

adjacent disc that were similar to those seen in bacterial discitis. As early as 2001 Stirling noted a relationship between discitis and *Propionibacterium acnes* cultured from disc space material obtained at discectomy. In 2013 Albert demonstrated that Modic type I changes, strongly associated with low back pain, responded to 100 days of antibiotic treatment in a large randomized controlled trial. The findings were controversial, and we proposed that modern microdiscectomy techniques would minimize the potential for contamination with the common skin bacteria reported most often in previous studies.

**Methods.** We performed a prospective uncontrolled case series of patients undergoing microdiscectomy for symptomatic disc degeneration or herniation. Subjects were greater than 18 years old, nonpregnant, with chronic low back pain, and meeting standard criteria for microdiscectomy. After giving informed consent, data were extracted from existing medical records and cultures of disc material were obtained at discectomy prior to perioperative prophylactic antibiotics, and were processed by standard methodology for aerobic, anaerobic and acid-fast bacterial growth.

**Results.** Thirty-three patients were included in the study, mean age 52.6 (SE 3.1), 19 females and 14 males. The study was terminated after these 33 cases when only one aerobic culture was positive from one male subject, and this for a minimal growth of *Staphylococcus epidermidis*.

**Conclusion.** If a significant fraction of chronic low back pain is indeed caused by chronic infection with low-virulence bacteria, this would be a paradigm shift in the evaluation and management of a common and often debilitating condition. In our study of patients with chronic low back pain undergoing microdiscectomy, we did not find evidence of chronic low-virulence bacterial infection.

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### 320. Variation in Use of Chronic Antibiotic Suppression (CAS) for Treatment of *Staphylococcus aureus* Prosthetic Joint Infection (PJI)

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**Background.** The Infectious Diseases Society of America (IDSA) guidelines observed that prescribing CAS for treatment of PJI is an unresolved issue. We aimed to characterize variation in the use of CAS while accounting for patient-level factors to identify targets for antimicrobial stewardship in the Veterans Affairs system.

**Methods.** A retrospective cohort study was conducted using data on veterans with a diagnosis of *S. aureus* PJI between 2003 and 2015. Patients managed with debridement, one-stage exchange (OSE), or two-stage exchange (TSE) were included. Differences in characteristics between any CAS and no CAS treatment (None) were determined by the Mann-Whitney U test for continuous variables and Fisher's exact test for dichotomous variables. Generalized linear-mixed models were used to calculate the risk standardized measure (observed to expected [O/E] ratio) of a hospital's CAS use.

**Results.** Nine hundred forty-four (75%), 310 (25%), and 11 (<1%) were managed with debridement, TSE, and OSE, respectively, among the 1,265 included patients. CAS was prescribed in 80% of debridement patients, 49% of TSE patients, and 100% of OSE patients. Patient factors associated with CAS use were different for debridement and TSE (table). Risk adjusted models demonstrated greater variability among facilities using CAS after TSE compared with debridement and the overall cohort (figure).

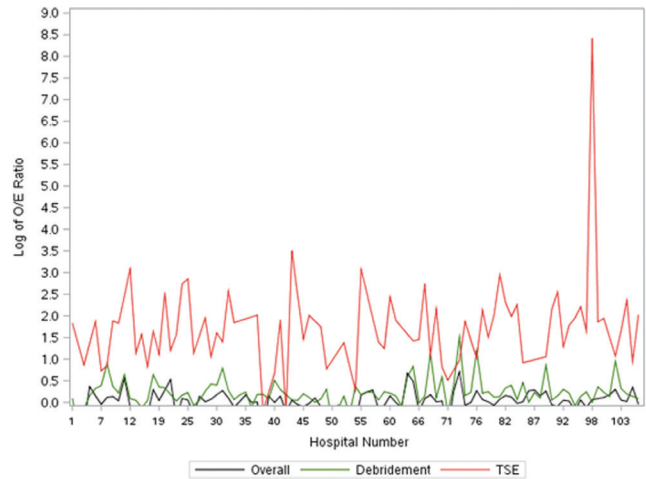
**Conclusion.** There is substantial variation in the use of CAS by patient characteristics for *S. aureus* PJI across the VHA system. This variation differs between debridement and TSE surgery patients. Further research is warranted to guide CAS recommendations.

**Table:** Characteristics for Overall Cohort and by Type of Surgery

	Overall	Debridement	TSE
Patient factors different between any vs. none CAS groups	Site of PJI (P = 0.001) Psychosis (P = 0.02) Erythrocyte sedimentation rate <sup>#</sup> (P = 0.0003) Serum creatinine <sup>#</sup> (P = 0.0002) C-reactive protein <sup>#</sup> (P = 0.0003) White blood cell count <sup>#</sup> (P = 0.0002) Receipt of dialysis (P = 0.006)	Age (P = 0.03) Coagulopathy (P = 0.03) Obesity (P = 0.007) Average income <sup>§</sup> (P = 0.01) Severity of illness at time of PJI (P = 0.04) Receipt of dialysis <sup>#</sup> (P = 0.0007)	Body mass index (P = 0.008) Serum creatinine <sup>#</sup> (P = 0.04) – – – – –

<sup>#</sup>After PJI revision surgery and prior to initiation of CAS.

<sup>§</sup>Year prior to PJI.



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### 321. Assessing the Role of Daptomycin as Antibiotic Therapy for Staphylococcal Prosthetic Joint Infection

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**Background.** Optimal antibiotic therapy following surgery for prosthetic joint infection (PJI) depends on potency, toxicity, convenience, and cost. Daptomycin, a potent, convenient, and low-toxicity antibiotic, is FDA approved for the treatment of skin and soft-tissue infections, but its role in treatment of PJI is less clear. We reviewed our experience with daptomycin in the treatment of staphylococcal PJI.

**Methods.** A retrospective cohort of staphylococcal hip and knee PJI treated with daptomycin after debridement (I&D) or two-stage exchange was identified by query of hospital coding records from 2009 to 2014, with subsequent chart review. All cases met Musculoskeletal Infection Society International Consensus criteria for PJI; all staphylococcal species were included. The primary endpoint was defined in debrided joints as retention of the prosthesis at 2-year follow-up, and for two-stage exchanges, as prosthesis retention for 2 years from reimplantation. Descriptive statistics were completed using the Fisher's exact test for categorical variables and the Mann-Whitney U test for continuous variables.

**Results.** Two hundred forty-one patients with staphylococcal PJI were identified: 148 two-stages (112 [75%] had success at 2 years) and 95 I&Ds (44 [47%] had success at 2 years). Twenty-eight (19%) two-stages and nine (10%) of debridements received daptomycin; of which, 20 two-stages (72%) and six debridements (66%) reached a successful 2-year outcome. In univariate analysis, there was no association between success and receipt of daptomycin in patients with staphylococcal PJI (two-stages, P = 0.71; debridement, P = 0.63). There were no associations noted between outcome and age, sex, or BMI.

**Conclusion.** Daptomycin appeared no better or worse than comparator antibiotics in a relatively large retrospective cohort of staphylococcal hip and knee PJI patients, regardless of surgical strategy. Given its favorable convenience and toxicity profile, it is an attractive antibiotic choice for staphylococcal PJI despite its high cost.

**Disclosures.** All authors: No reported disclosures.

### 322. Joint Spacer Retention, Antimicrobial Suppression, and Risk of Re-infection

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**Background.** Two-stage exchange is the standard treatment of periprosthetic joint infection in the United States. Occasionally, for selected patients, temporary antibiotic-loaded spacers are retained "permanently" instead of proceeding with prosthesis re-implantation. It is unclear whether the "retained" spacer represents a nidus for re-infection, and would require secondary antibiotic suppression to prevent recurrence of infection. We aim to determine the risk of re-infection among patients with retained knee and hip spacers, and assess the role of antibiotic suppression.

**Methods.** We identified 51 patients with retained static or articulating knee (n = 34) and hip (n = 17) spacers between 1996 and 2014 using the Mayo Clinic Hospital Orthopedic database. Medical records were reviewed to collect clinical data,