

Organophosphate toxicity in canines

Overview/Risks

Pesticides aren't just something you should consider as you wash your vegetables before cooking. They can harm our pets, too. Organophosphates – organic phosphate compounds commonly found in lawn and garden products such as insecticides – can be dangerous, even fatal, to our pets. But you might be surprised to learn that organophosphates are also found in some common flea and tick treatments used in our pets.

Organophosphate poisoning or toxicity occurs when an animal or person is overexposed to insecticides containing organophosphates. Most often, overexposure is the result of misuse of a product or exposure to multiple insecticides at once.

Organophosphates can be absorbed through the skin, lungs, or the gastrointestinal tract. They affect the interaction of the body's nerves and muscles.

Symptoms

Your dog's symptoms will depend on the amount of insecticide she has been exposed to.

Some of the most common symptoms are:

- [Difficulty breathing](#)
- Drooling
- [Vomiting](#)
- [Diarrhea](#)
- Urination
- Shaking
- Muscle weakness
- Constricted pupils

In extreme situations, organophosphate poisoning can lead to seizures or even death—so if you think your pet has been overexposed to an insecticide, contact your veterinarian immediately!

Diagnosis/Treatment

In order to determine if your dog has organophosphate poisoning, your veterinarian will perform a complete history and physical examination. It is crucial that you provide information about any insecticides you think your dog has been exposed to, including those used on

your lawn, in your garden, and on your pet(s). Your veterinarian may recommend some blood tests to evaluate the internal health of your dog.

They may include:

- Chemistry tests to evaluate kidney, liver and pancreatic function as well as sugar levels
- A complete blood count to screen your pet for infection, inflammation, anemia, or other abnormalities
- Electrolyte tests to ensure your dog is neither dehydrated nor suffering from an electrolyte imbalance

If treatment is necessary, your veterinarian will want to start it immediately, to counter the effects of the poisoning.

Treatment may include the following:

- Bathing your dog to remove any remaining chemical residue
- Inducing vomiting to empty the stomach, if poison was ingested
- Administering activated charcoal, which keeps the body from absorbing the poison while it passes through the digestive system
- Administering drugs such as atropine to counteract the effect that organophosphates have on the nervous system
- Administering intravenous (IV) fluids, if your dog is dehydrated
- Providing oxygen, if your dog is having trouble breathing
- Additional treatment and support, as needed, based on symptoms

After your pet is released from the clinic, it is critical you follow all treatment recommendations and monitor your friend closely for any recurring symptoms. Your veterinarian also can recommend when you should resume using insecticides.

Prevention

The most important thing to know about

organophosphate poisoning is that it can be prevented. Research all insecticides before you use them in your home, on your lawn, in your garden, and on your pets. Follow all labels carefully and never use products off label.

Finally, if you suspect your dog has been exposed to a chemical and you are unsure of the possible side effects, contact your veterinarian immediately.

If you have any questions or concerns, you should always visit or call your veterinarian – they are your best resource to ensure the health and well-being of your pets.