

azithromycin, azithromycin dihydrate

Zithromax, Zithromax Tri-Pak, Zithromax Z-Pak

Pharmacologic class: Macrolide

Therapeutic class: Anti-infective

Pregnancy risk category B

Action

Bactericidal and bacteriostatic; inhibits protein synthesis after binding with 50S ribosomal subunit of susceptible organisms. Demonstrates cross-resistance to erythromycin-resistant gram-positive strains and resistance to most strains of *Enterococcus faecalis* and methicillin-resistant *Staphylococcus aureus*.

Availability

Capsules: 250 mg, 500 mg

Oral suspension: 100 mg/5 ml in 15-ml bottles; 200 mg/5 ml in 15-ml, 22.5-ml, and 30-ml bottles

Powder for injection: 500 mg in 10-ml vials

Powder for oral suspension: 100 mg/5 ml, 200 mg/5 ml, 1,000 mg/packet

Tablets: 250 mg, 500 mg, 600 mg

Tablets (Tri-Pak): three 500-mg tablets

Tablets (Z-Pak): six 250-mg tablets

Indications and dosages

➤ Mild community-acquired pneumonia, uncomplicated skin and skin-structure infections

Adults: 500 mg P.O. on first day, then 250 mg/day for next 4 days, to a total dosage of 1.5 g

Children ages 6 months and older: 10 mg/kg P.O. (no more than 500 mg/dose) on first day, then 5 mg/kg (no more than 250 mg/dose) for 4 more days

➤ Community-acquired pneumonia caused by *Chlamydia pneumoniae*, *Haemophilus influenzae*, *Mycoplasma pneumoniae*, *Streptococcus pneumoniae*, *Legionella pneumophila*, *Moraxella catarrhalis*, and *S. aureus*

Adults and adolescents ages 16 and older: 500 mg I.V. daily for at least two doses, then 500 mg P.O. daily for a total of 7 to 10 days

Children ages 6 months to 16 years: 10 mg/kg P.O. as a single dose on first day, then 5 mg/kg P.O. on second through fifth days

➤ Pharyngitis and tonsillitis

Adults: 500 mg P.O. on first day, then 250 mg/day for next 4 days, to a total dosage of 1.5 g

Children ages 2 and older: 12 mg/kg P.O. daily for 5 days; maximum dosage is 500 mg.

➤ Mild to moderate acute exacerbation of chronic obstructive pulmonary disease

Adults: 500 mg P.O. on first day, then 250 mg P.O. daily on second through fifth days

➤ Pelvic inflammatory disease caused by *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, or *Mycoplasma hominis*

Adults: 500 mg I.V. daily on first and second days, then 250 mg P.O. daily for a total of 7 days. If anaerobes are suspected, give continually with appropriate anti-anaerobic antibiotic, as ordered.

➤ Prevention of bacterial endocarditis in patients allergic to penicillin who are undergoing dental procedures

Adults: 500 mg P.O. 1 hour before procedure

Children: 15 mg/kg P.O. 1 hour before procedure

➤ Nongonococcal urethritis or cervicitis caused by *C. trachomatis*, genital ulcers caused by *Haemophilus ducreyi* (chancroid)

Adults: 1g P.O. as a single dose

➤ Urethritis and cervicitis caused by *N. gonorrhoeae*

Adults: 2 g P.O. as a single dose

➤ To prevent disseminated *Mycobacterium avium* complex disease in patients with advanced human immunodeficiency virus (HIV)

Adults: 1.2 g P.O. once weekly (given alone or with rifabutin)

➤ Acute otitis media

Children ages 6 months and older:

30 mg/kg as a single dose or 10 mg/kg once daily for 3 days; or 10 mg/kg as a single dose on first day, followed by 5 mg/kg on second through fifth days

Off-label uses

• Uncomplicated gonococcal infections of cervix, urethra, rectum, and pharynx

Contraindications

• Hypersensitivity to drug, erythromycin, or other macrolide anti-infectives

Administration

• Obtain specimen for culture and sensitivity testing before starting therapy.
• Administer tablets and single-dose packets with or without food.

• Give oral suspension 1 hour before meals or 2 hours afterward; with 1-g packet, mix entire contents in 2 oz of water.

🚫 Don't administer as I.V. bolus or I.M. injection.

• For I.V. use, reconstitute 500-mg vial with 4.8 ml of sterile water for injection.

• As appropriate, dilute solution further using normal or half-normal saline solution, dextrose 5% in water, or lactated Ringer's solution.

• Infuse injection over no less than 60 minutes. Infuse 1 mg/ml over 3 hours or 2 mg/2 ml over 1 hour.

• Know that 1,000-mg packet isn't for pediatric use.

Route	Onset	Peak	Duration
P.O.	Rapid	2.5-3.2 hr	24 hr
I.V.	Rapid	End of infusion	24 hr

Adverse reactions

CNS: dizziness, drowsiness, fatigue, headache, vertigo

CV: chest pain, palpitations

GI: nausea, diarrhea, abdominal pain, cholestatic jaundice, dyspepsia, flatulence, melena, **pseudomembranous colitis**

GU: nephritis, vaginitis, candidiasis

Metabolic: hyperglycemia, hyperkalemia

Skin: photosensitivity, rashes, **angioedema**

Interactions

Drug-drug. *Antacids containing aluminum or magnesium:* decreased azithromycin peak blood level

Carbamazepine, cyclosporine, digoxin, dihydroergotamine, ergotamine, hexobarbital, phenytoin, theophylline, triazolam: increased blood levels of these drugs

Pimozide: prolonged QT interval, ventricular tachycardia

Warfarin: increased International Normalized Ratio

Drug-food. *Any food:* decreased absorption of multidose oral suspension

Drug-behaviors. *Sun exposure:* photosensitivity

Precautions

Use cautiously in:

- severe hepatic impairment, severe renal insufficiency, prolonged QT interval
- breastfeeding patients.

Patient monitoring

• Monitor temperature, white blood cell count, and culture and sensitivity results.

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- Assess for signs and symptoms of infection.

Patient teaching

- Tell patient he may take tablets with or without food.
- Advise patient to take suspension 1 hour before or 2 hours after meals.
- Remind patient to complete entire course of therapy as ordered, even after symptoms improve