Cefpodoxime (sef-poe-dox-eem)

**Classification**
Therapeutic: anti-infection
Pharmacologic: third-generation cephalosporin

**Pharmacologic**

**Pregnancy Category**: B

**Indications**
Treatment of the following infections caused by susceptible organisms: Skin and skin structure infections, Uncomplicated urinary tract infections, Uncomplicated gynecological infections including gonorrhea, Respiratory tract infections, Otitis media.

**Action**
Binds to the bacterial cell wall membrane, causing cell death. **Therapeutic Effects**: Bactericidal action against susceptible bacteria. **Spectrum**: Similar to that of second-generation cephalosporins, but activity against staphylococci is less, whereas activity against gram-negative pathogens is greater, even for organisms resistant to first- and second-generation agents. Notable is increased action against: *Haemophilus influenzae* (including *β*-lactamase-producing strains), *Escherichia coli*, *Klebsiella pneumoniae*, *Neisseria gonorrhoeae*, *Proteus*. Not active against methicillin-resistant staphylococci or enterococci.

**Pharmacokinetics**
Absorption: Cefpodoxime proxetil is a prodrug that is converted to cefpodoxime (the active component) in GI tract during absorption; 50% absorbed after oral administration; absorption of tablets increased with food.

**Distribution**: Widely distributed. Crosses the placenta; enters breast milk.

**Metabolism and Excretion**: 29–33% excreted unchanged in urine.

**Half-life**: 2–3 hr (increased in renal impairment).

**TIME/ACTION PROFILE (blood levels)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>unknown</td>
<td>2–3 hr</td>
<td>12 hr</td>
</tr>
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</table>

- **CNS**: Convulsions (very high doses), headache.
- **GI**: Pseudomembranous colitis, diarrhea, abdominal pain, nausea, vomiting.
- **Derm**: Rashes, urticaria.
- **GU**: Vaginal moniliasis.
- **Hemat**: Bleeding, blood dyscrasias, hemolytic anemia.
- **Misc**: Allergic reactions including anaphylaxis, superinfection.

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity to cephalosporins; Serious hypersensitivity to penicillins;
Lactation: Lactation.

**Use Cautiously in**
Renal impairment (q-dosing interval recommended if CCr < 30 mL/min); History of GI disease, especially colitis; Geri: Dose adjustment due to age-related decreases in renal function may be necessary; **QID**: Pregnancy and infants < 2 mo (safety not established).

**Adverse Reactions/Side Effects**
**CNS**: Convulsions (very high doses), headache.
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**Interactions**
**Drug-Drug**: Probenecid decreases excretion and increases blood levels. Concurrent use of loop diuretics or nephrotoxic agents including aminoglycosides may increase risk of nephrotoxicity. Antacids or histamine H2 receptor antagonists decrease absorption of cefpodoxime (take 2 hr before or after).

**Route/Dosage**

<table>
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<th>PO (Adults and Children ≥12 yr): Most infections</th>
<th>200 mg every 12 hr; Skin and skin structure infections</th>
<th>400 mg every 12 hr; Urinary tract infections/pharyngitis</th>
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**Renal impairment**
PO (Adults): CCr < 30 mL/min—Increase dosing interval to every 24 hr.

**NURSING IMPLICATIONS**
**Assessment**
- Assess patient for infection (vital signs, appearance of wound, sputum, urine, and stool; WBC) at beginning of and throughout therapy.
- Before initiating therapy, obtain a history to determine previous use of and reactions to penicillins or cephalosporins. Patients with a negative history of penicillin sensitivity may still have an allergic response.
- Obtain specimens for culture and sensitivity before initiating therapy. First dose may be given before receiving results.

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity to cephalosporins; Serious hypersensitivity to penicillins.
Use Cautiously in: Renal impairment (7–10 cm recommended if GFR < 30 mL/min); History of GI disease, especially colitis; Geri: Dose adjustment due to age-related decreases in renal function may be necessary.

**Adverse Reactions/Side Effects**
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- Obtain specimens for culture and sensitivity before initiating therapy. First dose may be given before receiving results.
● Observe patient for signs and symptoms of anaphylaxis (rash, pruritus, laryngeal edema, wheezing). Discontinue the drug and notify the physician or other health care professional immediately if these symptoms 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 positive results for Coombs’ test.

● May cause ↑ serum AST, ALT, alkaline phosphatase, bilirubin, LDH, BUN, and creatinine.

● May rarely cause leukopenia, neutropenia, agranulocytosis, thrombocytopenia, eosinophilia, lymphocytosis, and thrombocytosis.

Potential Nursing Diagnoses
- Risk for infection
- Deficient knowledge, related to medication regimen

Implementation
- PO: Administer around the clock. Administer tablets with meals to enhance absorption. Suspension may be administered without regard to meals. Shake oral suspension well before administering. Suspension is stable for 14 days after reconstitution if refrigerated.

- Do not administer concurrently with antacids or other drugs taken to reduce stomach acid.

Patient/Family Teaching
- Instruct patient to take medication at evenly spaced times and to finish the medication completely, even if feeling better. Take missed doses as soon as possible unless almost time for next dose; do not double doses. Instruct patient to use calibrated measuring device with suspension. Advise patient that sharing of this medication may be dangerous.

- Advise patient to report signs of superinfection (furry overgrowth on the tongue, vaginal itching or discharge, loose or foul smelling stools) and allergy.

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?