

Theophylline

What is theophylline?

Theophylline (brand names: Theo-24®, Theochron®, Elixophyllin®, Theodur®) is a bronchodilator used to treat coughs caused by bronchospasm or bronchoconstriction. It also has mild diuretic effects.

Its use in cats and dogs to treat cough and bronchoconstriction is **'off label'** or **'extra label'**. Many drugs are commonly prescribed for off label use in veterinary medicine. In these instances, follow your veterinarian's directions and cautions very carefully as their directions may be significantly different from those on the label.

How is theophylline given?

Theophylline is given by mouth in the form of a tablet or liquid, with or without food. It may also be administered by your veterinarian in hospital in the form of an injection.

If stomach upset occurs on an empty stomach, give the medication with food. Do not crush or break the tablets or allow your pet to chew them. This medication should take effect within 1 to 2 days, and you should see improvements in your pet's clinical signs.

What if I miss giving my pet the medication?

If you miss a dose, give it when you remember, but if it is close to the time for the next dose, skip the dose you missed and give it at the next scheduled time, and return to the regular dosing schedule. Never give your pet two doses at once or give extra doses.

Are there any potential side effects?

The most common side effects include central nervous system stimulation (excitement) and stomach or intestinal irritation such as nausea, vomiting, and diarrhea. Other side effects include sleeplessness, increased drinking, eating, and urinating.

Severe toxic effects can occur but are rare. These signs include seizures and collapse and may indicate that the dose of theophylline is too high. Contact your veterinarian immediately if you observe these side effects in your pet.

This short-acting medication should stop working within 24 hours, although effects can be longer in pets with liver disease or congestive heart failure.

Are there any risk factors for this medication?

Theophylline should not be used in pets that are sensitive or allergic to it, or related substances such as theobromine, aminophylline, or caffeine. It should be used with caution in pets with severe heart disease, abnormal heart rhythms, seizures, stomach ulcers, hyperthyroidism, kidney or liver disease, severely high blood pressure, or severely low blood oxygen levels.

It should be used with caution in very young or very old pets, as toxic effects are more likely. Pets with liver disease or heart failure should receive lower doses of the medication. It should be used only if the benefits outweigh the risk in pregnant or nursing pets.

Are there any drug interactions I should be aware of?

Theophylline should be used cautiously with the following medications, as these medications can increase or decrease the effects of theophylline: barbiturates, carbamazepine, activated charcoal, hydantoins, isoniazid, ketoconazole, loop diuretics, rifampin, sympathomimetics, allopurinol, beta-blockers, calcium channel blockers, cimetidine, corticosteroids, fluoroquinolones, macrolides, mexiletine, thiabendazole, and thyroid hormones.

Theophylline can alter the effects of the following medications, and should be used with caution: benzodiazepines, ephedrine, isoproterenol, ketamine, lithium, macrolides, pancuronium, and propofol.

Be sure to tell your veterinarian about any medications (**including vitamins, supplements, or herbal therapies**) that your pet is taking.

Is there any monitoring that needs to be done with this medication?

Your pet should be monitored for signs of toxicity. Your veterinarian may monitor your pet to be sure that the medication is working. In some cases, blood levels of the medication may be monitored to be sure the dose is correct.

How do I store theophylline?

Theophylline tablets or oral liquid should be stored at room temperature, below 30°C (86°F), in a tightly closed container.

What should I do in case of emergency?

If you suspect an overdose or an adverse reaction to the medication, call your veterinary office immediately. If they are not available, follow their directions in contacting an emergency facility.

Rania Gollakner, BS, DVM

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