ANTIBIOTIC GUARDIAN

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NHS Vale of York Clinical Commissioning Group

Referral Support Service

Paediatrics

PA05
Urinary Tract Infections in Children < 16 years

Definition

Illness caused by micro-organisms inflaming either the lower or upper urinary tract

Exclude Red Flag Symptoms

- Children under 3m – refer acutely for diagnosis by urgent microscopy and IV antibiotics
- Children at high risk of serious illness or upper tract UTI – consider referral
- Atypical infections- signs may include sepsis, poor urine flow, abdominal mass, raised creatinine, failure to respond to suitable antibiotics within 24-48hrs, non E-Coli organisms (require admission and acute imaging of renal tract)
- Recurrent or persistent dysuria/anogenital symptoms in absence of confirmed pathology (uti/vulvitis/threadworms) – consider sexual abuse

General Points

- The guidelines below are based on NICE recommendations and cover children up to 16 years. However, when writing this guideline, the clinicians involved accept that investigating a 14 year old in the same way as a 5 year old may not be appropriate and clinical judgement should always be used.

- Dipsticks should be done on **freshly voided** urine (to avoid false positive nitrate result)
- ALL children <3 yrs should have an MSU sent for culture
- Remember presentation may be non-specific in pre verbal children**.** Click here for link to presenting symptoms by age and using dipsticks to aid diagnosis
- All children with fever >38C without source should have urinalysis the same day
- If children with other source of infection present do not test urine unless clinical response to initial management is not satisfactory.
- If receiving prophylaxis use a different antibiotic to treat presenting infection
- Prophylaxis is not recommended following a 1st UTI at any age – consider if recurrent on the advice of paediatrics/microbiology only
- Do not routinely re test urine if asymptomatic after infection treated. Asymptomatic bacteriuria is not an indication for follow up.

Management

- Refer all <3m

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Clinical Research & Effectiveness approved: Jan 2017
Date published: Jan 2017
Next Review: Jan 2019

- Assess all other children for risk of serious illness. If children can be managed in primary care treat as per current antibiotic guidelines for 3 days *unless* systemically unwell consider 5-7 days and 7-10d if loin pain/upper UTI
    - **Trimethoprim** (4mg/kg or 25mg BD 3-5 months, 50mg BD 6m-5yrs, 6-11yrs 100mg BD, 12+ adult dose)
        - or
    - **Nitrofurantoin** (3m-11yrs 750mcg/kg QDS, 12yrs+ 50mg QDS)
    - **Amoxicillin** (if susceptible) **(**1-11 months 125mg TDS, 1-4 years 250mg TDS, 5+ years 500mg TDS)
    - **Cefalexin** can also be used 3rd line but only use amoxicillin when known to be susceptible
    - Refer to BNF for Children for full dose information
    - Avoid co-amoxiclav - as no benefits over cephalexin and associated with significant additional hazards

- The North Yorkshire Antibiotic Prescribing Guidelines for Primary Care does not issue antibiotic guidance for upper UTI - this is considered specialist management only. Consider referral but if treatment seems appropriate in older children/adolescents within primary care NICE suggest using an antibiotic with least pattern of resistance e.g. **cefalexin** for 7-10d.

- Follow up imaging & MSU – check clinically improved and result of MSU. Consider need for outpatient investigations. Click here for link to recommended imaging schedules
  Essentially;
    - *Atypical UTI at any age requires an USS during acute infection i.e. through secondary care acute referral*
    - *<6m uncomplicated responsive UTI or recurrent UTIs – USS within 6 weeks*
    - *>6m single easily treated UTI – no imaging unless atypical features*
    - *Atypical UTI or recurrent UTIs in <3yr group also require USS within 6w and MCUG/ DMSA 4-6m following acute infection so will need referral*
    - *Children >3yrs with atypical or recurrent UTI also need an USS within 6w and 4-6m DMSA but no MCUG and also hence need referral*

Referral Information

Indications for referral

- Recurrent UTI's (≥ 3 UTIs)
- Pyelonephritis (≥ 2 episodes or 1 + a UTI)
- Requirement for imaging other than ultrasound (e.g DMSA/MCUG)
- Abnormal ultrasound
- Atypical UTIs

Information to include in referral letter

- Past medical history

- Details of infections and treatment with results of any urine MCS available

Investigations prior to referral

- Consider USS as above

Patient information leaflets/ PDAs

- http://patient.info/health/urine-infection-in-children

References

- NICE Clinical Guideline 54. Urinary Infection in under 16's
- North Yorkshire Antibiotic Guidelines For Primary Care
- British National Formulary for Children BNFC
- https://cks.nice.org.uk/urinary-tract-infection-children#!topicsummary