into common themes. A pareto chart was constructed to analyze the frequency of causes. **Results:** Of 425 urine C&S ordered, 75 (17.7%) were inappropriate. The top 3 reasons were: inappropriate urosepsis work-ups (53%), order processing errors (17%) and inappropriate work-ups for weakness (16%). Inappropriate urosepsis work-ups were defined as urine C&S that were ordered empirically despite there being a clear focus for infection elsewhere (i.e. cough, cellulitis) and in the absence of urinary symptoms. Order processing errors were defined as urine C&S which were sent despite there being no documented order. Inappropriate testing was more likely to occur overnight, in females and when a urine routine and microscopy was not ordered prior to C&S. 29% of patients with inappropriate C&S received antibiotics. **Conclusion:** 17.7% of urine C&S ordered in the SMH ED during the 3-month study period were inappropriate. The top cause was septic patients who were empirically tested despite having another source for infection identified from the outset. A possible reason for this is the recent ED emphasis on early recognition of sepsis which may encourage early use of antibiotics and empiric urine C&S. One question to resolve is whether a 17.7% overutilization rate is sufficient to make it a target for change. Interventions designed to reduce inappropriate urine C&S may inadvertently increase the number of missed cultures in patients admitted with sepsis not yet diagnosed. Next steps involve discussions between the ED, Internal Medicine, Infectious Disease and Microbiology, and patient partners to identify patient-centered change ideas and sustainable strategies. This may involve establishing guidelines for ordering urine C&S and incorporating lab services to provide oversight into urine C&S processing.

Keywords: quality improvement and patient safety, emergency department, urine culture

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Outpatient parenteral antibiotic therapy following emergency department treatment of non-purulent skin and soft tissue infections: a descriptive analysis

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Introduction: Emergency department (ED) patients with non-purulent skin and soft tissue infections (SSTIs) requiring intravenous antibiotics may be managed via outpatient parenteral antibiotic therapy (OPAT). To date, there are no prospective studies describing the performance of an ED-to-OPAT clinic program. Furthermore, there are no studies that have examined physician rationale for intravenous therapy, despite this being a critical first step in the decision to refer to an OPAT program. **Methods:** We conducted a prospective observational cohort study of adults (age 18 years) with non-purulent SSTIs receiving parenteral therapy at two tertiary care EDs. Patients were excluded if they had purulent infections or could not provide consent. The emergency physician completed a form documenting rationale for intravenous therapy, infection size, and choice of antimicrobial agent, dose and duration. OPAT treatment failure was defined as hospitalization after a minimum of 48 hours of OPAT for: (i) worsening infection; (ii) peripheral intravenous line complications; or (iii) adverse antibiotic events. Patient satisfaction was assessed at a 14-day telephone follow up. **Results:** We enrolled a consecutive sample of 153 patients (mean age 60 years, 82 male (53.6%) and 38 (24.8%) with diabetes). A total of 137 patients (89.5%) attended their clinic appointment. Of the 101 patients prescribed cefazolin, 50.5% received 1000 mg and 48.5% received 2000 mg per day. There were low rates of OPAT treatment failure (3.9%). None of the adverse peripheral intravenous line events (9.8%) or adverse antibiotic events (7.2%) required hospitalization. Patients reported a high degree of satisfaction with timeliness of clinic referral (median score 9 out of 10) and overall care received (median score of 10 out of 10). The top 5 reasons given by physicians for selecting intravenous therapy were: clinical impression of severity (52.9%); failed oral antibiotic therapy (41.8%); diabetes (17.6%); severe pain (7.8%); and peripheral vascular disease (7.8%). **Conclusion:** This is the first study to identify physician rationale for the use of intravenous antibiotics for SSTIs. There was significant variability in antibiotic prescribing practices by ED physicians. This prospective study demonstrates that an ED-to-OPAT clinic program for non-purulent SSTIs is safe, has a low rate of treatment failures and results in high patient satisfaction.

Keywords: cellulitis, intravenous antibiotics, outpatient parenteral antibiotic therapy

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Emergency department visits for hyperglycemia in emerging adults with diabetes: a health records review

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Introduction: Patients with diabetes who are in emerging adulthood, defined as the life stage between 18-29 years, have unique challenges in managing their illness and are at risk of acute complications and loss to follow-up. The studys objective was to describe emergency department (ED) utilization for hyperglycemia in emerging adults with diabetes and to characterize 30-day outcomes including return visits and admission for hyperglycemia. **Methods:** This was a health records review of emerging adults presenting over a one-year period to four tertiary care EDs with a diagnosis of hyperglycemia, diabetic ketoacidosis or hyperosmolar hyperglycemic state. Research personnel collected data on patient characteristics, treatment, disposition, and determined if patients returned to the ED for hyperglycemia within 30 days. Descriptive statistics were used to summarize the data where appropriate. **Results:** There were 185 ED encounters for hyperglycemia, representing 116 unique emerging adult patients. Mean (SD) age was 23 (3.5) years and 50.9% were female. 80 (69.0%) had known type 1 diabetes, 11 (9.5%) had type 2, and 25 (21.5%) were newly diagnosed in the ED. Of 185 visits, 98 (53.0%) resulted in hospital admission. 56 (30.3%) returned to the ED for hyperglycemia within 30 days of their initial encounter, and 21 (11.4%) resulted in admission on this subsequent visit. **Conclusion:** We characterized ED utilization and 30-day outcomes of emerging adults with diabetes for hyperglycemia. Future research should focus on earlier identification of those at higher risk for recurrent ED visits or admission and the efficacy of interventions to prevent these adverse outcomes.

Keywords: diabetes mellitus, hyperglycemia, emerging young adults

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Patient-important outcomes in hyperglycemia after discharge from the emergency department: a prospective cohort study

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Introduction: Hyperglycemic emergencies, including diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS), carry

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