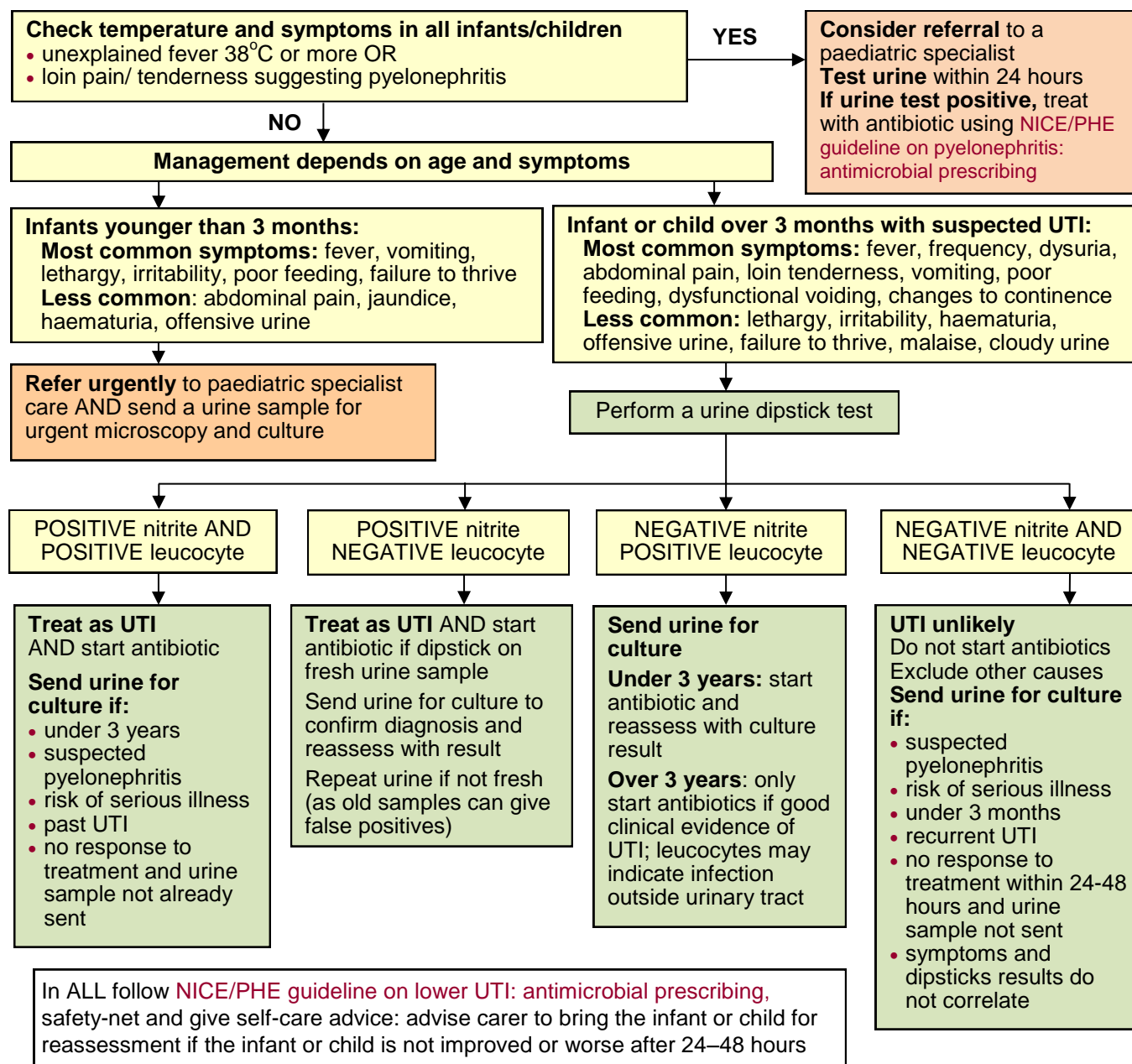


Flowchart for infants/children under 16 years with suspected UTI^{1A+}

Consider UTI in any sick child and every young child with unexplained fever



Refer to NICE CG54 for other things to consider in suspected UTI in children
For treatment refer to joint NICE/PHE guidance: NICE guidelines on UTI (lower): antimicrobial prescribing or NICE guidelines on pyelonephritis (acute): antimicrobial prescribing

Key:	Urgent alert	UTI signs/symptoms	Action advised	Other advice
------	--------------	--------------------	----------------	--------------

Key points for infants/children under 16 years with suspected UTI

Sampling in children:

- if sending a urine culture, obtain sample before starting antibiotics^{2A+}
- if child has alternative site of infection do not test urine unless remain unwell - then test within 24 hour^{1A+}
- in infants/toddlers, clean catch urine advised;^{1A+,4B+,5A-} gentle suprapubic cutaneous stimulation using gauze soaked in cold fluid helps trigger voiding;^{6B+} clean catch urine using potties cleaned in hot water with washing up liquid;^{3B+} nappy pads cause more contamination, and parents find bags more distressing^{7B-}
- if non-invasive not possible consider: catheter sample, or suprapubic aspirate (with ultrasound guidance)^{1A+}
- culture urine within 4 hours of collection, if this is not possible refrigerate, or use boric acid preservative. Boric acid can cause false negative culture if urine not filled to correct mark on specimen bottle^{1A+}

Interpretation of culture results in children:

- single organism $\geq 10^6$ cfu/L (10^3 cfu/mL) may indicate UTI in voided urine^{1A+,8A-}
- any growth from a suprapubic aspirate is significant^{1A+,8A-}
- pyuria $\geq 10^7$ WBC/L (10^4 WBC/mL) usually indicate UTI, especially with clinical symptoms but may be absent^{1A+,8A-}

Other diagnostic tests: do not use CRP to differentiate upper UTI from lower UTI^{1A+}

Ultrasound:

- if proven UTI is atypical (seriously ill, poor urine flow, abdominal or bladder mass, raised creatinine, septicaemia, failure to respond to antibiotic within 48 hours, non-*E.coli* infection): ultrasound all children in acute phase and undertake renal imaging within 4-6 months if under 3 years^{1A+}
- ALL ages with recurrent UTI^{1A+}
- for children under 6 months OR those with non-*E.coli* UTI: ultrasound within 6 weeks if UTI not atypical AND responding to antibiotics^{1A+}

Refer to NICE CG54 for other things to consider in suspected UTI in children

For treatment refer to joint NICE/PHE guidance:

NICE guidelines on UTI (lower): antimicrobial prescribing or NICE guidelines on pyelonephritis (acute): antimicrobial prescribing