PAEDIATRIC ACUTE CARE GUIDELINE	
Urinary Tract Infection	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

This document should be read in conjunction with this DISCLAIMER
http://kidshealthwa.com/about/disclaimer/

Urinary Tract Infection

Urinary tract infection (UTI) refers to a bacterial infection in the bladder (cystitis), or kidneys and ureters (pyelonephritis).

Background

- Urinary tract infections in childhood are common and can be potentially serious in the first few years of life
- The diagnosis of UTI should be considered in all febrile infants and young children, and in all infants with fever without focus

Assessment

- A reliable urine specimen is vital to confirm the diagnosis - **urine bags must not be used** (high false positive rate)
- Suprapubic aspiration is the gold standard in infants less than 6 months, however catheter specimens can be used. In children over 6 months, catheter specimens are the preferred choice if a clean catch specimen has not been achieved by **45 minutes**
- In febrile young children who have a **definite clear alternative clinical diagnosis**, it is **not** necessary to check a urine collection in order to exclude a UTI

History

- Fever may be present, particularly fever without apparent source
- Irritability
- Poor feeding

- Vomiting
- Jaundice (in neonates)
- In older children symptoms can include dysuria, urinary frequency, and urinary incontinence

Investigations

- **Urinalysis** - this is not accurate in infants under 12 months - so cannot be used to exclude a UTI. The only urinalysis results reliably predictive of a UTI are the leukocyte esterase and nitrites.
- Urine should be sent to the laboratory for microscopy and culture. This must be done urgently in infants < 6 weeks of age in whom a UTI is suspected. After hours a microbiology technician will need to be called in after discussing with the on call Microbiologist.
- A reliable urine specimen is vital to confirm the diagnosis - SPA, CSU, clean catch or MSU (in older kids)
- Urine cultures may be negative if there is previous antibiotic treatment
- Children who are systemically unwell and all infants < 3 mths should have blood tests including: FBC, blood cultures, CRP, U&E
- Lumbar punctures should be done in neonates and children < 6 weeks

Investigations for age group		
Birth to 6 weeks of age	**6 weeks to 3 months of age**	**Over 3 months of age**
• FBC, CRP, U&E, blood cultures • Urine - SPA • Lumbar puncture	• FBC, CRP, U&E, blood culture • Urine - SPA best, but can do catheter • Consider lumbar puncture only if toxic signs present	**Toxic signs present:** • FBC, CRP, U&E, blood cultures • Urine - SPA or catheter in children < 6 months, or catheter if you have waited for > 45 mins for a clean catch in older children • Consider lumbar puncture (if clinically indicated) **Appears unwell but no toxic signs:** • Urine - SPA or catheter in children < 6 months, or catheter if you have waited for > 45 mins for a clean catch in older children **Appears well:** • Urine - SPA or catheter in children < 6 months, or catheter if you have waited for > 45 mins for a clean catch in older children

Management

Management for age group **Refer to ChAMP Urinary Tract Infection Guideline**		
Birth to 6 weeks of age	**6 weeks to 3 months of age**	**Over 3 months of age**

• Admit under General Paediatric Team • Intravenous antibiotics: Amoxycillin and Gentamicin	• Admit under General Paediatric Team • Intravenous antibiotics: Amoxycillin and Gentamicin	**Toxic signs present:** • Admit under General Paediatric Team • Intravenous antibiotics: Amoxycillin and Gentamicin or Ceftriaxone **Appears unwell but no toxic signs:** • Consider IM antibiotics: Gentamicin or Ceftriaxone • Discharge home on oral antibiotics: Cephalexin or Cotrimoxazole or Augmentin Duo • GP follow up in 48-72 hours to check urine culture and sensitivity • Request renal US based on child's age as per referral instructions below **Appears well:** • Discharge home on oral antibiotics: Cephalexin or Cotrimoxazole or Augmentin Duo • GP follow up in 48-72 hours to check urine culture and sensitivity • Request renal US based on child's age as per referral instructions below

Medications

Oral antibiotic choices for patients who are being discharged from the Emergency Department include:
Augmentin Duo 25mg/kg twice daily (to a maximum of 875mg of amoxycillin component)
OR
Cotrimoxazole 4mg/kg twice daily(to a maximum dose of 160mg trimethoprim)
OR
Cephalexin 12.5mg/kg 6 hourly (maximum 500mg)
The duration of treatment should be:
- 5 days for children
- 7 days if they are more unwell
- 10 days for infants under 12 months

Intramuscular (IM) antibiotic choices for patients who are being discharged from the Emergency Department include:
Gentamicin 6mg/kg (to a maximum of 480mg)
OR
Ceftriaxone 50mg/kg (maximum 2g)

Intravenous antibiotic choices for children being admitted to hospital include:
Amoxycillin 50mg/kg 6 hourly (maximum 1g) **plus** Gentamicin 7.5mg/kg (< 10 years old) or 6mg/kg (>10 years old) (maximum 480mg)
OR
Ceftriaxone 50mg/kg once daily (maximum 2g) - if penicillin allergy
See UTI: ChAMP Empiric Guideline for further information.
Prophylaxis is not routinely used after the first documented UTI.

Referrals and follow up

Renal Tract Ultrasounds:

- All children <3 yrs presenting with a first UTI should have a renal tract US
- A renal tract ultrasound is not always necessary for children aged 3 years or older with a simple UTI, however:
    - Children of any age with recurrent urinary tract infections should have a renal tract ultrasound (non urgent)
    - Children any age with an atypical UTI or UTI responding poorly to treatment should have a renal tract ultrasound (urgent)

GP Follow Up:

- All children presenting with a UTI should have a GP follow up and a GP letter completed (see UTI GP Letter).
- In children > 6 mths, GP will arrange an outpatient renal tract US

Referral to General Paediatric Team:

- Infants ≤ 6 mths presenting with a UTI should be referred to the General Paediatric Outpatient Clinic at PMH. Complete an internal referral form.
- A PMH radiology request form should be completed for a renal tract US, and this placed with the Outpatient Clinic referral form in the ED Consultant's office. The Consultant checking results will send these off if a UTI is proven on culture.

Advise parents if the US is abnormal, the General Paediatric Team will arrange a clinic follow up.

Management Paperwork

- UTI GP Letter Interactive
- UTI Mgt Plan 6mth to 3 yrs Interactive 13012015
- UTI Mgt Plan under 6 months Interactive 13012015

References

1. WA Health Child and Adolescent Health Service. Department of General Paediatrics. Urinary Tract Infections: Investigation and Follow Up Clinical Practice Guideline. Version 1: 2015

This document can be made available in alternative formats on request for a person with a disability.

File Path:	
Document Owner:	Dr Meredith Borland HoD, PMH Emergency Department

Reviewer / Team:	Kids Health WA Guidelines Team		
Date First Issued:	20 August, 2013	Version:	
Last Reviewed:	18 November, 2015	Review Date:	18 November, 2017
Approved by:	Dr Meredith Borland	Date:	18 November, 2015
Endorsed by:	Medical Advisory Committee	Date:	18 November, 2015
Standards Applicable:	NSQHS Standards: 		
Printed or personally saved electronic copies of this document are considered uncontrolled			