

## Cases From Our Clinic: Antifreeze Poisoning

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In the North, we depend on the use of antifreeze in the form of ethylene glycol to keep our cars going. Ethylene glycol is also used as an industrial solvent and rust remover. Unfortunately, our pets can die from the ingestion of this chemical, whether from a leaky radiator's puddle, or a tipped over container on the garage floor. As little as a half-teaspoon of antifreeze can cause symptoms and death in pets. And because of its sweet taste, animals lap it up, not knowing the danger of ingesting it.



### **How does antifreeze harm animals?**

Ethylene glycol is converted to substances which draw calcium from the bloodstream. The calcium crystals are deposited in the kidney, producing permanent, fatal kidney damage.

### **Signs of antifreeze poisoning**

Initially (one to six hours after ingestion), the pet may vomit and appear drunk. The ethylene glycol enters the central nervous system and produces a narcotic effect. Although after the initial signs, the animal may appear to be getting back to normal, 24 hours after ingestion the insidious symptoms begin. Vomiting, anorexia (not eating), ataxia (stumbling), and convulsions proceed into coma, and then death.

### **Diagnosis and treatment**

Diagnosis is difficult to make from clinical signs alone since they mimic other conditions, so your veterinarian will take a circumstantial history, and if suspected, will proceed with treatment.

Treatment is done within 3 or 4 hours of ingestion and includes detoxification with activated charcoal, administration of ethanol by the veterinarian, and IV fluid therapy. An enzyme inhibitor called 4-methylpyrazole is available at some clinics. Therapies are only effective if administered within 24 hours of ingestion.

You must see a veterinarian immediately if you suspect your pet has ingested antifreeze. In addition, clean up spills and keep the antifreeze in a place your pet can't get to. Consider using an antifreeze that is less toxic to pets. Read the labels and keep your pets safe.