B-LACTAMS

PENICILLINS	
CARBAPENEMS	
CEPHALOSPORINS	
MONOBACTAMS	
GLYCOPEPTIDES	

Tetracyclines – impairs the bactericidal effects of B-lactams

PENICILLINS

MOA	Bind to transpeptidases and block cross-linking of peptidoglycan residues resulting in weak cell walls and bacterial lysis in bacteria that are actively growing
PK	Excreted really Penetration into the eye, prostate, and CNS is poor, **Absorption impaired by food**-take 1-2 hrs before or after meal to prevent protein binding, acid inactivation
AE	Hypersensitivity, anaphylaxis, super infections, diarrhea, convulsions (high dose, renal failure, epileptic pts) , hematolgic toxicities, nephritis, cation toxicity

PENICILLINS

PENICILLIN G	Unstable in acidic pH, given IV over IM More active against gram-negative organisms (i.e., Neisseria) than penicillin V.
PENICILLIN V	More resistant to acid

Penicillin G procaine and **Penicillin G benzathine** (i.m.) - formulated to delay absorption, resulting in prolonged blood and tissue concentrations.

ANTI-STAPHYLOCOCCAL PENICILLINS

METHICILLIN	No longer used in US
NAFCILLIN	Excreted biliary
OXACILLIN	Excreted by kidney and biliary
DICLOXACILLIN	Excreted by kidney and biliary
CLOXACILLIN	Excreted by kidney and biliary

Indications: MSSA, MSSE, Bone, joint, urinary tract, skin, endocarditis, meningitis

AMINOPENICILLIN (EXTENDED-SPECTRUM)

AMPICILLIN	UTI, sinusitis, otitis, lower respiratory tract infections
AMOXICILLIN	

Indications: Respiratory infections, UTI, skin, bacterial meningitis, septicemia, endocarditis, GI infections (**typhoid fever**, dysentery)

More expensive

ANTI-PSEUDOMONAL (UREIDO-PENICILLIN)

CARBENICILLIN	No longer used in US
PIPERACILLIN	Most potent
TICARCILLIN	
PIPERACILLIN-TAZOBACTAM	
TICARCILLIN-CLAVULANIC ACID	

Indications: Folliculitis, osteomyelitis, endocarditis, UTI, respiratory tract, wounds, bacteremia, CNS

Formulation of ticarcillin and piperacillin with β-lactamase inhibitors (formulation with clavulanic acid or tazobactum, respectively), extends the antimicrobial spectrum to include penicillinase-producing organisms

NOTES PENICILLINS

PROBENICID	Increases serum levels of penicillins
NAFCILLIN	Only one not excreted renally
AMOXICILLIN	Only one that doesn't undergo acid inactivation (absorption not impaired by food)

Sponsored by **Readable.com**
Measure your website readability!
https://readable.com