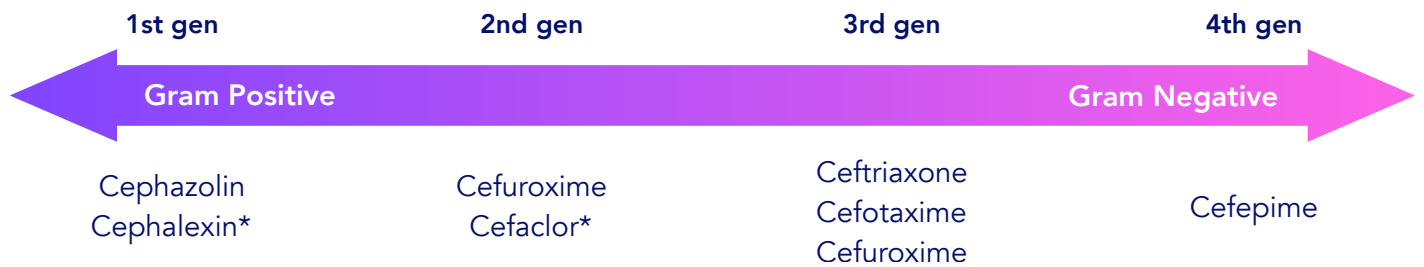


Antibiotics

Antibiotic	Spectrum of Action	Examples	Basic Mechanism of Action
Glycopeptides (IV only)	Gram Positives	Vancomycin	Inhibits peptidoglycan polymer synthesis
Lincosamides (Variable ROD)	Gram Positives; Anaerobes	Clindamycin (Oral), Lincomycin (IV)	
Macrolides (Oral, IV)	Largely Gram Positives, Some Gram Negative Cover	Erythromycin, Clarithromycin, Azithromycin, Roxithromycin	Inhibit bacterial protein synthesis
Penicillins (Variable ROD)	Variable	Benzylopenicillin, Flucloxacillin, Methicillin, Amoxycillin, Ampicillin	Interfere with bacterial cell wall synthesis
Tetracyclines	Gram Positives, Gram Negatives, Mycoplasma, Chlamydia, Malaria	Tetracycline, Doxycycline, Monocycline	Inhibit protein synthesis by binding to the 30S ribosome subunit
Cephalosporins (Variable ROD)	Variable	Cephalexin, Cephazolin, Cefoxitin, Ceftriaxone, Cefepime	Interfere with bacterial cell wall synthesis
Quinolones (Oral, IV, topical)	Gram Negatives, Variable Gram Positive	Ciprofloxacin, Moxifloxacin, Norfloxacin, Ofloxacin	
Aminoglycosides (IV only)	Gram Negatives	Gentamycin	Irreversible inhibition of protein synthesis
Nitroimidazole (IV, Oral, PR)	Anaerobes	Metronidazole	Inhibit viral DNA synthesis

Cephalosporin Spectrum of Action



*Route of delivery is oral

Some Specific Antibiotic Adverse Effects

- **Flucloxacillin:** Obstructive liver disease
- **Clavulanate:** Hepatotoxicity
- **Aminoglycosides:** Irreversible ototoxicity, reversible nephrotoxicity, Teratogenic
- **Metronidazole:** Antabuse interaction leading to increased alcohol metabolite toxicity
- **Erythromycin:** Severe diarrhoea, abdominal pain and nausea
- **Ciprofloxacin:** Tendon Rupture
- **Moxifloxacin:** QT prolongation
- **Lincosamides:** Diarrhoea, pseudomembranous colitis
- **Vancomycin:** Hearing impairment, renal impairment, red man syndrome
- **Tetracycline:** Permanent Tooth Discolouration (particularly in children), teratogenic

Penicillins

	Examples	Spectrum of Action
Narrow Spectrum	Benzylpenicillin (Oral), Phenoxymethyl Penicillin (Oral), Benzathin Penicillin (IM), Procaine Penicillin (IM)	Largely Gram Positive Cocci: Penumococcus, Meningococcus, Streptococcus, Gonococcus, Syphilis, Actinomyces, Listeria
Narrow Spectrum Anti-Staph	Flucloxacillin, Cloxacillin, Dicloxacillin, Methicillin (All IV or Oral)	Above, and Staphylococcus
Moderate Spectrum	Amoxycillin, Ampicillin (All Oral or IV)	Gram Positives, Broad spectrum of action against Gram Negatives
Broad Spectrum	Moderate spectrum with β -Lactamase inhibitors: clavulanate, Sulbacam, Tazobactam	S aureus, Bacteriodes, E. coli, Klebsiella, Neisseria, Gonorrhoea, Haemophilus Influenzae
Broad Spectrum Anti-Pseudomonas	Carbenicillin (Oral), Piperacillin (Oral), Ticarcillin (IV) \pm Clavulanate	Broad spectrum cover + Pseudomonas cover

Routes of Delivery

Class	Oral	Parenteral
Glycopeptides		Vancomycin (IV only)
Lincosamides	Clindamycin	Lincomycin (IV)
Macrolides		Erythromycin, Clarithromycin, Azithromycin, Roxithromycin
Penicillins	Benzylpenicillin, Flucloxacillin, Dicloxacillin, Amoxycillin, Piperacillin	Benzathin Penicillin, Flucloxacillin, Dicloxacillin, Amoxycillin, Ticarcillin
Tetracyclines		
Cephalosporins	Cephalexin, Cefaclor	Cephazolin, Cefuroxime, Ceftriaxone, Cefepime
Quinolones		Ciprofloxacin, Moxifloxacin, Norfloxacin, Orfloxacin
Aminoglycosides		Gentamycin (IV only)
Nitroimidazoles		Metronidazole