sensitivity, specificity, positive predictive value and negative predictive value for MRSA surveillance swabs.

Results. One hundred seventy-two patients met inclusion criteria. Thirty patients had positive MRSA surveillance swabs. The prevalence of MRSA in joint cultures was 11.04%. The positive predictive value of MRSA surveillance swabs was 42.3% and the negative predictive value was 93.5% in all participants. The MRSA surveillance swab had a negative predictive value of 100% in participants with no risk factors for MRSA colonization.

Conclusion. The negative predictive value of MRSA surveillance swabs used independently is insufficient to confidently rule out MRSA as the causative pathogen in septic arthritis. When used in combination with MRSA risk factors, the absence of MRSA risk factors may help clinicians rule out MRSA as a causative pathogen.

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248. Outcomes of Patients with Prosthetic Septic Arthritis with Debridement and Implant Retention

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Session: P-12. Bone and Joint

Background. IDSA has published guidelines for the diagnosis and management of prosthetic joint infection (PJI). However, we have observed significant variability in the interpretation and application of these guidelines with respect to the management of those with PJI following debridement and implant retention (DAIR). It is not clear if variations in antimicrobial management are affecting clinical outcomes.

Methods. We performed a retrospective review at an academic hospital in rural New Hampshire. We included all adult patients from 1/1/2017 to 12/31/2018 with PJI of hip or knee who underwent DAIR. The demographic data, microbiology data, antibiotics treatment and duration were collected. The primary endpoint was overall re-infection rate within 2 years of surgery. Secondary endpoint was re-infection rate stratified by organism and antimicrobial type and duration.

Results. A total of 26 patients were included in our study. 65% involved knee joint. 50% had late-onset infection (>12 months). The top organisms were Streptococcus spp. (34%), CoNS (26 %) and MSSA (18 %). 15% were associated with bacteremia. Ceftriaxone was the most common antibiotic used (54 %). 38 % of patients received Rifampin PO along with IV antibiotics. All patients received PO antibiotic(s) after completing the course of IV therapy, and 7 patients were also on concomitant rifampin PO. The duration of PO antibiotic therapy was varied. 30% of patients received PO antibiotics for 6 months post IV treatment. Life-long suppression therapy were noted in 9 patients. Treatment failure within 2 years occurred in 8 patients (31%). Among those, 75% had Staphylococcal infection. All patients required hardware removal except one patient who required amputation. 2 patients developed recurrent PJI after completing 6 months and one year of PO suppression therapy, one patient had a recurrent infection while on life-long suppression. Staphylococcal infection was significantly associated with treatment failure.

Conclusion. Treatment of PJI with DAIR is challenging. Despite long-term IV therapy followed by oral antibiotics, there was a high rate of treatment failure (31% in our study) particularly with Staphylococcal infection. There was no association of variation of treatments and outcomes in our small cohort.

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249. Evaluation of 99 Radiologically-proven Osteomyelitis Cases

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Session: P-12. Bone and Joint

Background. Herein we aimed to evaluate osteomyelitis cases in our setting.

Methods. We evaluated the hospital records of patients with osteomyelitis between January 2013 and December 2020 retrospectively. Osteomyelitis was confirmed by direct radiography or magnetic resonance imaging or pathology. Demographic features, risk factors, clinical/laboratory findings, treatment response and mortality rates were evaluated. Clinical response was defined as (resolution of clinical signs including fever and purulent discharge and other symptoms) and/or negative culture at the end of antimicrobial therapy.

Results. Patients were 33 female, aged 29–85 years (mean 59±12.6). Fourty nine of the patients were diabetic foot infection, 30 were spondylodiscitis, eight were primary, seven were post-traumatic, and five were post-surgical osteomyelitis. Overall 62 patients had diabetes mellitus and 16 patients had chronic renal failure. Peripheral arterial disease, neuropathy, diabetic retinopathy and venous insufficiency rate in the DM subgroup is shown in table. Fever was present in 24.2% of the cohort. İncreasing of CRP was in 95,9%, erythrocyte sedimentation rate in 83,9%, and leukocytosis in 37.3%. The radiological findings of osteomyelitis were detected via magnetic resonance imaging in 73 patients. Etiology in biopsy cultures were elucidated in 59.5% and the most common pathogen was *S. aureus* (30%) Table1. The most common empirical treatment regimens were tigecycline in 27 patients, ampicillin/sulbactam in 19 patients and ceftriaxone+teicoplanin in 12 cases. Duration of treatment was 36,2±17.3 days (range 6-104 days). Overall, clinical response was obtained in 91.9%. Fifty patients were performed surgical procedure + antibacterial treatment, clinical response was 96% (p:0.091). Surgical debridement could be performed in 22 patients, clinical response was obtained in all (p:0.193). Thirteen patients developed recurrence within one year. Sixty-seven patients received oral consecutive treatment after discharge. In hospital mortality rate was 2/99 (2,02%).

Table 1. Main features of cases with osteomyelitis

Female	33/99 (33,3 %)
Age	59±12.6 years
Diabetes mellitus (DM)	62/99 (62,6 %)
Chronic renal failure	16/99 (16,1 %)
Peripheral arterial disease in DM	26/62 (41,9%)
Venous insufficiency in DM	6/62 (9,6 %)
Peripheral neuropathy in DM	23/62 (37 %)
Diabetic retinopathy in DM	20/62 (32,2 %)
Fever	24/99 (24,2 %)
Microbiologically proven osteomyelitis	59/99 (59,5 %)
S.aureus	18/60 (30 %)
P. aeruginosa	10/60 (16,6 %)
C.striatum	7/60 (11,6 %)
E.coli	6/60 (10 %)
Coagulase negative staphylococcus	6/60 (10%)
E.faecalis	5/60 (8,3 %)
Pathologically proven osteomyelitis	7/99 (7,07%)
Proven osteomyelitis by direct radiography	37/99 (37,3 %)
Proven osteomyelitis by MRI	73/99 (73,7 %)
End-of treatment clinical response	91/99 (91,9 %)
Relapse during one year follow up	13/99 (13.1 %)
Clinical-response+no relapse during one year follow up	78/99 (78.8%)

Conclusion. Despite surgical debridement and/or developed antimicrobial treatment, approximately 1/5 of osteomyelitis cases required further treatment Further interventions seem to be needed to reach better outcomes.

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250. An Assessment of the Penicillin Allergy Label in Patients Undergoing Orthopedic Procedures at a VA Medical Center

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Session: P-12. Bone and Joint

Background. Approximately 10% of the population is labeled as penicillin (PCN) allergic, while only 1% of these individuals have a true IgE mediated allergy. This label influences the prescription of the most appropriate antibiotic and ultimately leads to antimicrobial resistance, hospital readmission, increased length of hospital stays, use of critical care beds, and greater healthcare costs. Post-surgical complications in patients undergoing total knee arthroplasty (TKA) or total hip arthroplasty (THA) are also increased when patients receive an alternative antibiotic due to PCN allergy.

Methods. A retrospective chart review identified patients who underwent a TKA or THA during the 2018-2020 calendar years at the Washington DC VA Medical Center. Multiple operations at different times on the same patient were regarded as separate events. The primary outcome was patients who were evaluable for penicillin allergy de-labeling and the secondary outcome was perioperative antibiotic choice.

Results. Patients in both groups were predominantly male, Black, and over the age of 60. Of a total of 317 procedures performed, we identified 28 procedures in which patients carried a PCN allergy label (PAL) and received a β-lactam alternative antibiotic for surgical prophylaxis. No patients in the PAL group received cefazolin for prophylaxis, compared to 87% of the non-PAL group who were appropriately given cefazolin. In the group carrying the PAL, 62% of patients received vancomycin and 29% of patients received clindamycin for pre-operative prophylaxis. Only one of these patients had a formal allergy consult note, but the PCN allergy was not addressed during that visit. Fewer patients (4%) required ICU admission during their hospitalization in the non-PAL group versus 10% of patients in the PAL group.

Table 1. Patient Demographics and Procedure Detail

	non-PAL	PAL
Total number of patients	279	26
Age in years*	64 (59-72)	67 (60-73)
Gender		
Male	242 (83%)	20 (71%)
Race		
Black/African American	210 (72%)	18 (64%)
BMI (kg/m)*	29.5 (26.4 - 33.8)	31 (28-35)
ICU admission	12 (4%)	3 (11%)
MRSA nares colonization	10 (3%)	0
Positive cultures within 90 days of operation	10 (3%)	0
C. difficile rates	0	0
Total surgical procedures	289	28
Hip arthoplasty	133 (46%)	8 (29%)
Knee arthoplasty	156 (54%)	20 (71%)
* median (IQR)		

Conclusion. The use of alternative antibiotics in pre-procedural prophylaxis can contribute to adverse events associated with high-risk broader spectrum antimicrobials as well as increased costs associated with antimicrobials such as vancomycin. Our facility began implementation of a penicillin de-labeling program in 2018 via skin testing and direct oral challenge in collaboration with colleagues from Allergy and Immunology. Removal of PAL in this population can increase rates of appropriate prophylaxis.

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251. Poor Outcomes in the Treatment of Coagulase-Negative Staphylococci Periprosthetic Joint Infections

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Session: P-12. Bone and Joint

Background. Coagulase-negative staphylococci (CoNS) are a common skin flora often considered lab contaminants, but these pathogens can also be the cause of periprosthetic joint infections (PJIs). The role of these organisms in PJIs is not well characterized, with little data relating to treatment outcomes. We sought to evaluate success at one year for patients undergoing treatment for a CoNS PJI.

Methods. This is a retrospective cohort study of adults at a tertiary academic center from 2009 to 2020 with CoNS PJI. An institutional database was queried to identify potential patients and manually reviewed by two infectious disease specialists to confirm inclusion. Variables included sex, follow-up time, procedure type, age, race, Elixhauser score, success at one year, failure organism, and revisions. Both univariate and descriptive statistics were used to assess findings.

Results. We identified 61 patients with a CoNS PJI. The cohort was 50.8% male, with 49 patients identifying as Caucasian (80.3%), and 10 as African American (16.4%). The median age was 65.0 years old, the median Elixhauser score was 3.0, and the average follow-up time was 24.4 months. Of the 61 patients in the cohort, 24 underwent successful treatment (39.3%) at one year, and 37 failed treatment (60.7%). Within the failure group, 19 experienced persistence of the same organism (51.4%), 11 were infected by another organism (29.7%), and 28 underwent a revision surgery secondary to failure (76.9%). When stratified by treatment procedure after initial PJI, 26 (41.7%) received debridement, antibiotics, and implant retention (DAIR) whereas 35 (58.3%) underwent resection. Treatment success was not significantly different between the two procedures (p=0.964).

Summary of Treatment Success for CoNS PJI

	Stratified by Success at 1 year			
	Overall	no	yes	p
n	41	23	18	
Procedure Type = resection (%)	24 (58.5)	14 (60.9)	10 (55.6)	0.981
Patient Race (%)				0.629
BLACK OR AFRICAN AMERICAN	5 (12.2)	3 (13.0)	2 (11.1)	
CAUCASIAN/WHITE	34 (82.9)	18 (78.3)	16 (88.9)	
NOT REPORTED/DECLINED	1 (2.4)	1 (4.3)	0 (0.0)	
OTHER	1 (2.4)	1 (4.3)	0 (0.0)	
Follow-Up Time (mean (SD))	24.98 (19.17)	25.17 (22.29)	24.72 (14.87)	0.941
Patient Gender = MALE (%)	20 (48.8)	14 (60.9)	6 (33.3)	0.151
Age (median [IQR])	65.00 [57.00, 75.00]	64.00 [56.50, 74.00]	67.00 [57.25, 74.25]	0.733
Elix Sum (median [IQR])	3.00 [1.00, 5.00]	1.00 [1.00, 4.00]	5.00 [3.00, 6.00]	0.018

Conclusion. These results indicate that the success rate of treatment for CoNS PJI is less than for other organisms, such as coagulase-positive staphylocci. These results provide a focus for future research and clinical management of PJIs resulting from CoNS.

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252. Joint Decisions: Optimal Duration of Chronic Suppressive Antibiotics in Adults with Prosthetic Joint Infections Who Underwent Debridement, Antibiotics, Irrigation, and Retention of Prostheses

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Session: P-12. Bone and Joint

Background. Hip and knee arthroplasties are associated with complications including prosthetic joint infections (PJI). Management ranges from explantation to debridement, antibiotics, irrigation, and retention of prostheses (DAIR). In DAIR, patients receive intravenous antibiotics followed by chronic suppressive antibiotics. Current guidelines on suppressive antibiotic use after DAIR are unclear and based on expert consensus. This study seeks to elucidate the optimal duration of chronic suppressive antibiotics after DAIR.

Methods. This is a retrospective cohort study of adults in the Southern California Kaiser Permanente System with hip and knee prosthetic joint infections who underwent DAIR from 2007-2017. Culture data and durations of suppressive antibiotics were collected and patients were followed for 1 year after completion. Treatment failure was determined by mortality, re-infection, or prosthesis removal. Patients who received no antibiotics vs. less than 3 months vs 3 to 6 months vs greater than 1 year were compared.

Results. 350 charts were reviewed and 145 patients were included. There were 87 knee and 58 hip PJIs with 32 patients (22%) who failed treatment. There were more cases of failure when patients didn't receive suppressive antibiotics (27%) vs those who received any (19%), however the results were not significant. There were no significant differences in failure rates between short vs longer suppressive antibiotic courses regardless of the duration (Staph vs non-Staph, hip vs knee). Patients with Staphyloccocal infections and knee infections were significantly more likely to fail treatment (p=0.0196 & 0.0150, logistic regression).

Conclusion. This study shows the importance of suppression with oral antibiotics after PJIs are treated with DAIR. The lack of difference in treatment failure between the durations of suppressive antibiotics makes it prudent to consider shorter courses of antibiotics, while placing attention on patients with knee and Staphylococcal infections as they are more likely to fail treatment. Limitations include sample size, difficulty in quantifying extent of initial infection and debridement, and provider dependent prolonging of antibiotic duration.

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253. Clinical and Therapeutic Particularities of Brucellar Sacroiliitis

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Session: P-12. Bone and Joint

Background. The misleading clinical presentation of brucellar sacroiliitis, which is usually confused with involvement of the lumbosacral hinge or the hip, is responsible for diagnostic and therapeutic delay. We aimed to study the epidemiological, clinical and therapeutic features of brucellar sacroiliitis.

Methods. We conducted a retrospective study including all patients hospitalized in the infectious disease department for brucellar sacroiliitis between 1992 and 2020. The diagnosis of brucellosis was based on positive wright agglutination test and/or positive blood cultures.

Results. We included 12 patients, among whom 8 were males. The mean age was 35±13 years. Ten patients consumed unpasteurized milk and 9 had a close contact with animals. Three patients were previously treated for brucellosis and 4 patients had a family history of brucellosis. The revealing symptoms were sacroiliac joint pain (7 cases) and low back pain (5 cases), associated with fever and night sweats (9 cases). There were 8 cases localized on the left side of the joint. Spondylodiscitis was associated with sacroiliitis in 3 cases and genitourinary brucellosis in one case. An accelerated erythrocyte sedimentation rate and elevated C-reactive protein levels were noted in 7 cases, anemia in 7 cases and leukopenia in 4 cases. X-ray examination of sacroiliac joints revealed thickening of the sacroiliac joint (3 cases). Bone scintigraphy, which was performed in 8 cases, showed hyperfixation of the sacroiliac joint. Sacroiliac computed tomography and magnetic resonance imaging, performed in 6 cases and 4 cases, respectively, showed signs of sacroiliitis in all cases and soft tissue abscess in 2 cases. Blood cultures were positive to *Brucella* in 2 cases. All patients received doxycycline and rifampicin, associated with trimethoprim/sulfamethoxazole in 2 cases. The median duration of treatment was 4.5 months [3-9 months]. The disease evolution was favorable in 10 cases. Sequelae represented by sacroiliac joint pain was noted in 4 cases. There were 2 relapsing cases.

Conclusion. The diagnosis of brucellar sacroiliitis is based mainly on the imaging results and serological testing. Respecting preventive measures is a priority in order to eradicate brucellosis.

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254. Excellent Outcomes with Oral Versus Intravenous Antibiotics for Bone and Joint Infections: A Single-Center Experience

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Session: P-12. Bone and Joint

Background. The OVIVA trial, published in 2019, demonstrated equivalent efficacy of oral (PO) versus intravenous (IV) antibiotics for bone and joint infections. We report our group's one-year outcomes in a cohort of such patients who received PO or IV antibiotics.

Methods. Our orthopedic surgery and orthopedic infectious diseases (ID) groups agreed to employ early switch to PO in patients with a first episode of non-vertebral osteomyelitis (OM), native or prosthetic joint infection (NJA or PJI), or hardware infections when a pathogen susceptible to highly bioavailable antibiotics had been identified and the patient was perceived to be at low risk for medication non-adherence. We reviewed patients 19+ years old seen in the Ortho ID clinic for one of these conditions from July 1st through December 31st, 2019. Data recorded included patient demographics and comorbidities, infection type and site, microbiology, and surgical and antibiotic management. Primary outcome was treatment failure at 1 year, defined as death, unplanned surgery at same site, or chronic antibiotic suppression.