cephalexin (self-a-leks-in)

**Classification**
Therapeutic: anti-infection
Pharmacologic: first-generation cephalosporins

**Pregnancy Category B**

**Indications**
Treatment of the following infections caused by susceptible organisms: Skin and skin structure infections, Respiratory tract infections, Otitis media, Urinary tract infections, Bone infections.

**Action**
Binds to bacterial cell wall membrane, causing cell death. Therapeutic Effects: Bactericidal action against susceptible bacteria.

**Spectrum**
Active against many gram-positive cocci including: *Streptococcus pneumoniae*, Group A beta-hemolytic streptococci, *Staphylococci* (including penicillinase-producing strains), Active against the following gram-negative organisms: *Escherichia coli*, *Haemophilus influenzae*, *Klebsiella pneumoniae*, *Moraxella catarrhalis*, *Proteus*. Not active against methicillin-resistant *Staphylococcus* or enterococci. Not active against anaerobes.

**Pharmacokinetics**
Absorption: Well absorbed after oral administration.
Metabolism and Excretion: Excreted almost entirely unchanged in the urine.
Half-life: Neonates: 5 hr; Children: 2.5 hr; Adults: 50–80 min (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>rapid</td>
<td>1 hr</td>
<td>6–12 hr</td>
</tr>
</tbody>
</table>

- C - Gastrointestinal
- CPT - Renal impairment

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity to cephalosporins; Serious hypersensitivity to penicillins.
Use Cautiously in: Renal impairment; History of GI disease, especially colitis; OB, Lactation: Pregnancy and lactation (has been used safely).

**Adverse Reactions/Side Effects**
CNS: SEIZURES (high doses).
GI: PSEUDOMEMBRANOUS COLITIS, diarrhea, abdominal pain, nausea, vomiting.
Derm: rash, urticaria.
Hemat: eosinophilia, hemolytic anemia, neutropenia, thrombocytopenia. Misc: allergic reactions including anaphylaxis, superinfection.

**Interactions**
Drug-Drug: Probenecid increases and prolongs blood levels of renally excreted cephalosporins. Concurrent use of loop diuretics or aminoglycosides may q risk of renal toxicity.

**Route/Dosage**
**PO (Adults):** Most infections—250–500 mg every 6 hr. Uncomplicated cystitis, skin and soft tissue infections, streptococcal pharyngitis—500 mg every 12 hr. Maximum dose: 4 g/day.

**PO (Children):** Most infections—25–50 mg/kg/day divided every 6–8 hr (can be administered every 12 hr in skin/skin structure infections or streptococcal pharyngitis). Otitis media—75–100 mg/kg/day divided every 6 hr. Maximum dose: 4 g/day.

**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. Persons 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.
- Observe patient for signs and symptoms of anaphylaxis (rash, pruritus, laryngeal edema, wheezing). Discontinue drug and notify physician or...

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity to cephalosporins; Serious hypersensitivity to penicillins.
Use Cautiously in: Renal impairment; History of GI disease, especially colitis; OB, Lactation: Pregnancy and lactation (has been used safely).

**Adverse Reactions/Side Effects**
CNS: SEIZURES (high doses).
GI: PSEUDOMEMBRANOUS COLITIS, diarrhea, abdominal pain, nausea, vomiting.
Derm: rash, urticaria.
Hemat: eosinophilia, hemolytic anemia, neutropenia, thrombocytopenia. Misc: allergic reactions including anaphylaxis, superinfection.

**Interactions**
Drug-Drug: Probenecid...

**Route/Dosage**
**PO (Adults):** Most infections—250–500 mg every 6 hr. Uncomplicated cystitis, skin and soft tissue infections, streptococcal pharyngitis—500 mg every 12 hr. Maximum dose: 4 g/day.

**PO (Children):** Most infections—25–50 mg/kg/day divided every 6–8 hr (can be administered every 12 hr in skin/skin structure infections or streptococcal pharyngitis). Otitis media—75–100 mg/kg/day divided every 6 hr. Maximum dose: 4 g/day.
2

other health care professional immediately if these problems occur. Keep epinephrine, an antihistamine, and resuscitation equipment close by in case 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, creatinine.
- May rarely cause neutropenia, thrombocytopenia, and eosinophilia.

Potential Nursing Diagnoses
Risk for infection (Indications) (Side Effects)
Diarrhea (Adverse Reactions)
Deficient knowledge, related to medication regimen (Patient/Family Teaching)

Implementation
- Do not confuse Keflex with Keppra.
- PO: Administer around the clock. May be administered on full or empty stomach. Administration with food may minimize GI irritation. Shake oral suspension well before administering. Refrigerate oral suspension.

Patient/Family Teaching
- Instruct patient to take medication around the clock at evenly spaced times and to finish the medication completely as directed, even if feeling better. Take missed doses as soon as possible unless almost time for next dose; do not double doses. Advise patient that sharing this medication may be dangerous. Pedi: Tell parents or caregivers to use calibrated measuring device with liquid preparations.
- Advise patient to report signs of superinfection (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 diarrhea contains blood, mucus, or pus. Advise patient not to treat diarrhea without consulting health care professional.

Evaluation/Desired Outcomes
- Resolution of 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?