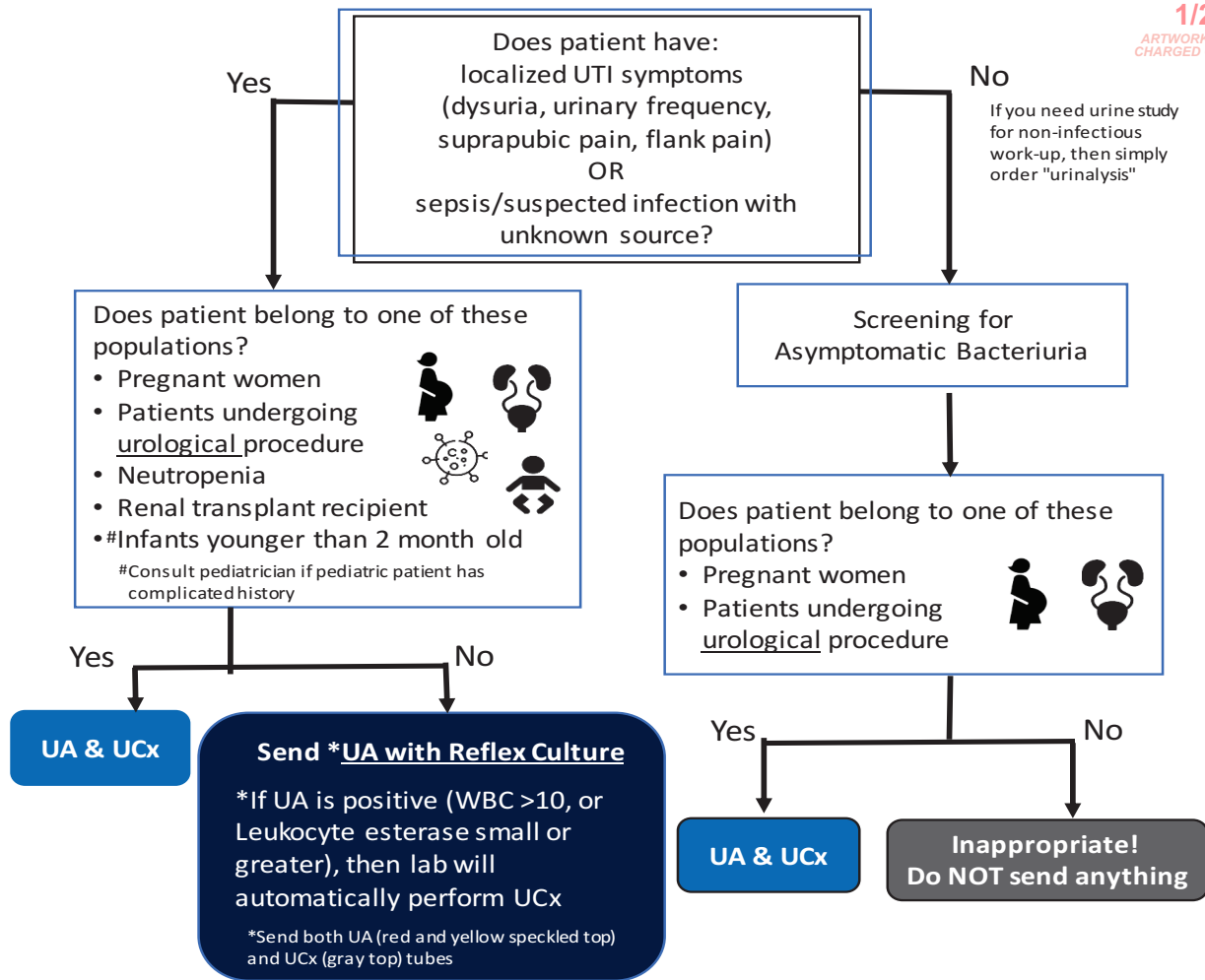


Flow chart for ordering Urine Culture



How to send urine specimen from indwelling Foley catheter

If patient has catheter for

- ≥ 7 days then remove indwelling catheter, collect urine specimen via straight cath or from new indwelling catheter
- < 7 days, then collect urine specimen via the sampling port


NEVER collect from urine bag

Clinical scenarios when urine specimen should NOT be sent



- Urine color change, cloudiness, malodorous, or sediment alone
- Screening asymptomatic patients, including elderly, demented, or diabetics
- Screening asymptomatic patients with chronic indwelling Foley catheter upon admission
- Pre-op (except for urological procedure) or post-op screening
- Test of cure after UTI treatment

Asymptomatic Bacteriuria \neq UTI


when you should NOT send urinalysis or urine culture

Asymptomatic bacteriuria:
Presence of bacteria $>10^5$ CFU in the urine regardless of the presence of pyuria, in the absence of signs or symptoms attributable to UTI 

Only two indications to treat asymptomatic bacteriuria

- Pregnant women 
- Patients undergoing urological procedure 

Why is it bad to treat asymptomatic bacteriuria?

- C.difficile* infection
- More resistant bacteria
- Drug-drug interactions 
- Drug allergies
- Drug adverse effects

Prevalence of Asymptomatic Bacteriuria

Population	Prevalence
People with diabetes	
Women	10.8-16 %
Men	0.7-11 %
Elderly in the community (≥ 70 y)	
Women	10.8-16 %
Men	3.6-19 %
Elderly in a long-term care facility	
Women	25-50 %
Men	15-50 %
People with indwelling catheter	
Short-term catheter	3%-5%/day
Long-term catheter	100 %

No UTI symptoms
↓
Do not test urine unless treatment is indicated if positive

Positive urine culture resulted. Unclear why the test was done.
↓
Evaluate patient clinically to determine whether or not treatment is indicated

MYTH	FACT
Patients with diabetes or dementia should be screened or treated for asymptomatic bacteriuria	Treatment of asymptomatic bacteriuria in these population conferred no benefit and some adverse outcomes have been reported due to treatment.
Patients with an indwelling urinary catheter should be screened or treated for asymptomatic bacteriuria, especially upon admission	All patients ultimately develop bacteriuria if an indwelling catheter remains in situ. Treating urinary organisms does not reduce mortality or the risk of bacteremia from any source.
Patients undergoing elective <u>non</u> -urological surgery should be screened and treated for asymptomatic bacteriuria	Antimicrobial therapy for asymptomatic bacteriuria in this population has no benefit. Untreated asymptomatic bacteriuria does not increase the risk of bacteremia. Patients with surgical site infection usually grow a different pathogen compared to the preoperative urine, suggesting a source other than the urine.
Pyuria (WBC in urine) or abnormal urinalysis can differentiate asymptomatic bacteriuria vs UTI	Patients with asymptomatic bacteriuria often have pyuria or abnormal urinalysis.

Reason for urine management system	Preferred Method	Indwelling Urinary Catheter Suitable*	Duration of catheterization and additional comments <i>*(if preferred method failed and indwelling urinary catheter placed)</i>
Hemodynamic instability - monitoring of volume status in critically ill or septic patient or need for q1-2h I/O in an unstable patient	<ul style="list-style-type: none"> • Patient voiding with accurate I/O² 	Yes	<ul style="list-style-type: none"> • Reassessment of necessity every 24 hours with goal of removal
Hemodynamically stable patients requiring strict I/O <ul style="list-style-type: none"> • Severe AKI, acute decompensated heart failure 	<ul style="list-style-type: none"> • Patient voiding with accurate I/O² • External catheter 	Avoid	<ul style="list-style-type: none"> • If indwelling catheter is unavoidable – reassessment of necessity within 24 hours with the goal of removal • Reassessment will include evaluation of lab trends and imaging review
Surgical indications <ul style="list-style-type: none"> • Perioperative • Conservatively managed SBO or acute abdomen requiring bladder decompression 		Yes	<ul style="list-style-type: none"> • Removal immediately after surgery if no significant intra-op bleeding or low risk of post-op bleeding, no pressor required, no worsening of AKI. • Reassess removal within 24 hours postop
Acute trauma		Yes (incl CBD ¹)	<ul style="list-style-type: none"> • Reassessment of necessity every 24 hours with goal of removal
End of life or comfort care	Voiding or external catheter CIC offered but decision regarding CIC vs indwelling based on family wishes	Yes (if patient/family wishes)	<ul style="list-style-type: none"> • No urine sampling • If clear urinary symptoms suggestive of infection, where treatment would relieve discomfort – rec catheter removal, and reevaluation for symptoms. Urinalysis prior to UCX.
Sacral or perineal wound management in an incontinent patient	<ul style="list-style-type: none"> • Patient voiding • External catheter 	Yes	<ul style="list-style-type: none"> • Until wound heals, patient improves and regains bladder control • Alternative means of urinary diversion • Reassess need for indwelling catheter every 48 hours
Neurological indications – acute spinal cord injury with urinary retention, paraplegia	<ul style="list-style-type: none"> • Patient voiding 	Yes	<ul style="list-style-type: none"> • Until patient improves and regain bladder control • Consider Urology consult for inpatient and outpatient management
Diabetes Insipidus watch after transsphenoidal surgery	<ul style="list-style-type: none"> • patient voiding • external catheter 	Avoid	<ul style="list-style-type: none"> • If indwelling catheter unavoidable (high urinary retention in patient with DI, obstructive uropathy in patient with DI), reassessment of necessity within 24h with goal of removal
Acute urinary retention	CIC with strict bladder Scan Protocol Exclusions: gross hematuria or AKI with hydronephrosis or acute urinary obstruction	Yes (if indicated per straight cath protocol)	<ul style="list-style-type: none"> • Clear attending physician documentation of reassessment/need • Patient admitted with urinary retention, foley reassessment in 24hrs • In consultation with Urology
Chronic urinary retention or obstruction (patient presenting with indwelling catheter from outside including spinal cord injury, paraplegia)	Encourage CIC if appropriate	Yes	<ul style="list-style-type: none"> • If patient with history of CIC, assess CIC competency • Consider discontinuation of indwelling catheter and start CIC with education • If catheter indicated and has not been changed within last 30 days, new foley should be inserted

¹ CBD – Continuous Bladder Irrigation

² I/O - Accurately Timed and Document Post-Void Residue

CIC - Clean Intermittent Catheterization