Penicillin

Penicillin is a widely used antibiotic that is effective in killing bacteria. They are relatively safe and have low toxicity. Anaphylaxis is the only serious adverse effect. Because of a beta-lactam ring in their structure, they are called beta-lactam antibiotics, along with these other medications, cephalosporins, carbapenems, and aztreonam.



PLAY PICMONIC

Mechanism of Action

Weakens Cell Wall
Breaking Cell Wall
Penicillin is bactericidal due inhibition of bacterial cell wall synthesis and interference with cell wall replication of susceptible organisms resulting in cell lysis and death.

Indications

Gram-Positive Infections
Graham-cracker Positive-angel
Penicillin is used in the treatment of many gram-positive associated respiratory infections, meningitis, infectious endocarditis, scarlet fever, gas gangrene, and otitis media. It is also administered for syphilis caused by a spirochete.

Prophylaxis
Purple-axes
Prophylactic administration of penicillin can prevent recurrent attacks of rheumatic fever, proliferation of bacterial endocarditis in patients with prosthetic heart valves, congenital heart disease and/or mitral valve prolapse. Prophylaxis is usually initiated prior to dental procedures or other surgical procedures to prevent septicemia.

Side Effects

Pain at IM Injection Site
Pain-bolt at In-Muscle Injection Site
Penicillin derivatives (e.g. Penicillin-G) are administered as deep IM or using the Z-track method to reduce pain at injection site. Localized pain is a common side effect following some IM injections.

Allergic Reaction
Allergy-alligator Reaction
An allergic reaction can range from a localized rash to systemic anaphylaxis. Anaphylactic reactions are often immediate and occur within 2 to 30 minutes following administration of the medication. Education prior to administration and advising the patient to remain at the doctor's office for 15-30 minutes after receiving an injection to monitor for a reaction is important.

Considerations

Sign up for FREE at picmonic.com

Skin Tests

Skin-suit-man Testing himself

Allergic skin tests can help determine the presence of an allergy to penicillin for certain patients. There is a small risk of cross sensitivity with cephalosporins.

Allergy ID

Allergy-alligator ID-bracelet

Patients with a true allergy to penicillin should wear a medic alert bracelet, update their phone with pertinent health information or carry some type of ID notifying health care personnel of this allergy in case they are incapacitated.

Medication Education

Medication Educator

Education for the patient focuses on indication for, side effects, duration or frequency and complications of administering penicillin. Taking penicillin with food can help with gastric distress, and some patients may need to supplement intake of probiotics (preferably through whole foods like kombucha, kefir or fermented foods). Patients need to complete the entire course of treatment. Oral suspensions need to be thoroughly shaken and stored in the refrigerator.

Sign up for FREE at picmonic.com