Penicillinase-Resistant Penicillins (Cloxacillin)

Drs. Foster & Smith Educational Staff

Generic Name
Cloxacillin, Dicloxacillin, Oxicillin

Brand Name
Cloxacillin: Tegogen, Cloxapen
Dicloxacillin: Dynapen, Dycill, Pathocil
Oxicillin: Prostaphlin, Bactocill

Type of Drug
Class of penicillin antibiotic. There are 4 classes of penicillins, based upon their ability to kill various types of bacteria. From narrow to broad range of effectiveness they include:
- **Natural penicillins** and penicillinase-resistant penicillins
- **Aminopenicillins**
- **Extended-spectrum penicillins**
- **Potentiated penicillins**

Form and Storage
Capsules and oral suspension
Store at room temperature. Once the oral suspension is reconstituted (the powder mixed with water), store in the refrigerator for up to 14 days.

Indications for Use
Treatment of susceptible bacterial infections.

General Information
None of the penicillinase-resistant penicillins are FDA approved for use in pets, however, it is a common and accepted practice to use them in dogs and cats.

Available by prescription. Penicillins are bacteriocidal. With a more narrow spectrum of activity than the other penicillins, they are used against the bacteria that produce penicillinase such as *Staphylococcal* species. Other penicillins are a better choice against bacteria that do not produce penicillinase. In human medicine, bacterial resistance to penicillinase-resistant penicillins is developing.

Usual Dose and Administration
Contact your veterinarian. Duration of treatment depends on reason for treatment and response to treatment.

Side Effects
May see lack of appetite, drooling, vomiting, or diarrhea. In case of an allergic reaction, may also see rash, fever, changes in the blood cells, swollen lymph nodes, incoordination, increased heart rate, increased rate of breathing, difficulty breathing, or swelling of face or limbs.

Contraindications/Warnings
People with hypersensitivities (allergies) to penicillins or beta-lactam antibiotics such as cephalosporins should not handle the penicillins as allergic reactions could occur just from contact.

Not for use in patients hypersensitive to penicillins or beta-lactam antibiotics.

Penicillins do cross the placenta, and it is advised not to use in pregnant animals although no detrimental results to fetuses have been reported.

Some of the penicillins may cause electrolyte changes especially in very small animals who may be dehydrated or have kidney or heart disorders.

Reconstituted oral suspensions should be refrigerated and remainder discarded in 14 days. Shake well before use.

Drug or Food Interactions
Not for use with bacteriostatic drugs such as erythromycin or tetracyclines as these types of medications halt the growth of bacteria which need to be growing to be killed by the penicillins.

Probencid may increase serum levels of penicillins.

Use with caution with anticoagulants like heparin.

For best absorption, give 1 hour prior to feeding or 2 hours after feeding. May give with food if needed to decrease side effects such as vomiting.

- **Summary**
Penicillinase-resistant penicillins are used for infections with *Staphylococcus* in dogs, cats, and other pets. There are many forms of penicillins, so dosages vary greatly. Always check with your veterinarian regarding the use and dosage of penicillins in your pet. Inadequate doses or treatment periods, or overdosage, can cause significant problems.
Overdose/Toxicity
May see vomiting or diarrhea. Dogs on high doses or long-term use may show signs of incoordination (difficulty walking). Epinephrine and/or steroids are used in case of an allergic reaction.

Keep this and all other medications out of the reach of children and pets.

If you think your pet has been poisoned...
Contact your veterinarian or one of the Animal Poison Hotlines (listed below) if you think your pet may have accidentally received or been given an overdose of the medication.
**ASPCA Animal Poison Control Center - 24-hour service available throughout North America
www.aspca.org/apcc
1-888-4ANI-HELP (1-888-426-4435). $65.00 per case, billed to caller’s credit card.
Follow-up calls can be made for no additional charge by dialing 888-299-2973.
There is no charge when the call involves a product covered by the Animal Product Safety Service.

**Pet Poison Helpline - 24-hour service available throughout North America for pet owners and veterinary professionals who require assistance with treating a potentially poisoned pet.
1-800-213-6680 ($59.00 per incident). Staffed 24-hours a day.

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