

CLASSIFICATION**Clinical:** Antiviral**Pharmacotherapeutic:** Synthetic nucleoside**PREGNANCY/LACTATION****Category C:** Crosses placenta; distributed in breast milk.**AVAILABILITY (Rx)****Tablets:** 400 mg, 800 mg. **Capsules:** 200 mg. **Oral Suspension:** 200 mg/5 ml.**Powder for Injection:** 500 mg, 1,000 mg. **Ointment.****PHARMACOKINETICS**

Poorly absorbed from GI tract; minimal absorption following topical application. Widely distributed to tissues and body fluids. Partially metabolized by cellular enzymes. Excreted primarily in urine. Removed by hemodialysis. Half-life: 2.5 hrs (increased in impaired renal function).

ACTION/THERAPEUTIC EFFECT

Converted to acyclovir triphosphate, becoming part of DNA chain, *interfering with DNA synthesis and viral replication.*

USES

Parenteral: Initial treatment for severe herpes genitalis; herpes zoster ophthalmicus; initial/recurrent mucocutaneous herpes simplex; neonatal herpes simplex; herpes simplex encephalitis; herpes zoster caused by varicella zoster virus (VZV) in immunocompromised pts and disseminated herpes zoster in nonimmunocompromised pts. **Oral:** Initial treatment, management of recurrent and prophylaxis of frequently recurrent herpes genitalis; treatment of herpes zoster (shingles); herpes zoster ophthalmicus; varicella infections (chicken pox) in nonimmunocompromised pts. **Topical:** Initial episodes of genital herpes, immunocompromised pts with limited nonthreatening herpes simplex infections.

ADMINISTRATION/HANDLING**Oral**

- May give without regard to food.
- Do not crush or break capsules.

- Store capsules at room temperature.
- Solutions of 50 mg/ml stable for 12 hrs at room temperature; may form precipitate when refrigerated. Potency not affected by precipitate and redissolution.

Intravenous

NOTE: Do not administer by intramuscular, subcutaneous, or rapid intravenous infusion or rapid intravenous injection.

- Reconstitute each 500 mg vial with 10 ml sterile water for injection to provide concentration of 50 mg/ml.
- Withdraw desired dose and further dilute with D₅W or 0.9% NaCl to provide a concentration <7 mg/ml.
- Infuse for at least 1 hr.
- Maintain adequate hydration, esp. during urine concentration that occurs 2 hrs following intravenous administration.
- Alternating intravenous sites: Use large veins to reduce risk of phlebitis.
- Intravenous infusion (piggyback) stable for 24 hrs at room temperature. Yellow discoloration does not affect potency.

INDICATION/ROUTE/DOSAGE**Initial genital herpes infections, intermittent treatment of recurrent episodes****Oral:** Adults, elderly: 200 mg q4h while awake (5 times/day).**Prophylaxis of recurrent episodes****Oral:** Adults, elderly: 400 mg 2 times/day up to 12 mos.**Chicken pox****Oral:** Adults, elderly, children (2–12 yrs): 20 mg/kg (maximum 800 mg) 4 times/day for 5 days.**Mucosal or cutaneous herpes simplex, severe genital herpes****Intravenous:** Adults, elderly: 5 mg/kg q8h. Children <12 yrs: 250 mg/m² q8h. Continue for 7 days for herpes simplex; 5 days for genital herpes.**Herpes simplex encephalitis****Intravenous:** Adults, elderly: 10 mg/kg q8h for 10 days. Children, 6 mos–12 yrs: 500 mg/m² q8h for 10 days.**Neonatal herpes simplex****Intravenous:** Neonates: 10 mg/kg q8h for 10 days.

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Varicella zoster infections**Intravenous:** Adults, elderly: 10 mg/kg q8h. Children: 500 mg/m² q8h. Continue for 7 days.**Herpes zoster (acute)****Oral:** Adults, elderly: 800 mg q4h (5 times/day) for 7–10 days.**Usual topical dosage****Topical:** Adults, elderly: 3–6 times/day for 7 days.**Dosage in renal impairment**

Dose/frequency is modified based on severity of infection, degree of renal impairment.

Oral: Creatinine clearance of 10 ml/1.73 m² or less: 200 mg q12h.**Intravenous**

CREATININE CLEARANCE	DOSAGE (ADULTS)	DOSAGE (CHILDREN)
>50 ml/min	5 mg/kg q8h	250 mg/m ² q8h
25–50 ml/min	5 mg/kg q12h	250 mg/m ² q12h
10–25 ml/min	5 mg/kg q24h	250 mg/m ² q24h
0–10 ml/min	2.5 mg/kg q24h	125 mg/m ² q24h

PRECAUTIONS

Contraindications: Hypersensitivity to acyclovir or components of preparation. Acyclovir reconstituted with bacteriostatic water containing benzyl alcohol should not be used in neonates. **Cautions:** Renal or hepatic impairment, dehydration, fluid/electrolyte imbalance, concurrent use of nephrotoxic agents, neurologic abnormalities.

INTERACTIONS

DRUG: Probenecid may increase half-life. Nephrotoxic medications (e.g., aminoglycosides) may increase nephrotoxicity. **FOOD:** None significant. **LAB VALUES:** May increase BUN, serum creatinine concentrations.

SIDE EFFECTS

FREQUENT: **Parenteral:** Phlebitis/inflammation at Intravenous site, anorexia, nausea, vomiting, lightheadedness. **Topical:** Burning, stinging. **OCASIONAL:** **Parenteral:** Hypotension, diaphoresis. **Oral:** Nausea, diarrhea, vomiting, abdominal pain, headache, lightheadedness. **Topical:** Itching.

RARE: **Parenteral:** Confusion, hallucinations, seizures, tremors. **Topical:** Skin rash.

ADVERSE REACTIONS/TOXIC EFFECTS

Rapid parenteral administration, excessively high doses, or fluid/electrolyte imbalance may produce renal failure (abdominal pain, decreased urination, decreased appetite, increased thirst, nausea, vomiting). Toxicity not reported with oral or topical use.

NURSING IMPLICATIONS

Baseline Assessment: Question history of allergies, particularly to acyclovir. Avoid nephrotoxic drugs if possible. Tissue cultures for herpes simplex virus should be done before giving first dose (therapy may proceed before results are known).

Intervention/Evaluation: Monitor I&O, renal function tests if ordered, electrolyte levels. Check food tolerance, vomiting. Assess intravenous site for phlebitis (heat, pain, red streaking over vein). Evaluate cutaneous lesions. Be alert to neurologic effects: headache, lethargy, confusion, agitation, hallucinations, seizures. Assure adequate ventilation. Manage chicken pox and disseminated herpes zoster with strict isolation. Provide analgesics and comfort measures; esp. exhausting to elderly. Encourage fluids. Keep pt's fingernails short, hands clean.

Patient/Family Teaching: Drink adequate fluids. Notify physician if side effects develop. Do not touch lesions with fingers to avoid spreading infection to new site. **Genital herpes:** Continue therapy for full length of treatment. Space doses evenly. Use finger cot or rubber glove to apply topical ointment. Avoid sexual intercourse during duration of lesions to prevent infecting partner. Acyclovir does not cure herpes. Notify physician if lesions do not improve or recur. Avoid driving or operating machinery if dizziness is present. Pap smears should be done at least annually due to increased risk of cancer of cervix in women with genital herpes. **Chicken pox:** Unknown whether treatment of childhood chicken pox will have effect on long-term immunity.

Lifespan Considerations: Safety and efficacy in children <2 yrs not established (<1 yr for intravenous use). Age-related decrease in renal function in elderly may require decreased dosage.