clindamycin (klin-da-**mye**-sin)

Cleocin, Cleocin T, Clinda-Derm, Clinda-T, Clindagel, Clindesse, Clindets, Dalacin C, Dalacin T, Evoclin

Classification

Therapeutic: anti-infectives

Pregnancy Category B

Indications

PO, IM, IV: Treatment of: Skin and skin structure infections, Respiratory tract infections, Septicemia, Intra-abdominal infections, Gynecologic infections, Osteomyelitis, Endocarditis prophylaxis. **Topical** Severe acne. **Vag:** Bacterial vaginosis. **Unlabeled Use: PO, IM, IV:** Treatment of *Pneumocystis carinii* pneumonia, CNS toxoplasmosis, and babesiosis.

Action

Inhibits protein synthesis in susceptible bacteria at the level of the 50S ribosome. **Therapeutic Effects:** Bactericidal or bacteriostatic, depending on susceptibility and concentration. **Spectrum:** Active against most gram-positive aerobic cocci, including: Staphylococci, *Streptococcus pneumoniae*, other streptococci, but not enterococci. Has good activity against those anaerobic bacteria that cause bacterial vaginosis, including *Bacteroides fragilis*, *Gardnerella vaginalis*, *Mobiluncus* spp, *Mycoplasma hominis*, and *Corynebacterium*. Also active against *P. jirovecii* and *Toxoplasma gondii*.

Pharmacokinetics

Absorption: Well absorbed following PO/IM administration. Minimal absorption following topical/vaginal use.

Distribution: Widely distributed. Does not significantly cross blood-brain barrier. Crosses the placenta; enters breast milk.

Protein Binding: 94%.

Metabolism and Excretion: Mostly metabolized by the liver.

Half-life: Neonates: 3.6–8.7 hr; Infants up to 1 yr: 3 hr; Children and adults: 2–3 hr.

TIME/ACTION PROFILE (blood levels)

ROUTE	ONSET	PEAK	DURATION
PO	rapid	60 min	6–8 hr
IM	rapid	1–3 hr	6–8 hr
IV	rapid	end of infusion	6–8 hr

Contraindications/Precautions

Contraindicated in: Hypersensitivity; Regional enteritis or ulcerative colitis (topical foam); Previous pseudomembranous colitis; Severe liver impairment; Diarrhea; Known alcohol intolerance (topical solution, suspension).

Use Cautiously in: ***OB:*** Safety not established for systemic and topical; approved for vaginal use in 3rd trimester of pregnancy; ***Lactation:*** Has been used safely but appears in breast milk and exposes infant to drug and its side effects.

Adverse Reactions/Side Effects

CNS: dizziness, headache, vertigo. **CV:** arrhythmias, hypotension. **GI:** PSEUDOMEMBRANOUS COLITIS, diarrhea, bitter taste (IV only), nausea, vomiting. **Derm:** rash. **Local:** local irritation (topical products), phlebitis at IV site.

Interactions

Drug-Drug: Kaolin/pectin may ↓ GI absorption. May enhance the neuromuscular blocking action of other **neuromuscular blocking agents**. **Topical:** Concurrent use with **irritants**, **abrasives**, or **desquamating agents** may result in additive irritation.

Route/Dosage

PO (Adults): *Most infections*—150–450 mg q 6 hr. P. carinii *pneumonia*—1200–1800 mg/day in divided doses with 15–30 mg Primaquine/day (unlabeled). *CNS toxoplasmosis*—1200–2400 mg/day in divided doses with pyrimethamine 50–100 mg/day (unlabeled); *Bacterial endocarditis prophylaxis*—600 mg 1 hr before procedure.

PO (Children >1 mo): 10–30 mg/kg/day divided q 6–8 hr; maximum dose 1.8 g/day. *Bacterial endocarditis prophylaxis*—20 mg/kg 1 hr before procedure.

IM, IV (Adults): *Most infections*—300–600 mg q 6–8 hr *or* 900 mg q 8 hr (up to 4.8 g/day IV has been used; single IM doses of >600 mg are not recommended). P. carinii *pneumonia*—2400–2700 mg/day in divided doses with Primaquine (unlabeled). *Toxoplasmosis*—1200–4800 mg/day in divided doses with pyrimethamine. *Bacterial endocarditis prophylaxis*—600 mg 30 min before procedure.

IM, IV (Children >1 mo): 25–40 mg/kg/day divided q 6–8 hr; maximum dose: 4.8 g/day. *Bacterial endocarditis prophylaxis*— 20 mg/kg 30 min before procedure; maximum dose: 600 mg.
IM, IV (Infants <1 mo and <2 kg): 5 mg/kg q 8–12 hr ≥*2 kg*— 20–30 mg/kg/day divided q 6–8 hr.
Vag (Adults and Adolescents): *Cleocin, Clindamax*— 1 applicatorful (5 g) at bedtime for 3 or 7 days (7 days in pregnant patients); *Clindesse*— one applicatorful (5 g) single dose; *or* 1 suppository (100 mg) at bedtime for 3 nights.
Topical (Adults and Adolescents): *Solution*— 1% solution/suspension applied twice daily (range 1–4 times daily). *Foam, gel*— 1% foam or gel applied once daily.

NURSING IMPLICATIONS

Assessment

- Assess for infection (vital signs; appearance of wound, sputum, urine, and stool; WBC) at beginning of and during therapy.
- Obtain specimens for culture and sensitivity prior to initiating therapy. First dose may be given before receiving results.
- **Monitor bowel elimination. Diarrhea, abdominal cramping, fever, and bloody stools should be reported to health care professional promptly as a sign of pseudomembranous colitis. This may begin up to several weeks following the cessation of therapy.**
- Assess patient for hypersensitivity (skin rash, urticaria).
- ***Lab Test Considerations:*** Monitor CBC; may cause transient ↓ in leukocytes, eosinophils, and platelets.
- May cause ↑ alkaline phosphatase, bilirubin, CPK, AST, and ALT concentrations.

Potential Nursing Diagnoses

Risk for infection (Indications) (Side Effects)
Diarrhea (Side Effects)

Implementation

- **Do not confuse Clindesse with Clindets.**
- **PO:** Administer with a full glass of water. May be given with or without meals. Shake liquid preparations well. Do not refrigerate. Stable for 14 days at room temperature.
- **IM:** Do not administer >600 mg in a single IM injection.

IV Administration

- **pH:** 5.5–7.0.
- **Intermittent Infusion:** ***Diluent:*** Vials must be diluted before use. Dilute a dose of 300 mg or 600 mg in 50 mL and a dose of 900 mg or 1200 mg in 100 mL. Compatible diluents include D5W, 0.9% NaCl, D5/0.9% NaCl, D5/0.45% NaCl, or LR. Admixed solution stable for 16 days at room temperature. Premixed infusion is already diluted and ready to use. ***Concentration:*** Not to exceed 18 mg/mL. ***Rate:*** Not exceed 30 mg/min. Hypotension and cardiopulmonary arrest have been reported following rapid IV administration.
- **Y-Site Compatibility:** amiodarone, ampicillin, atracurium, bumetanide, cefepime, ciprofloxacin, dobutamine, dopamine, gentamicin, hydrocortisone sodium phosphate, insulin, lidocaine, metoclopramide, metronidazole, penicillin G, potassium chloride, prochlorperazine, ranitidine, ticarcillin/clavulanate, vancomycin, vecuronium, verapamil.
- **Y-Site Incompatibility:** aminophylline, ceftazidime, cefuroxime, furosemide, heparin, phenytoin, quinupristin/dalfopristin, trastuzumab, trimethoprim/sulfamethoxazole.
- **Vag:** Applicators are supplied for vaginal administration. When treating bacterial vaginosis, concurrent treatment of male partner is not usually necessary.
- **Topical:** Contact with eyes, mucous membranes, and open cuts should be avoided during topical application. If accidental contact occurs, rinse with copious amounts of cool water.
- Wash affected areas with warm water and soap, rinse, and pat dry prior to application. Apply to entire affected area.

Patient/Family Teaching

- Instruct patient to take medication around the clock at evenly spaced times and to finish the drug 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 of this medication may be dangerous.
- **Instruct patient to notify health care professional immediately if diarrhea, abdominal cramping, fever, or bloody stools occur and not to treat with antidiarrheals without consulting health care professional.**
- Advise patient to report signs of superinfection (furry overgrowth on the tongue, vaginal or anal itching or discharge).
- Notify health care professional if no improvement within a few days.
- Patients with a history of rheumatic heart disease or valve replacement need to be taught the importance of antimicrobial prophylaxis before invasive medical or dental procedures.

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clindamycin

- **IV:** Inform patient that bitter taste occurring with IV administration is not clinically significant.
- **Vag:** Instruct patient on proper use of vaginal applicator. Insert high into vagina at bedtime. Instruct patient to remain recumbent for at least 30 min following insertion. Advise patient to use sanitary napkin to prevent staining of clothing or bedding. Continue therapy during menstrual period.
- Advise patient to refrain from vaginal sexual intercourse during treatment.
- Caution patient that mineral oil in clindamycin cream may weaken latex or rubber contraceptive devices. Such products should not be used within 72 hr of vaginal cream.
- **Topical:** Caution patient applying topical clindamycin that solution is flammable (vehicle is isopropyl alcohol). Avoid application while smoking or near heat or flame.
- Advise patient to notify health care professional if excessive drying of skin occurs.
- Advise patient to wait 30 min after washing or shaving area before applying.

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.
- Endocarditis prophylaxis.
- Improvement in acne vulgaris lesions. Improvement should be seen in 6 wk but may take 8–12 wk for maximum benefit.

Why was this drug prescribed for your patient?