Conclusion. Novel solutions that aim to reduce empiric therapy, or shorten the interval to treatment success, are critical for both diagnostic and antibiotic stewardship. Through parallel or sequential testing algorithms, panel testing schematics on the cobas® 4800 and 6800 Systems allow for more accurate discrimination between GU etiologies that may help address the re-emergence of Syphilis in the USA.

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433. Implementation of an Emergency Department Syphilis Screening Program
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Session: 50. Sexually Transmitted Infections
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Background. Syphilis incidence across all regions of California increased by 22% compared with 2016 cases; with the largest number of chlamydia, gonorrhea, syphilis, and congenital syphilis cases among all states (CDIC 2017). The USPSTF recommends targeted syphilis screening in patients at increased risk. However, in emergency department (ED) settings, targeted syphilis screening is not routinely performed even when patients present for concerns of a sexually transmitted infection (STI). The purpose of this program was to implement routine syphilis screening among ED patients being tested for chlamydia and gonorrhea (CT/GC) through the use of an EHR enhancement to maximize the number of new syphilis diagnoses.

Methods. From November 27, 2017 to March 31, 2019, EHR-based syphilis screening was implemented in a quaternary care ED in Northern California serving urban and rural populations. EMR best practice alerts (BPA) were developed and populated on patients requiring STI testing. Syphilis testing employed a reverse BPA algorithm, which is suggested for high prevalence settings and provides rapid turnaround time. Patients were excluded if they opted out from screening. We determined the proportion of all CT/GC tested patients who underwent syphilis screening and the prevalence of syphilis among this group.

Results. During a four-month period, 649 ED patients with suspected STI received a BPA to screen for syphilis. Of those, 425 patients (65.5%) were screened for syphilis, 22 had a reactive IgG/IgM and RPR, while 5 patients had a reactive IgG/IgM and a nonreactive RPR which required a TPPA test to detect their infection. Fourteen of the 22 patients with a reactive RPR had titers of 1:32 or higher. Nine (32%) of those with a positive CT/GC test tested positive for syphilis.

Conclusion. Implementation of a syphilis screening program in patients undergoing testing for other STIs yielded 22 new diagnoses compared to the baseline of 15. Introduction of an automated EMR-based syphilis screening program is an effective method to maximize syphilis screening in all ED patients seeking treatment for STIs. The screening data suggest that the majority of patients undergoing STI testing in our ED are not screened for syphilis, yet the prevalence of infection in those screened is substantial.

Disclosures. All authors: No reported disclosures.

434. Concurrence Gonococcal Infections with Differing Susceptibility Results from the Enhanced Gonococcal Isolate Surveillance Project (eGISP)
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Background. Concurrent gonococcal infections could impact treatment success in cases of anatomic site-specific strains with different antimicrobial susceptibilities; however, little is known about same patient differences in susceptibility as most antibiotic resistance surveillance is based on only male urethral isolates.

Methods. In August 2017, the enhanced Gonococcal Isolate Surveillance Project (eGISP) began collecting male and female genital and extragenital gonococcal isolates from patients in 12 STD clinics. Minimum Inhibitory Concentrations (MICs) for penicillin, tetracycline, cefixime, ceftriaxone and azithromycin were determined by agar dilution. We identified patients with isolates from multiple anatomic sites of infection collected during the same clinic visit. Isolate sets were categorized as pairs or triplets based on the number of culture positive anatomic sites. We identified same patient isolate sets with differing MICs (22 dilution difference) for each antibiotic, and identified if the difference affected susceptibility categorization. All isolates in a set were tested in the same batch run by the same laboratory.

Results. From August 2017-February 2019, 280 isolates were collected from 135 patients, representing 136 isolate sets (128 pairs and 8 triplets); one patient contributed 2 isolate sets. Of the 136 isolate sets, the majority (72, 53%) were grouped as genital and pharyngeal isolates (Table 1). Overall, 33 isolate sets (24%) had differing MICs for 21 antibiotic and 21 sets (15%) for 22 antibiotics. Across all anatomic site combinations, differing MICs were most common for cefixime (10.3%), penicillin (9.6%) and azithromycin (9.6%). Only 18 isolate sets (13%) demonstrated differing MICs where an isolate was considered susceptible and another was considered resistant or reduced-susceptible.

Conclusion. Among persons with concurrent gonococcal infections, MICs may vary by 22 dilutions between sites and may change susceptibility interpretation. Variation by the anatomic site can result from initial infection with multiple strains or differential development of resistance after infection. Continued surveillance of multi-site infections could help understand resistance development and inform patient management.

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435. Iliopsoas Abscess in Egyptian Patients Presenting to Cairo University Hospitals
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Session: 51. Soft Tissue and Skin Infections
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Background. The incidence of ilio- psoas abscess (IPA) is rare but the frequency of this diagnosis has increased with the use of ultrasonography and computed tomography (CT). The vague presentation leads to delays in diagnosis and increases morbidity. Managing ilio- psoas abscess is still forming a therapeutic challenge. The aim of this research was to study the features of ilio- psoas abscess cases including the etiology and clinical presentation.

Methods. Patients and Methods. all patients presented to the orthopedic out-patient clinic (Cairo university hospitals) by back pain were screened by plain X-ray and Ultrasonography (US). The confirmed patients were diagnosed having psoas or ilio- psoas abscess and subjected to: full history taking, full laboratory workup, screening for tuberculosis, radiological studies and ultrasound-guided needle aspiration of the abscess. The aspirate samples were microbiologically tested by culture (aerobic, anaerobic and MGIT) and PCR technique. Follow-up US was done within 7 days from the first aspiration.

Results. The outpatient clinic received 40 thousand back pain cases during a one-year study. Only 14 patients were diagnosed as IPA. The age ranged 19-65years (mean 44years) and 57% were male. 44.4% patients had primary IPA while 55.5% patients had secondary IPA. All patients had limping and flank pain, backache or both. Fever was common 90% of patients. Leukocytosis was found in 55.5% of patients, ESR was elevated and CRP was positive in all patients. Z.N stain for AFB was negative in all patients. Positive AFB was common 90% of cultures, then S.aureus was isolated 22% of cultures, then Mycobacterium tuberculosis was isolated 7% of cultures. All patients had secondary IPA. In 44.4% of culture-positive IPA cases, S.aureus was isolated and was the commonest organism (44% of cultures), then E.coli in (22% of cultures), Mycobacterial tuberculosis in 7% by MGIT culture and PCR. Other cultures were negative. All patients were treated by drainage and appropriate antibiotics. surgical intervention was needed in 22% patients. Recurrence occurred in only 1 patient with tuberculous ilio- poas abscess.

Conclusion. Although IPA is rare, the appropriate diagnosis by US is needed. S.aureus is the commonest pathogen but Mycobacterial tuberculosis could be a cause for recurrence.

Disclosures. All authors: No reported disclosures.

436. Skin and Soft-tissue Infections Are a Common Reason for Potentially Inappropriate Antimicrobial Use among Inpatients in Sri Lanka
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Session: 51. Soft Tissue and Skin Infections
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Background. Skin and soft-tissue infections (SSTI) are a common reason for antimicrobial use in the outpatient and inpatient settings. Inappropriate antimicrobial
use for SSTI is common. We determined the prevalence of SSTI and associated inappropriate antimicrobial use among inpatients in Sri Lanka.

Methods. A point-prevalence study of antimicrobial use was conducted using one-day cross-sectional surveys at five public hospitals in Southern Province, Sri Lanka from Jun-August 2017. Inpatients' medical records were reviewed for clinical data including antimicrobials prescribed. Inappropriate antimicrobial use was identified as (1) antimicrobial use discordant with guidelines by the Sri Lanka College of Microbiologists (SLCM), and (2) redundant combinations of antimicrobials.

Results. Of 1,709 surveyed patients, 935 (54.7%) received antimicrobials, of whom 797 (83.3%) had a specific or inferred indication for antimicrobial use. Among patients with an indication for antimicrobial use, SSTI was the second leading indication (181 patients, 23.2%) after lower respiratory tract infection (194, 24.9%). One-third (62, 34.2%) of patients with SSTI had a history of diabetes. Commonly used antimicrobials for SSTI included amoxicillin and clavulanic acid (40.3%), extended-spectrum penicillins (24.9%), and meropenem (22.1%), inappropriate antimicrobial use was observed in 53.0% of SSTI patients, with redundant antibiotic therapy in 35.9% and antimicrobials discordant with SLCM guidelines in 32.6%.

Conclusion. SSTI was a common reason for antimicrobial use among inpatients in Sri Lanka, with more than half of patients receiving potentially inappropriate antimicrobial therapy. We identified targets for future antimicrobial stewardship efforts.

Table 1: In Vitro Susceptibility Profile of Gram-Negative Rod Pathogens Isolated from Wound Cultures Among Breast Cancer Patients Who Developed Skin and Soft Tissue Infection following Breast Reconstructive Surgery, Moffitt Cancer Center, Tampa, 2016-2018. n=33

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Susceptible, %</th>
<th>Intermediate, %</th>
<th>Resistant, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin</td>
<td>91 (43)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>87 (42)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Cefoxitin</td>
<td>87 (42)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Ceftazidime</td>
<td>86 (41)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>91 (43)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Piperacillin</td>
<td>90 (42)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Tazobactam</td>
<td>90 (42)</td>
<td>1 (0.5)</td>
<td>9 (4.3)</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>100 (46)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

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437. Gram-Negative Rod Skin and Soft-tissue infections following Breast Tissue Expander Surgery in Breast Cancer Patients
Ju Hee Katzman, MD1; Sadaf Aslam, MD, MS1; Donna Mac M. Pate, PharmD2; Nicole Guidish, PharmD1; Shelby Power, PharmD1; Clarris Maaravilla, PharmD1; Janelle Perkins, PharmD, BCPP1 and John Greene, MD1. University of South Florida, Tampa, Florida; Moffitt Cancer Center, Tampa, Florida.

Session: 51. Soft Tissue and Skin Infections
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Background. Breast cancer patients who undergo tissue expander surgery (TES) are at an increased risk of developing gram-negative rod (GNR) skin and soft-tissue infection (SSI) and its complications including prolonged antibiotic therapy, antibiotics side effects, and implant removal. Current perioperative antimicrobials focus mostly on gram-positive organisms, but the presence of a foreign body increases the risk of GNR SSI. We conducted a retrospective cohort study at Moffitt Cancer Center, TES patients who developed GNR SSIs from June 2016 to July 2018 were identified. The data collected included patient’s age, pathogens identified. The 3 most common pathogens were Acinetobacter baumannii (16%), and Klebsiella pneumoniae (8%) (Figure 1). The susceptibility patterns of these pathogens are complex and vary by patient, hospital, and country. We determined the prevalence of SSTI and associated inappropriate antimicrobial use among inpatients in Sri Lanka. We conducted a retrospective cohort study at Moffitt Cancer Center, Tampa, Florida from January 2016, to January 2018, on all breast cancer patients who developed GNR SSIs following TES. We reviewed records after approval from the Institutional Review Board. The data collected included patient’s age, pathogens identified. The 3 most common pathogens were Pseudomonas aeruginosa (45%), Serratia marcescens (16%), and Klebsiella pneumoniae (8%) (Figure 1). The susceptibility patterns of these pathogens are complex and vary by patient, hospital, and country.

Results. A total of 38 cases of GNR SSI with a mean age of 56 ± 11 years were identified. The 3 most common pathogens were Pseudomonas aeruginosa (45%), Serratia marcescens (16%), and Klebsiella pneumoniae (8%) (Figure 1). The susceptibility patterns of these pathogens are complex and vary by patient, hospital, and country.

Conclusion. We determined the prevalence of SSTI and associated inappropriate antimicrobial use among inpatients in Sri Lanka.