

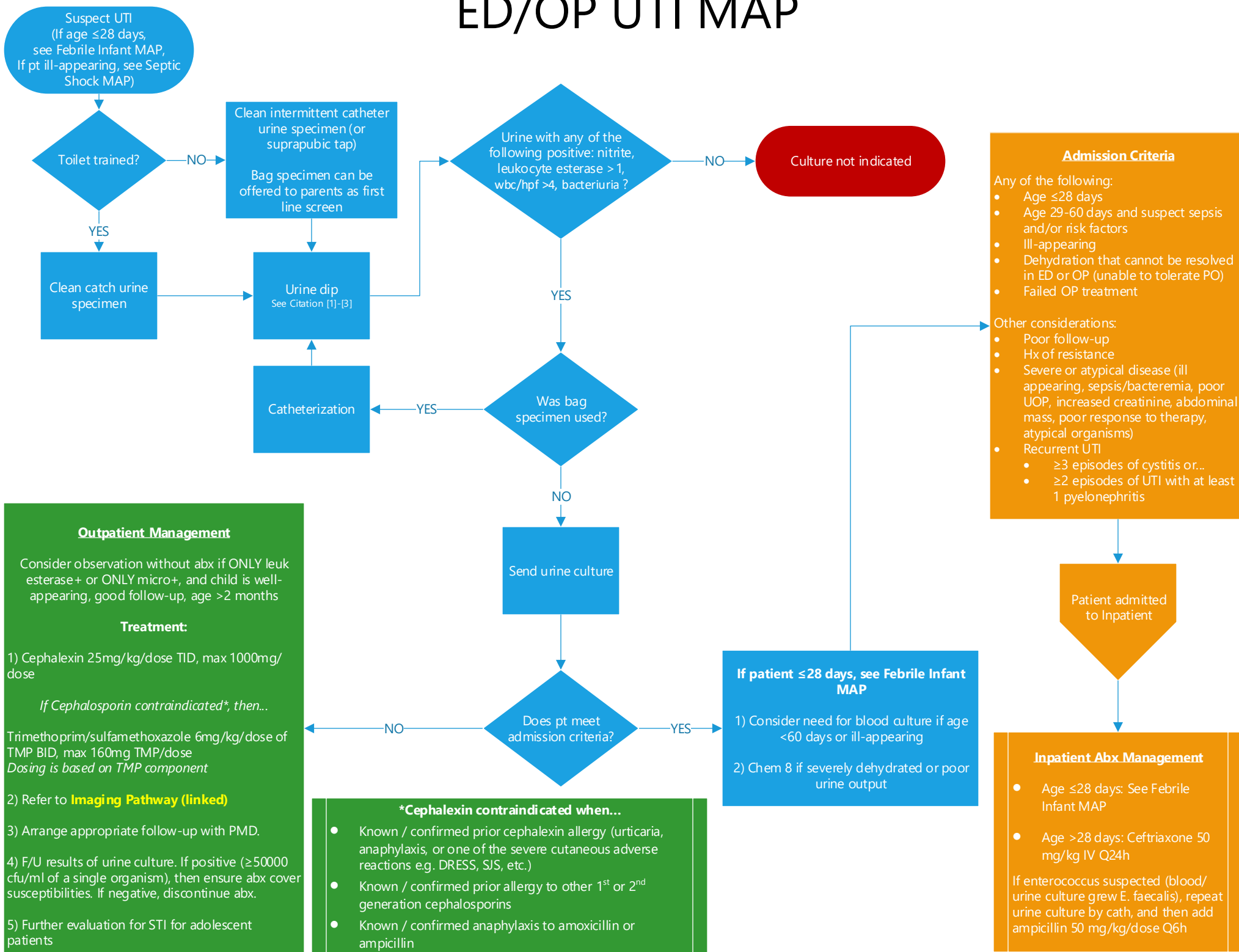
Clinical Indications to Evaluate for UTI MAP

Age	Signs and Symptoms		
Infants younger than 3 months	Fever Vomiting Lethargy Irritability	Poor feeding Failure to thrive	Abdominal pain Jaundice Hematuria Offensive urine
Infants and children, 3 months or older			
Preverbal	Fever	Abdominal pain Flank pain Vomiting Poor feeding	Lethargy Irritability Hematuria Offensive urine Failure to thrive
Verbal	Frequency Dysuria	Dysfunctional voiding Changes to continence Abdominal pain Flank pain	Fever Malaise Vomiting Hematuria Offensive urine Cloudy urine
<i>If clinical concern for sepsis and/or meningitis, refer to Sepsis or Meningitis MAP</i>			

NICE Guidelines

High risk patients who should have a urine sample		
	Febrile Female Uncircumcised Male, 2-24 mo	Febrile Circumcised Male, 2-24 mo
Fever >39° Celsius	No other source	No other source and <12 mo
	With other source	
Fever <39° Celsius	No other source	
	With other source and <12 mo	

ED/OP UTI MAP



Outpatient Management

Consider observation without abx if ONLY leuk esterase+ or ONLY micro+, and child is well-appearing, good follow-up, age >2 months

Treatment:

1) Cephalexin 25mg/kg/dose TID, max 1000mg/dose

If Cephalosporin contraindicated, then...*

Trimethoprim/sulfamethoxazole 6mg/kg/dose of TMP BID, max 160mg TMP/dose
Dosing is based on TMP component

2) Refer to **Imaging Pathway (linked)**

3) Arrange appropriate follow-up with PMD.

4) F/U results of urine culture. If positive (≥50000 cfu/ml of a single organism), then ensure abx cover susceptibilities. If negative, discontinue abx.

5) Further evaluation for STI for adolescent patients

***Cephalexin contraindicated when...**

- Known / confirmed prior cephalosporin allergy (urticaria, anaphylaxis, or one of the severe cutaneous adverse reactions e.g. DRESS, SJS, etc.)
- Known / confirmed prior allergy to other 1st or 2nd generation cephalosporins
- Known / confirmed anaphylaxis to amoxicillin or ampicillin

Admission Criteria

Any of the following:

- Age ≤28 days
- Age 29-60 days and suspect sepsis and/or risk factors
- Ill-appearing
- Dehydration that cannot be resolved in ED or OP (unable to tolerate PO)
- Failed OP treatment

Other considerations:

- Poor follow-up
- Hx of resistance
- Severe or atypical disease (ill appearing, sepsis/bacteremia, poor UOP, increased creatinine, abdominal mass, poor response to therapy, atypical organisms)
- Recurrent UTI
 - ≥3 episodes of cystitis or...
 - >2 episodes of UTI with at least 1 pyelonephritis

If patient ≤28 days, see Febrile Infant MAP

1) Consider need for blood culture if age <60 days or ill-appearing

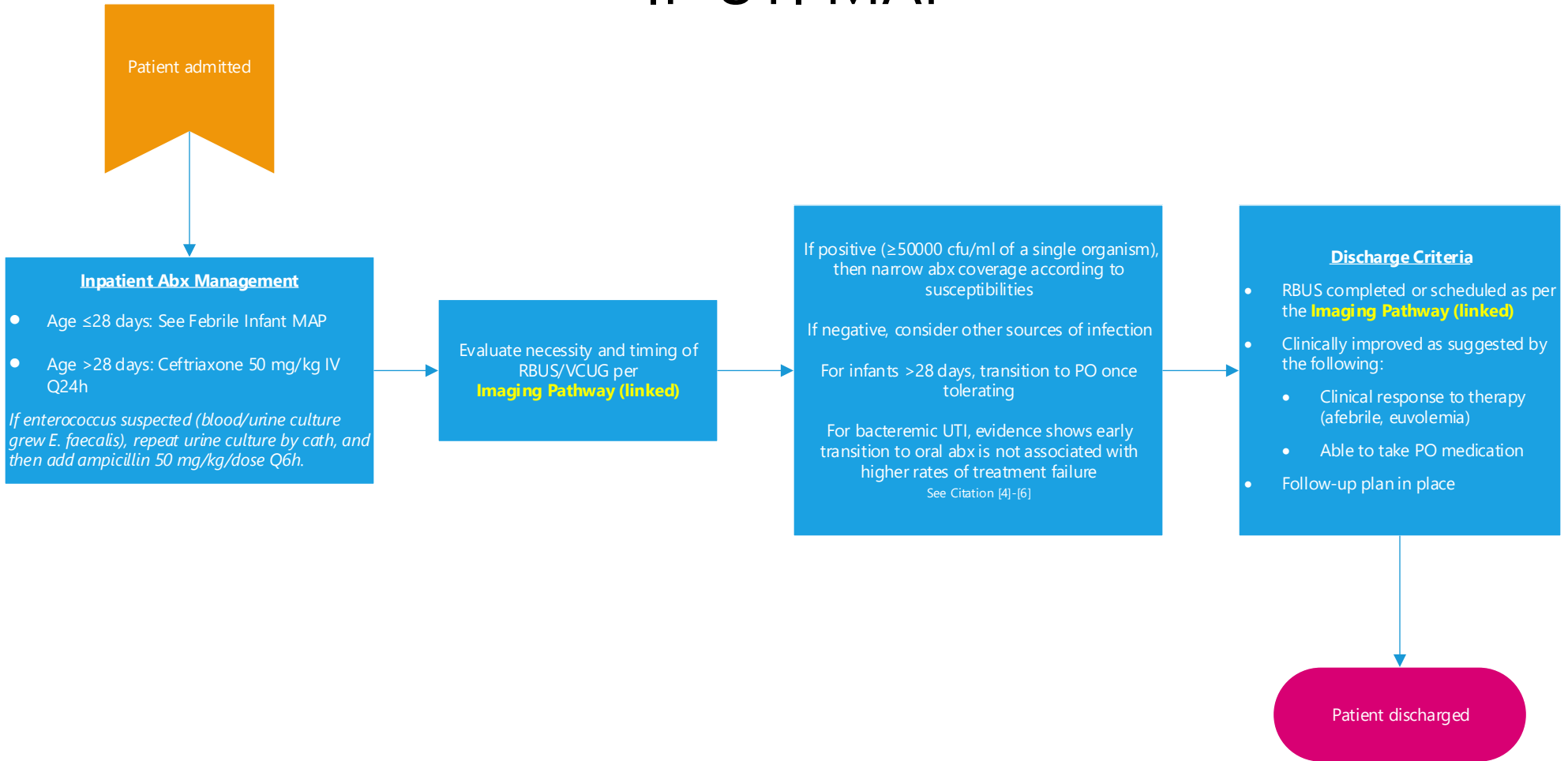
2) Chem 8 if severely dehydrated or poor urine output

Inpatient Abx Management

- Age ≤28 days: See Febrile Infant MAP
- Age >28 days: Ceftriaxone 50 mg/kg IV Q24h

If enterococcus suspected (blood/urine culture grew E. faecalis), repeat urine culture by cath, and then add ampicillin 50 mg/kg/dose Q6h

IP UTI MAP

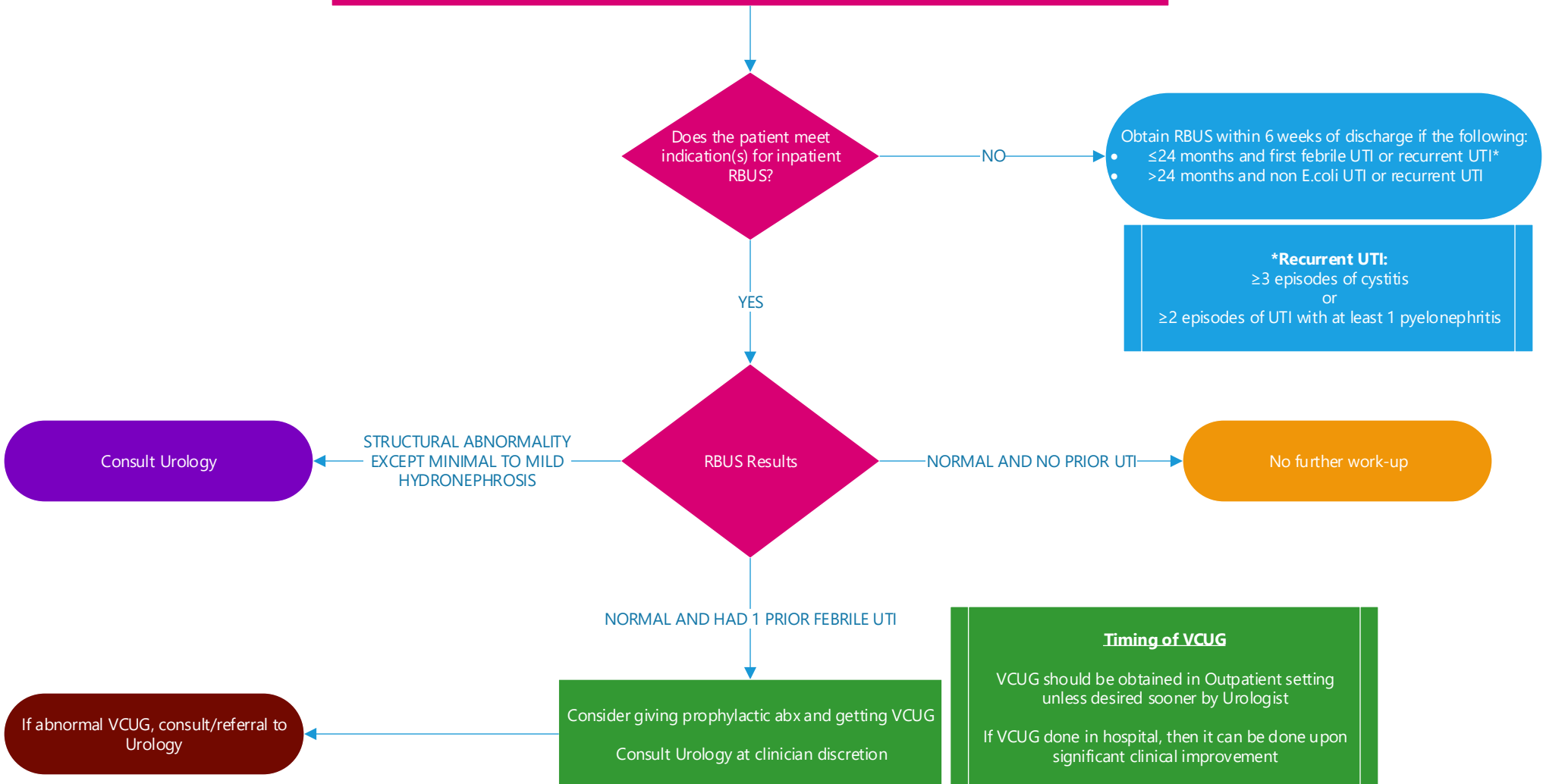


UTI MAP Imaging Pathway

Indications for Inpatient Renal Bladder Ultrasound (RBUS)

- Ill-appearing
- Poor urine output
- Abdominal mass on exam
- Bacteremia
- Elevated creatinine
- Failure to respond to appropriate abx within 48 hrs
- <6 months with a history of abnormal RBUS
- <6 months meeting definition for recurrent UTI
- <6 months and non E.coli UTI*

**In an infant or child with a non E.coli UTI, responding well to abx with no other concerning features, the ultrasound can be requested on a non-urgent basis to take place within 6 weeks*



Citation

- [1] Chaudhari PP, Monuteaux MC, Bachur RG. *Microscopic Bacteriuria Detected by Automated Urinalysis for the Diagnosis of Urinary Tract Infection*. J Pediatr. 2018 Nov;202:238-244.e1. doi: 10.1016/j.jpeds.2018.07.007. Epub 2018 Aug 29. PMID: 30172436.
- [2] Glissmeyer EW, Korgenski EK, Wilkes J, Schunk JE, Sheng X, Blaschke AJ, Byington CL. *Dipstick screening for urinary tract infection in febrile infants*. Pediatrics. 2014 May;133(5):e1121-7. doi: 10.1542/peds.2013-3291. PMID: 24777232; PMCID: PMC4006440.
- [3] Mattoo TK, Shaikh N, Nelson CP. *Contemporary Management of Urinary Tract Infection in Children*. Pediatrics. 2021 Feb;147(2):e2020012138. doi: 10.1542/peds.2020-012138. PMID: 33479164
- [4] Desai S, Aronson PL, Shabanova V, Neuman MI, Balamuth F, Pruitt CM, DePorre AG, Nigrovic LE, Rooholamini SN, Wang ME, Marble RD, Williams DJ, Sartori L, Leazer RC, Mitchell C, Shah SS; FEBRILE YOUNG INFANT RESEARCH COLLABORATIVE. *Parenteral Antibiotic Therapy Duration in Young Infants With Bacteremic Urinary Tract Infections*. Pediatrics. 2019 Sep;144(3):e20183844. doi: 10.1542/peds.2018-3844. Epub 2019 Aug 20. PMID: 31431480; PMCID: PMC6855812.
- [5] Schroeder AR, Shen MW, Biondi EA, Bendel-Stenzel M, Chen CN, French J, Lee V, Evans RC, Jerardi KE, Mischler M, Wood KE, Chang PW, Roman HK, Greenhow TL. *Bacteraemic urinary tract infection: management and outcomes in young infants*. Arch Dis Child. 2016 Feb;101(2):125-30. doi: 10.1136/archdischild-2014-307997. Epub 2015 Jul 15. PMID: 26177657.
- [6] Hoberman A, Wald ER, Hickey RW, Baskin M, Charron M, Majd M, Kearney DH, Reynolds EA, Ruley J, Janosky JE. *Oral versus initial intravenous therapy for urinary tract infections in young febrile children*. Pediatrics. 1999 Jul;104(1 Pt 1):79-86. doi: 10.1542/peds.104.1.79. PMID: 10390264.