Surgical Apgar score to predict postop mortality

A surgical scoring system, like the obstetric Apgar score, has been developed to assess postoperative risk. However, evaluation of this scoring system has been limited to general and vascular surgery.

The purpose of this study from Vanderbilt University School of Medicine, Nashville, Tennessee, was to validate and expand the surgical Apgar score across a wide breadth of surgical specialties. Researchers collected intraoperative data for 123,864 procedures that involved all surgical specialties.

Lower scores were associated with an increased risk of death, although the strength of the association varied by specialty. For example, the probability of death by day 90 was 32% in cardiac patients with a score of 2 and only 4% among those with a score of 8. In burn patients, however, there was only a weak relationship between Apgar score and death.

For most specialties, the association between Apgar score and mortality generally decreased as the time after surgery increased, suggesting that the score’s predictive ability ceases to be helpful over time.

After adjusting for the patients’ American Society of Anesthesiologists classification, the Apgar score remained associated with mortality among most of the specialties.

The researchers concluded that the surgical Apgar score can be applied across many surgical specialties to provide an objective means of predicting and communicating patient outcomes as well as planning potential interventions.


Dangerous pathogens found on patient, visitor cell phones

The cell phone has become an essential accessory of life today. In hospitals, it provides fast and easy access to lab results, imaging, and consultation calls in case of an emergency. Some researchers, however, have reported that cell phones of medical personnel may be a potential source of bacterial pathogens in the hospital.

In this study, researchers from Turkey examined whether cell phones of health care workers, patients, patients’ companions, and visitors carry any pathogenic bacteria likely to cause infections in hospitalized patients. They analyzed samples from 200 mobile phones—67 belonging to staff and 133 to patients, their companions, and visitors.

Nearly 40% of the patient group phones and 20.6% of the staff phones tested positive for pathogens. Seven patient phones contained multidrug-resistant pathogens, such as methicillin-resistant Staphylococcus aureus (MRSA) and multiple-resistant gram-negative organisms. No such pathogens were found on staff phones.

The researchers concluded that in addition to medical personnel, infection prevention professionals must consider patients’ cell phones as a potential source of infection. Specific infection prevention measures may be required for this threat.

Risk model for postoperative stroke

Stroke, a leading cause of morbidity and mortality in the US, occurs in the postoperative period. Prospective studies assessing risk factors for postoperative stroke have been limited, however, because of the low incidence in noncardiac, nonneurologic patients.

The objective of this study from the University of Michigan, Ann Arbor, was to assess the incidence and predictors of postoperative stroke and its role in mortality in noncardiovascular, nonneurosurgical cases. Researchers analyzed more than 500,000 patients in the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) database and developed a risk model to predict the occurrence of stroke.

The researchers found that postoperative stroke occurs in 0.1% of patients having noncardiac, nonneurologic surgery, with an 8-fold increase in mortality within 30 days.

- Predictors include:
  - history of stroke or transient ischemic attacks age 62 years or more
  - myocardial infarction within 6 months before surgery
  - hypertension
  - current tobacco use
  - body mass index 35-40 kg/ m2.

  The researchers concluded that noncardiac, nonneurologic surgery carries a risk of postoperative stroke, which is associated with higher mortality. The risk model developed in the study may be beneficial in determining the risk and prevention of this complication.


SSIs and costs in obese patients undergoing colon surgery

Obesity is known to be a risk factor for surgical site infections (SSIs), which tax the health care system.

The objective of this study from the Johns Hopkins University School of Medicine, Baltimore, was to measure the effect of obesity on SSI rates and to define the cost of SSIs in colorectal surgery patients.

Researchers analyzed claims data from 8 different Blue Cross and Blue Shield insurance plans and identified 7,020 patients of whom 1,243 were obese.

Obesity increased the risk of SSIs after colectomy by 60%, and the presence of an SSI increased costs by more than $17,000.

Total length of stay was longer in patients with infections (9.5 vs 8.1 days), and the risk of hospital readmission was 3 times greater.

The researchers concluded that pay-for-performance polices should account for this increased
rate of SSIs and the cost of caring for obese patients. Failure to consider these differences may penalize surgeons who care for obese patients and may affect obese patients’ access to surgery.


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Surgical Trends

Effect of QRS duration on benefit from cardiac resynchronization therapy

Cardiac resynchronization therapy (CRT), also known as biventricular pacing, has been shown to reduce clinical events in patients with heart failure and prolonged QRS intervals.

The objective of this meta-analysis from researchers at Case Western Reserve University School of Medicine, Cleveland, was to determine whether the effect of CRT on adverse clinical events is different in patients with moderately (120-143 milliseconds) vs severely (150 milliseconds or more) prolonged QRS intervals. Five randomized studies involving 5,813 patients were included in the analysis.

Patients with severely prolonged QRS intervals had a 60% reduction in risk of death and other serious events. However, in patients with moderately prolonged QRS intervals, CRT had almost no effect.

The researchers concluded that the results of this study have implications for the selection of patients for CRT.


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Mortality decreased for high-risk surgical procedures

During the past decade, there has been considerable interest in concentrating selected surgical procedures in high-volume hospitals. Whether these efforts have altered referral patterns for high-risk surgery remains uncertain. Also, the net effects on operative mortality are difficult to predict.

In this study from the University of Michigan, Ann Arbor, researchers evaluated trends in the use of high-volume hospitals for 8 high-risk cancer and cardiovascular procedures. They also examined trends in operative mortality rates associated with these procedures and the extent to which decreases in mortality could be associated with a concentration of surgical care in high-volume hospitals. Data from 3.2 million Medicare patients from 1999 to 2008 were involved in the analysis.

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Operative mortality dropped substantially during this time period. Higher hospital volumes and market concentration for several cancer procedures were responsible for much of the drop, with a decrease of 67% for pancreatectomy, 37% for cystectomy, and 32% for esophagectomy.

Smaller decreases were attributed to volume for lung resection (16%), abdominal aortic aneurysm repair (11%), and aortic-valve replacement (9%). Hospital volume was not associated with declining mortality for coronary bypass and carotid endarterectomy procedures.

The researchers concluded that referral to high-volume centers should continue to be encouraged, but for most high-risk procedures, strategies such as OR checklists, outcomes-measurement and feedback programs, and quality improvement collaboratives are likely to be more effective than high volume.


Similar survival rates for transcatheter and open AVR

The use of transcatheter aortic valve replacement has been shown to reduce mortality in high-risk patients with aortic stenosis who are not candidates for open surgery. However, the two procedures have not been compared in high-risk patients who are still candidates for open surgery.

This report describes the results of the PARTNER (Placement of AoRTic tranScathetER valves) trial—the first randomized clinical trial of a transcatheter aortic valve—which involved 699 patients with severe aortic stenosis at 25 centers in the US, Germany, and Canada.

At 30 days after surgery, death from any cause occurred in 3.4% of the transcatheter group and 6.5% of the open group. After a year, the risk for death was similar at 24.2% and 26.8%.

Major strokes and vascular complications were more common in the transcatheter group, and major bleeding and new-onset atrial fibrillation were more common in the open group.

The researchers concluded that less invasive transcatheter aortic-valve replacement and open replacement have similar 1-year survival rates for patients at high risk for surgery.

An accompanying editorial calls the increased risk of stroke associated with the transcatheter procedure “a special concern.”


Survival among older, high-risk patients after bariatric surgery

Previous bariatric surgery survival studies have examined outcomes in younger, primarily white, female patients whose obesity-related mortality risk is low. Obesity related mortality is highest in men and minority patients who have high rates of comorbid diseases. These patients would potentially benefit from bariatric surgery.

The purpose of this study led by researchers from the Durham VA Medical Center, Durham, North Carolina, was to determine whether bariatric surgery is associated with reduced mortality in predominantly older male high-risk patients.

Mortality was examined for 850 veterans who had bariatric surgery from January 2000 to December 2006 at Veterans Affairs medical centers and 41,244 nonsurgical controls from the same 12 Veteran Integrated Service Networks. Mean follow-up was 6.7 years.

Eleven of the 850 surgery patients (1.29%) died within 30 days of surgery. In unadjusted analysis, bariatric surgery was associated with reduced mortality. Surgical patients had lower crude mortality rates than nonsurgical controls at 1 year (1.5% vs 2.2%), 2 years (2.2% vs 4.6%) and 6 years (6.8% vs 15.2%). However, in further analysis that included 1,694 propensity-matched patients (comparison of patients who appear to be similar in many ways, except that 1 of the matched patients had surgery), bariatric sur-
urgery was not significantly associated with reduced mortality.

The researchers concluded that the use of bariatric surgery compared with usual care was not associated with reduced mortality in older obese men. However, many men may still choose to undergo surgery because of the significant reductions in body weight and comorbidities and improved quality of life associated with the procedure.


Additions or changes include:
- expanded details on critical reprocessing steps, including cleaning and drying
- reprocessing issues for various scope attachments, such as flushing catheters
- risks related to periprocedural practices, including medication administration
- newly recognized issues for which there are incomplete data to guide practice, such as endoscope shelf life, role of microbiological surveillance testing after reprocessing, and scope durability and longevity.

Centers for Disease Control and Prevention

Guide to Infection Prevention in Outpatient Settings: Minimum Expectations for Safe Care. The Centers for Disease Control and Prevention has released a new Guide to Infection Prevention in Outpatient Settings. The recommendations included in the guide are not new but reflect existing guidelines from the CDC and Healthcare Infection Control Practices Advisory Committee.

According to the CDC, the need for guide was prompted by the transition of healthcare from inpatient to outpatient settings, plus outbreaks of infections associated with breakdowns in basic infection prevention techniques, such as the reuse of syringes.
A section of the guide is devoted to injection safety practices.

Centers for Medicare and Medicaid Services

Medicaid Program; Payment Adjustment for Provider-Preventable Conditions Including Health Care-Acquired Conditions. Final Rule. The Centers for Medicare and Medicaid Services issued a final rule on June 1 that will prohibit Medicaid payments for about 2 dozen health care-acquired conditions, including:

- surgery on the wrong patient, wrong site, and wrong surgery
- retained foreign objects after surgery
- surgical site infections following coronary artery bypass grafting, bariatric surgery, and orthopedic procedures on the spine, neck, shoulder, and elbow
- deep vein thrombosis and pulmonary embolism following total knees and hips.

States have until July 2012 to comply with the rule. About 21 states already have such a nonpayment policy in place. This rule, under the 2010 Patient Protection and Affordable Care Act, expands the ban nationwide.

Joint Commission

New 2012 National Patient Safety Goal – Catheter-Associated Urinary Tract Infection (CAUTI). The Joint Commission has approved a new National Patient Safety Goal for 2012 that focuses on catheter-associated urinary tract infections (CAUTIs) in hospitals and critical access hospitals. The goal does not apply to pediatric patients.

The goal, NPSG.07.01, states: Implement evidence-based practices to prevent indwelling CAUTI. The elements of performance are posted on the Joint Commission website.

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