SUSPECTED URINARY TRACT INFECTION IN INFANTS & CHILDREN
PRIMARY CARE MANAGEMENT GUIDELINE – TARANAKI Sept 2012

DIAGNOSIS (Symptoms/signs suggesting UTI)

All ages	Assess as per "Feverish Illness in Children" Guideline (see below):
<3 mths	Fever, vomiting, lethargy, irritability, poor feeding, failure to thrive (less common: abdominal pain, jaundice, haematuria, offensive urine,)
Preverbal	Fever, abdominal pain, loin tenderness, vomiting, poor feeding (others less common)
Verbal	Frequency, dysuria, dysfunctional voiding, changes to continence, abd. pain, loin tenderness (less common: fever,malaise,vom iting, haematuria, offensive/cloudy urine)

INVESTIGATION/ MANAGEMENT

All ages	Manage as per "Feverish Illness in Children" Guideline. *NB. Bag urine only recommended for dipstick screen, not for culture.* **Refer** if "atypical" or recurrent UTI (see definitions below*)		
<6 mths	Urgent urine m/c (**clean catch**^ if possible). Start antibiotic. Refer paediatrician (urgent). If **atypical*** or **recurrent*** UTI - should have USS during acute infection. Further imaging is likely to be recommended (DMSA, MCUG)		
6mth-3yrs:	**LOW RISK** (see febrile illness guideline)	**INTERMEDIATE RISK**	**HIGH RISK**
	Urine dipstick, m/c (clean ^) Start antibiotic if specific urinary symptoms or m/c (or dipstick) positive. Request USS/refer if failure to respond to Rx	Consider urgent referral Urgent fresh urine m/c (clean^) (dipstick if not available) Antibiotic if specific urinary symptoms, micro pos, (or dipstick nitrites) Order USS.	Urgent paediatric phone consultation & referral Urine for urgent m/c ^ Urgent USS is recommended
	Refer paediatrician if USS abnormal.		

>3 years	Investigate/treat from dipstick result (fresh urine)::		
		Nitrite +	Nitrite -
	Leuco +	Start anti-biotic Urine m/c if PH UTI or high/interm. risk	Antibiotic if clinical evidence UTI or m/c pos
	Leuco -	Urine m/c (MSU)	No antibiotic. Explore other causes. Urine m/c only if high/interm risk, recurrent UTI, atypical or non-responding infection
	Refer for ultrasound if 'atypical' or recurrent UTI. Refer paediatrician if USS abnormal		

NOTES: m/c = microscopy and culture. Use clean catch^/MSU -bag sample not suitable for culture

Microscopy results:

	Pyuria positive	*Pyuria negative*
Bacteriuria positive	UTI	UTI
Bacteriuria negative	Start antibiotic if clinical UTI	No UTI

^ "Clean catch" urine: (see www.kidshealth.org.nz (under urine tests) for collection method).

**** Definitions:***

Atypical UTI (refer urgently)**:** seriously ill, poor urinary flow, abdominal or bladder mass, raised creatinine, septicaemia, failure to respond to antibiotic within 48 hrs, infection with non-E.coli organism.

Recurrent UTI (refer)**:** >1 upper UTI infections *or* 1 upper UTI & 1 lower UTI, *or* >2 lower UTI infections.

TREATMENT PROTOCOL:

High risk (red) of serious illness *and/or* age <3 months with suspicion of UTI *and/or* atypical UTI*.	**Urgent referral. Urgent urine m/c (IV antibiotics needed if > 3 months)**
Upper UTI / acute pyelonephritis (>3 months) *(bacteriuria, and fever >/=38° or loin pain/tenderness)*	Consider referral. Urine m/c if not done Oral antibiotics 7-10 days (IV if necess)
Lower UTI / cystitis (>3 months) *(symptoms /signs of UTI & bacteriuria, but no systemic symptoms/signs)*	Oral antibiotics 5-7 days Review if still unwell after 24-48 hours

Oral Antibiotic suggestions (in order of preference): *(from Starship Guideline Nov 2007)*

Arrange F/U in 2 days (eg phone) to check progress & review sensitivities.
Repeat urine not necessary if asymptomatic after treatment

	Dosage (usually 7 days; 5 days if lower UTI & known normal renal tract	**Advantages**	**Disadvantages**
Amoxicillin/ Clavulanate	10mg/kg/dose TDS (15mg/kg/dose in upper UTI (max 500mg/dose)	Palatability	Diarrhoea
Cotrimoxazole	4mg/kg/dose trimethoprim BD (= 0.5ml/kg co-trimoxazole) maximum dose 20ml susp)	Can be used as prophylaxis	Small risk blood dyscrasia. NB: 30% Ecoli are resistant
Cephalosporin (Cefaclor)	10mg/kg/dose TDS (max 500mg/dose)	Palatability	

Prophylaxis: (on consultant advice or while awaiting imaging/specialist appointment)

Cotrimoxazole 2mg/Kg at night (max 480mg); *or*
Cefaclor 10mg/Kg at night (max 250-500mg)

Advice to parent/carer:

General education about UTI aetiology, need for treatment, complications, prognosis, etc,

symptom recognition & when to seek healthcare advice; urine collection/storage.
Prevention of recurrence: Adequate fluid, avoid voiding delay (eg ready access to toilet), address

constipation or dysfunctional elimination syndromes

Follow-up

Review and retest if symptoms persist or recur after treatment (routine F/U not required)
Refer paediatrician if proven UTI < 6mths, recurrent/atypical UTI's* or abnormal imaging.

References: NICE Clinical Guideline 54: "UTI in children" August 2007
Starship Children's Health Clinical Guideline: "Urinary Tract Infection". Nov 2007

Endorsed June 2009. TDBH Paediatricians & Guidelines Development & Oversight Group.