

## STANDARD TREATMENT WORKFLOW (STW)

# Urinary Tract Infections

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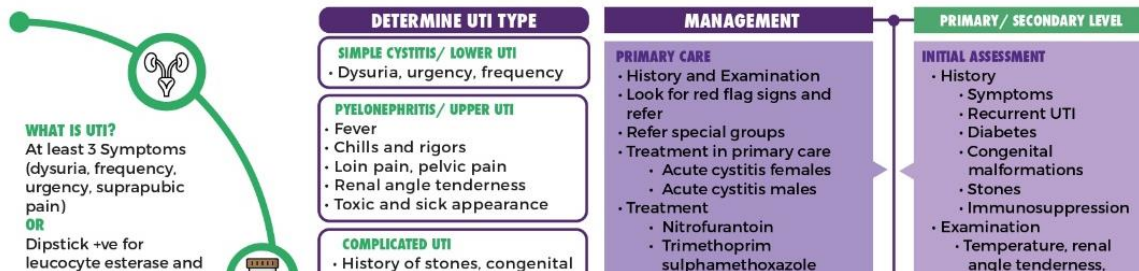


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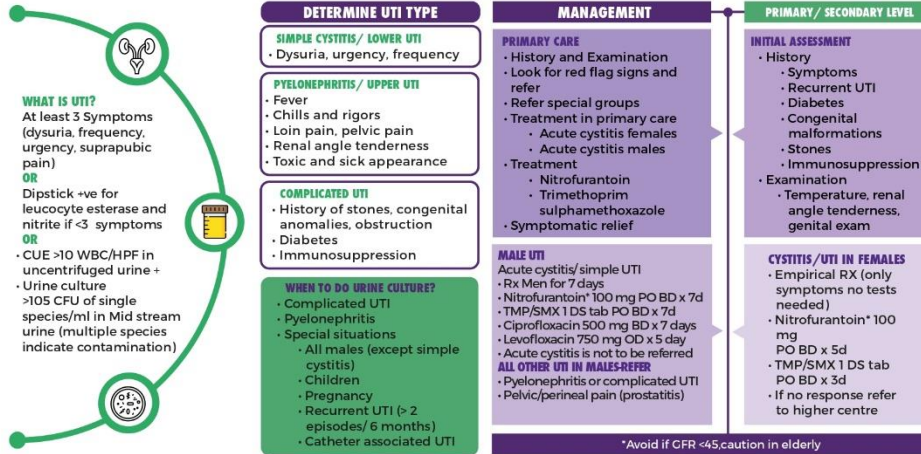


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## Standard Treatment Workflow (STW) for the Management of URINARY TRACT INFECTIONS ICD-10-N39.0



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SYMPTOMATIC TREATMENT					
Plenty of water	Urine alkalinizer recommended eg citrate - Avoid if patient on nitrofurantoin	Phenazopyridine 200mg tid for 2 days	Local Estrogen creams for recurrent UTI in post menopausal women	Paracetamol for pain	Cranberry can be used



TERTIARY LEVEL					
	Rx Pyelonephritis/ complicated UTI	Rx pregnancy UTI	Rx all male UTI including prostatitis	Rx recurrent UTI	Rx non-resolving UTI
<ul style="list-style-type: none"> <li>• Send for culture</li> <li>• Imaging if no response to antibiotics in 48 hrs</li> <li>• Urology services if obstruction</li> </ul>	<p><b>PYELONEPHRITIS</b></p> <p>Empiric Outpatient: • Urine c/s • Consider initial dose of a parenteral agent - Ceftriaxone 1-2 g IV/IM x 1 - Gentamicin 5 mg/kg IV/IM x 1 • Followed by - Ciprofloxacin 500 mg PO BD x 7d - Levofloxacin 750 mg PO OD x 5 d - Cefuroxime 500 mg PO BD x10-14d - Amoxy clav x10-14 days - TMP-SMX 1 DS BD x 7-10 days Empiric Inpatient: • Ceftriaxone 1-2 g IV once daily+ /-AMP • Gentamicin +/-AMP • Others as per c/s- Carbapenem, Piperacillin Taz IV therapy required until afebrile x 48 hrs, then switch to PO if no response in 3 days imaging</p>	<p><b>PREGNANCY UTI</b></p> <ul style="list-style-type: none"> <li>• Urine culture at 1st antenatal visit</li> <li>• For asymptomatic bacteriuria/acute cystitis: - Nitrofurantoin 100 mg PO BD x 5-7 d (avoid near-term)</li> <li>- Cephalixin 500 mg PO QID x 5-7 d</li> <li>- TMP/SMX 1 DS tab PO BD x 5-7 d (avoid in 1st trimester &amp; near term; supplement with multivitamin containing folic acid)</li> <li>• Check repeat urine c/s 7days after Rx to confirm clearing</li> <li>• Repeat urine culture in each antenatal visit</li> <li>• If recurrent- Antibiotic prophylaxis till term</li> </ul>	<p><b>CATHETER UTI</b></p> <ul style="list-style-type: none"> <li>• Rx of asymptomatic CAUTI NOT recommended</li> <li>• Urinary catheters should be removed as soon as not required</li> <li>• If indwelling catheter for &gt;2 weeks and is still indicated, replacing the catheter is recommended</li> <li>• Symptomatic CAUTI (Fever, back pain, new onset delirium, rigors)</li> <li>• Send culture</li> <li>• Rx as complicated UTI</li> <li>• No role of routine antibiotic prophylaxis for prevention</li> </ul>	<p><b>MALES WITH PROSTATITIS</b></p> <ul style="list-style-type: none"> <li>• UTI symptoms+ pelvic pain/ fever</li> <li>• Refer</li> <li>• Urine culture &amp; MSU</li> <li>• Digital rectal exam-tender prostate</li> <li>• Older &gt;35 yrs - Septran DS BD</li> <li>- Levofloxacin 500mg OD, ciproflox 500 mg BD</li> <li>• Avoid nitrofurantoin</li> <li>• Young males- - Doxy 100mg bd /azithro 1 gm / oflox 300mg BD for chlamydia + Single dose of Ceftriaxone 250mg IM for gonorrhoea</li> <li>• Rx- 6 weeks</li> <li>• Imaging to rule out abscess</li> </ul>	<p><b>RECURRENT UTI</b></p> <ul style="list-style-type: none"> <li>• Uncomplicated RUTI</li> <li>• post coital voiding and post coital antibiotic</li> <li>• Low dose nitrofurantoin 50 mgX 6 months</li> <li>• Single strength septran x 6 months</li> <li>• Or norflox 200mg, ciproflox200mg, cephalixin 250mg</li> <li>• Vaginal cream in post menopausal</li> <li>• Complicated RUTI</li> <li>• Urology referral</li> <li>• Cystoscopy, urodynamics (post menopausal)</li> </ul>

**ASYMPTOMATIC BACTERIURIA**

- No symptoms
- Bacteria in urine culture >105CFU/ml
- No treatment required
- Exceptions when you should treat  
- Pregnancy  
- Before any urological intervention

\* Pregnancy UTI, Catheter UTI may also be managed at secondary level.

**LONG TERM CONSEQUENCES**

- Renal scars
- Hypertension
- CKD
- Poor quality of life

**CHILDREN**

**SYMPTOMS**

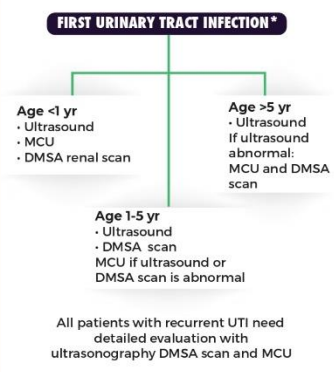
- Neonates and Infants < 1yr
- Fever,vomiting, diarrhoea, jaundice, Poor stream
- Older children same as adults

**TREATMENT**

- Infants <3months as upper UTI (PN) with IV antibiotics
- Urinary bladder catheterisation for infants with upper tract UTI
- Older children
- Upper UTI- IV antibiotics gentamicin, amikacin, ceftriaxone
- Lower UTI- oral cefixime, oflox, ciproflox, amoxyclav
- Duration of Rx  
- Upper UTI- 10-14 days  
- Lower UTI 7-10 days  
- Adolescents 3-5 days

**REFER**  
Upper UTI (PN), infants UTI, recurrent UTI

**PREVENTION**  
Avoid constipation, clean washrooms



**KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES**

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal ([www.icmr.org.in](http://www.icmr.org.in)) for more information.  
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