Incorrect counts used to assess risk factors for RSIs

Each year, retained surgical items (RSIs) are associated with an estimated 1,500 surgical procedures, which can result in substantial morbidity. Because these events are rare it is difficult to study them, but examining incorrect count incidents—which have higher sample sizes —may help in understanding risk factors for RSIs.

Researchers at Beth Israel Deaconess Medical Center, Boston, conducted a 12-month study to identify risk factors for incorrect counts. A multidisciplinary electronic incorrect count safety checklist (necessitating surgeon and nurse input) was introduced into the electronic perioperative information management system to build a predictive model for RSI cases. Incorrect counts trigger use of the checklist, which can be used to determine whether a count completed at the end of a case is consistent across disciplines (circuiting nurses, scrub personnel, surgeons).

Of nearly 24,000 surgical procedures, 84 (0.35%) resulted in incorrect count incidents.

In unadjusted analyses, increased case duration was strongly associated with increased risk of an incorrect count. In nested case-control analysis, case duration and the number of providers present were independently associated with more than double odds of an incorrect count.

The authors concluded that the findings that case duration and number of providers involved in the case were independent risk factors for incorrect counts may offer insight into risk-targeted strategies to prevent RSIs. This is the first study to quantitatively assess risk factors for surgical cases with an incorrect count, the authors say.


Surgical skill related to complications after bariatric surgery

The operating proficiency of the surgeon is assumed to be an important factor underlying variation in clinical outcomes after complex procedures. However, data are lacking on the relationship between technical skill and postoperative outcomes.

This study, led by researchers from the University of Michigan, Ann Arbor, examines the relationship between surgeons’ technical skills and their complication rates after gastric bypass surgery.

Technical skills of the 20 bariatric surgeons involved in the study varied widely—ranging from 2.6 to 4.8 on a scale of 1 to 5 (with higher scores indicating more advanced skill).

Compared with the top quartile, the bottom quartile of surgical skill was associated with higher complication (14.5% vs 5.2%) and mortality (0.26% vs 0.05%) rates.

The lowest quartile also was associated with longer procedures (137 vs 98 minutes), more reoperations (3.4% vs 1.6%), and higher rates of readmission (6.3% vs 2.7%).

The researchers concluded that greater surgical skill was associated with fewer postoperative complications and lower rates of reoperation, readmission, and visits to the emergency department.


Preoperative frailty score predictive of poor surgical outcomes

The decision about whether a patient can tolerate surgery is often subjective, especially with regard to the elderly, and a patient’s true physiologic state may
be misjudged. The concept of frailty is an important assessment tool in geriatric medical patients and is becoming more of a focus in surgical patients.

In this study, researchers from Emory University School of Medicine, Atlanta, examine preoperative measurements of frailty and their ability to reliably predict postoperative outcomes.

A total of 189 patients were evaluated for frailty in a preoperative clinic setting using the Hopkins Frailty Score, self-administered questionnaires, clinical assessment of performance status, and biochemical measures.

 Patients who scored “intermediately frail” or “frail” on the Hopkins Frailty Score were more likely to experience postoperative complications. Of all other preoperative assessment tools, only higher hemoglobin had a significant association and was protective for adverse postoperative outcomes.

The results demonstrate that the preoperative Hopkins Frailty Score is predictive of postoperative complications. This tool may allow surgeons to better risk-stratify patients and provide interventions preoperatively to mitigate poor surgical outcomes, the researchers conclude.


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History of falls related to postop complications in older patients

More than a third of inpatient surgical procedures are performed on patients aged 65 years or older. This proportion is expected to increase over time, and existing preoperative risk assessment strategies are not adequate to meet the needs of this patient cohort.

This study from the University of Colorado School of Medicine and Denver Veterans Affairs Medical Center, Denver, evaluates the relationship of a history of preoperative falls to postoperative outcomes in older adults undergoing elective colorectal and cardiac procedures.

The study included 235 patients (81 colorectal and 154 cardiac) with a mean age of 74 years. A total of 33% had preoperative falls.

A history of 1 or more falls in the 6 months before surgery was associated with:

- Postoperative complications. One or more complications occurred more frequently in patients with preoperative falls compared with non-fallers after colorectal (59% vs 25%) and cardiac (39% vs 15%) procedures.
- The need to be discharged to an institutional care facility. Discharge to a care facility occurred more frequently in those with prior falls compared to non-fallers in colorectal (52% vs 6%) and cardiac (62% vs 32%) patients.
- Thirty-day readmissions. Readmission rates were higher in patients with a history of falls compared with non-fallers following colorectal (19% vs 4%) and cardiac (23% vs 8%) procedures.

Results directly link the presence of a geriatric syndrome (ie, falling) to adverse postoperative outcomes—a finding not altered by the procedure performed, the authors say. Using a history of falls in
preoperative risk assessments of older patients instead of chronic diseases or organ dysfunction is a shift from current preoperative assessment strategies.


Quality improvement

Surgical readmissions linked with quality of care

Reducing hospital readmission rates is a priority for policy makers and clinical leaders. Little is known, however, about variation in readmission rates after major surgery and whether these rates are related to other markers of quality of care.

In this study, researchers from Harvard School of Public Health, Brigham and Women’s Hospital, and Veterans Affairs Boston Healthcare System, Boston, assess the relationships between readmission rates and other measures of surgical quality, including adherence to surgical process measures, procedure volume, and mortality.

Using Medicare data on 479,471 discharges from 3,004 hospitals, researchers calculated 30-day readmission rates after 6 major procedures: coronary artery bypass grafting, pulmonary lobectomy, endovascular and open repair of abdominal aortic aneurysm, colectomy, and hip replacements.

Results showed that approximately 1 in 7 patients discharged was readmitted within 30 days.

- Hospitals in the highest quartile for surgical volume had a significantly lower readmission rate than hospitals in the lowest quartile (12.7% vs 16.8%).
- Hospitals with the lowest surgical mortality rates had a significantly lower readmission rate than hospitals with the highest rates (13.3% vs 14.2%).
- High adherence to surgical process measures was only marginally associated with reduced readmission rates (highest quartile, 13.1% vs lowest quartile, 13.6%).

Patterns were similar when each of the 6 procedures was examined individually.

The researchers concluded that hospitals with high surgical volume and low surgical mortality have lower rates of surgical readmissions. Taken together, these findings offer evidence that surgical readmission rates are indeed linked with measures of surgical quality.


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Nurse staffing associated with readmissions

Beginning October 1, 2012, the Affordable Care Act’s Hospital Readmissions Reduction Program (HRRP) began penalizing hospitals based on excess readmission rates among Medicare patients.

Many evidence-based interventions intended to reduce readmissions, such as discharge preparation, care coordination, and patient education, focus on processes that are grounded in the fundamentals of nursing care. However, when nurses work in inadequately staffed environments, the delivery of these care processes is hampered.

In this study from the University of Pennsylvania School of Nursing, Philadelphia, researchers examine the relationship between RN staffing levels and the likelihood that a hospital is penalized under the HRRP.

The researchers found that hospitals with higher nurse staffing had 25% lower odds of being penalized for readmissions compared to hospitals with lower staffing.

By focusing on a system factor such as nurse staffing, administrators may be able to address multiple quality issues while reducing their likelihood of penalty for excess readmissions, the researchers concluded.

—McHugh M D, Berez J, Small D S. Hospitals with higher nurse staffing had lower odds of readmissions penalties than hospitals with lower staffing. Health Affairs. October 2013;32;1740-1747.

ASA class, length of stay seen as readmission risk factors

Readmission to the hospital after a medical or surgical stay has been identified as an area for quality improvement. The Centers for Medicare & Medicaid Services has described readmissions as an “expensive, adverse event for patients” and has begun public reporting of some readmission rates. Despite the interest in readmissions and policy initiatives, however, little is known about the incidence and factors predisposing patients to readmissions after most surgical procedures.

This study from researchers at Walter Reed National Military Medical Center, Bethesda, Maryland; Johns Hopkins University School of Medicine, Baltimore; and Emory Hospital, Atlanta, analyzes readmission rates and factors associated with readmission of more than 230,000 patients in the American College of Surgeons National Surgical Quality Improvement Program (ACS-NSQIP) database.

In multivariate analysis, American Society of Anesthesiologists (ASA) class and length of stay (LOS) were most strongly associated with readmission.

Readmissions for patients with a LOS of 10 days or fewer occurred at an incidence of 5% to 16% across surgical specialties. Overall 30-day readmission was 7.8%. The median ASA class was 2.

A scoring system on the basis of ASA class and LOS may help stratify readmission risk to target interventions, the authors say.


Robotic surgery complications underreported

Robotic surgery has been widely adopted by hospitals during the past decade, but its safety is still unclear because of a haphazard system for reporting complications. It has been suggested that robotic surgery complications may be more common than represented.
in Food and Drug Administration (FDA) adverse event reports.

This study from Johns Hopkins Hospital, Baltimore, evaluates FDA reporting among patients who sustained a complication during a robotic procedure.

For the study, the researchers reviewed the FDA device-related complication database (MAUDE) from January 1, 2000, to August 1, 2012. They also searched LexisNexis and PACER (Public Access to Court Electronic Records) to identify robotic surgery-related complications.

Of more than 1 million robotic procedures performed since 2000, only 245 adverse events were reported to the FDA, including 71 deaths.

Eight cases were not appropriately reported to the FDA. In 5 of these cases, no FDA report was ever filed. In 1 case, the FDA report was filed 1 year after the patient’s death and 2 weeks after a Wall Street Journal article cited the case. In another case, despite an injury being reported to an Intuitive Da Vinci system representative, the Intuitive supervisor failed to file the FDA report.

The cause of death was most often hemorrhage (21 patients). In 20 deaths the cause was not reported. Other causes of death included sepsis, cardiac arrest, multiorgan failure, and pulmonary embolus.

For those patients with nonfatal injuries, hysterectomy had the most complications (75 patients) followed by prostatectomy (30 patients).

Nearly half of nonfatal injuries (46.6%) resulted in permanent damage, 17.2% resulted in conversion to open surgery, and 15.5% resulted in a second surgical procedure.

The researchers call for standardized reporting of adverse events related to robotic devices. They suggest a database like the one maintained by the American College of Surgeons in which independent nurses identify and track adverse events as well as complications from traditional surgical procedures.


Standards and regulations

Food and Drug Administration

Unique Device Identification System. The Food and Drug Administration released its Unique Device Identification (UDI) system final rule on September 20 to provide a consistent way to identify medical devices throughout their distribution and use.

The UDI system consists of 2 core items:

• A unique number assigned by the device manufacturer to a device, called a unique device identifier. This identifier includes production-specific information, such as the product’s lot or batch number, expiration date, and manufacturing date.

• A publicly searchable database administered by the FDA, called the Global Unique Device Identification Database, which will serve as a reference catalogue for every device with an identifier.

Implementation of the UDI system will take
place over 7 years, beginning with devices that pose higher risks to patients, such as heart valves and hip prostheses.

Devices such as powered wheelchairs and blood glucose meters will follow.

http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm369276.htm

Centers for Medicare & Medicaid Services

Decision Memo for Bariatric Surgery for the Treatment of Morbid Obesity - Facility Certification Requirement (CAG-00250R3). On September 24, the Centers for Medicare & Medicaid Services ruled that it will no longer require Medicare patients to undergo bariatric surgical procedures at accredited facilities.

CMS says “the evidence is sufficient to conclude that continuing the requirement for certification for bariatric surgery facilities would not improve health outcomes for Medicare beneficiaries.”


Two-Midnight Rule Delayed 90 Days. Officials from the Centers for Medicare & Medicaid Services announced September 24 that government recovery auditors will delay scrutiny of short inpatient stays for 90 days while providers get acclimated to the new policy.

Under the policy, if a physician expects a beneficiary’s treatment to require a 2-night hospital stay and admits the patient under that assumption, the patient’s stay would be covered by Medicare Part A. The policy presumes that stays spanning less than 2 midnights should have been provided on an outpatient basis under Medicare Part B, which could result in high copayments for the beneficiary.

More than 100 members of the US House of Representatives signed a letter asking CMS to postpone the rule, saying “further modifications to the admission and medical review criteria are needed to ensure patients are not forced to spend more out of pocket for their care and that hospital are not unfairly subject to denied claims or made vulnerable to unnecessary RAC audits.”

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