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Background. Approximately 3 million pediatric ambulatory surgical procedures are performed each year in the United States; however, little is known about the incidence of and risk factors for surgical site infections (SSI) after pediatric surgical procedures performed in these settings. Therefore, we aimed to describe the epidemiology of SSI in children after ambulatory surgery.

Methods. We conducted a prospective, observational study in a single health-care network with three ambulatory surgical facilities (ASF) and one hospital-based facility. We enrolled children <18 years who had an ambulatory surgical procedure between June 2012 and December 2015. Data on follow-up care were collected via a structured telephone interview (30–45 days post-surgery) and review of the electronic health record (EHR) 60 days post-surgery. We identified SSIs 30 days after surgery by applying 2010 National Healthcare Safety Network (NHSN) definitions. We also developed a broader definition of possible infectious events associated with surgery up to 60 days after surgery.

Results. We enrolled 8,502 surgical encounters; 64% occurred at the hospital-based facility. Three procedure categories (soft tissue excision, hernia, scrotal/penis) accounted for 56% of encounters at ASFs. We identified 21 NHSN defined SSIs (2.5 SSIs per 1,000 surgical encounters). In adjusted analysis, there was no difference between hospital-based facility and ASF SSIs rates. After adjusting for procedure type, we identified 404 surgical encounters with strong or some evidence of possible infection (48 per 1,000 surgical encounters). There was poor agreement of possible infections identified via parent interview vs. EHR. In multivariable analysis using the broader definition, older age and black race were associated with a reduced risk.

Conclusion. Using a rigorous surveillance definition, the incidence of surgical site infections was low after pediatric ambulatory surgery although our data suggest there may be additional infectious complications that are not captured by the NHSN definition. Given the annual rate of pediatric ambulatory surgery, even a low rate of infection may result in a significant medical burden.

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233. Cutibacterium acne Surgical Site Infections: Case Series From a University-Affiliated Hospital Network
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Background. Cutibacterium (formerly Propionibacterium) acne, residing on skin, hair follicles, and sebaceous glands, can persist in the dermal layer despite standard surgical skin preparations. Traditionally considered a colonizer, it’s been increasingly recognized as a cause of surgical site infections (SSI). We aimed to gain further clinical insight into C. acne’s role in SSI.

Methods. Study design: retrospective chart review. Study Time: January 1, 2013–December 31, 2017. Study Setting: Three hospitals within University of Wisconsin Hospital Affiliated Hospital Network.

Case Definitions: all patients with ≥1 postoperative culture positive for C. acne. We defined SSI by CDC criteria, and collected basic demographic and relevant clinical variables.

Results. We identified 77 patients with C. acne postoperative cultures: neurosurgical and orthopedic procedures in the U.S. Veteran population. It is unknown if there is a difference in the incidence of surgical site infections (SSI) among patients who undergo CTR in the PR vs. OR.

Methods. Patients records were queried using Current Procedural Terminology codes from a single Veterans Affairs Medical Center that underwent clean, elective CTR from October 2014 through April 2017 were reviewed. Demographic and clinical data were obtained through chart extraction. Multivariable logistic regression was used to assess the association between infection and patient demographic characteristics, clinical characteristics, and operating environment. The National Healthcare Safety Network definition for SSI was used.

Results. A total of 312 procedures were included in the analysis; 221 procedures in the OR and 91 in the PR. Mean age was 63 years; 88% male. Sixty-four (21%) smoked, 80 (26%) were diabetic. Mean BMI was 32.9 kg/m². The overall infection rate based on the Hospital-Acquired Condition Suppression (HAC) criteria was 1.7% (2/116). After adjusting for possible confounders, we identified a significant predictor of SSI (P = 0.02; OR = 2.50; CI 1.03–6.12). CTR performed in the OR had a similar risk for SSI compared with CTR performed in the PR. The mean total cost of CTR in the OR was $4,254 as compared with the PR total cost of $417.

Conclusion. The risk of SSI following primary and revision CTR in a high morbidity U.S. Veteran population was 2.88%, much higher than in nonveteran populations with lower morbidity. Other studies have found that pre-procedural optimization of modifiable risk factors such as blood glucose control, smoking status and weight

Disclosures. All authors: No reported disclosures.

2315. Costs vs. Earnings in Colon Surgery and Coronary Artery Bypass Grafting Under a Prospective Payment System: Sufficient Financial Incentives to Reduce Surgical Site Infections?
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Background. Little is known about actual hospital earnings in patients with and without surgical site infections (SSI) under a prospective payment system. To exemplify respective financial incentives for hospitals to prevent SSI, we aimed to compare hospital costs and earnings in colon surgery and coronary artery bypass grafting (CABG) patients, with and without SSI.

Methods. Based on a national and validated SSI surveillance cohort, we performed a nested financial analysis at a participating tertiary care center in Switzerland. Consecutive patients with colon operations and CABGs from January 2015 through December 2016; and from January 2015 through October 2016, respectively, were included. Co-primary outcome measures were actual hospital costs and earnings under a prospective payment system (SwissDRG), stratified by SSI status. A hospital's SSI status was performed as part of a standardized follow-up protocol at 1 month and one year after surgery.

Results. In colon surgery (n = 229), the median costs were $68,796 (interquartile range [IQR], $39,600–$95,217) with SSI and $26,256 (IQR, $18,282–$54,230) without SSI (unadjusted P = 0.001; adjusted P = 0.001). In CABGs (n = 433), the median costs were $117,170 (IQR, $57,329–$201,953) with SSI and $48,855 (IQR, $40,053–$67,860) without SSI (unadjusted P = 0.001; adjusted P < 0.001). In colon surgery, the median earnings were $117,170 (IQR, $57,329–$201,953) with SSI and $48,855 (IQR, $40,053–$67,860) without SSI (unadjusted P = 0.001; adjusted P = 0.001). In CABGs, the median earnings were $25,050 (IQR, $–54,060 to $–10,882) with SSI and $2,485 (IQR, $–13,009 to $4,917) without SSI (unadjusted P = 0.001; adjusted P = 0.001).

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2134. Risk of Surgical Site Infection Following Carpal Tunnel Release in the Operating Room vs. Clinic-Based Procedure Room Within a Veterans Affairs Medical Center
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Background. A clinic-based procedure room (PR) is a less restrictive environment compared with the traditional operating room (OR). PRs are increasingly being used for minor surgical procedures. Carpal tunnel release (CTR) is one of the most common surgical procedures in the U.S. Veteran population. It is unknown if there is a difference in the incidence of surgical site infections (SSI) among patients who undergo CTR in the PR vs. OR.

Methods. Records were queried using Current Procedural Terminology codes from a single Veterans Affairs Medical Center that underwent clean, elective CTR from October 2014 through April 2017 were reviewed. Demographic and clinical data were obtained through chart extraction. Multivariable logistic regression was used to assess the association between infection and patient demographic characteristics, clinical characteristics, and operating environment. The National Healthcare Safety Network definition for SSI was used.

Results. A total of 312 procedures were included in the analysis; 221 procedures in the OR and 91 in the PR. Mean age was 63 years; 88% male. Sixty-four (21%) smoked, 80 (26%) were diabetic. Mean BMI was 32.9 kg/m². The overall infection rate based on the Hospital-Acquired Condition Suppression (HAC) criteria was 1.7% (2/116). After adjusting for possible confounders, we identified a significant predictor of SSI (P = 0.02; OR = 2.50; CI 1.03–6.12). CTR performed in the OR had a similar risk for SSI compared with CTR performed in the PR. The mean total cost of CTR in the OR was $4,254 as compared with the PR total cost of $417.

Conclusion. The risk of SSI following primary and revision CTR in a high morbidity U.S. Veteran population was 2.88%, much higher than in nonveteran populations with lower morbidity. Other studies have found that pre-procedural optimization of modifiable risk factors such as blood glucose control, smoking status and weight

Disclosures. All authors: No reported disclosures.
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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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% classified and 95% of misclassifications were under-classifications. This contributed to incorrect and reduced expected SSIs and an inflated SSI Standardized Infection Ratio (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 expected number of 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.

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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 arthroplasty 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 use an anti-pseudomonal β-lactam as part of the surgical prophylaxis regimen, showed that early de-escalation of prophylaxis was associated with lower 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 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...