
Week 1

Things to know about each of the major antibiotic drug classes

- Aminoglycosides (Gentamicin, Neomycin, Tobramycin) 'icin

Precautions / Contraindications

- Pregnancy: fetal ototoxicity
- With other ototoxic drugs: furosemide, minocycline
- With nephrotoxic drugs: vancomycin, cisplatin
- Elderly patients
- Those with kidney disease
- Cautious use of muscle relaxants
- Do not mix with any other drug in same syringe

High Risk Patients

- Are allergic to sulfites (often found in certain wines and dried fruits)
- Have kidney or hearing problems, including problems with balance and uncontrollable eye movements
- Have a disorder affecting the nerves and muscles, like multiple sclerosis or myasthenia gravis.
- Are 65 years of age or older
- You have a newborn or very young baby who might be treated for a serious infection using aminoglycosides

- Carbapenems (Doripenem, Ertapenem, Imipenem) 'nem

Precautions / Contraindications/High Risk Patients

- Contraindicated in patients with prior allergic reactions to beta lactam antibiotics.
- Contraindicated in patients with prior adverse reactions to lidocaine.
- Contraindicated in patients who are taking [valproic acid](#) for seizures, as it has been shown to decrease valproic acid concentrations by as much as 90%
- Carbapenems are powerful antibiotics that kill bacteria causing a range of diseases including pneumonia, urinary tract infections, serious skin infections, meningitis, and septicaemia (blood poisoning)
- Only Given for serious infections
- Patients who are taking valproate to control seizures should not be placed on [Imipenem](#)
- Dosage should be reduced in patients with renal impairment

- Cephalosporins (Cefadroxil, Cefazolin, Cephalexin) 'in

Precautions / Contraindications/High Risk Patients

- Contraindicated for patients Hx of allergic reactions to cephalosporins or severe reactions to penicillin
- Dosage should be reduced in patients with renal impairment

- Report stool frequency (can promote Clostridioides difficile infection)
- Fluoroquinolones (Ciprofloxacin, Delafloxacin, Levofloxacin) '***xacin***

Precautions / Contraindications

- Previous allergic reaction to Fluoroquinolones
- Certain disorders that predispose to arrhythmias (eg, QT-interval prolongation, uncorrected hypokalemia or hypomagnesemia, significant bradycardia)
- Use of drugs known to prolong the QT interval or to cause bradycardia (eg, metoclopramide, cisapride, erythromycin, clarithromycin, classes Ia and III antiarrhythmics, tricyclic antidepressants)

High Risk Patients

- arthritis or problems with your tendons, bones or joints (especially in children);
- diabetes, low blood sugar;
- nerve problems;
- an aneurysm or blood circulation problems;
- heart problems, or a [heart attack](#);
- muscle weakness, [myasthenia gravis](#);
- liver or kidney disease;
- a seizure, [head injury](#), or [brain tumor](#);
- trouble swallowing pills;
- [long QT syndrome](#) (in you or a family member); or
- low levels of potassium in your blood ([hypokalemia](#)).
- Do not give this medicine to a child without medical advice.

Precautions / Contraindications/High Risk Patients

- Glycopeptides & Lipoglycopeptides (Vancomycin, dalbavancin, oritavancin, telavancin)
- Use of glycopeptides and lipoglycopeptides during pregnancy is not recommended, but sometimes the benefits of treatment may outweigh the risks. For example, vancomycin taken by mouth may be used to treat C. difficile–induced diarrhea in pregnant women
 - Patients with history of antibiotic associated diarrhea must be cautious about using Vancomycin. Discuss with your doctor regarding your history of the same.
 - Patients with history of opportunistic infections must be cautious about using Vancomycin. Discuss with your doctor regarding your history of the same.
 - Patients with history of diminished hearing and ototoxicity are at increased risk for hearing loss with Vancomycin. Discuss with your doctor regarding safety with Vancomycin use.
 - Vancomycin is not metabolized and is excreted unchanged in the urine. Individuals with compromised renal functions tend to retain the drug in the circulation longer, thus resulting in toxicity. Vancomycin should be avoided or used with extreme caution in such individuals.
 - Individuals with history of seizures and hallucinations can present with exacerbation of these symptoms with Vancomycin. Vancomycin should be avoided or used with extreme caution in individuals with seizure history.
 - Vancomycin should be avoided or used cautiously in individuals with history of cardiac arrhythmias, as it has the potential to induce life-threatening cardiac arrest. Individuals with history of chronic disturbance in serum magnesium and potassium ions are at increased risk for arrhythmias. Also, individuals taking Lasix are at increased risk for losing potassium, thus setting the ground for life-threatening arrhythmias with Vancomycin.
 - Vancomycin intake can increase the risk for skin rash, ranging from mild to severe exfoliating rash, easy bleeding, bruising, and blister formation. Individuals with history of extreme skin rashes and taking Vancomycin should be aware of this response and observe a close watch on the same.

High Risk Patients