excluded. Univariate logistic regression and chi-square tests were used to compare antibiotic utilization for operative factors, demographics and comorbidities.

Results. The analysis included 174,202 fusion procedures, with 51.5% of surgeries involving the cervical spine, 81.3% involving 1–2 vertebral levels, and 53.05% using an anterior approach. The median patient age was 52 years and 55.3% were female. Post-operative prophylactic antibiotics were used in 3,611 (7.8%) of surgeries, with cefazolin (39.2%) and levofloxacain (10.5%) the most commonly prescribed. Post-discharge antibiotic use decreased significantly from 2010 to 2015 (8.3% of procedures in 2010 vs. 7.7% in 2015; P < 0.001; Cochran-Armitage test), was higher in rural areas (8.8% of rural vs. 7.6% of urban/suburban patients), and differed by U.S. region (8.5% South, 8.1% West, 6.9% North Central, 6.6% Northeast; P < 0.001). Patients prescribed prophylactic post-discharge antibiotics had more comorbidities including obesity, diabetes, pulmonary disease, hypertension, and psychoses (all P < 0.001). Post-discharge antibiotic use varied by surgical approach (9.6% anterior/posterior, 9.2% posterior only, 6.8% anterior only; P < 0.001) and spine region (9.4% lumbar, 6.7% cervical, 6.7% multiple regions, 6.1% thoracic; P < 0.001), and was more common when ≥2 vertebral levels were involved (P < 0.001).

Conclusion. Post-discharge antibiotic prophylaxis following spinal fusion surgery was associated with geographic, operative and patient factors.

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2130. Impact of Sarcopenic Obesity on Surgical Site Infection After Gastric Cancer Surgery: A Retrospective Study of 1,038 Patients

Jung Ho Kim, MD,1 Jinnam Kim, MD,2 Woon Il Lee, MD,3 Hye Seong, MD,3 Heeun Choi, MD,4 Je Eun Song, MD,5 Eun Jin Kim, MD,5 Jin Young Ahn, MD,5 Su Jin Jeong, MD/PhD,5 Nam Su Ku, MD, PhD,6 Taeil Son, MD,7 Hyoung Il Kim, MD,7 Sang Hoon Han, MD, PhD,8 Jin Yong Choi, MD, PhD,9 Joon Sup Yeom, MD, PhD,9 Woo Jin Hyung, MD,7 Young Goo Song, MD, PhD,7 Sang Hoon Noh, MD,7 and Eun Jung Myung Kim, MD, PhD,7 Department of Internal Medicine and AIDS Research Institute, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 2Department of Internal Medicine and AIDS Research Institute, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 3Department of Internal Medicine, Inje University Ilsan Paik Hospital, Goyang, Korea, Republic of (South), 4Department of Infectious Diseases, Ajou University School of Medicine, Suwon, Korea, Republic of (South), 5Division of Infectious Diseases, Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of (South), 6Division of Infectious Diseases, Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Republic of (South)

Session: 235. Healthcare Epidemiology: Surgical Site Infections Saturday, October 6, 2018: 12:30 PM

Background. Surgical site infections (SSIs) are the most common and expensive healthcare-acquired infection. Implementation of processes to prevent SSI can be difficult due to coordination of patients, providers, pharmacists, and nurses in ensuring all steps are completed before surgery. Thus, the objective of this nurse-driven process improvement project at a veterans affairs (VA) hospital, which averages 6,000 simple to complex surgeries per year, was to implement a cost-effective and practical decolonization protocol to decrease methicillin resistant Staphylococcus aureus (MRSA) SSIs across all surgical case types.

Methods. Starting May 15, 2017 a new MRSA decolonization protocol was initiated for surgery cases except eye. Pre-operative clinic nurses complete MRSA nasal screening and provide detailed pre-operative showering instructions which include a focus on preventing recontamination of the skin after showers. Before surgery, nurses provide intranasal Povidone-Iodine treatment. The surgery pharmacist ensures MRSA positive patients receive pre-operative vancomycin and ceftazolin if antibiotics are indicated for the surgery.

Results. For fiscal years (FY) 2012–2016 prior to protocol implementation, annual MRSA SSI rates ranged from 0.24–0.11 SSI per 100 surgery cases; the average SSI rate for this time period 0.17. After protocol implementation there were zero MRSA SSIs in FY17 quarter 3 lowering the FY17 SSI rate to 0.09 SSIs per 100 surgery cases (see Figure 1) Since implementation only 1 MRSA SSI has been identified making the last 4 quarter SSI rate 0.04 per 100 surgery cases (see Figure 2). This represents a 76% improvement in the 1 year MRSA SSI rate (0.04) compared with the previous 5 years MRSA SSI rate average.

Conclusion. Initial protocol results suggest that practical nursing interventions should be considered for implementation to decrease MRSA surgical site infections.

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2132. Infections After Pediatric Ambulatory Surgery: Incidence and Risk Factors

Jeffrey S. Gerber, MD, PhD1; Rachael Ross, MPH1; Rui Xiao, PhD2; A. Russell Localio, PhD3; Robert Grundmeier, MD,4 Susan Retting, BSN, CIC,5 Eva Teszner, RN, CIC6; Julia E. Szymczak, PhD7; Douglas Canning, MD7 and Susan E. Coffin, MD, MHP, FSHAE, FFIDS7; 1Department of Pediatrics, Division of Infectious Diseases, The Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, 2Department of Biostatistics and Epidemiology, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania, 3University of Pennsylvania, Philadelphia, Pennsylvania, 4General Pediatrics, The Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, 5Veterans Affairs Portland Health Care System, Portland, Oregon, 6Veterans Affairs Infection Prevention and Control, The Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, 7Biostatistics, Epidemiology
and Informatics, University of Pennsylvania, Philadelphia, Pennsylvania, 1 Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, 1 Center for Pediatric Clinical Effectiveness, Pediatric Infectious Diseases Epidemiology and Antimicrobial Stewardship Research Group, Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania

Session: 235. Healthcare Epidemiology: Surgical Site Infections
Saturday, October 6, 2018: 12:30 PM

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/telescopic) 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 (OR 0.7; 95% CI 0.2–2.3). Using the broader definition, 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 of 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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2333. Cutibacterium acne Surgical Site Infections: Case Series From a University-Affiliated Hospital Network
Allison Cornriet, MD; 1 Michelle Schmitz, CIT; 2 Nasia Saldaña, MD, PhD; 2 and Aurora Pop-Vicas, MD, MPH; 1 Medicine, ID Division, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin, 1Infection Control, University of Wisconsin Hospital and Clinics, Madison, Wisconsin, 1Medicine, University of Wisconsin, Madison, Wisconsin, 1Medicine, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Session: 235. Healthcare Epidemiology: Surgical Site Infections
Saturday, October 6, 2018: 12:30 PM

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 post-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 and Clinics. Case Definition: 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 (61%), orthopedic (17%), cardiothoracic (9%), general surgery (8%), and other surgical departments (5%). Forty-six (60%) of the patients were male. Time from surgery to positive culture was median 24 days (range: 1–670), with 30 > days in 36% patients. Infection and colonization were present in 77 and 23% of the patients, respectively. Infected patients were more likely to have wound infection on examination (OR 5.8; 95% CI 2.4–13.7, P = 0.0001), but had no significant difference in temperature, leukocytosis, or C-reactive protein compared with colonized patients. Additional surgeries for debridement, implant revision, or device re-implantation were needed in 62% of the patients. Length of hospital stay due to SSI was prolonged by median 6 days (range: 0–333). Median antibiotic duration was 2 weeks, with 25% patients receiving antibiotics for 26 weeks. Infection outcomes included cure (86%), chronic infection (3%), transition to hospice (3%), and recurrence (8%). All six patients with recurrences had neurosurgery and did not receive antibiotics after the initial positive culture (infection not recognized).

Conclusion. SSI caused by C. acne are associated with significant morbidity, especially in patients undergoing implant-related neurosurgical or orthopedic procedures. Due to low virulence and slow-growing properties, time to infection may be prolonged, and traditional inflammation markers may be lacking. Early recognition of infection, while challenging, is crucial to improving postoperative patient outcomes.

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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
Amanda Silvis, MPH; 1 V. Franklin Sechriest II, MD; 2 Amy Gravely, MA; 1 and Aaron S. DeVinney, MD, MPH, FIDSA; 1 1Minneapolis Veterans Affairs Medical Center, Minneapolis, Minnesota, 2Department of Veterans Affairs Surgical Diseases, Minneapolis Veterans Affairs Medical Center, Minneapolis, Minnesota

Session: 235. Healthcare Epidemiology: Surgical Site Infections
Saturday, October 6, 2018: 12:30 PM

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. 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. 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 between hospital-based facility and ASP SSIs rates (OR 0.7; 95% CI 0.2–2.3). Using the broader definition, 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 of the broader definition, older age and black race were associated with a reduced risk.

Conclusion. The rate 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 is important. There was no difference in rate of SSI between the OR and PR environments. Revision CTR appears to be higher risk for SSI. A larger sample size is important to validate these findings. Minimally invasive procedures performed in a PR could lead to greater patient satisfaction, access to surgery, higher efficiency, and a 10-fold cost-savings.

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2135. Costs vs. Earnings in Colon Surgery and Coronary Artery Bypass Grafting Under a Prospective Payment System: Sufficient Financial Incentives to Reduce Surgical Site Infections?
Fabrice Juchler, MD, 1; 1 Ian Roth, MD; 1; 2 Alexander Schweiger, MD; 1; 3 Marc Dangel, MPH; 1; 2 Massimo Gugliotta, N’A; 1; 2 Manuel Battegay, MD; 1; 4 Friedrich Eckstein, MD; 1; 2; 5 Christoph Kettletrack, MD; 1; 2; 5 Christian Abshagen, Dr.; 1; Balthasar L. Hug, MD; 1; 2; John M. Boyce, MD and 1 Andreas F. Widmer, MD, MS; 1; 2 Division of Infectious Diseases and Hospital Epidemiology, University Hospital Basel, Basel, Switzerland, 2University of Basel, Basel, Switzerland, 3Swissnoso, Bern, Switzerland, 4Department of Finance, University Hospital Basel, Basel, Switzerland, 5Department of Cardiac Surgery, University Hospital Basel, Basel, Switzerland, 6Department of Visceral Surgery, University Hospital Basel, Basel, Switzerland, 7Department of Internal Medicine, Kantonsspital Luzern, Lucerne, Switzerland, 8J.M. Boyce Consulting, LLC, Middletown, Connecticut

Session: 235. Healthcare Epidemiology: Surgical Site Infections
Saturday, October 6, 2018: 12:30 PM

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. Admission to an 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–$54,320) 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 −$10,738 (IQR, $−50,000 to $23,492) with SSI and −$2,223 (IQR, $−13,009 to $4,917) without SSI (unadjusted P < 0.001; adjusted P < 0.038). In CABG, the median earnings were −$25,050 (IQR, $−54,060 to $−10,882) with SSI and −$2,485 (IQR, $−11,597 to $3,375) without SSI (unadjusted P < 0.001; adjusted P < 0.001).