

**Urinary Tract Infection - Adults  
Empiric Treatment Algorithm  
InPatient**

Most likely organism:  
*E. coli* - 60%  
(Enterococcus 10%)

**AVOID**  
*Ciprofloxacin* or  
*Levofloxacin* Due  
to ↑ Resistance!  
\* Moxi NOT Indicated  
Due To Insufficient  
Urine Concentrations \*

If no response after  
*min 48h*, evaluate for  
another source of  
infection/inflammation,  
or "missing" coverage  
(e.g. *P. mirabilis*, *Ps.*  
*aeruginosa*)

**Uncomplicated \* Symptomatic \* UTI**

**Order Urine for C&S Prior**  
(D/C or change catheter after 1<sup>st</sup> dose)

**Nitrofurantoin (i.e. Macrobid®)** 100mg po bid x 7 days\*  
\*NOTE: Ineffective if systemic infection or Clcr <50mL/min

Alternatives:

- TMP-SMX (Septra®) i DS po bid x 3 days
- Trimethoprim (Proloprim®) 100mg po bid x 3 days (i.e. if sulfa allergy)
- Amoxicillin 250mg po tid x 7 days
- Cephalexin 250mg po qid x 7 days

**Complicated UTI /Acute Pyelonephritis**

e.g. Indwelling Catheter, Kidney Stones, Prostatic Hypertrophy, Obstruction, Neurologic Deficit which affects Flow/UT defenses, Spinal Cord Injury, etc.

- *P. mirabilis* also a concern

**Septic/Urosepsis**  
(Must have ↓ BP, ↑ HR)

No

Yes

**Order Urine for C&S Prior**  
(D/C or change catheter after 1<sup>st</sup> dose)

Amoxicillin/Clavulanate (Clavulin®) 500mg po q8h

Alternative:

- Cefprozil (Cefzil®) 500mg po q12h, or Cefuroxime (Ceftin®) 500mg po q12h (750mg IV q8h) x 10 days (2<sup>nd</sup> gen cephalosporin)

- Previous culture for *Ps. aeruginosa*
- Multiple previous hospitalizations

Yes

No

- Ampicillin 2g IV q6h ± Gentamicin 7mg/kg IV x1, then as per pharmacy
- Cefuroxime 750mg - 1.5g IV q8h ± Gentamicin as above

Levofloxacin 500mg po/IV q24h ONLY IF resistant or anaphylactic allergy to above

- Piperacillin 3 - 4g IV q6h + Gentamicin\* 7mg/kg IV x1, then as per pharmacy
- Ceftazidime 1 - 2g IV q8h + Gentamicin\* as above
- Ciprofloxacin 500mg - 750mg po/400mg IV q12h + [Ceftazidime or Gentamicin as above]

\* Tobramycin only if C&S shows gentamicin resistance

**Recurrent Symptoms/Relapse**  
- Recurrence within 1-2 weeks after treatment; usually same organism

- Retreat with previous agent for longer duration (e.g. if relapse with 3 - 10 days therapy, treat for 14 days)

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