

Urinary Tract Infection

Practical bedside approach • Women, men, pregnancy and transplantation

01 CLASSIFY & ASSESS

- Traditionally, uncomplicated UTI means infection in a healthy, non-pregnant woman. Current guidance distinguishes **localised UTI (cystitis)** from **systemic UTI (e.g. pyelonephritis)**.
- Assess pregnancy, transplantation, obstruction, stones, catheters, renal impairment and previous resistant organisms. Male sex alone does not make a UTI complicated; assess prostate involvement and retention.
- Dysuria, urgency and frequency suggest cystitis. Fever, rigors, flank pain or haemodynamic instability suggest systemic infection. Obtain a urine culture for systemic UTI and patients with relevant risk factors.

02 ANTIBIOTICS & DURATION

- Cystitis, non-pregnant women:** fosfomycin trometamol 3 g orally once; nitrofurantoin for 5 days; or TMP-SMX 160/800 mg twice daily for 3 days if susceptible or local *E. coli* resistance is below 20%.
- Afebrile cystitis, men:** TMP-SMX 160/800 mg twice daily for 7 days if susceptible. Selected younger men with bladder-only infection may receive nitrofurantoin or pivmecillinam under the local protocol; avoid bladder-only agents when prostatitis is suspected.
- Systemic UTI:** ceftriaxone is one IV option; broader therapy depends on severity and resistance risk. Switch to an active oral agent when appropriate. Oral fosfomycin and nitrofurantoin do not treat pyelonephritis.
- Duration:** IDSA recommends 5–7 days with an effective fluoroquinolone or 7 days with another effective antibiotic in clinically improving adults. Individualise for prostatitis, obstruction, immunosuppression and severe renal impairment; short-course evidence is limited in these groups.

03 PREGNANCY

- Obtain a urine culture. Cystitis options include cefalexin, another appropriate beta-lactam, nitrofurantoin or fosfomycin, according to susceptibility and gestational age.
- Treat for **5–7 days**, except fosfomycin 3 g as a single dose. Avoid empirical amoxicillin/ampicillin. Nitrofurantoin requires caution near delivery and in G6PD deficiency; TMP-SMX requires gestational risk assessment.
- Pyelonephritis:** initially treat in hospital with a renal-tissue-penetrating antibiotic, such as IV ceftriaxone when appropriate; complete **14 days total**.

04 KIDNEY TRANSPLANT RECIPIENTS

- Obtain a culture and review previous susceptibilities. Fever, malaise or graft dysfunction may occur without typical dysuria or graft pain. Assess graft function, obstruction, stents and catheters.
- Choose therapy by severity, prior resistance, kidney function and interactions. Individualise duration with the transplant team, especially early after transplantation or with graft pyelonephritis; do not automatically use single-dose or universal 7-day regimens.

05 ASYMPTOMATIC BACTERIURIA

- Screen and treat in pregnancy** and before endourological procedures causing mucosal trauma. A positive culture or pyuria alone does not establish symptomatic UTI.
- Kidney transplant:** IDSA advises against routine screening/treatment more than 1 month after transplantation. In the first month, evidence is insufficient; follow the centre protocol.

06 REVIEW & SOURCE CONTROL

- Infected obstruction requires urgent drainage plus antibiotics.** Review response and cultures within 48–72 hours; narrow coverage and switch IV to oral when appropriate. Persistent symptoms require assessment for obstruction, abscess, resistance or another diagnosis.

REFERENCES

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