Results. Twenty-six PMPIs managed with DAIR were identified. Mean age of the infected patients was 66 years. 18 (69%) patients were female and 19 (73%) were Caucasians. Infected sites were hip in 15 (58%), knee in 10 (38%) and ankle in 1 (4%) patient. 22 (85%) patients had osteoarthritis, 3 (12%) had diabetes, 3 (12%) were on steroids and 1 (4%) had rheumatoid arthritis. Symptom onset of less than a week was noted in 14 (58%) and 3 or more weeks in 8 (31%) patients. Pain, swelling and drainage were present in 21 (81%), 13 (50%) and 18 (69%) cases. Fever on admission was noted in 7 (27%) patients. 11 (42%) patients were re-admitted in the following 12 months after DAIR. 2 (9%) patients developed superficial surgical site infection (SSSI) while 9 (38%) patients developed deep SSI. DAIR failure, noted in 23% of our cases, required implant removal within 12 months of follow-up.

Disclosures. All authors: No reported disclosures.

382. Difference in Pathogens Between Hip and Knee Prosthetic Joint Infection Michael Henry, MD; Milan Kapadia1; Joseph Nguyen; Barry Brause, FIDSA (MD) and Andy O. Miller, MD; 1Hospital for Special Surgery, New York, New York; 2Weil Cornell University Medical College, New York, New York

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Background. There is contradicting evidence characterizing the difference in pathogens that cause hip and knee prosthetic joint infection (PJII). A possible difference in microbiota may inform choices in antibiotic etiology, prophylaxis, and empiric treatment. We sought to analyze a large cohort of PJIs to see whether there was a significant difference in pathogen between joints.

Methods. A retrospective cohort of hip and knee PJIs, from 2008 to 2016, were identified by ICD code and surgical codes. The PJI pathogen was identified from synovial or intra-articular tissue cultures. The Student’s t-test was used to compare continuous variables. Chi-square tests were used to compare the categorical variables to joint.

Results. 807 PJI cases were identified including 444 knees and 363 hips. There were no significant differences between hip and knee PJIs in age, sex, history of PJII, rheumatoid arthritis, Charison comorbidity and laterality. There was a higher frequency of diabetes in knee PJIs (25.3%) compared with hip PJIs (15.7%), P < 0.001. No significant difference was found in the prevalence of fungal, staphylococcal (including Staphylococcus aureus), streptococcal, or enterococcal pathogens between knee and hip PJIs.

Conclusion. In this single-center cohort, hip and knees PJIs are infected with similar pathogens. Multiple site studies are needed to characterize the microbiology of PJIs at a larger scale.

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383. Rheumatic Disease Patients Have More Culture Negative Prosthetic Joint Infections: Are There Clinical Differences? Milan Kapadia1; Andy O. Miller, MD; Allina Nocem, PhD MPH; Peter Sculco, MD 1 and Susan M. Sepkay, PhD; 1Hospital for Special Surgery, Jersey City, New Jersey; 2Weill Cornell Medicine, New York, New York

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Background. Rheumatic disease (RD) patients are at increased risk for prosthetic joint infections (PJII), however, diagnosis is challenging because active RD may mimic joint infection. We aimed to assess the incidence of culture-negative (CN) PJII in a population of RD and osteoarthritic (OA) PJII using an institutional PJII registry. Baseline clinical differences between CN-RD and culture-positive (CP-RD) as well as the relationship of culture negativity to survivorship of the prosthesis were also evaluated.

Methods. A retrospective cohort of hip and knee PJIs, from 2009 to 2016, were identified by ICD code and use of RD-specific medications. CN cases were defined as PJIs with no evidence of microbial growth in intraoperative cultures. Demographics, medications, microbiology, surgical therapy and outcome were abstracted. Baseline characteristics were evaluated using Fisher’s exact and Chi-Square tests. Kaplan-Meier estimates were used to calculate survivorship.

Results. 803 PJI cases were identified including 36 RD (33 rheumatoid arthritis and 3 systemic lupus erythematosus) and 771 OA. A higher proportion of RD PJII were CN (N = 10, 27%) vs. OA PJII (N = 109, 14%), P = 0.02. Fewer CN-RD cases met PJII histopathology criteria compared with CN-OA, (P = 0.08). On average, RD-CN were younger than OA-CN (59 vs 69, P = 0.01), but no different than RD-CP cases. One year survivorship of CN-OA and CN-RD were 87% and 66%, respectively and 10% and 7% at 2 years. Comparing CN-RD vs. CP-RD, no difference was observed in age, smoking, diabetes, or Charison comorbidities, but a trend toward higher prevalence of prior PJII in the CN-RD group. Clinically, no differences were found in surgical treatment (P = 0.92) or use of biologics and DMARDs (P = 0.12) between CN and CP RD patients.

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Disclosures. All authors: No reported disclosures.

385. Arthroscopic vs. Open Surgery for Septic Arthritis of the Knee: A Systematic Review and Meta-Analysis
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Background. Septic arthritis is a joint-threatening and life-threatening infection, with the knee representing the most frequently involved joint. There is no definite treatment algorithm for the management of this condition, which typically includes surgical debridement to decompress the joint, followed by organism-specific intravenous antibiotics.

Methods. MEDLINE (1965–2018), SCOPUS (1973–2018), The COCHRANE Library (2006–2017), EMBASE (1974–2018), reference lists, and scientific meetings were searched for relevant studies on the treatment of native knee septic arthritis by three independent reviewers. No language restrictions were used. Selection criteria included all studies reporting on native knee septic arthritis in adults treated with arthroscopy and open arthrotherapy with irrigation and debridement. Data Collection and Analysis Studies were identified, subjected to inclusion and exclusion criteria, and reviewed by three independent reviewers. Patient characteristics, interventions, and outcomes were extracted, and the trials were ranked for quality based on established criteria. A meta-analysis was conducted for the primary outcome, reoperation occurring after arthroscopic vs. open arthrotherapy irrigation and debridement for the treatment of septic arthritis. We used a qualitative analysis for secondary outcomes physical function and hospital length of stay.

Results. From 624 abstracts, eight trials met inclusion criteria, one randomized controlled trial and seven retrospective cohorts. Quantitative meta-analysis showed arthroscopic irrigation and debridement resulted in fewer reoperations compared with open arthrotherapy (RR = 0.76; 95% CI 0.59–0.97, P = 0.03, I² = 24%), Figure 1. A qualitative summary of seven included studies assessing physical function showed arthroscopic debridement results in improved functional outcomes and range of motion compared with open arthrotherapy. Based on four trials, qualitative summary demonstrated that arthroscopic debridement decreases in hospital length of stay compared with open arthrotherapy.

Conclusion. Arthroscopic irrigation and debridement is favored over open arthrotherapy with regard to lower rates of reoperation, improved functional outcomes, and shorter hospital length of stay.

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386. Blue Light Reduces Cutibacterium (Propionibacterium) Acnes Bacterial Burden: Orthopedic Shoulder Infection Prevention Strategy?
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Background. Cutibacterium acnes (C. acnes) is a common shoulder periarticular joint infection (PJI). Blue light (BL) is effectively used in the dermatologic clinical setting against acne vulgaris caused by C. acnes. Photodynamic therapy (PDT) is the use of light source and photosensitizer (PS) to enhance antimicrobial activity. We studied the effect of PDT using BL and PS in vitro on shoulder PJIs isolates of C. acnes.

Methods. From 624 abstracts, eight trials met inclusion criteria, one randomized controlled trial and seven retrospective cohorts. Quantitative meta-analysis showed arthroscopic irrigation and debridement resulted in fewer reoperations compared with open arthrotherapy (RR = 0.76; 95% CI 0.59–0.97, P = 0.03, I² = 24%), Figure 1. A qualitative summary of seven included studies assessing physical function showed arthroscopic debridement results in improved functional outcomes and range of motion compared with open arthrotherapy. Based on four trials, qualitative summary demonstrated that arthroscopic debridement decreases in hospital length of stay compared with open arthrotherapy.

Conclusion. Arthroscopic irrigation and debridement is favored over open arthrotherapy with regard to lower rates of reoperation, improved functional outcomes, and shorter hospital length of stay.

Disclosures. All authors: No reported disclosures.