

Demodicosis

Also called:

- Demodectic mange
- Red mange
- Follicular mange
- *Demodex* infection

What is demodicosis?

Demodicosis is a mite infestation. Small populations of the mite, *Demodex canis*, inhabit the hair follicles of normal dogs – and generally do not cause problems. If the mite population becomes very large, however, it can cause a severe skin disease called “mange”. Affected dogs may suffer from hair loss, painful or itchy skin, and bacterial skin infections.

Cats can also develop demodicosis. One form, caused by *Demodex cati*, usually affects cats with an underlying disease. Another form, caused by *Demodex gatoj*, usually results in excessive grooming and hair loss.

Which pets get demodicosis?

If most dogs harbor Demodex mites, why don't they all develop mange? It appears that a normally functioning immune system is crucial for keeping the mite numbers low. So when we diagnose dogs with demodicosis, we always have to consider any underlying conditions that might be affecting their immune function.

Young dogs, less than 18 months old, sometimes develop demodicosis before their immune system fully matures. Most show only small patches of hair loss, commonly on the face or legs. This form, called “localized” demodicosis, often resolves without treatment. Others develop a “generalized” form affecting many areas of the skin. Because this form is heritable, it is important to always spay or neuter affected dogs. It must be treated medically to ensure a cure. In a study of over 3,719 cases of generalized demodicosis in young dogs presented in 2009, Dr. Plant identified the most susceptible breeds and identified other risk factors.

Sometimes, demodicosis develops for the first time in adult dogs. These dogs also require medical treatment for their condition to resolve, and we always recommend a screen for underlying conditions that may be suppressing their immune system.

How is demodicosis diagnosed?

Demodicosis can only be definitively diagnosed by a veterinarian, because many skin conditions in dogs look so much alike that they cannot be differentiated based on appearance. In most cases, we perform a simple in-office test called a skin scraping. This quick test also allows us to monitor our therapy on subsequent visits. The screening for underlying diseases may include blood tests, a review of the dog's medical history, and other procedures.

How is demodicosis treated?

We treat demodicosis using an integrated approach. First, we institute anti-parasitic therapy to kill the mites. The mites can be killed either using a series of medicated dips, spot-on products, or a course of oral medication – the therapy is tailored to each patient with consideration given to many factors. Antibiotics and medicated shampoos may also be prescribed. Second, we address any concurrent diseases that are present. The course of treatment for the mites may be lengthy, ranging from weeks to months, and adjustments to therapy are often needed. Follow-up care from a veterinarian is crucial to achieving a cure and preventing a relapse.

Is it safe for my family to be around a dog or cat with demodicosis?

Yes. The mite does not spread to humans or to other species of animals. The canine forms of demodicosis are not transmittable (all dogs have small numbers already, acquired in the first days of life), but *D. gatoi* appears to be contagious between cats.

Treatment of demodicosis in dogs

Oral Ivermectin, Fluralaner, and Afoxolaner

Although Mitaban® dips have been used the longest for the treatment of demodicosis, many owners prefer the convenience of oral medications.

Oral ivermectin solution is usually given once daily for the treatment of mites. Although safe in most dogs, it may cause toxicity in some. Signs include incoordination, depression, or other untoward side-effects that you may notice. Dilated pupils are sometimes the only sign that indicate possible toxicity. Ivermectin can be extremely toxic to some breeds of dogs (such as Collies), so

never use this drug without the supervision of a veterinarian, or to treat an animal for whom it was not prescribed. A laboratory test is available to determine if your pet is susceptible to ivermectin toxicity.

The most recently introduced medications that show great promise in the treatment of canine demodicosis are fluralaner (Bravecto®) and afoxolaner (NexGard®). These are prescription flea and tick medications that are given every one to three months. These are still considered “off-label” uses (not FDA approved for this purpose) of these drugs.

Spot-on Advantage Multi®

A spot-on treatment has also shown some benefit in the treatment of canine demodicosis. Advantage Multi® for Dogs is approved in some countries for the treatment of canine democisosis (as well as fleas and other parasites). The convenience of this treatment is appealing, but it may not be effective in more severe cases.

Mitaban® Dips

Mitaban® dips (by prescription only) can be performed in a veterinary clinic, grooming establishment, or in a well-ventilated area at home. The dip needs to penetrate the hair follicles in order to work. Medium or long-haired dogs are clipped prior to dipping, to decrease the toxicity and increase the efficacy of the Mitaban®.

The dog is bathed with the prescribed shampoo to “flush” the hair follicles, but must be thoroughly dried before the dip is applied. One bottle (10.6 mL) of the Mitaban® dip is diluted in 2 gallons of water. The dip must be used the same day because the toxicity of Mitaban® increases once it is opened and diluted. The dip is poured and sponged over the entire dog. Please be sure to wear gloves. Do not rinse the dog, and allow him to air-dry.

If the feet are affected, allow the dog to stand in the dip for at least 15 minutes. We may also prescribe a solution to use on “problem” areas in between dips: 0.5 mL of Mitaban® diluted in 1 oz of propylene glycol solution or mineral oil can be applied to the areas every 48 hours. Make a new batch of this solution every time you open a bottle of Mitaban® for dipping. Repeat the dip in 1 to 2 weeks, as directed.

Mitaban® is a potentially toxic treatment. Side effects of Mitaban® are fairly common and we often see a mild to moderate degree of sedation for 24 to 48 hours after a dip. Small breed dogs are particularly susceptible. Some dogs also become itchier. Please contact us or your veterinarian if your dog exhibits marked depression or lethargy. Most importantly, take measures to minimize your own exposure to the dip.

Feline Demodicosis

Cats have a few forms of demodicosis. One species is considered contagious; another affects primarily immunocompromised cats. Cats with demodicosis are treated with Advantage Multi, Bravecto, or weekly lime sulfur dips. Lime sulfur treatment is very safe, but smelly. It is not effective for the treatment of dogs with demodicosis.

Progress Examinations

With demodicosis, it is crucial to continue treating longer than the time it takes to kill the mites. Remember that the mites can persist long after the skin looks normal, and stopping therapy prematurely often leads to a relapse of the disease. It is very important for us to monitor the progress of the treatment by performing skin scrapings, because mites may be present even when the skin looks normal. We usually schedule rechecks every 4 weeks until two negative skin scrapings are obtained.