

Urinary Tract Infections

Practical bedside approach • Pregnancy

01 INITIAL ASSESSMENT

- Obtain a **urine culture before antibiotics**; do not delay treatment in symptomatic patients.
- Fever, flank pain, vomiting or systemic illness suggests **pyelonephritis**, rather than lower UTI.
- Treat significant asymptomatic bacteriuria, usually $\geq 10^5$ CFU/mL. ACOG recommends one screening culture early in pregnancy.

02 ASYMPTOMATIC BACTERIURIA AND CYSTITIS

Antibiotic	Example adult regimen	Practical point
Fosfomycin trometamol	3 g orally, single dose	Lower UTI only
Cefalexin	500 mg orally twice daily for 7 days	Use culture and local protocol
Amoxicillin	500 mg orally three times daily for 7 days	Only if susceptibility is confirmed
Nitrofurantoin	100 mg modified-release orally twice daily for 7 days	Avoid at term, in G6PD deficiency and significant renal impairment

Choose treatment using culture results, allergies, gestational age and renal function. Nitrofurantoin may be used in the first trimester if suitable alternatives are unavailable. **Nitrofurantoin and furazidin are different drugs.** Avoid empirical amoxicillin/ampicillin because of resistance.

03 PYELONEPHRITIS

- Arrange **initial inpatient management** and maternal-fetal assessment. Use IV antibiotics with renal tissue penetration, such as a cephalosporin, according to local guidance and previous cultures.
- Tailor treatment to susceptibility and switch to a suitable oral agent after improvement. **ACOG recommends 14 days of total treatment**; duration differs between guidelines.
- Do not use fosfomycin or nitrofurantoin for pyelonephritis.**

04 FOLLOW-UP AND ADVICE

- Maintain adequate hydration and avoid delaying urination. Reassess if symptoms worsen or fail to improve within 48 hours.
- Consider a repeat culture 1-2 weeks after cystitis treatment. After pyelonephritis, obtain a culture after treatment to confirm clearance.
- Recurrent UTI may justify culture-directed prophylaxis after specialist review. **Fever, flank pain, vomiting or systemic deterioration needs urgent assessment.**

KEY MESSAGE

Always exclude pyelonephritis before selecting an antibiotic that acts only in the bladder.

REFERENCES

1. ACOG. Urinary Tract Infections in Pregnant Individuals. Clinical Consensus. Obstet Gynecol. 2023;142:435-445.
2. NICE NG109. Urinary tract infection (lower): antimicrobial prescribing. Recommendations, Table 2. nice.org.uk/guidance/ng109

Hypertension in Pregnancy

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01 RECOGNISE AND ASSESS

- Hypertension: **systolic BP ≥ 140 or diastolic BP ≥ 90 mmHg**, confirmed on repeated measurements.
- Chronic hypertension predates pregnancy or appears before 20 weeks; gestational hypertension develops after 20 weeks.
- Assess for pre-eclampsia: urine protein, creatinine, platelets and liver enzymes. **Proteinuria is not essential** if maternal organ or uteroplacental dysfunction is present.

02 MAINTENANCE MEDICATIONS

Medication	Role	Practical point
Labetalol	Common first-line option	Avoid in asthma, significant bradycardia or heart block
Nifedipine, modified-release	First-line option or alternative	Use a long-acting formulation for maintenance
Methyldopa	Established alternative	May cause sedation and hepatic adverse effects

Start or adjust treatment for persistent BP $\geq 140/90$ mmHg. **NICE target: approximately 135/85 mmHg**, if tolerated. Titrate doses to response using the obstetric protocol.

03 MEDICATIONS TO AVOID

- Do not use ACE inhibitors or ARBs during pregnancy.** Arrange prompt replacement when pregnancy is recognised.
- Avoid atenolol because of fetal growth concerns. Diuretics are not routine therapy for gestational hypertension; reserve them for specific indications under specialist care.

04 MONITORING AND PREVENTION

- Arrange regular BP measurements, maternal laboratory assessment and **fetal growth surveillance**.
- High pre-eclampsia risk, including chronic hypertension or CKD: consider low-dose aspirin under the obstetric protocol. **NICE recommends 75-150 mg daily from 12 weeks until birth.**
- Routine bed rest and strict salt restriction solely to prevent pre-eclampsia are not recommended.

05 RED FLAGS AND EMERGENCY TREATMENT

- BP ≥ 160 systolic or ≥ 110 diastolic mmHg requires urgent obstetric assessment and prompt treatment.**
- Severe headache, visual disturbance, epigastric/right upper quadrant pain, dyspnoea or seizures are emergency symptoms.
- Acute treatment may include labetalol, oral nifedipine or IV hydralazine in a monitored setting, according to the emergency protocol.
- Magnesium sulfate prevents or treats eclamptic seizures; it is not an antihypertensive.** Adjust dosing and monitoring in renal impairment.

KEY MESSAGE

Use pregnancy-compatible medication and always assess for pre-eclampsia. Severe hypertension is an obstetric emergency.

REFERENCES

- NICE NG133. Hypertension in pregnancy: diagnosis and management. Updated 2023. [nice.org.uk/guidance/ng133](https://www.nice.org.uk/guidance/ng133)
- ESC Council for Cardiology Practice. Hypertension in pregnancy. 2019. Drug selection and precautions.