**Anesthesiology**

**Duration of blood storage not related to postop mortality**

Previous studies have linked duration of blood storage to the risk of postoperative complications, especially after cardiac or trauma surgery, but limited data have been available for noncardiac surgical patients.

This retrospective study of nearly 7,000 general surgery patients at the Cleveland Clinic evaluates whether storage duration of transfused erythrocytes is associated with postoperative all-cause mortality in noncardiac surgical patients.

Patients were placed in 3 storage-duration groups: 14 days or less, more than 14 days but less than 28 days, and more than 28 days.

The researchers found no evidence that increasing storage duration was associated with a difference in the risk of postoperative mortality.

The findings represent another piece in a large puzzle to resolve the blood storage debate, the authors say.

An accompanying editorial notes that this study is important because these patients represent a less critically ill population compared with other blood storage studies.


**Infection control**

**Catheter hub disinfection caps cut CLABSI rates in half**

Catheter hub decontamination requires a thorough scrub, and compliance varies. Using a cap that continuously applies alcohol may eliminate the variations in scrub technique and compliance.

In this study, researchers from the NorthShore University HealthSystem, Evanston, Illinois, assess the efficacy of 70% alcohol-impregnated caps versus the standard protocol of scrubbing the central line catheter hub with an alcohol disinfectant wipe to reduce contamination of the intraluminal catheter space and prevent central line-associated bloodstream infections (CLABSI).

Contamination rates declined from 12.7% using the standard cleaning protocol to 5.5% when the disinfection cap was used, and increased back to 12% when the cap intervention was stopped and the standard protocol was reinstated.

Bacterial CLABSI decreased from 1.43 per 1,000 line days to 0.69 using the disinfection caps and returned to 1.31 per 1,000 days when the intervention was suspended.

The authors estimate that systemwide implementation of the disinfecting caps would prevent 21 CLABSI and 4 deaths each year in their 930-bed hospital system.


**Patient safety**

**Rate of surgical ‘never events’ quantified at 4,000 per year**

Payers are increasingly focusing on “never events” (totally preventable events that should never occur) as metrics of quality care. Medicare and several states have announced that hospitals will be penalized for such events in pay-for-performance programs.

In this study, Johns Hopkins researchers examine the financial burdens never events place on the health care system, outcomes of patients after these
events, and characteristics of providers involved in their occurrence.

Using data on 9,744 malpractice settlements from the National Practitioner Data Bank, a federal repository of medical malpractice claims, the researchers estimated that 80,000 surgical never events occurred in US hospitals between 1990 and 2010. Malpractice payments on the claims totaled $1.3 billion.

Results showed US surgeons left foreign objects inside patients 39 times a week, performed the wrong procedure 20 times a week, and operated on the wrong body site 20 times a week.

Mortality occurred in 6.6% of patients, permanent injury in 32.9%, and temporary injury in 59.2%.

Surgeons between the ages of 40 and 49 were responsible for more than one-third of the events compared to 14.4% for surgeons over the age of 60. A total of 62% of surgeons were cited in more than one malpractice report. Of surgeons named in a never event claim, 12.4% were named in at least one other claim.

The authors concluded that surgical never events are costly to the health care system and are associated with serious harm to patients. This is the first study to quantify the national rate of never events.


Risk factors for retained surgical items

Despite efforts to minimize the occurrence of retained surgical items (RSIs), these incidents continue to happen. Because the number of RSIs in a single institution is low and because of medicolegal implications, large studies are few, and risks have not been fully defined.

The goals of this multicenter, retrospective study were to better define risk factors for RSIs, clarify previous discrepant risk factors, and evaluate other possible contributors to RSI occurrence, such as trainee presence during a procedure. The analysis included 59 RSIs and 118 matched controls from 5 institutions.

Multivariate analysis confirmed that the previous discrepant risk factors of body mass index, unexpected intraoperative events, and longer duration of surgery were linked to increased RSI risk.

The occurrence of any safety variance, specifically an incorrect count, at any time during the procedure was independently associated with increased RSI risk. For 45 of 59 cases, the counts stated as correct were actually incorrect. In 13 of 27 cases, an RSI was missed on initial confirmatory x-rays. In 2 of 32 cases in which radiofrequency tagging systems were used, RSIs were missed.

The presence of a surgical trainee was associated with a 70% lower RSI risk, compared with no trainee.

The researchers recommend that facilities maintain a well-defined surgical safety policy and foster a culture of zero tolerance toward policy deviations. In addition, a goal-oriented approach to discrepant counts, including standardized recount and wound exploration followed by x-ray when the initial maneuvers fail to reconcile the counts, should be universally practiced.
Nurses’ work environments linked to readmission rates

Preventable hospital readmissions are a source of unnecessary costs to Medicare of more than $15 billion annually. Under the Affordable Care Act, the Centers for Medicare and Medicaid Services will reduce payment to hospitals with higher than expected readmission rates for pneumonia, heart failure, and myocardial infarction.

This study from the University of Pennsylvania School of Nursing, Philadelphia, analyzes the relationship between hospital nursing (ie, nurse work environment, staffing levels, and education) and 30-day readmissions for Medicare patients with these conditions. Analysis included data from more than 200,000 nurses and 412 hospitals in California, Pennsylvania, and New Jersey.

Care in a hospital with a good versus poor work environment was associated with odds of readmission that were 10% lower for pneumonia, 7% lower for heart failure, and 6% lower for myocardial infarction patients.

Each additional patient per nurse in the average nurse’s workload was associated with a 9% higher odds of readmission for myocardial infarction, 7% higher for heart failure, and 6% higher for pneumonia patients.

The researchers concluded that improving nurses’ work environments and staffing may prevent readmissions.

Impact of length of stay on readmission rates after CABG surgery

Certain efforts to contain health care costs have focused on lowering hospital resource use through reduction in hospital length of stay (LOS). For patients undergoing coronary artery bypass (CABG) surgery, efforts to reduce LOS through the introduction of protocols and guidelines have been highly successful.

One concern is that payers such as Medicare have pushed hospitals to reduce LOS at the expense of putting patients at a higher risk for postdischarge
adverse outcomes such as major complications, readmissions, and mortality.

Researchers from the University of Rochester, Rochester, New York; University of California, Irvine; and the University of Iowa Carver College of Medicine, Iowa City, conducted this study to determine the effect of postoperative LOS on 30-day readmissions after CABG surgery. The researchers analyzed 157,070 Medicare claims of beneficiaries undergoing CABG surgery during 2007-2008 using naive and instrumental variable logit models.

Instrumental variable analysis predicted that a 1-day reduction in median postoperative LOS increased the 30-day readmission rate by 3%.

The results provide empirical evidence supporting the concern of the negative impact of reduced hospital LOS on postdischarge outcomes, the researchers concluded. Efforts to improve the outcomes and efficiency of care for bypass surgery should focus on care during the initial admission and after discharge.


—http://journals.lww.com/lww-medicalcare/pages/default.aspx

Quality improvement

Prospective collection of adverse events improves M&M conference

The morbidity and mortality (M&M) conference provides an open review process for surgeons and trainees to examine their surgical practice, identify adverse events, critique outcomes, and correct errors. This collaborative peer review process is essential to the identification and measurement of outcomes in an institution.

Despite advancing standards in surgical quality and safety, however, M&M data reporting has lagged behind. The fundamental weakness is the traditional retrospective method of data collection, frequently by inexperienced trainees. In addition, adverse events are often discussed in isolation, without consideration of previous similar events.

In this study from Galway University Hospital, Galway, Ireland, researchers compare the efficacy of their institution’s traditional retrospective M&M data collection with that of prospective data collection via the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) 30-day complication proforma.

A pilot study using the paper-based proforma was done to collect prospective M&M data for 2,094 colorectal, upper GI, breast, and vascular patients. The proforma data was compared to the traditional data collection to analyze the accuracy of M&M data reporting.

The number of individual adverse events captured by the proforma was 547, compared to 316 with traditional M&M data collection. The number of mortalities coded in the traditional data was 37, compared with 41 captured by the proforma. This translated to a 73% increase in morbidities and a 10.81% increase in mortalities reported with the proforma.

The researchers concluded that prospective standardized incident recording with the proforma provides a significantly more accurate assessment of M&M data compared with traditional retrospective methods.


—http://www.journalacs.org/
Surgical site infection

Bundle reduces colorectal surgery SSIs

Colorectal surgery is associated with higher surgical site infection (SSI) rates than other types of surgery. The absence of consistent risk factors for colorectal surgery SSIs speaks to the complexity of the problem and suggests that a single intervention to decrease rates substantially is unlikely.

In this study, researchers from the Mayo Clinic College of Medicine, Rochester, Minnesota, used Lean Six Sigma to develop a colorectal SSI-reduction bundle that spanned the entire surgical episode from preoperative preparation to postdischarge. Bundle processes included:

- patient cleansing
- antibiotic administration
- closing protocol at time of fascia closure
- patient and hand hygiene
- patient education on wound care and recognizing infection symptoms
- follow-up phone calls from nurses.

American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) data were used to identify patterns of SSIs during a 2-year period, and monthly ACS NSQIP data were used to track progress.

The overall colorectal SSI rate for 2009 and 2010 was 9.8%. After implementation of the bundle in 2011, the overall SSI rate fell significantly to 4.0%. Superficial SSIs declined significantly from 4.9% to 1.5%. Organ space infections decreased from 4% to 2.65%, not a significant change.

The researchers concluded that the substantial and sustained decline in SSIs after bundle implementation in their institution supports that changes in their processes resulted in SSI reduction. The researchers were not able to identify which specific elements contributed to the reduction.


—http://www.journalacs.org

Standards and recommendations

Accreditation Association for Ambulatory Health Care

Patient Safety Toolkit: Ambulatory Surgery and Obstructive Sleep Apnea. The Accreditation Association for Ambulatory Health Care has developed a toolkit to help care for ambulatory surgery patients with obstructive sleep apnea.

The toolkit covers patient management from screening to postdischarge. Guidelines for safe anesthesia and recovery treatment also are explained.

The association is sending the laminated toolkit

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Association of periOperative Registered Nurses

Revised AORN Position Statement on RN First Assistants. The RNFA Futures Task Force revised the AORN Position Statement on RN First Assistants (RNFAs) based on member comments and discussion at the 2012 Congress. The AORN Board of Directors has approved the revisions.

Among the changes:

• The requirement that as of January 1, 2020, a bachelor’s degree is required before entry into an RNFA program.
• The clause allowing those practicing without a bachelor’s degree prior to January 1, 2020, to continue to practice.
• The requirement to have CNOR certification to practice as an RNFA.


Food and Drug Administration

Class I recall of Zimmer PEEK Ardis Inserter. Zimmer Spine, Minneapolis, Minnesota, initiated a voluntary Class I recall, the most serious, of all 315 units of its PEEK Ardis Inserter. The inserter is used during spinal surgery to implant the PEEK Ardis Interbody Spacer.

Zimmer has received reports of the spacer breaking into fragments when too much lateral force is applied to the inserter. Health risks include dural tears, cerebrospinal fluid leakage, blood loss, and nerve injury that could result in disability, dysfunction, or death.

Initially, Zimmer sent a memo to customers in November 2012 to inform them of the problem and provide precautions and guidance to decrease the risk of implant breakage. On December 20, 2012, Zimmer modified the memo to instruct surgeons and hospitals to immediately stop using the inserters and return them to Zimmer. Because the spacer cannot be implanted without the inserter, the entire PEEK Ardis Implant System will be unavailable until a redesigned inserter is cleared by the Food and Drug Administration.

http://www.fda.gov/MedicalDevices/Safety/ListofRecalls/ucm333581.htm

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