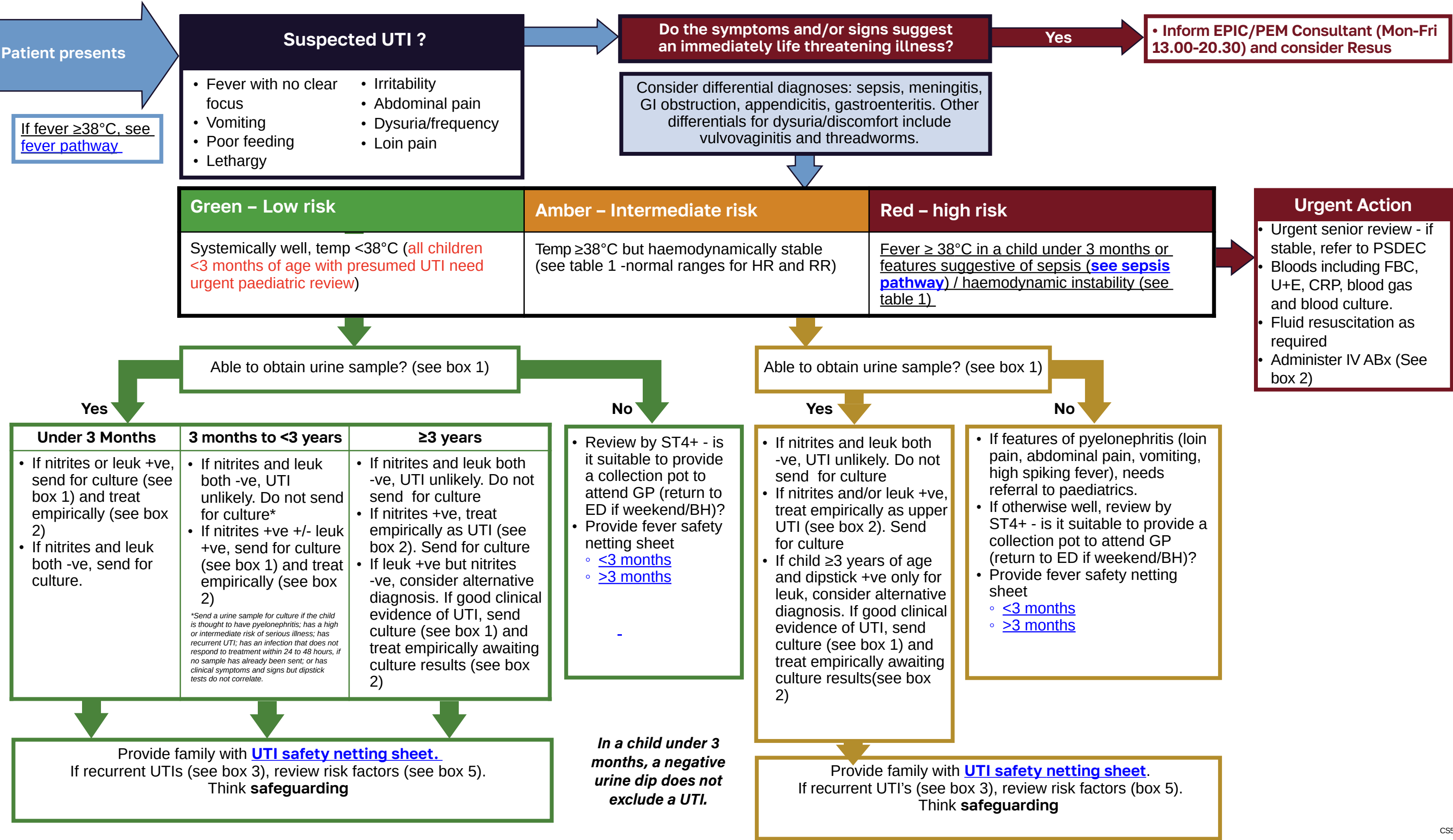


Suspected Urinary Tract Infection

Clinical Assessment/ Management tool for Children



Management - Acute Setting



GMC Best Practice recommends: Record your findings (See "Good Medical Practice" <http://bit.ly/1DPX12b>)

First version Nov 2017. Most recent update November 2025 -CS50217

CS50217

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Table 1: Normal Paediatric Values:

| (APLS*) | Respiratory Rate at rest (b/min) | Heart Rate (b/min) |
|--------------|-------------------------------------|-----------------------|
| < 1 year | 30 -40 | 110 -160 |
| 1 -2 years | 25 -35 | 100 -150 |
| > 2 -5 years | 25 -30 | 95 -140 |
| 5 -12 years | 20 -25 | 80 -120 |
| Over 12 | 15 -20 | 60 -100 |

* Advanced Paediatric Life Support The Practical Approach Fifth Edition Advanced Life Support Group Edited by Martin Samuels; Susan Wieteska Wiley-Blackwell / 2011 BMJ Books.

Box 1

Urine collection and preservation

- Clean catch is recommended method. Gentle suprapubic cutaneous stimulation using gauze soaked in cold fluid helps trigger voiding*
- Unless urine can get straight to lab preservation in a boric acid (red top) container will allow 48 hours delay



*Quick-Wee Method

Box 2

Treatment ([Prescribing Information](#))

Please note: Liquid Nitrofurantoin is approximately £300 a bottle. If clinically indicated, please consider alternative ABx.

≤3 month: treat as pyelonephritis (refer to paediatrics)

>3 months of age:

If unable to tolerate oral Abs or systemically unwell (suggestive of bacteraemia), requires consideration of IV antibiotics– refer to paediatrics.

- Lower UTI: Trimethoprim (if there is a low risk of resistance), or nitrofurantoin (if eGFR is 45ml/minute or more). Infants and children who are already receiving prophylactic antibiotics, should be treated with an alternative antibiotic. Second-line options (if there is no improvement in UTI symptoms 48 hours after starting first-line treatment, or first choice is not suitable) include nitrofurantoin (if eGFR is 45ml/minute or more) if it has not been used as a first-line option, amoxicillin (only if culture results available and susceptible), or cefalexin.
- Upper UTI/pyelonephritis: Cefalexin or, only if culture results are available and susceptible, co-amoxiclav.
- For more information about treatment, see [CHT's Antibiotic Guidance](#)

Box 3

Who needs imaging?

Ultrasound:

- Under 6 months - within 6 weeks, acutely if atypical** or recurrent*** infection
- Over 6 months -not routinely, acutely if atypical** infection, within 6 weeks if recurrent*** infection.

Atypical UTI = seriously ill/ sepsis, poor urine flow, non E-Coli, abdominal or bladder mass, raised creatinine, failure to respond in 48 hours * Recurrent UTIs = ≥3 lower UTIs, ≥2 upper UTIs or 1 upper and 1 lower UTI

How to organise in ED?

- Phone call to parents to explain results, follow-up plan
- Letter to GP to arrange US as per NICE guidance

Box 4

Who needs paediatric follow-up?

- Children with recurrent UTIs not responding to simple advice (see risk factors)
- Children with abnormal imaging or if appropriate imaging cannot be arranged in primary care

Box 5

Risk factors for recurrent UTIs

- Constipation
- Poor fluid intake
- Infrequent voiding esp at school (holding on)
- Irritable bladder (can happen following UTI)
- Neuropathic bladder
- Examine spine
- Genitourinary abnormalities
- Examine genitalia

Box 6

Paediatric Urine Microscopy Interpretation & Action

| Microscopy results | Interpretation |
|--|--|
| Pyuria and bacteriuria are both positive | Assume the baby or child has a urinary tract infection (UTI) |
| Pyuria is positive and bacteriuria is negative | Start antibiotic treatment if the baby or child has symptoms or signs of a UTI |
| Pyuria is negative and bacteriuria is positive | Assume the baby or child has a UTI |
| Pyuria and bacteriuria are both negative | Assume the baby or child does not have a UTI |

For further information, see NICE guidelines: <https://cks.nice.org.uk/topics/urinary-tract-infection-children/>