

Cloxacillin

Antibiotic Class:

Penicillin (penicillinase-resistant penicillin)

Antimicrobial Spectrum:

Staphylococcus spp., *Streptococcal spp.*

Mechanism of Action:

Exerts bactericidal activity via inhibition of bacterial cell wall synthesis by binding one or more of the penicillin binding proteins (PBPs). Exerts bacterial autolytic effect by inhibition of certain PBPs related to the activation of a bacterial autolytic process.

Pharmacodynamics:

Penicillins produce time-dependent killing

Pharmacokinetics:

Cmax: 7.5-14mcg/ml; Oral bioavailability: 50% ; Half-life: 0.5 hours; Table 6

Adverse Effects:

Hematologic: neutropenia, inhibition of platelet aggregation

CNS: seizures

Hepatic: transient increases in transaminases

Other: Jarisch-Herxheimer Reaction (fever, chills, sweating, tachycardia, hyperventilation, flushing, and myalgia)

Dosage:

Adult: 250-500mg po q6h

Pediatric: > 1 month and < 20 kg: 50-100 mg/kg/day po in 4 divided doses
≥ 20 kg: usual adult dose

Disease state based dosing: No information

Contraindications/Warnings/Precautions:

Contraindications: Anaphylaxis to cloxacillin or other penicillins

Precautions: Cephalosporin hypersensitivity

Drug Interactions:

Contraceptives - decreased contraceptive effectiveness

Live Typhoid Vaccine - decreased immunological response to the typhoid vaccine

Probenecid - increased cloxacillin levels

Warfarin - decreased anticoagulant effectiveness

Pregnancy:

Category B: No evidence of risk in humans but studies inadequate.

Monitoring Requirements:

Therapeutic: Culture and sensitivities, signs and symptoms of infection

Toxic: Periodic CBC, urinalysis, BUN, SCr, AST and ALT

Brand names/Manufacturer: Available by many names and manufacturers