

DERMATOLOGY CLINIC FOR ANIMALS LAS VEGAS

Las Vegas Animal Emergency Clinic
5231 W. Charleston Blvd.
Las Vegas, NV 89146

Phone: (702) 821-1002 Fax: (702) 821-1007

Two Locations:

Animal Emergency Center
3340 E. Patrick Lane
Las Vegas, NV 89120

Phone: (702) 434 - 1002 Fax: (702) 434 - 1058

Visit us on the Web at www.dermvetvegas.com

Drug Profile—Pentoxifylline

Pentoxifylline (brand name Trental) is an oral xanthine derivative and phosphodiesterase inhibitor used in humans for peripheral vascular disorders. It is available as 400mg tablets in both brand name and generic formulations. The tablets are designed as a sustained release formulation, but dividing the tablets for use in companion animals does not seem to make a clinical difference. Additionally, pentoxifylline can be compounded into smaller dose sizes for very small dogs.

Mechanisms of Action: Pentoxifylline acts to make red blood cells more flexible and decreases platelet aggregation, and so may increase perfusion to ischemic areas. It also decreases blood viscosity by reducing plasma fibrinogen and increasing fibrinolytic activity. Additionally, pentoxifylline reduces leukocyte responsiveness to inflammatory mediators such as IL-1 and TNF- α , decreases production of TNF and inflammatory interleukins from white blood cells, and inhibits activation of T and B lymphocytes. It also inhibits T cell adherence to keratinocytes. Pentoxifylline affects wound healing and connective tissue disorders via increased production of collagenase and decreased production of collagen, fibronectin, and glycosaminoglycans.

Clinical Indications: Pentoxifylline is currently the treatment of choice for canine familial dermatomyositis. It can be helpful in some atopic dogs as adjunctive anti-inflammatory therapy, and has been shown to be effective for therapy of contact dermatitis. Other diseases which may benefit from pentoxifylline include vasculitis/vasculopathy,



rabies vaccine reaction, pinnal thrombovascular necrosis, ear margin dermatitis, lupoid onychodystrophy, erythema multiforme, brown recluse spi-

der bites, and idiopathic mucinosis of Sharpeis. Pentoxifylline is often used concurrently with antibiotics to treat deep pyoderma, pododermatitis and



lick granulomas, as it may increase circulation and antibiotic delivery to fibrotic areas, as well as help to decrease scarring. When used as adjunctive therapy in dogs with immune-mediated disease, pentoxifylline can have steroid-sparing effects.

Side effects and contraindications: Pentoxifylline may cause GI upset in some dogs, and so it should be given with food. It has the potential to cause CNS excitation or nervousness and may be contraindicated in animals with pre-existing seizure disorders. Both central nervous system and gastrointestinal side-effects are dose-related and are minimized by dose reduction. Pentoxifylline is contraindicated in animals with coagulopathies and cerebral or retinal hemorrhage, and should be used with caution in animals with liver or kidney impairment. Concomitant administration of fluoroquinolones with pentoxifylline or cimetidine can increase pentoxifylline blood levels and so may increase chance of side effects. A possible synergism between pentoxifylline and ciprofloxacin in the inhibition of TNF- α has also been reported. Concomitant use of anticoagulants may increase risk of bleeding. Pentoxifylline may be teratogenic and so should not be used in pregnant animals.

Dose: Published dose ranges vary, but most dermatologists use pentoxifylline at a dose between 15-25mg/kg orally every 12 hours. Atopic and contact dermatitis may also respond to a lower dose of 10mg/kg BID. It can take four to twelve weeks for maximal response.