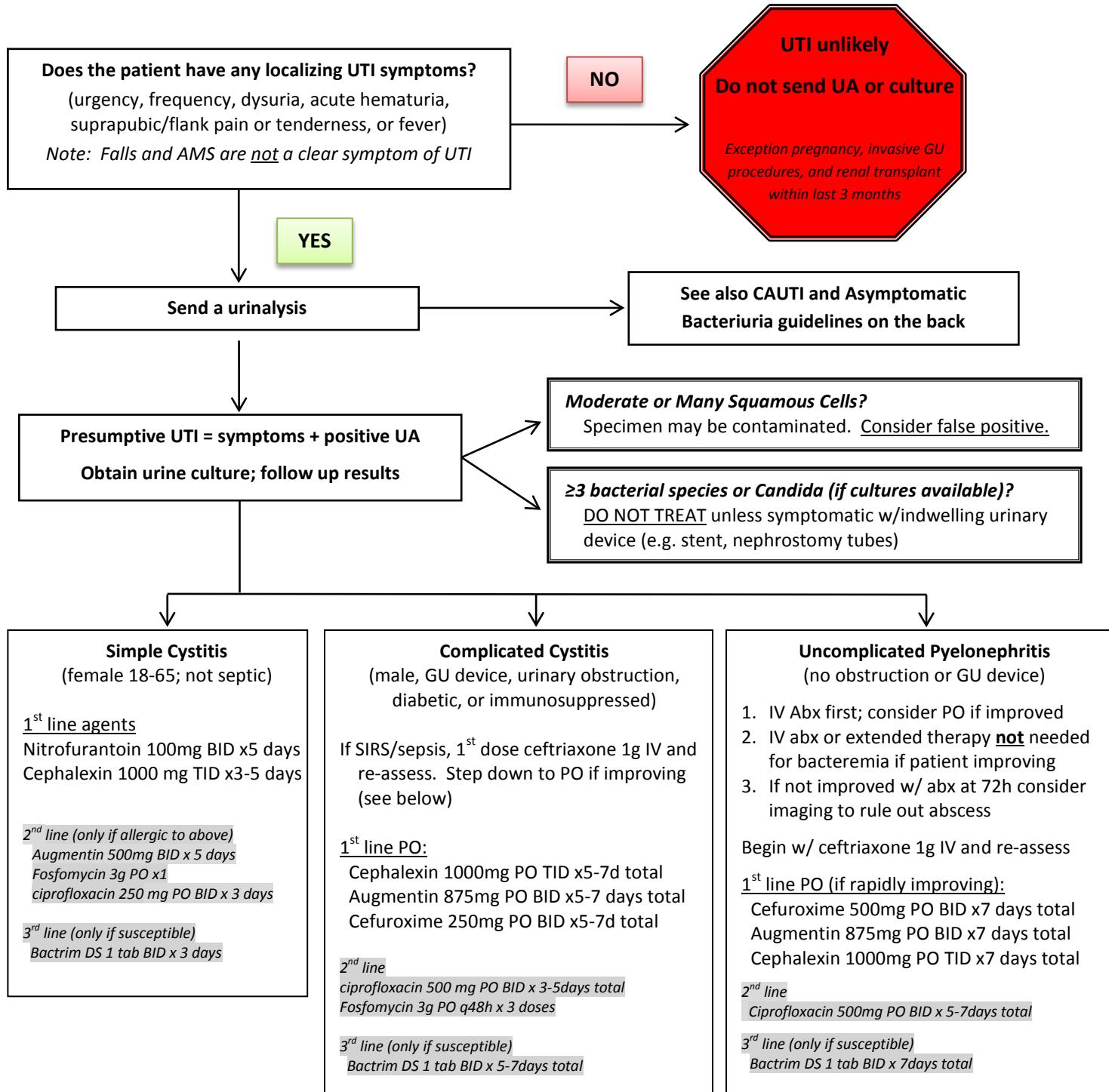


ED Pathway for Suspected UTI

- 1) Urinalysis and urine culture should not be sent unless symptoms are present.
- 2) Falls, being “not like him/herself” and alteration in mental status are not sensitive nor specific for UTI
 - a. Delirium without other localizing symptoms is unlikely to be a UTI.
- 3) Only pregnant patients, those undergoing invasive GU procedures, and those having received a renal transplant within 3 months should be treated for asymptomatic bacteriuria



Asymptomatic Bacteriuria

Definition of asymptomatic bacteriuria:

- Pregnancy: **2** consecutive voided urine w/ same bacteria $\geq 100,000/\text{mL}$ **or** single catheterized urine cx at $>1,000$ colonies/mL
- Invasive urologic procedure: cystoscopy or surgery
- Kidney transplant within the last 3 months

The following **are not** indications for treatment for asymptomatic bacteriuria:

1. Diabetes mellitus
2. Immunosuppression
3. Elderly
4. Urinary catheter or other chronic indwelling urinary device
5. Male

Recommended antibiotics in pregnancy:

- 1st line: Cephalexin 500 PO QID x 7 days
- 2nd line: **Nitrofurantoin*** (MacroBID) 100mg PO BID x 7 days **OR**
Cefuroxime 250mg PO BID x 7 days
- 3rd line: Bactrim DS 1 tab PO BID x 7 days (caution in 1st and 3rd trimester)

* Caution nitrofurantoin in 1st trimester and 3rd trimester, G6PD deficiency, or renal failure

Short courses of antibiotics (4-7 days) associated with half the C. diff risk of longer courses (8-18 days)

Comparison of Cumulative Antibiotic Exposures for *C. difficile* Infection

Characteristic	CDI positive n (%)	CDI negative n (%)	Adjusted hazard ratio (95% CI)
Antibiotic days	14.0 (23.0)	7.0 (9.0)	—
<4	22 (9)	2208 (22)	Ref
→ 4 to 7	41 (17)	3071 (31)	1.4 (.8, 2.4) ←
→ 8 to 18	87 (36)	3097 (31)	3.0 (1.9, 5.0) ←
>18	91 (38)	1537 (16)	7.8 (4.6, 13.4)
Number of antibiotics	3.0 (4.0)	2.0 (2.0)	—
1	31 (13)	3744 (38)	Ref
2	54 (22)	2507 (25)	2.5 (1.6, 4.0)
3 or 4	70 (29)	2505 (25)	3.3 (2.2, 5.2)
5 or more	86 (36)	1157 (12)	9.6 (6.1, 15.1)

CAUTI (Catheter-associated UTI)

Definition of CAUTI:

- Urine cx w/ 10^3 CFU/mL of ≥ 1 bacterial species **AND symptoms of a UTI** (fever/rigors, CVA/flank pain or tenderness, suprapubic/pelvic pain or tenderness, purulent discharge around catheter, AMS w/ leukocytosis, or sepsis)

Urinalysis is NOT helpful in diagnosing CAUTI

1. A “dirty” UA cannot rule in a UTI -- you must evaluate for symptoms
2. Pyuria and bacteriuria → positive predictive value is only ~25% for CAUTI
 - a. Pyuria and bacteriuria only helpful if negative → NPV of 90-100%
- If culture has ≥ 3 species or *Candida*, remove/change urinary catheter only.
Usually does not need antibiotics unless symptomatic patient w/ indwelling urinary device (e.g. stent, nephrostomy tubes)

Recommended Treatment: Discontinue or exchange urinary catheter

Women age ≤ 65 ; uncomplicated

- Cefuroxime 250mg PO BID x 3-5 days (*preferred*)
- Cephalexin 1000mg PO TID x 3-5 days (*if susceptible*)
- Augmentin 500mg PO BID x 5 days (*if susceptible*)
- 2nd line: Ciprofloxacin 250mg PO BID x 3 days
Bactrim DS 1 tab PO BID x 3 days (*if susceptible*)

All other patients w/ rapid clinical improvement

- Cefuroxime 500mg PO BID x 7 days total (*preferred*)
- Augmentin 875mg PO BID x 7 days total (*if susceptible*)
- Cephalexin 1,000mg PO TID x 7 days total (*if susceptible*)
- 2nd line: Ciprofloxacin 500mg PO BID x 5-7 days total
Bactrim DS 1 tab BID (*if susceptible*)

Initial therapy for sepsis:

- Ceftriaxone 1g IV daily for septic patients
 - If resistant gram neg suspected, use cefepime 1g IV q8h
- 2nd line: Ciprofloxacin 500mg PO BID (or 400mg IV q12h)