

# Pentoxifylline

**BRAND NAME: PENTOXIL, TRENTAL**

AVAILABLE IN  
400 mg  
TABLETS

## BACKGROUND

Pentoxifylline is a member of the methylxanthine class of drugs as are caffeine and theophylline. Pentoxifylline is able to increase the flexibility of red blood cells, reduce blood viscosity, and increase the blood's ability to break down blood clots. The overall effect is to make blood more liquid and to enable the red blood cells to travel deeper into tissues than they would normally be able to. This enables better oxygen delivery to tissues and improved circulation from smaller blood vessels (i.e. improved "microcirculation").

Beyond this, pentoxifylline has a number of anti-inflammatory effects stemming from its ability to decrease a biochemical called Tumor Necrosis Factor Alpha (TNF-alpha). TNF-alpha is used by the body to make numerous inflammatory mediators and when its levels drop, inflammation in many areas is reduced.

## HOW THIS MEDICATION IS USED

In humans, this medication is used in the treatment of peripheral vascular disease such as sickle cell anemia. In the horse, it is used in the treatment of navicular bone disease where increased microcirculation is an important part of therapy. In small animal practice, its uses are only recently being explored.

This medication is used to enhance healing in chronic ulcerative conditions such as dermatomyositis of collies and shelties and may be helpful in treating allergic reactions caused by physical contact with the allergen (i.e. contact allergic dermatitis) or by airborne exposure to the allergen (i.e. atopic dermatitis). Ear margin vasculitis (blood vessel inflammation) can also be treated with pentoxifylline as can other immune mediated vasculitis issues in the skin. More recently pentoxifylline is being used in the treatment of pancreatitis, as well as systemic lupoid onychodystrophy (a toenail disease). Pentoxifylline is being considered for many diseases where microcirculation is considered to be an issue so long as there is no increase in bleeding tendency.

Pentoxifylline is typically given twice daily and is best given with food. If a dose is accidentally skipped, simply pick up with the next dose. Do not double up doses.

## SIDE EFFECTS

Side effects are not common with this medication but the most common side effects that occur relate to the GI tract: vomiting, diarrhea, reduced appetite. Some patients become restless on pentoxifylline, which should not be surprising since pentoxifylline is chemically related to caffeine. Similarly, some patients experience an increase in heart rate. Skin flushing may also occur. None of these side effects are considered particularly serious.

Serious side effects are even more unusual but include seizures and skin related drug reactions which can include extensive rashes and even ulceration. Pentoxifylline can increase bleeding tendency and may not be appropriate for patients who have an increase in bleeding tendency from another cause.

Some humans on pentoxifylline have reported headaches and dizziness. We have no way of knowing if these are issues for pets on pentoxifylline but must consider it a possibility.

## **INTERACTIONS WITH OTHER DRUGS**

Non-steroidal anti-inflammatory drugs may negate the beneficial effects of pentoxifylline but studies are conflicting.

Concurrent use of the quinolone class of antibiotics (including enrofloxacin and orbifloxacin) will increase blood levels of pentoxifylline.

Concurrent use of the antacid cimetidine (tagamet®) will increase blood levels of pentoxifylline.

Concurrent use of theophylline and pentoxifylline will lead to higher than expected blood levels of the theophylline.

Use of pentoxifylline with aspirin or clopidogrel (blood thinners) can lead to inappropriate bleeding tendencies.

## **CONCERNS AND CAUTIONS**

Pentoxifylline should be kept protected from light exposure.

Pentoxifylline given to a nursing mother will be present in her milk.

History of cerebral or retinal hemorrhage is considered a contraindication for pentoxifylline. This should make sense as pentoxifylline makes blood less able to clot and improves blood flow; just what one does not want with increased bleeding tendency.

Pentoxifylline is best avoided in patients with liver insufficiency as these patients have an increased bleeding tendency. Further, pentoxifylline is metabolized (removed from the body) through the liver and reduced liver function will lead to higher than expected medication blood levels.

Pentoxifylline is best avoided in patients with renal insufficiency.

Again, pentoxifylline should be avoided in patients with pre-existing seizure disorders.

**PENTOXIFYLLINE IS BEST GIVEN WITH FOOD.**

Last updated: 1/7/2020



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Additional drug and general pet care information can be found on our world wide web site:

<http://www.marvistavet.com>