had white blood cell counts (WBC) >12 K/uL. The remaining 82% (23/28) of patients were deemed not to have an infection. Of these 23 patient without infection, organisms isolated were 16 CoNS (70%) and seven Cutibacterium species (30%). None of these patients had a fever, one (4%) was receiving pre-pericardiocentesis antibiotics, and three (9%) had WBC >12 K/uL. 70% (16/23) of these patients were started on antibiotics after gram-stain results; all were eventually discontinued (mean antibiotic days = 2, range 1-5 days). 83% (19/23) of these patients had a concomitant negative routine fluid culture. **Conclusion:** The majority of patients with an organism isolated from PF-BCxBs had either CoNS or Cutibacterium species and were deemed not to have a clinical infection. Within the small cohort limitations, clinical utility of blood culture bottle inoculation seems highest for patients with pre-procedural concern for infection. IPC teams should be aware of the non-pathogenic skin flora frequency and potential implication on SSI surveillance.

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### A One-year Hospital System Review of Plasma Next-Generation Sequencing in a Mixed Population

Ty Drake, Memorial Hermann Hospital; Jessica Babic, Memorial Hermann-Texas Medical Center; Audrey Wanger, UT Health McGovern Medical School and Violeta Chavez, UT Health McGovern Medical School

Objective: To describe whether detecting plasma microbial cell-free DNA by next-generation sequencing (NGS) provided additional information compared to routine cultures or led to change in antimicrobial management. Design and setting: This is a retrospective cohort study evaluating NGS tests performed on patients who were admitted to an 11-acute care hospital health system in the greater Houston area between May 2022 and May 2023. Repeat tests on the same patient encounter were included if >7 days from previous test. Routine microbiology data was compared if test was collected within 7 days before or after NGS testing. **Results:** During the study period there were 135 unique patient encounters identified with an NGS order. Of which, 74.1% were ≥18 years of age and 46.7% were immunocompromised. A total of 143 NGS tests were ordered, with 4 not being run due to quality control issues. Out of 139 NGS tests completed, 76 (54.7%) were positive for at least one organism. When compared to routine testing, NGS alone was positive in 29 (20.9%) instances, routine testing alone was positive in 17 (12.2%) instances, both were positive in 44 (31.7%) instances, and both were negative in 49 (35.3%) instances. In the 44 instances that both NGS and routine testing were positive, 15 (34.1%) were concordant for all organisms. In total, NGS identified 92 more organisms (69 bacterial, 8 fungal, and 15 viral) compared to routine testing and routine testing identified 42 more organisms (28 bacterial, 6 fungal, 11 viral, and 1 parasite) compared to NGS. Fifty-six changes to antibiotic therapy were made within 48 hours of the NGS test resulting, with 16 of these changes being directly attributed to NGS test. Nine of these changes being escalations and seven being de-escalations. **Conclusion:** NGS may aid in determining further testing, earlier detection of pathogens, and detection of pathogens outside of routine testing resulting in direct changes to antimicrobials. However, results need to be interpreted with caution. NGS can miss pertinent pathogens and is difficult to interpret when commensal organisms are detected, both of which can lead to unnecessary testing or treatment. There is an absence of a clear algorithm for the use of NGS testing and the test comes with a high price and unclear utility. Further studies are needed to determine which patients may most benefit from NGS testing.

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### Moving Beyond the Reflex: Effect of a Clinical Decision Support Tool on Urine Culture Ordering Practices

Elizabeth Kim, Emory University School of Medicine; Julianne Kubes, Emory Healthcare; Shanza Ashraf, Emory Healthcare; Krystle Johnson, Emory Healthcare; Lisa Reif, Emory University Hospital; Kathryn Garcia, Emory Healthcare; Jesse Jacob, Emory University and Jessica Howard-Anderson, Emory University School of Medicine

**Background:** Interventions targeting urine culture stewardship can improve diagnostic accuracy for urinary tract infections (UTI) and decrease inappropriate antibiotic treatment of asymptomatic bacteriuria. We aimed to determine if a clinical decision support (CDS) tool which provided guidance on and required documentation of the indications would decrease inappropriately ordered urine cultures in an academic healthcare

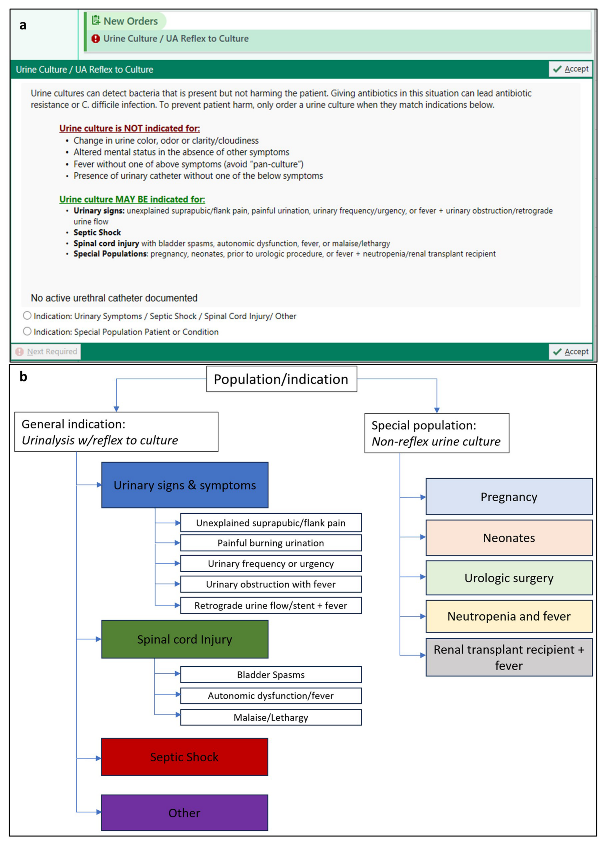


**Figure 1**| An overview of the clinical decision support (CDS) tool. (**a**) Screenshot of the CDS tool for urinary testing (**b**) Flow diagram for urine test orders with associated testing indications. Providers first determine if their patient meets "special population" criteria (right side of flow diagram). If so, then a non-reflex urine culture is recommended. If not, the provider must select an indication to order a urinalysis with reflex to culture (left side of flow diagram). The threshold for performing a reflex culture on the urine sample is ≥20 white blood cells per high-power field on urine microscopy.

**Figure 2**| Medians and change in order rates pre-/post- intervention per 1000-patient-days for urinalysis (UA) with reflex to culture, non-reflex urine cultures, and total urine cultures

| Urine Test | Pre-intervention Median/1000 patient-days (IQR) | Post-Intervention Median/1000 patient-days (IQR) | P-value* | Change in rate/1000 patient-days with intervention# | P-value# |
|---|---|---|---|---|---|
| UA with reflex to culture | 36.7 (31.0, 39.7) | 35.4 (32.8, 37.0) | 0.25 | -1.9 | 0.76 |
| Non-reflex urine cultures | 8.5 (8.1, 9.1) | 4.9 (4.7, 5.1) | < 0.001 | -4.8 | <0.001 |
| Total urine cultures | 20.0 (18.9, 20.7) | 14.4 (14.0, 14.6) | < 0.001 | -5.0 | <0.001 |

IQR: interquartile range. *Wilcoxon 2-sample test was used to test differences in medians between pre- and post- intervention urine test order rates. # Change in rates before and intervention and p-values were calculated using autoregressive interrupted time series analyses.