an ABSSSI diagnosis presenting to two academic medical centers in Detroit, MI from 2010 to 2015 were included. Baseline/clinical characteristics and outcomes were compared between cases (ABSSSI + BSI) and controls (ABSSSI). Outcomes included in-hospital mortality, hospital length of stay (LOS) and 30-day readmission. Fisher’s exact and Student’s t- or Mann–Whitney U-tests were used for bivariate comparisons. Variables associated with ABSSSI + BSI in bivariate analysis at a P < 0.10 were included in multivariable logistic regression to examine factors independently associated with ABSSSI + BSI. Results. 392 patients consisting of 196 ABSSSI + BSI and 196 controls ABSSSI were evaluated. In bivariate analysis, individuals with ABSSSI + BSI were significantly older (P < 0.001), more likely to be male (P = 0.008), be an intravenous drug user (P = 0.012), have chronic renal failure (P = 0.002), prior hospitalization (P < 0.001), and more systemic symptoms, such as elevated temperature, white blood cell count, and acute renal failure on hospital admission (P < 0.001). By regression, male gender (aOR 1.85, 95% CI 1.11–3.66), acute renal failure (aOR 2.86, 95% CI 1.18–6.37), intravenous drug use (aOR 4.38, 95% CI 2.22–8.62), and prior hospitalization (aOR 2.41, 95% CI 1.24–4.93) remained statistically significant. ABSSSI + BSI patients were more likely to experience in-hospital mortality (4.1% vs. 0%, P < 0.001), have longer mean loss (7.4 ± 5.7 vs. 2.7 ± 2.2 days, P < 0.001), and experience 30-day readmission (11.2 ± 4.1%, P = 0.006).

Conclusion. Patients with ABSSSI + BSI had worse outcomes than those with ABSSSI alone. Factors associated with ABSSSI + BSI, such as gender, IVDU, prior hospitalization, renal failure, and systemic signs/symptoms of infection, may be used to identify patients at risk for ABSSSI + BSI. Disclosures. All authors: No reported disclosures.

260. Post-Discharge Antibiotic Therapy in Patients with Acute Bacterial Skin and Skin Structure Infections Asking Caffrey, PhD, MS3; Maya Begganemi, PharmD, MPH1; Vishalil Lopez, MS3 and Robert Laffont, PharmD, FACP2,3, FCP3,4,5. College of Pharmacy, University of Rhode Island, Kingston, Rhode Island, Rhode Island Infectious Diseases Research Program, Providence Veterans Affairs Medical Center, Providence, Rhode Island3, Providence Veterans Affairs Medical Center, Providence, Rhode Island4, Division of Infectious Diseases, Warren Alpert Medical School of Brown University, Providence, Rhode Island5, University of Rhode Island, Kingston, Rhode Island

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Background. There are limited published data regarding the post-discharge treat ment epidemiology for most infections, including acute bacterial skin and skin structure infections (ABSSSIs). Methods. This is a national descriptive study of Veterans Affairs medical center admissions with diagnosis codes for ABSSSIs between January 1, 2005 and September 30, 2015. Patients receiving vancomycin during this admission were selected for inclu sion. Treatment approaches after hospital discharge, including oral antibiotics, as well as intravenous (IV) medications administered in an outpatient clinic were assessed. Differences between oral and IV groups were assessed with χ2 or Wilcoxon tests as appropriate.

Results. Of the 118,135 ABSSSI admissions, 114,352 (96.8%) patients continued antibiotic therapy after discharge. Most patients (98.5%) continued on oral therapy (median length of stay 4 days vs 6 days in IV group; P < 0.05). The most common oral therapies after discharge were sulfamethoxazole/trimethoprim (n = 30,220, 26.8%) and amoxicillin/clavulanate (n = 21,819, 19.4%). The most common IV antibiotics were vancomycin (n = 74,577, 57.5%) and ceftiraxone (n = 220, 17.1%). Significant differences in demographic and clinical characteristics were observed between the oral and IV groups; however, absolute differences were negligible in some cases (e.g., median age 61 in oral group and 62 in IV group). Cultures were taken in less than half of patients (37.9% oral, 49.7% IV; P < 0.05), of which most were Staphylococcus aureus (81.7% oral, 78.4% IV). P. aeruginosa and Acinetobacter were the most common single pathogens (9.3% oral, 10.7% IV; P < 0.05). In unadjusted comparisons between the oral and IV groups, the following 30-day outcomes differed significantly (P < 0.05): emergency room visit (21.6% oral, 45.3% IV), readmission (13.8% oral, 25.5% IV), and reinfection (45.7% oral, 54.3% IV).

Conclusion. Most patients with ABSSSI admissions continued antibiotic therapy after discharge, with only 1.1% receiving IV antibiotics in an outpatient clinic after discharge. Demographic characteristics and comorbidity burden were similar between the oral and IV groups; however, small absolute differences were statistically significant as was the large proportion of patients receiving IV therapy.

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261. Evaluation of Dalbavancin and Oritavancin as Cost-Effective Treatments of Acute Bacterial Skin and Skin Structure Infections in Hospitalized Patients Christina Koutsari, PharmD, PhD; Krista Gens, PharmD, BCPS-AQ ID and Jessica Holt, PharmD, BCPS-AQ ID; Pharmacy, Abbott Northwestern Hospital, Minneapolis, Minnesota

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Background. Acute bacterial skin and skin structure infections (ABSSSI) are a challenging medical problem associated with high health care costs. Dalbavancin and oritavancin are approved for treatment of ABSSSI and, due to their long half-life, are dosed as a one-time infusion. These agents may make it possible to allow for earlier discharge and reduce health care costs without compromising efficacy.

A retrospective cost analysis was performed using paired t-test. Patients were included if discharged from Abbott Northwestern Hospital (ANW) with primary diagnosis of skin and soft-tissue infection between October 1, 2015 and September 30, 2016. Inclusion and exclusion criteria were approved by ANW Antimicrobial Stewardship Committee and used to retrospectively identify potential candidates for oritavancin or dalbavancin. Retrospective cost analysis was performed to assess potential cost savings with the use of dalbavancin or oritavancin instead of the traditional antibiotic therapy that was used. Financial impact was assessed taking into consideration potential cost savings and additional expenses with the use of dural failure or oritavancin. Data are presented as mean ± standard deviation. Statistical comparison between actual and predicted length of hospital stay was performed using paired t-test. P < 0.05 was considered statistically significant.

Results. In total, 294 admissions were identified. Eight patients met the selection criteria with the majority being intravenous drug users. Actual length of stay of candidates for dalbavancin or oritavancin was 4.3 ± 2.8 days. Predicted length of hospital stay if dalbavancin or oritavancin were used was 3.0 ± 1.9 days (P = 0.03 vs. actual length of stay). The use of dalbavancin or oritavancin may have prevented four readmissions (P = 0.48); of note most (83%) of catheter insertions, and the use of daptomycin in one patient. Despite the potential cost savings, the use of dalbavancin or oritavancin would result in an additional cost to ANW by an estimate of $937 to $20,107 a year.

Conclusion. Dalbavancin or oritavancin may have been used in a small propor tion (3%) with skin and soft-tissue infections as primary diagnosis. The high cost of dalbavancin and oritavancin offset any potential cost savings resulting in additional costs to ANW estimated to be up to $20,000 a year.

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262. Emergence of Multi-Drug-Resistant Organisms (MDROs) Causing Fournier’s Gangrene Laura Silva, MD1 and Nancy Crum-Cianflone, MD, MPH1; Internal Medicine, Scripps Mercy Hospital, San Diego, California,2 Scripps Mercy Hospital, San Diego, California

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Background. Fournier’s gangrene is an uncommon but often devastating infection. There are few contemporary data on the risk factors and evolving microbiologic trends influencing the multi-drug resistant organisms that are implicated in these life-threatening infections.

Methods. A retrospective study of Fournier’s gangrene from 2006 to 2015 at a large academic hospital was conducted. Cases were identified using ICD codes (ICD-9: 608.83, V13.89; ICD-10: N49.3, Z87.438), and a review of medical and pathology records was performed to confirm each case. Data collected included socio-demographic, medical conditions, bacterial pathogens and their resistant patterns, treatments, and outcome. Descriptive and univariate statistics were performed.

Results. In total, 59 cases were evaluated with an incidence of 31.8 cases per 100,000 admissions over the study period. Mean age was 56 years (range 18–91), 71% male, and 45% Hispanic. Median hospital LOS was 11 days (7.4 ± 5.7 vs. 2.7 ± 2.2 days, P < 0.05). In unadjusted comparisons between actual and predicted length of hospital stay was performed taking into consideration potential cost savings and additional expenses.

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263. Orthopedic-Implant Associated Infection due to Gram-Negative Bacilli: The Worrtsome Impact of Acinetobacter baumannii Multidrug Resistance in a Brazilian Center Raquel Silva, MD1; Mauro Costa Salles, MD2; Roberta Matosa, Nurse3; Bernardo Ayres, MD1; Viviane Dias, MD1, MD2 and Luciana M. Caetano, MD1; Infective Control and Hospital Epidemiology; Hospital São Francisco de Assis, São Paulo, Brazil,1 Division of Infectious Diseases, Santa Casa de São Paulo School of Medicine, São Paulo, Brazil,1 Hospital São Francisco de Assis, Belo Horizonte, Brazil,2 University of São Paulo, São Paulo, Brazil,3 Hospital São Francisco de Assis, Belo Horizonte, Brazil,1 Belo Horizonte Hospital, Belo Horizonte, Brazil

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Background. Orthopedic implant-associated surgical site infection (SSI) is a severe complication presenting a treatment challenge. Recently, Gram-negative bacteria orthopedic infections have become a global concern.

Objectives. To describe the bacterial profile of orthopedic implant-associated Gram-negative infections and specific outcome of Acinetobacter baumannii infections.

Methods. A single-center, retrospective cohort study analyzing the infection control database on the year 2016. Cases selected were those osteosynthesis or prosthesis joint, which evolved with SSI and Gram-negative bacterial growth in bone tissue or peri prosthetic cultures.

Results. In 2016, 401 clean surgeries with orthopedic implant placement were performed; of which 84 fulfilled the criteria for SSI, according to CDC/NHSII definitions (54 cases of open fracture reduction, 24 of hip arthroplasty, five of knee arthroplasty). Main agent of infections was Staphylococcus aureus (29.9%). Gram-negative bacteria however were responsible for 52.3% of infections (Enterobacter spp. 22.4%, Acinetobacter baumannii 14.9%; Klebsiella pneumoniae 10%; Pseudomonas aeruginosa 10%). Among them, 100% Enterobacter spp. were sensitive to carbapenens and 75% to ciprofloxacin. Klebsiella pneumoniae showed sensitivity to carbapenens in 85.7%, Pseudomonas aeruginosa showed sensitivity in 85.7% to carbapenens and 100% to ciprofloxacin. However, Acinetobacter baumannii showed the least favorable profile amongst Gram-negatives since only 12.5% of strains were sensitive to carbapenens. 28.6% to Ampcillimic-sulbactam, 22.2% to ciprofloxacin, while showing 100% sensitivity to polymyxins. From 13 patients in whom Acinetobacter baumannii was isolated, none presented sepsis related to this infection, yet four of them died as result of hospitalization-related complications (30.7% mortality rate). Among these deaths, two were related to total hip arthroplasty, one to knee arthroplasty and one to open fracture fixation. Among the survivors, two remain in antimicrobial use and seven showed remission/cure.

Conclusion. SSI caused by carbapenem-resistant Acinetobacter baumannii represents great impact on morbidity-mortality in patients who underwent surgery with placement of orthopedic implants.

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264. Polymicrobial Soft-Tissue Infection (P-STI) in the Lower Extremities, Perineal, Sacral, or Glutal Locations: Is Empirical Coverage for Staphylococcus aureus (SA) Necessary

Farah Tanveer, MD; Ashish Bhardwaj, MD; Kathleen Riederer, MT; Leonard Johnson, MD; and Eamonn Kharid, MD; Infectious Diseases, Saint John Hospital and Medical Center; Ascension, Grosse Pointe Woods, Michigan

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Background. S. aureus is a common cause of STI, usually monobacterial (M-STI). The frequency of S. aureus (SA) in P-STI is unsubstantiated.

Methods. A retrospective review of positive microbiology culture results (1/1/2015-6/30/2016), selection of soft tissue samples (ST-S) from sacrum/gluteal/perineal (SGP) and lower extremity (LE) sources and review of their records. Each patient was included once and the first episode of infection was selected. Cases with and without SA were compared. The differences in categorical and continuous variables were assessed by χ² and Student t-tests for, respectively. The predictors of SA were identified by logistic regression (using SPSS) and a p-value <0.05 was considered.

Results. We reviewed 2149 cultures, 834 were ST-S; 276 met our selection criteria including 210 LE and 66 SGP. 212 (76.8%) of selected cases were P-STI. SA was encountered in 83 (35%) P-STI and 39 (60.9%) M-STI (P = 0.002; MRSA accounted for 65.2% of SA isolates. Characteristics of patients with P-STI were stratified according to SA status (table). SA was less frequent in SGP sources (OR=9.5; CI: 1.1, 3.0, P = 0.029). In LE cases, SA was uncommon in cases with necrosis/gangrene (OR=0.04; CI: 0.23, 0.86).

Conclusion. Most SA STIs are monomicrobial. It is less common in SGP sites, cases with gangrene/necrosis and in cases without drainage. Such patients may not need empirical anti-staphylococcal therapy.

Table: Characteristics of polymicrobial soft-tissue infection in the lower extremities and sacrum/gluteal/perineal sites, stratified according to S. aureus status

| Characteristic | n (%) | Non S. aureus (129) | S. aureus (83) | p |
|---------------|-------|---------------------|----------------|---|
| Age (mean ± SD) | 56.9 ± 16.3 | 55.8 ± 16.0 | 0.6 |
| Male gender | 78 (60.5) | 79 (57.1) | 0.1 |
| Diabetes | 73 (56.0) | 68 (54.2) | 0.4 |
| Kidney disease | 35 (27.1) | 23 (27.2) | 0.5 |
| Paraplegia | 16 (12.4) | 14 (14.5) | 0.4 |
| Peripheral arterial disease | 36 (20.0) | 24 (21.8) | 0.7 |
| Intrauterine drug user | 1 (0.8) | 3 (3.6) | 0.2 |
| Site Lower extremities | 87 (58.3) | 69 (77.3) | 0.006 |
| Sacrum/gluteal/perineal | 42 (28.0) | 8 (9.9) | 0.07 |
| Necrosis | 61 (47.3) | 30 (36.1) | 0.07 |
| Erythema | 106 (58.9) | 72 (65.5) | 0.3 |
| Swelling | 110 (61.1) | 76 (69.1) | 0.2 |
| Abscesses | 32 (24.8) | 16 (16.9) | 0.09 |

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265. Dynamics of S. aureus Acquisition and Colonization in a Military Training Environment

Carrie Schlett, MPH1,2; Eugene Millard, PhD3,2; Emil Elassal, MS2; Natasha Law, MA2;2; Demond Lyles, CRA1,2;3; Arile Hadley, BS2;3; Sidney Dowlen, CRA2;3; David Hardige, MBA1;2,3; Michael Ellis, MD1 and Jason Bennett, MD, MSPH1;3

1Infectious Disease Clinical Research Program, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences, Bethesda, Maryland, 2Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland, 3Division of Infectious Diseases, Department of Internal Medicine, Changhua Christian Hospital, Changhua, Taiwan, 4Department of Neurology; Changhua Christian Hospital, Changhua, Taiwan, 5Research Education and Epidemiology Center, Changhua Christian Hospital, Changhua, Taiwan, 6Center for Infection Prevention and Control, Changhua Christian Hospital, Changhua, Taiwan

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Background. Military trainees are known to be at increased risk for S. aureus colonization and skin and soft-tissue infections (SSTI). The longitudinal epidemiology of S. aureus colonization in this high-risk population is not well understood.

Methods. A longitudinal cohort study of colonization and SSTI was conducted among military trainees at Fort Benning, GA from 6/2015 to 11/2016. In total, four companies (~200 trainees/company) were enrolled. Each subject was swabbed at four body sites at five time points (days 0, 14, 28, 56, and 90) to assess S. aureus colonization status. Specimens were processed by standard methods. S. aureus isolates underwent antibiotic susceptibility testing and molecular characterization, including PCR and pulsed-field gel electrophoresis.

Results. Three-hundred forty-three subjects from two companies were enrolled in year one. At baseline, 70% were colonized with S. aureus in at least one site. Overall S. aureus/methicillin-resistant S. aureus (MRSA) colonization was highest in the oropharynx (60%/77%), followed by the nose (32%/35%), and the inguinal (11%/12%), and peri-anal (10%/1%) regions. The prevalence of colonization in at least one body site was generally consistent throughout the training period: day 14 – 63%/69%; day 28 – 78%/81%; day 56 – 64%/61%; and day 90 – 60%/59%. MRSA were largely USA300 (54%) and USA800 (36%). The oropharynx was the most frequently colonized site (range, 29%-60%). Among those not nasally colonized at baseline, 54%/8% acquired S. aureus/MRSA in the nose by day 90. Sixty-nine (20%) subjects were persistently colonized in the nares (>80% cultures) throughout training while 108 (32%) subjects remained nasal colonization-negative at every time point.

Conclusion. Military trainees experience a prolonged and intense exposure to S. aureus, as evidenced by a high colonization prevalence and colonization of multiple body sites over the duration of the training period. Effective decolonization strategies are needed to reduce the colonization burden of S. aureus, reduce transmission rates, and thereby reduce the risk of SSTI in the military training setting.

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266. The Efficacy of Intramuscular Benzathine Penicillin for Preventing Recurrent Cellulitis: A Nationwide Population-Based Study

Szu-Han Lin, MD1; Yi-Lin Lee, MD1; Yi-Yu Chen, MD2; Yi-Chun Yeh, MPH1; Chun-Eng Liu, MD1,3; Division of Infectious Diseases, Department of Internal Medicine, Changhua Christian Hospital, Changhua, Taiwan; 2Center for Infection Prevention and Control, Changhua Christian Hospital, Changhua, Taiwan; 3Department of Neurology; Changhua Christian Hospital, Changhua, Taiwan

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Background. Recurrent cellulitis is a vexing clinical problem with huge financial burden on healthcare resources. Though intramuscular antibiotics had been suggested as a prevention strategy but the evidence is scarce.

Methods. We conducted a cohort study by using Taiwan’s National Health Insurance Research Database (NHIRD) between 2000 and 2008. Patients received intramuscular benzathine penicillin 2.4 MU every 4 weeks at least three prescriptions within half a year were enrolled and followed for 1 year since the first dose. The prevention efficacy was determined by comparing the incidence of recurrent cellulitis in the prophylactic period to non-prophylactic period in each enrolled subject by a Poisson regression model. The prophylactic period was defined as 4 weeks after the date of each dose of benzathine penicillin injection and non-prophylactic period was the time not covered by penicillin during the follow-up period.

Results. In total, 211 patients were enrolled, including 123(58.3%) men. An average of 7.9 doses of IM benzathine penicillin was given in the study period. The incidence