

Lincomycin:

SCHEDULING STATUS: S4

CURRENTLY COMPOUNDED FORMULATIONS:

Active ingredient(s)	Injectable	Oral equine paste	Oral carnivore paste	Orals for exotics	Oral solution/suspension	Topical treatment	Shampoo	Capsules/Tablets	Oral powder
Lincomycin hydrochloride monohydrate	✓							✓	

REGISTERED PRODUCT/ TRADE NAME: Lincocin® (discontinued)

PHARMACOLOGICAL CLASSIFICATION: Lincosamide antibiotic

PHARMACOLOGICAL ACTION: The lincosamide antibiotics share mechanisms of action and have similar spectrums of activity although lincomycin is usually less active against susceptible organisms. Complete cross-resistance occurs between the two drugs; at least partial cross-resistance occurs between the lincosamides and erythromycin. They may act as bacteriostatic or bactericidal agents, depending on the concentration of the drug at the infection site and the susceptibility of the organism. The lincosamides are believed to act by binding to the 50S ribosomal subunit of susceptible bacteria, thereby inhibiting peptide bond formation. Most aerobic gram-positive cocci are susceptible to the lincosamides (*Strep. faecalis* is not), including staphylococcus and streptococci. Other organisms that are generally susceptible include: *Corynebacterium diphtheriae*, *ocardia asteroides*, *Erysepelothrix*, and *Mycoplasma* spp. Anaerobic bacteria that may be susceptible to the lincomycin include: *Clostridium perfringens*, *C. tetani* (not *C. difficile*), *Bacteroides* (including many strains of *B. fragilis*), *Fusobacterium*, *Peptostreptococcus*, *Actinomyces*, and *Peptococcus*.^[1]

INDICATIONS: Lincomycin has dosage forms approved for use in dogs, cats, swine, and in combination with other agents for chickens. Because clindamycin is generally better absorbed, more active, and probably less toxic, it has largely supplanted the use of lincomycin for oral and injectable therapy in small animals, but some clinicians believe that clindamycin does not offer enough clinically significant improvements over lincomycin to justify its higher cost.^[1]

DOSAGE AND DIRECTIONS FOR USE:

DOGS:

For susceptible infections:

- For skin and soft tissue infections: 15.4 mg/kg PO tid or 22 mg/kg PO bid. Treatment for superficial pyoderma 21 – 42 days; for deep, resistant pyoderma 56 days^[1]
- For systemic infections: 22 mg/kg IM, SC, or IV (must be diluted and given as a slow drip infusion) oid or 11 mg/kg IM or SC bid for 12 days or less.^[1]
- For bacteraemia, sepsis: 11 – 22 mg/kg IV tid for 12 days or less. (Greene, Hartmann et al. 2006)^[1]

For pyoderma: 20 mg/kg bid (Halliwell 2002)^[1]

For superficial pyodermas: 20 mg/kg PO bid (White 2007)^[1]

For pyoderma: 22 mg/kg PO bid; good for first time pyodermas. (Logas 2005b)^[1]

CATS:

For susceptible infections:

- For skin and soft tissue infections: 11 mg/kg IM bid or 22 mg/kg IM oid. Treatment for 12 days or less^[1]

- For systemic infections: 15 mg/kg PO tid or 22 mg/kg PO bid. Treatment for 12 days or less. (Greene, Hartmann et al. 2006)^[1]

FERRETS:

For susceptible infections:

10-15 mg/kg PO tid; 10 mg/kg IM bid (Williams 2000)^[1]

SWINE:

For susceptible infections:

- For mycoplasmal (*M. hyopneumoniae*) pneumonia: Fed at 200 grams per ton of feed for 21 days or 11 mg/kg IM oid (Amass 1999)^[2]
- 11 mg/kg IM oid for 3-7 days; or added to drinking water at an average rate of 8.36 mg/kg/day^[2]

WARNINGS/ PRECAUTIONS/ CONTRA-INDICATIONS:

- Lincosamides are considered contra-indicated in rabbits, hamsters, guinea pigs, horses and ruminants because of serious gastrointestinal effects that may occur, including death.^[1]
- Lincomycin is contraindicated in patients with known hypersensitivity to it or having a preexisting monilial infection.^[1]

REFERENCES:

1. Plumb's Veterinary Drug Handbook, Sixth Edition by Donald C. Plumb