dicloxacillin (dye-klox-a-sill-in)

**Classification**
Therapeutic: anti-infectives
Pharmacologic: penicillinase resistant penicillins

**Pregnancy Category B**

**Indications**
Treatment of the following infections due to penicillinase-producing staphylococci: Respiratory tract infections, sinusitis, osteomyelitis, skin and skin structure infections.

**Action**
Bind to bacterial cell wall, leading to cell death. Not inactivated by penicillinase enzymes. Therapeutic Effects: Bactericidal action.

**Spectrum:**
Active against most gram-positive aerobic cocci. Spectrum is notable for activity against: Penicillinase-producing strains of Staphylococcus aureus, Staphylococcus epidermidis. Not active against methicillin-resistant bacteria.

**Pharmacokinetics**
Absorption:
Rapidly but incompletely (35%–76%) absorbed from the GI tract.

Distribution:
Widely distributed; penetration into CSF is minimal but sufficient in the presence of inflamed meninges; cross the placenta and enter breast milk.

Protein Binding:
96%–98%.

Metabolism and Excretion:
Some metabolism by the liver (6%–10%) and some renal excretion of unchanged drug (60%); small amounts eliminated in the feces via the bile.

Half-life: 0.5–1 hr (increased in severe hepatic and renal dysfunction).

**TIME/ACTION PROFILE**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<tbody>
<tr>
<td>PO</td>
<td>30 min</td>
<td>30–120 min</td>
<td>6 hr</td>
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**Contraindications/Precautions**
Contraindicated in: Previous hypersensitivity to penicillins (cross-sensitivity exists with cephalosporins and other beta-lactam antibiotics).

Use Cautiously in: Severe renal or hepatic impairment.

**Adverse Reactions/Side Effects**

**CNS:** Headache, dizziness, malaise, paresthesia.

**CNS:** Dizziness, malaise, paresthesia.

**CNS:** Malaise, allergic reactions including edema and rash, superinfection.

**Interactions**

**Drug-Drug:** May increase effects of oral contraceptives agents. Probenecid may reduce renal excretion and concentration of methotrexate; may increase possibility of methotrexate elimination and risk of serious toxicity.

**Route/Dosage**

<table>
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<tr>
<th>PO (Adults and Children &gt;40 kg):</th>
<th>125–250 mg q 6 hr (up to 2 g/day).</th>
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<tr>
<td>PO (Children &gt;40 kg):</td>
<td>25–50 mg/kg/day q 6 hr; (up to 50–100 mg/kg/day q 6 hr) has been used for osteomyelitis.</td>
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**NURSING IMPLICATIONS**

**Assessment**

- Assess for signs of infection (vital signs, appearance of wound, sputum, urine, and stool; WBC at beginning of and throughout therapy).
- Obtain a history before initiating therapy to determine previous use of and reactions to cephalosporins or other beta-lactam antibiotics. Persons with a negative history of penicillin sensitivity may still have an allergic response.
- Obtain specimens for culture and sensitivity prior to initiating therapy. First dose may be given before receiving results.
- Observe for signs and symptoms of anaphylaxis (rash, pruritus, laryngeal edema, wheezing, abdominal pain). Discontinue the drug and notify health care professional immediately if these occur. Keep epinephrine, an antihistamine, and resuscitation equipment close by in the event of an anaphylactic reaction.
- Monitor bowel function. Diarrhea, abdominal cramping, fever, and bloody stools should be reported to health care professional promptly as a sign of pseudomembranous colitis. May begin up to several weeks following cessation of therapy.
Lab Test Considerations:
May cause leukopenia and neutropenia, especially with prolonged therapy or hepatic impairment.
May cause positive direct Coombs' test results.
May cause ↑ in AST, ALT, LDH, and serum alkaline phosphatase concentrations.

Potential Nursing Diagnoses
Risk for infection (Indications) (Side Effects)
Noncompliance (Patient/Family Teaching)

Implementation
● PO: Administration around the clock on an empty stomach at least 1 hr before or 2 hr after meals. Take with full glass of water; acidic juices may decrease absorption of penicillins.

Patient/Family Teaching
● Instruct patient to take medication around the clock and to finish the drug completely as directed, even if feeling better. Missed doses should be taken as soon as remembered. Advise patient that sharing of this medication may be dangerous.
● Instruct patient to report signs of superinfection (black, furry overgrowth on the tongue; vaginal itching or discharge; loose or foul-smelling stools) and allergy.
● Instruct patient to notify health care professional if fever and diarrhea develop, especially if stool contains blood, pus, or mucus. Advise patient not to treat diarrhea without consulting health care professional.

Evaluation/Desired Outcomes
● Resolution of the signs and symptoms of infection. Length of time for complete resolution depends on the organism and site of infection.

Why was this drug prescribed for your patient?