

STANDARD TREATMENT WORKFLOW (STW)

Urinary Tract Infections

Vivekanand Jha¹; Sandeep Mahajan²; Manisha Sahay³; Arpana Iyengar⁴; Vijay Kher⁵; Gopesh Modi⁶; Swaranjeet Kaur Gill⁷; Anant Kumar Jha⁸; Vikram Singh⁹; Ranjeet Nair¹⁰; Vivek Kumar¹¹; Vishal Golay¹²; Mukta Mantan¹³; Natarajan Ramakrishnan¹⁴; Narayan Prasad¹⁵; Ramesh Chandrababu¹⁶; R.K. Sharma¹⁷; George Abraham¹⁸

¹The George Inst of Global Health; ²All India Institute of Medical Science, New Delhi; ³Osmania Medical College, Hyderabad; ⁴St John's Medical College, Bangalore; ⁵Medanta, Gurgaon; ⁶Samarpan Noble Hospital, Bhopal; ⁷Bathinda; ⁸Civil Surgeon, Godda; ⁹Dehradun; ¹⁰R&R Army Hospital, New Delhi; ¹¹Post Graduate Institute of Medical Education and Research, Chandigarh; ¹²Anandalok Hospital, Siliguri; ¹³Maulana Azad Medical College, New Delhi; ¹⁴NU Hospitals, Bengaluru, Karnataka; ¹⁵Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow; ¹⁶Sri Ramachandra Institute of Higher Education and Research, Chennai; ¹⁷Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow; ¹⁸Jawaharlal Institute of Postgraduate Medical Education and Research, Pondyicherry

CORRESPONDING AUTHOR

Dr. Vivekanand Jha, Department of Nephrology, The George Institute of Global Health

Email: vjha@pginephro.org

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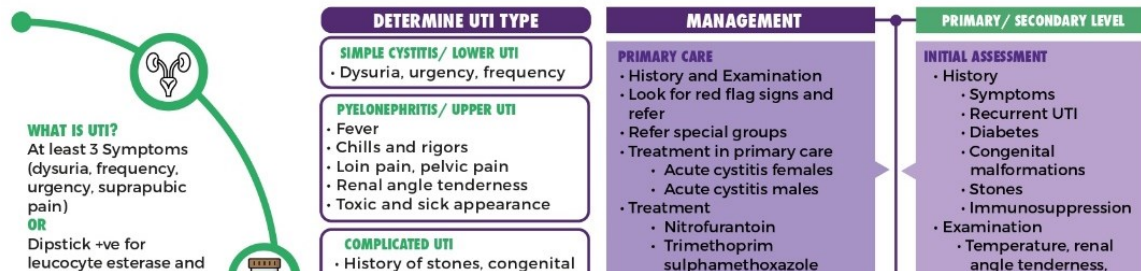


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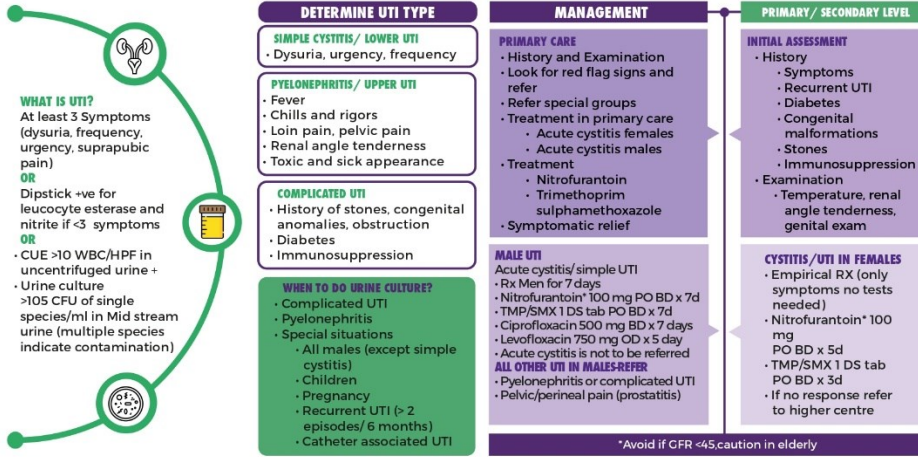


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Standard Treatment Workflow (STW) for the Management of URINARY TRACT INFECTIONS ICD-10-N39.0



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

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

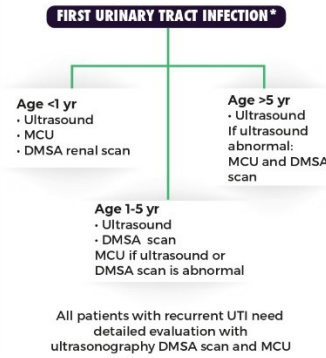
- Neonates and Infants < 1yr
- Fever,vomiting, diarrhoea, jaundice, Poor stream
- Older children same as adults

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) for more information.
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