PIPADOR REVISION

MRCOG Part 1 Revision Notes

Antibiotics

PHARMACOLOGY • LECTURE 376

VISUAL EXAMINATION REVISION NOTES

2026 Edition

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MRCOG PART 1 REVISION NOTES | PHARMACOLOGY

Antibiotics

Mechanisms, spectrum, adverse effects, safety in pregnancy and breastfeeding and O&G uses

β-lactams	Trimethoprim	Tetracyclines	Co-amoxiclav
Safe in pregnancy	Avoid T1	Avoid > 15 weeks	Avoid in PPROM (NEC)

■ **KEY FACTS: Learning objectives**

- Describe the mechanisms of action and spectrum of the main antibiotic classes.
- Describe adverse effects and safety in pregnancy and breastfeeding.
- Describe antibiotic use in common O&G scenarios and stewardship.

376.1 Classes and mechanisms

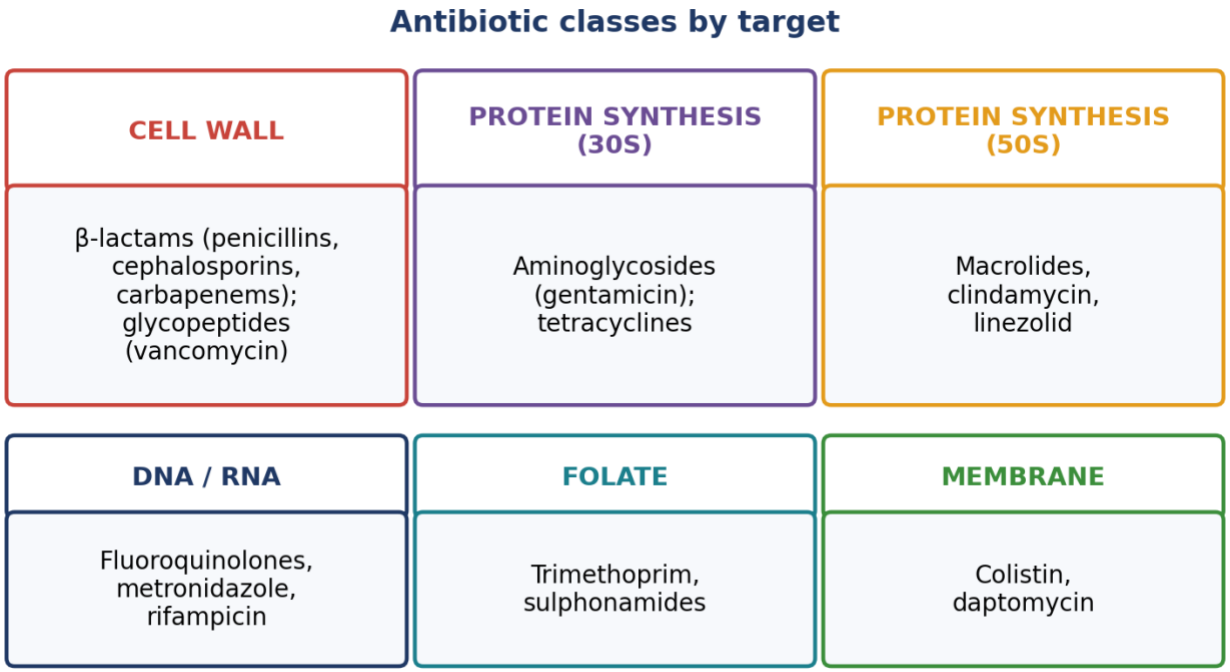


Figure 376.1 — Antibiotic classes by target

Class	Spectrum / key adverse effects
Penicillins	• Amoxicillin (Gram + , some Gram −, Listeria, enterococci) • Flucloxacillin (Staph) • Co-amoxiclav (anaerobes, β-lactamase producers) • Piperacillin–tazobactam (Pseudomonas) — allergy, C. diff
Cephalosporins	• Cefalexin, cefuroxime, ceftriaxone — broad • **No enterococcal/Listeria cover** • C. difficile • ≈ 1–2% cross-reactivity with penicillin allergy

Class	Spectrum / key adverse effects
Macrolides	• Erythromycin, azithromycin, clarithromycin — atypicals, chlamydia • QT, GI upset, CYP3A4 inhibition
Clindamycin	Anaerobes, Gram +, toxin suppression (GAS); C. difficile
Metronidazole	• Anaerobes, BV, trichomonas • Disulfiram reaction with alcohol, metallic taste
Aminoglycosides	Gentamicin — Gram −; nephro/ototoxicity; levels
Glycopeptides	Vancomycin, teicoplanin — MRSA; red man syndrome, nephrotoxicity
Carbapenems	Meropenem — ESBL, severe sepsis
Nitrofurantoin, trimethoprim, fosfomycin	Urinary agents

376.2 Pregnancy safety

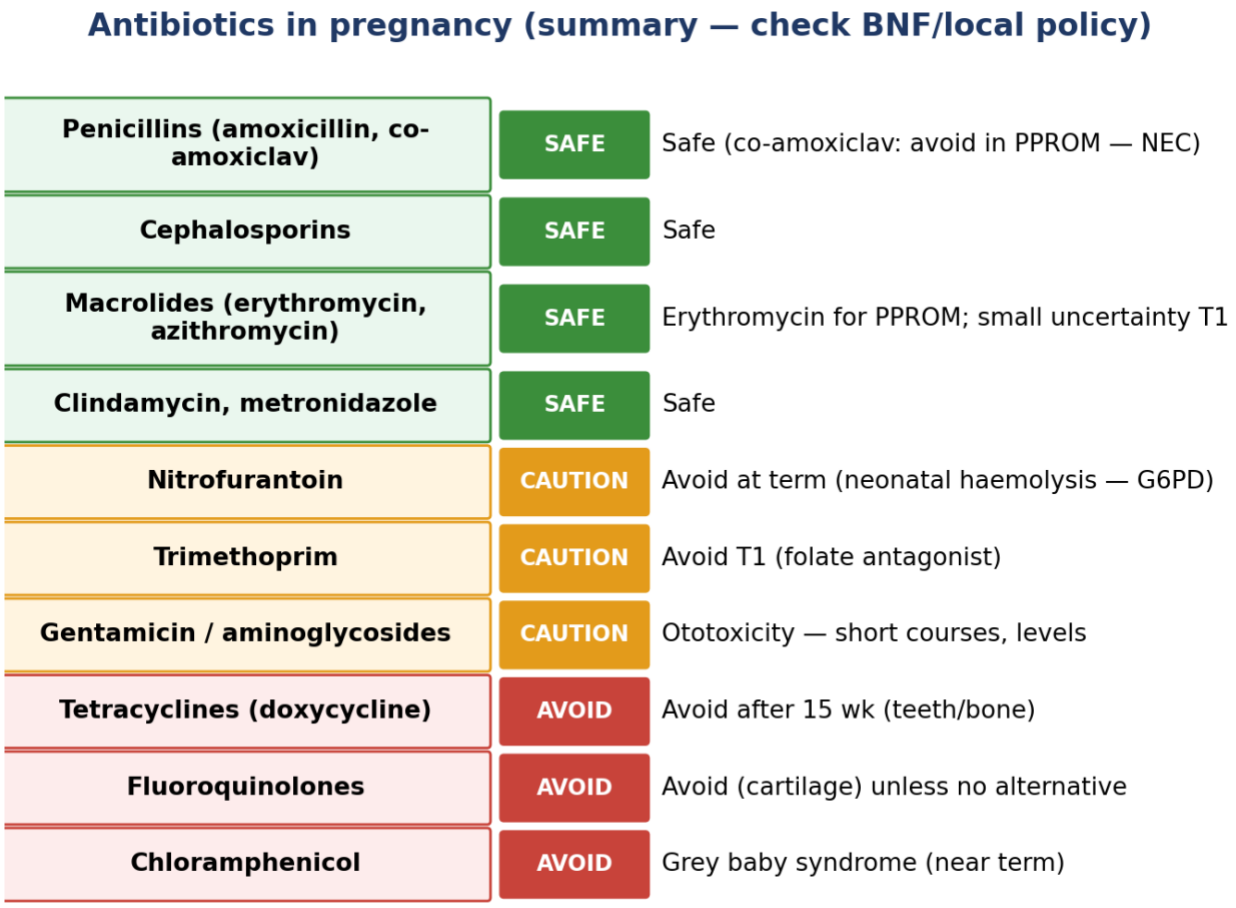


Figure 376.2 — Antibiotics in pregnancy

- **Co-amoxiclav after PPROM** was associated with ↑ necrotising enterocolitis (ORACLE) — use **erythromycin** for 10 days.
- **Chloramphenicol** near term → grey baby syndrome; **sulphonamides** near term → kernicterus risk; **nitrofurantoin** at term → neonatal haemolysis.
- Breastfeeding: most antibiotics compatible (monitor infant for diarrhoea/thrush)
  - Avoid prolonged tetracyclines (short doxycycline courses acceptable).

376.3 O&G uses (typical — follow local policy)

Indication	Typical choice
GBS intrapartum prophylaxis	Benzylpenicillin (cefuroxime/vancomycin if allergic)
PPROM	Erythromycin 10 days
CS prophylaxis	Cefazolin/cefuroxime ± metronidazole before incision
UTI in pregnancy	Nitrofurantoin (not at term), cefalexin, amoxicillin (if sensitive)
Maternal sepsis	Broad-spectrum IV (e.g. piperacillin–tazobactam/meropenem) ± clindamycin ± gentamicin
Chlamydia in pregnancy	Azithromycin
Endometritis	Co-amoxiclav or cephalosporin + metronidazole

376.4 Must-know summary

■ EXAM TIP

- Cell wall (β-lactams, glycopeptides), protein synthesis (macrolides, aminoglycosides, tetracyclines, clindamycin), DNA (quinolones, metronidazole), folate (trimethoprim).
- Safe: penicillins, cephalosporins, macrolides, clindamycin, metronidazole.
- Avoid: tetracyclines > 15 wk, quinolones, trimethoprim T1, nitrofurantoin at term, chloramphenicol near term.
- PPROM: erythromycin (not co-amoxiclav).

■ MNEMONIC / MEMORY AID

Pregnancy antibiotics to avoid — 'Tetra Quins Trim Nitro Chloro' (tetracyclines, quinolones, trimethoprim T1, nitrofurantoin at term, chloramphenicol).