthcare needs and be properly apportioned with the education of other healthcare providers? You may have answers to these questions. The public is demanding answers and healthcare think tanks are crafting them. Read the 2014 Institute of Medicine report on GME and accompanying editorial comments in the *New England Journal of Medicine* so you are aware of what's coming and to be able to join and influence the discussion. (Summary: A.J. Schwartz. Image: J.P. Rathmell.)



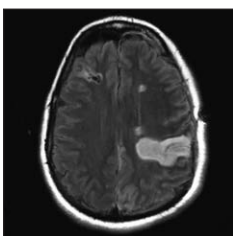
Effect of postoperative antibiotic administration on postoperative infection following cholecystectomy for acute calculous cholecystitis: A randomized clinical trial. *JAMA* 2014; 312:145-54.

The utility of postoperative antibiotic treatment after acute calculous cholecystitis is unclear. In this randomized, open label, noninferiority clinical trial after surgery, 414 patients with mild to moderate acute calculous cholecystitis were allocated after surgery to receive either no antibiotics or continue with the preoperative antibiotic regimen three times daily for 5 days. The primary goal was the proportion of postoperative surgical site or distant infections recorded before or at the 4-week follow-up visit. No difference in the incidence of postoperative infection was found between control and intervention groups, which challenges the utility of postoperative administration of antibiotics in this context. (Summary: J. Mantz. Image: J.P. Rathmell [ultrasound image of acute calculous cholecystitis].)



The effect of age on Glasgow Coma Scale score in patients with traumatic brain injury. *JAMA Surg* 2014; 149:727-34.

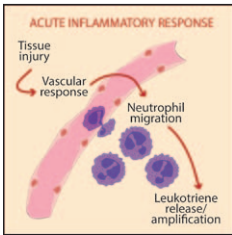
Whether age affects the predictive ability of the Glasgow Coma Scale (GCS) for severity of traumatic brain injury (TBI) remains unknown. In this cohort study, the authors examined 6,710 patients with a TBI who were admitted to two level I trauma centers (2008-2012) and examined the association between the GCS and anatomic TBI severity (determined by the Abbreviated Injury Scale score). Elderly patients (> 65 yr) with TBIs had better GCS scores than younger patients with similar TBI severity. These important results should be considered for future studies including for evaluating TBI outcomes and patient selection criteria for clinical trials evaluating patients with TBI. (Summary: J. Mantz. Image: J.P. Rathmell [MRI of the brain following traumatic brain injury].)



Time elapsed after ischemic stroke and risk of adverse cardiovascular events and mortality following elective noncardiac surgery. *JAMA* 2014; 312:269-77.

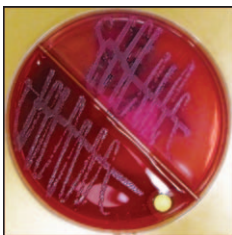
Stroke is known to be a major risk factor for adverse outcomes in noncardiac surgery, and as such is evaluated as part of perioperative risk evaluation. However, there has been little research to evaluate outcomes based on the timing of surgery after ischemic stroke. In this Danish nationwide cohort study (2005-2011) including all patients aged 20 yr or older undergoing elective noncardiac surgeries (n = 481,183 surgeries), a history of stroke was associated with adverse outcomes following surgery (mortality and major cardiovascular adverse events), particularly if time between stroke and surgery was less than 9 months. Although the associated risk was stable after 9 months, it was still higher compared with patients with no history of stroke.

This study suggests that timing of ischemic stroke may be considered in future guidelines. (Summary: J. Mantz. Image: J.P. Rathmell [MRI of the brain following acute ischemic stroke].)



Parallels between cancer and infectious disease. *N Engl J Med* 2014; 371:380-3.

This issue of the “Clinical Implications of Basic Research” of the *New England Journal of Medicine* is dedicated to an exciting topic in translational research. It addresses the issue of why cancer and many infectious disorders produce similar immunologic responses. Part of the cornerstone of the response is that these share common stimuli which trigger the activation of the inflammatory cascade, but also common immunosuppressive mechanisms including immunocompetent cells, immunosuppressive mediators, and immune checkpoints, among others. Readers will find here understandable and nicely illustrated material that supports the occurrence of significant improvement in clinical outcomes—in both cancer and infectious disease—if investigators in these specialties pull together. (Summary: J. Mantz. Image: J.P. Rathmell.)



Empiric antibiotic treatment reduces mortality in severe sepsis and septic shock from the first hour: Results from a guideline-based performance improvement program. *Crit Care Med* 2014; 42:1749–55.

Sepsis is associated with a high fatality rate and significant morbidity. Successful treatment of patients with sepsis may include aggressive resuscitation bundles, adequate source control, appropriate antibiotic therapy, and organ support, whereas delayed antibiotic therapy may be a risk factor for mortality. This retrospective study evaluated the relationship between timing of antibiotic administration and mortality in 28,150 patients with severe sepsis and septic shock hospitalized in 165 intensive care units across the world. Delay in first antibiotic administration was associated with increased in-hospital mortality, with

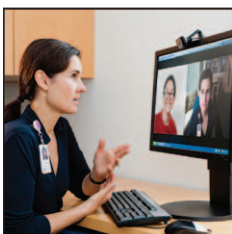
a linear increase in the risk of mortality for each hour delay in antibiotic administration. This study demonstrates the need for early identification and treatment of sepsis. (Summary: J.F. Pittet. Image: M. England.)



Guideline bundles adherence and mortality in severe sepsis and septic shock. *Crit Care Med* 2014; 42:1890–8.

Evidence-based guidelines, such as the Surviving Sepsis Campaign bundles, were developed to optimize care of patients with sepsis and reduce mortality. This study is the first to use case-mix adjusted mortality evaluations to compare hospitals participating in sepsis bundle programs with those not participating. More than 200,000 adult patients in the intensive care unit (ICU) with severe sepsis or septic shock were evaluated to compare the use of Surviving Sepsis Campaign Bundles within 6 and 24 h after ICU admission at 52 participating ICUs to 30 nonparticipating ICUs. Participation duration was associated with improved bundle target adherence and decreased in-hospital mortality equivalent to 5.8% adjusted absolute mortality reduction over 3.5 yr. This suggests that sepsis screening and bundle applications had a direct effect on in-hospital mortality. (Summary: J.F. Pittet. Image: Thinkstock by Getty Images.)

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Telecare collaborative management of chronic pain in primary care: A randomized clinical trial. *JAMA* 2014; 312:240-8.

Selecting, titrating, and following up on pain medication treatment plans are daunting tasks for many primary providers. In their randomized controlled trial, Kroenke *et al.* compared usual care to a telecare collaborative treatment approach. All patients in the trial (N = 250) had musculoskeletal or widespread pain. Chronic pain patients in the telecare intervention group received initial evaluation and formulation of a treatment plan in consultation with a pain specialist followed by regular contact with a nurse care manager. After 1 yr patients in the telecare arm had significantly lower brief pain inventory scores, and were twice as likely to report a 30% or greater improvement in pain score. Multiple secondary outcomes

showed improvement as well in the telecare group. Though the findings will need to be replicated and longer-term outcomes determined, the apparent efficacy of this low-cost approach to chronic pain management is encouraging. (Summary: J.D. Clark. Image: Massachusetts General Hospital TeleHealth.)