URINARY TRACT INFECTIONs (UTI)

Asymptomatic bacteriuria – positive urine culture in the absence of symptoms regardless of urinalysis results. Asymptomatic bacteriuria does **NOT** need to be treated unless the patient is pregnantor undergoing urologic instrumentation when bleeding is anticipated (e.g. TURP).

Urinary tract infections (UTI) – A positive urine culture in a patient with symptoms

Uncomplicated UTI – Cystitis or pyelonephritis which occurs in healthy, nonpregnant women with no functional or anatomic abnormalities of the urinary tract.

Complicated UTI – Associated with increased risk of treatment failure or complications:

- male gender
- pregnancy
- neurogenic bladder
- functional or structural abnormality of GU tract
- nephrolithiasis
- obstruction
- indwelling catheter
- unresolved or recurrent UTI
- nosocomial UTI

<u>Empiric Regimen:</u>

Therapy should be streamlined once culture and sensitivity results are available

Uncomplicated Cystitis

Preferred Regimens	Alternative Regimens	Usual Duration
Nitrofurantoin[1,2] (Macrobid) 100 mg po BID	Ciprofloxacin 500 mg po BID	Nitrofurantoin[1,2]: 5 days females or 7 days males TMP/SMX[3] or Ciprofloxacin: females 3 days; males 7 days
TMP/SMX[3] 1 DS po BID		

Complicated Cystitis *(factors to consider include age > 55 years, male, symptoms > 7 days, diabetes mellitus, structural abnormalities of urinary tract such as stricture and renal calculi, spinal cord injury or recurrent UTI)*

Preferred Regimens	Alternative Regimens	Usual Duration
TMP/SMX[3] 1 DS po BID OR Amoxicillin-clavulanate[3] 875/125mg BID OR 500/125mg TID	Ciprofloxacin[3] 500 mg po BID	7 days Male: 7 – 14 days (unless recurrence or high suspicion for relevant prostatitis) Structural abnormalities or catheterized: 7-14 days

Pyelonephritis – should collect 2 sets of blood cultures before initiation of antibiotics

<table>
<tr><th>Preferred Regimens</th><th>Duration</th></tr>
<tr><td>If IV is required:
Ceftriaxone 1 g IV q24h
OR
Gentamicin[3] 5-7 mg/kg IV daily (based on Ideal Body Weight)</td><td rowspan="2">7-14 days
Stepdown to oral therapy when appropriate

Male: 7 – 14 days (unless recurrence or high suspicion for relevant prostatitis)

7 days of fluoroquinolone may be used for susceptible pathogens</td></tr>
<tr><td>Oral options (Empiric use is discouraged given HHS resistance rates):
TMP/SMX[3] 1 DS po BID
Ciprofloxacin[3] 500mg po BID</td></tr>
</table>

ESBL

Preferred Regimens	Duration
Cystitis	
Fosfomycin[4] 3 gram sachet po x 1	One sachet only
Pyelonephritis or systemically ill	
Ertapenem[3] 1 g IV daily	10-14 days

Footnotes:

[1] UTI in males – quinolones or TMP/SMX are preferred due to high prostate concentrations; longer treatment durations are recommended (at least 14 days) Consider alternatives in first trimester or > 34 weeks

[2] Nitrofurantoin is not recommended for treatment of pyelonephritis or prostatis because of insufficient tissue levels. It may be an option for VRE cystitis. If CrCl < 60 ml/min or in the presence of anuria, oliguria, avoid use of nitrofurantoin. Should avoid in pregnant patients greater than or equal to 36 weeks

[3] Renal dosage adjustment is required.

[4] Fosfomycin susceptibilities can be done on request. Please note that use of fosfomycin requires endorsement from Infectious Diseases physicians.