

Urine Culture Diagnostic Stewardship

Aim to improve patient outcomes by optimizing the ordering of urine cultures.

Reducing Unnecessary Urine Cultures in Patients With or Without Urinary Catheters

| Patients Without Urinary Catheters | | | Patients With Urinary Catheters | | |
|--|--|--|--|---|--|
| Appropriate Dysuria, suprapubic pain, flank pain, Costovertebral angle (CVA) tenderness, or septic shock | Uncertain Fever or systemic leukocytosis with no other known cause | Inappropriate Altered mental status, or change in urine characteristics (color, sediment, smell) | Appropriate Dysuria, suprapubic pain, flank pain, Costovertebral angle (CVA) tenderness, or septic shock | Uncertain Fever, systemic leukocytosis with no other known cause, or delirium | Inappropriate Change in urine characteristics (color, sediment, smell) |

Getting Started

- Evaluate current processes for obtaining urine cultures (avoid automatic triggers or screening cultures with no appropriate indications)
- Evaluate practice patterns (avoid PAN culturing)
- Provide education on when it is appropriate to obtain urine cultures
- Have periodic audits on urine culture use to look for trends
- Promote appropriate urinary catheter use to reduce risk of bacteriuria/funguria

Appropriate Practice

- Use elevated urine white blood cell count as a criterion to reflex to urine culture when a clinician orders a urine culture (all settings)
- Obtain culture as part of an evaluation of sepsis without a clear source (CAUTI is often a diagnosis by exclusion)
- Obtain culture based on findings suggestive of CAUTI (example, pelvic discomfort or flank pain)

CAUTI: catheter associated urinary tract infection

Inappropriate Practice

- Obtain culture based on pyuria in an asymptomatic patient
- Obtain culture based on urine quality: color, smell, sediments, turbidity (does not constitute signs of infection)
- Utilization of screening urine cultures (whether on admission or before non-urologic surgeries)
- Routine standing orders for urinalysis or urine cultures without an appropriate indication
- "PAN" culturing (mindfulness in evaluating source is key)
- Obtain culture on asymptomatic elderly and people with diabetes (high prevalence of asymptomatic bacteriuria)
- Repeat urine culture to document clearing of bacteriuria (no clinical benefits to patient)