

# Praziquantel Injection 56.8 mg/mL Solution

*(praziquantel)*

*Injectable Cestocide for Dogs and Cats*

NADA 111-607 Approved by FDA

## DESCRIPTION

Praziquantel Injection is a clear solution containing 56.8 mg/mL of praziquantel, formulated for subcutaneous or intramuscular use in dogs and cats for the removal of cestodes (tapeworms).

## INDICATIONS

Praziquantel Injection Cestocide is indicated for the removal of the following canine and/or feline cestodes.

**Dogs:** *Dipylidium caninum*, *Taenia pisiformis*, *Echinococcus granulosus* and for the removal and control of *Echinococcus multilocularis*. **Cats:** *Taenia taeniaeformis* and *Dipylidium caninum*.

## PACKAGING

LIST NO.	UNIT PACKAGE	CASE SIZE
1PRA005	10 mL	48
1PRA004	50 mL	36



## FEATURES & BENEFITS

- Broad-spectrum cestocide for use in dogs and cats
- Effective against *Echinococcus multilocularis* in dogs
- Equivalent to the pioneer product, Droncit® (praziquantel) Injectable Cestocide
- Flexibility of administration - Sub Q or IM
- Low toxicity - No toxicity demonstrated in dogs or cats at 5x dosage rates
- Safe for use in breeding and pregnant dogs and cats
- No known contraindications
- Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.
- NADA 111-607, Approved by FDA

See reverse side for Administration and Dosage.



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NADA 111-607, Approved by FDA

**NOT FOR HUMAN USE**

**KEEP THIS AND ALL DRUGS OUT OF REACH OF CHILDREN**

**DESCRIPTION:**

Praziquantel Injection Cestocide is a clear solution containing 56.8 milligrams of praziquantel per mL which has been formulated for subcutaneous or intramuscular use in dogs and cats for removal of cestodes (tapeworms).

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**ACTION:**

Praziquantel Injection is absorbed, metabolized in the liver and excreted via the bile into the digestive tract where its cestocidal activity is exerted.<sup>1</sup> Following exposure to praziquantel, the tapeworm loses its ability to resist digestion by the mammalian host. Because of this, whole tapeworms, including the scolex, are very rarely passed after administration of praziquantel. It is common to see only disintegrated and partially digested pieces of tapeworms in the stool. The majority of tapeworms killed are digested and are not found in the feces.

**USE DIRECTIONS:**

Praziquantel Injection Cestocide may be administered by either the subcutaneous or intramuscular route to dogs and cats. The recommended dosage of praziquantel varies according to body weight. Smaller animals require a relatively larger dosage. The optimum dosage for each individual animal will be achieved by utilizing the following dosage schedule.

**DOGS AND PUPPIES<sup>1</sup>**

<b>Dogs:</b>		
5 lb and under	0.3 mL	
6-10 lb	0.5 mL	
11-25 lb	1.0 mL	
over 25 lb	0.2 mL /5 lbs. body weight to a maximum of 3 mL	

**CATS AND KITTENS<sup>1\*</sup>**

<b>Cats:</b>	
Under 5 lb	0.2 mL
5-10 lb	0.4 mL
11 lb and over	0.6 mL maximum

\* Not intended for use in puppies less than four (4) weeks of age.  
 \*\* Not intended for use in kittens less than six (6) weeks of age.

**FASTING:**

The recommended dosage of praziquantel is not affected by the presence or absence of food in the gastrointestinal tract, therefore, FASTING IS NEITHER NECESSARY NOR RECOMMENDED.

**ADMINISTRATION:**

Praziquantel Injection Cestocide may be administered by either the subcutaneous or intramuscular route to dogs and cats. The intramuscular route may be preferred in dogs due to a brief period of pain that occasionally follows subcutaneous administration.

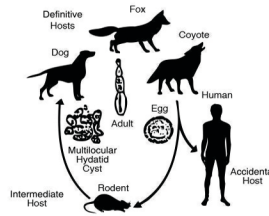
Anaphylactoid reactions were not observed in clinical trials. However, as with any drug an anaphylactoid reaction can occur with this product and should be treated symptomatically if it occurs.

**RETREATMENT:**

For those animals living where reinfections are likely to occur, clients should be instructed in the steps to optimize prevention, otherwise, retreatment may be necessary. This is true in cases of *Dipylidium caninum* where reinfection is almost certain to occur if fleas are not removed from the animal and its environment. In addition, for control of *Echinococcus multilocularis*, a program of regular treatment every 21 to 26 days may be indicated (see *E. multilocularis* section below).

**ECHINOCOCCUS MULTILOCULARIS:**

*Echinococcus multilocularis* is a tapeworm species ordinarily considered to be found in wild canids, including foxes, coyotes and wolves. The parasite has also been identified in domestic dogs and cats and potentially is a serious public health concern by involving humans as accidental intermediate hosts.



The life cycle of the parasite is based on a predator-prey relationship, as depicted above.

The adult tapeworm is small (1-4mm) and resides in the intestinal tract of the definitive host (wild or domestic canids). Eggs from the adult tapeworm are shed in the feces of the infected canid. Rodents such as mice and wolves serve as the intermediate host for *E. multilocularis*. Eggs ingested by rodents develop in the liver, lungs and other organs to form multilocular cysts. The life cycle is completed after a canid consumes a rodent infected with cysts. After ingestion of the infected rodent, larvae within the cyst develop to adult tapeworms in the intestinal tract of the canid. Eggs may begin to be passed in the feces of the canid approximately 28 days later.

This parasite poses a serious public health problem because of the possibility for human involvement in the life cycle. If eggs shed by an infected canid are accidentally ingested, a highly pathogenic condition (Alveolar Hydatid Disease) results from development of the cyst stage in humans.

The original geographic distribution of *E. multilocularis* was primarily confined to northern areas of North America. Current evidence indicates migration of the parasite well into the continental United States.<sup>2,3</sup>

Domestic dogs living in *E. multilocularis* endemic areas that roam freely with the opportunity to catch wild rodents are at risk for infection. Pet owners should be advised on how to minimize this risk. Proper restraint of roaming dogs should be encouraged, along with regular treatment with Praziquantel Injection solution, following the dosing schedule aforementioned and precautions indicated below.

Additional information on the life cycle and epidemiology of this parasite is available in veterinary parasitology texts.<sup>4,5</sup>

**DIAGNOSIS:**

Diagnosis of *E. multilocularis* in canids is difficult. The adult tapeworm produces no clinical signs of infection. Tapeworm segments (proglottids) are usually not observed in the feces. *E. multilocularis* eggs, observed using microscopic fecal examination procedures, are similar in appearance to the common taeniid species of canids such as *Taenia pisiformis*.

Assistance in the diagnosis of *E. multilocularis* may be available from a state veterinary diagnostic laboratory. Additional information regarding areas where *E. multilocularis* is suspected or has been confirmed may be obtained from area veterinary schools or the Centers for Disease Control in Atlanta, GA.

**TREATMENT:**

Dogs infected with *E. multilocularis* should be treated to prevent exposure of humans to infective eggs and to reduce perpetuation of the parasite's life cycle.

The dosage of Praziquantel Injection solution for removal of *E. multilocularis* is the same as that indicated for the removal of the other tapeworm species listed on the label. Laboratory efficacy studies have demonstrated the recommended dosage is 100% efficacious for removal of this tapeworm.

Under condition of continual exposure to wild rodents, retreatment of the dog at 21-26 day intervals is recommended to prevent the shedding of infectious eggs.

**PRECAUTIONS:**

Strict hygienic precautions should be taken when handling dogs or feces suspected of harboring *E. multilocularis*. Infected dogs treated for the first time with Praziquantel Injection solution and dogs treated at intervals greater than 28 days may shed eggs in the feces after treatment. The animal should be held in the clinic during this interval and all feces should be incinerated or autoclaved. If these procedures are not possible, the eggs can be destroyed by soaking the feces in a sodium hypochlorite (bleach) solution of 3.75% or greater.<sup>6</sup> All areas where the animal was maintained or in contact with should be thoroughly cleaned with sodium hypochlorite and allowed to dry completely before reuse.

**OVERDOSAGE:**

The safety index has been derived from controlled safety evaluations, clinical trials and prior approved use in foreign countries. Dosages of 5 times the labeled rate at 14 day intervals to dogs as young as 4 weeks did not produce signs of clinical toxicity following either intramuscular or subcutaneous injections. No significant clinical chemistry, hematological, cholinesterase or histopathological changes occurred. Dosages of 5 times the labeled rate at 14 day intervals to kittens as young as 5 1/2 weeks did not produce signs of clinical toxicity following either intramuscular or subcutaneous injections. Symptoms of overdosage (33.8 to 40 times the labeled dosage rate) in adult dogs included vomiting, excessive salivation and depression, but no deaths. Symptoms of overdosage (10 to 20 times the labeled dosage rate) in adult cats included vomiting, depression, muscle tremors and incoordination. Deaths occurred in 5 of 8 cats treated subcutaneously and in all 8 injected intramuscularly at doses greater than 20 times the label rate.

**CONTRAINDICATIONS:**

There are no known contraindications to the use of praziquantel.

**Pregnancy:**

Praziquantel Injection has been tested in breeding and pregnant dogs and cats. No adverse effects were noted.

**Adverse Reactions:**

Mild side effects were observed in 18 of 189 dogs (9.5%) and 8 of 85 cats (9.4%) administered Praziquantel Injection in field trials. For dogs the majority of these were described as brief pain responses following injections to larger dogs (weighing over 50 lbs.). Two dogs exhibited a brief period of mild vomiting and/or drowsy or staggering gait. The eight cats exhibited either diarrhea, weakness, vomiting, salivation, sleepiness, burning on injection and/or a temporary lack of appetite. Local irritation or swelling at the site of subcutaneous injections have been reported for cats.

**CAUTION:**

Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

**HOW SUPPLIED:** 10 mL vial and 50 mL vial

**REFERENCES:**

- Andrews P. Pharmacokinetic Studies with Praziquantel Injection in Animals Using a Biological Assay. *Veterinary Medical Review*, 27/6, pg. 154-165.
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- Georgi JR and Georgi ME. 1990. *Parasitology for Veterinarians*. W.B. Saunders Co. 118-138.
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- Craig PS and McPherson CNL. 1988. Sodium Hypochlorite as an Ovicide for Echinococcus. *Ann Trop Med and Parasit* 82(2) 211-213.

To obtain an MSDS or for assistance contact Bimeda, Inc. at 1-888-524-6332.

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