203. Assessment of a Modified Antibiotic Prophylaxis Open Fracture Protocol Brandon Hill, PharmD; Kamla Sanasi-Blaho, MD; Stella Okoye, MD; Margaret Madera, PharmD Candidate; Janie Ferren, PharmD Candidate; Julie Ann Justo, PharmD, MS, BCPS-AQ ID; and P Brandon Bookstaver, PharmD, FCCP, FIDSA, AAIHPV; Palmetto Health Richland, Columbia, South Carolina, 1University of South Carolina College of Medicine, Columbia, South Carolina, 2University of South Carolina College of Pharmacy, Columbia, South Carolina, 3Department of Clinical Pharmacy and Outcomes Sciences, University of South Carolina College of Pharmacy, Columbia, South Carolina

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Background. National guidelines support antibiotic prophylaxis for open fracture wounds. Our institution uses cefazolin and vancomycin based on fracture grade and contamination. The purpose of this study was to assess a modified adult antibiotic prophylaxis open fracture protocol (AOFP) which recommended weight-based cefazolin for low-grade fractures and ciprofloxacin plus vancomycin for high-grade fractures.

Methods. Adult patients with open fractures admitted to Palmetto Health Richland between January 2012 and December 2016 were screened for study inclusion. Exclusion criteria were receipt of antibiotics for reasons other than open fracture, death prior to wound closure, and local admission time >48 hours after time of injury. Compliance to all elements of AOFP was assessed. Clinical endpoints including open fracture infection rates, epidemiology, and drug-related adverse events were compared between pre-implementation (January 2012 – December 2012) and post-implementation period (November 2015 – December 2016). Chi- and t-tests were appropriate to use to compare outcomes between groups.

Results. Following chart reviews, 189 patients were included in the analysis (90 pre- vs. 99 post-AOFP, respectively). Post-AOFP, a 17% (16/93) adherence rate to all AOFP elements was found. Appropriate agents were selected in 82.8% (80/97) of those patients for whom an antibiotic was started. Failure in Two French Reference Centers comparable AEs.

Conclusion. Appropriate agents were selected in 82.8% (77/93). The most common reasons for non-adherence were incorrect dosing and prolonged antibiotic duration. Infection rates decreased from 33.3% (31/93) and 7.7% (7/93) in pre- vs. post-AOFP groups, respectively (P = 0.001). Infections primary caused by Gram-negative pathogens in pre-AOFP and Gram-negative organisms comprised 62 and 40% of open fracture site infections in pre- and post-AOFP groups, respectively. Incidence of acute kidney injury, Clostridium difficile-associated diarrhea, and DVT were not significantly different pre- and post-AOFP implementation. However, S. aureus was associated with a numerical decrease in infection rates post-open fracture and resistance, occurring in fragile patients with pelvic cancer. It frequently leads to complex antibiotic therapy, with important risk of relapse. Aggressive surgical procedure with large bone resection is frequently required in patients who underwent pelvic radiotherapy.

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205. Reexamining BSA as a Preoperative Predictor of Risk of Prosthetic Joint Infection Celeste Russell, MPH; Allina Nocon, MPH; David Mayman, MD; Geoffrey Westrich, MD; Andy Miller, MD; Barry Brause, MD and Michael Henry, MD, Hospital for Special Surgery, New York, New York, New York, Complex Joint Reconstruction Center, Hospital for Special Surgery, New York, New York, Infectious Disease, Weill Cornell Medical College, New York, New York, Hosp. for Special Surgery, New York, New York, Infectious Diseases, Hospital for Special Surgery, New York, New York

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Background. Prosthetic joint infection (PJI), a dreaded complication of arthroplasty, has been found to correlate with increasing body mass index (BMI) and body surface area (BSA). Recent data suggest that BSA may be a better predictive tool for assessing infection risk. We further evaluated this association in an orthopedic specialty hospital arthroplasty cohort to evaluate whether BSA is a predictor of prosthetic joint infection.

Methods. A retrospective cohort of hip and knee arthroplasty patients between 2009 and 2014 was identified through administrative hospital data using ICD-9 codes. Patients with a BMI <14 or >60 kg/m², height <142 or >200 cm, and weight <36 or >326 kg were excluded. BSA was calculated using the DuBois formula, and assessed both as a continuous and as a categorical variable. Univariate analyses were done using X² tests and adjusted models were assessed using logistic regression.

Results. 17,859 knee and 18,128 hip patients were included. 1.1% of knees and 0.7% of hips were infected. Mean BSA was 1.9 m² (± 0.2 m²). BSA was significantly associated with PJI in hips (P = 0.004), but not knees, when analyzed as a continuous variable in unadjusted models. However, this association lost its significance after adjusting for PJI risk factors. Additionally, when assessed as a categorical variable in a multivariate model, BSA in the highest quartile (≥ 2.11 m²) was not associated with PJI.

Conclusion. After evaluating BSA as a continuous and categorical variable, we failed to find an association between BSA and infection risk in THA or TKA. The impact of BSA decreased after multivariate adjustment. BSA may not be optimal as a predictor of preoperative risk.

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206. Variability in Management of Acute Osteoarticular Infections at a Children's Hospital and Favorable Outcomes with Increasing Early Transition to Oral Therapy Nora Biary, MD; Brian Wrotniak, PhD and Shamim Islam, MD, DTM&H; 1University At Buffalo, State University of New York, Buffalo, New York, 2Emergency Medicine, University at Buffalo, Women and Children's Hospital of Buffalo, Buffalo, New York, 3University at Buffalo, State University of New York, Buffalo, New York

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Background. To date, there is no established guideline for the treatment of acute pediatric osteoarticular infections (OAI), and considerable variability in management exists amongst providers and across institutions. This study analyzed the recent management and clinical outcomes of OAI at a children's hospital.

Methods. Patients admitted with acute osteomyelitis and septic arthritis (OAI) aged 2 months to 18 years at the Women & Children's Hospital of Buffalo, between 1/1/2013 and 12/31/2016, were identified via billing databases. Patients with select comorbidities or >2 positive blood cultures were excluded. Patient demographics, antibiotics used, culture results, time from intravenous (IV) to oral (PO) therapy, length of hospitalization (LOH), PICC (peripherally inserted central catheter) line use, and emergency room (ER) visits and readmissions within 6 months of discharge, were collected and analyzed. The study period was divided into 2-year groups, before and after 1/1/15, a juncture when a new provider began to promote early transition to oral therapy (through ID consults and informal discussion).

Results. Thirty-one patients were admitted during Time#1 (2013–14) and 43 during Time#2 (2015–16). Time to PO therapy was widely distributed (Figure 1) throughout 90 days, with 65% of Time#2 transition at 14 days (Time#1 P = 0.02). Specifically for osteomyelitis, mean time to PO decreased from Time#1 to 21.5 to 8.2 days. Sixty-one percent of patients in Time#1 vs 25 in Time#2 (P = 0.01) received a PICC line, and PICC use was associated with 1.5 day greater LOH (P = 0.032). There was no relationship between time to PO and repeat ER visit/ readmission. Nearly 30% of patients in Time#1 had PICC or OAI-related ER visits/ readmissions after discharge, while 0% did for Time#2 (P < 0.01).

Conclusion. Length of initial IV therapy and PICC line use continues to vary significantly for all elements of OAI. In our children’s hospital, a shift towards early transition to oral therapy for PO therapy has been adopted steadily – and prior to national and planned local guidelines – with a general decrease in LOH, duration of IV therapy, PICC line issues following discharge, and overall improved outcomes. Pediatric OAI management represents an ideal focus for institutional quality and antibiotic stewardship efforts.

Disclosures. All authors: No reported disclosures.