

Conclusion. Hospital costs and earnings for two common surgical interventions varied substantially under a prospective payment system: SSIs after colon and CABG operations resulted on average in higher costs and lower earnings. A prospective payment system may add a strong financial incentive to reduce SSI rates after colon and CABG operations.

Disclosures. All authors: No reported disclosures.

2136. Systematic Review of Surgical Wound Class Reveals Marked Service-Related Discrepancies and Can Improve Appropriateness of Classification Impacting the Expected Number of Infections and the Standardized Infection Ratio (SIR)

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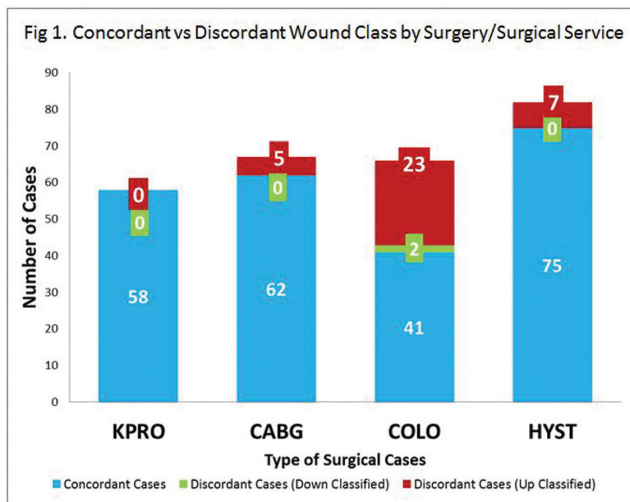
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Background. During surgical operations, surgical wounds are classified according to the wound classification system (I—clean; II—clean/contaminated; III—contaminated; and IV—dirty). Accuracy in assessing the degree of wound contamination is crucial since it greatly impacts the risk of a surgical site infection (SSI). Thus, wound classifications (WC) are determinant in calculating the expected number of SSIs. At our institution we suspected that surgical wounds were not always accurately classified, and were skewed toward under-classifying wound class. This contributed to incorrect and reduced expected SSIs and an inflated SSI Standardized Infection Ratio (SIR).

Methods. An independent team reviewed 273 surgical cases from our top priority SSI reduction areas: Prosthetic knees (KPRO), coronary artery bypass grafts (CABG), abdominal hysterectomies (HYST) and colorectal surgery (COLO). Whenever there was discordance in surgeon vs. review team WC, an arbitrator reviewed the case with the surgeon and corrected misclassified cases as appropriate. Reclassifications were documented in the medical record as well as in the National Healthcare Safety Network (NHSN) system.

Results. Figure 1 shows all WC reviews. Overall, 14% of all surgeries were misclassified and 95% of misclassifications were under-classifications. Appropriateness of WC varied widely by surgical service, with 100% concordant WC for KPRO, while 9% of HYST and CABG were misclassified, and fully 38% of COLOs were misclassified (Figure 1). These errors led to under predicting expected SSIs and, if not corrected, would have a measurable impact on our SSI SIR.

Conclusion. The inaccurate classifications vary by service/surgery, but in COLO we found them to be common and overwhelmingly skewed toward under-classification, which had a measurable impact on the number of expected SSIs and on SSI SIR. Focusing efforts on surgeries more prone to misclassification (such as COLO rather than KPRO) may be a worthwhile focused quality improvement effort.



Disclosures. J. P. Parada, Merck: Speaker's Bureau, Speaker honorarium.

2137. Risk Factors for Surgical Site Infection After Joint Replacement Surgery: Data from the Swiss National Surveillance System

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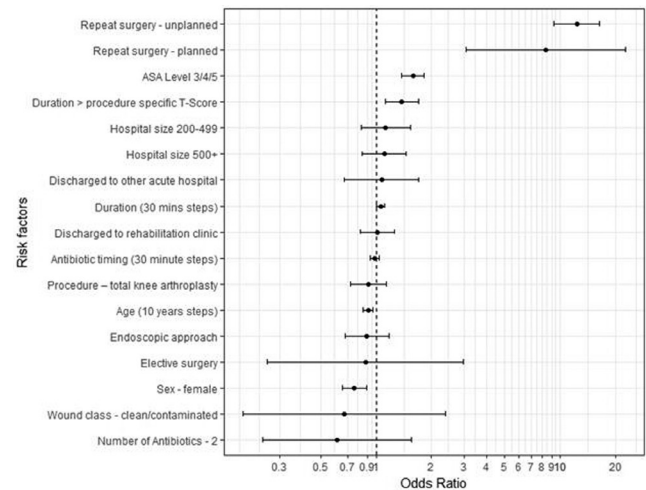
Background. Surgical site infections (SSIs) are infrequently observed after joint replacement surgery but have devastating consequences. Since 2009, a large network of Swiss hospitals prospectively collects data for the national SSI surveillance system. The aim of this observational study was to identify risk factors for SSI among patients undergoing elective hip and knee arthroplastic procedures.

Methods. Risk factors for SSI were identified using both univariate and multivariate logistic regression, appropriately adjusted for hospital level correlation effects among the 173 participating hospitals. We included procedural characteristics and risk categories in our analysis.

Results. We analyzed a total of 113,495 joint replacement procedures that occurred between June 2009 and September 2017. A 12-month follow-up was completed in 92.5% of cases. Overall, the cumulative SSI rate was 1.3% (n = 1,458), varying from 1.1% for knee to 1.4% for hip arthroplasty. Repeat surgery (unplanned or planned), higher ASA level, and longer than anticipated procedural time were associated with a significantly increased risk of infection (figure). Ninety-one percent of all SSIs (1,328) were detected in the post-discharge follow-up. Risk factors for pre-discharge SSIs were very similar to those mentioned above. Fifty-six percent of SSIs were observed within 30 days, 27% from 30 to 90 days after incision and 17% were observed >90 days after the procedure.

Conclusion. The SSI incidence after joint replacement surgery was low, with no significant difference between knee and hip surgery. Almost all SSIs occurred post-discharge, with risk factors being broadly the same, independent of when the infection occurred. Limiting the follow-up period to 90 days would have resulted in missing 17% of SSIs, which argues in favor of extended follow-up.

Figure: Risk factors for SSI following joint replacement surgery.



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2138. Impact of De-escalation of Antibiotic Surgical Prophylaxis in Lung Transplant Recipients

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Background. Guidelines for perioperative antibiotic prophylaxis in lung transplantation (LT) are limited; since *Pseudomonas* colonization has been linked to acute graft rejection and development of bronchiolitis obliterans syndrome, some centers utilize an anti-pseudomonal β -lactam as part of the surgical prophylaxis regimen. Internal data from our large academic medical center, a center that does not frequently transplant cystic fibrosis patients, identified low rates of *Pseudomonas* colonization and infection in LT patients. The surgical prophylaxis regimen was therefore narrowed from vancomycin/piperacillin-tazobactam (VPT) in 2013 to vancomycin/ceftriaxone (VCT). The purpose of this study was to examine the protocol change to on the incidence of *Pseudomonas* isolation in the post-operative period for lung transplant recipients.

Methods. This was a single-center, retrospective quasi-experimental before-after study of lung transplant recipients from July 2006 to February 2017 comparing patients