

Demodicosis

Definition: *Demodex* mites are microscopic normal inhabitants of dog skin. In a healthy animal, the mites are few in number and do not cause skin problems. In some cases though, the mites can take over, leading to a condition commonly called "mange" or *demodicosis*. Demodex in the dog is a common infestation of the dog's skin with tiny, cigar-shaped, eight-legged mites. Also referred to as demodectic mange, the mites reside and feed in the hair follicle and oil glands of the skin.

Clinical Signs: Hair loss is the most common sign. In more severe or generalized cases, the skin presents as bald, infected, odorous and scaly.

Transmission: Canine demodicosis not contagious to humans. The mites are species-specific. This mite is passed mother-to-pup and possibly dog-to-dog, but for animals with healthy immune systems, this doesn't cause disease.

Diagnosis: Demodicosis can be localized - small patches affected, or generalized - large areas of the dog's face, feet and body are affected. The microscopic *Demodex* mite lives deep in hair follicles. Diagnosis is suggested by the skin lesions and confirmed with a skin scrape and microscopic examination of *Demodex* mites.

Gently squeeze an area of the skin and rub a scalpel blade over the ridge of skin to collect mites to look at under the microscope.

A skin scraping is a diagnostic test used in almost every skin condition. An important use of this test is to detect mites, which are microscopic in size. Mites are far too small to be seen with the naked eye, and can only be positively diagnosed by a skin scraping and subsequent analysis of the scraped material under the microscope. The two mites we commonly diagnose by a skin scraping are Sarcoptic mange (Scabies) and Demodex.

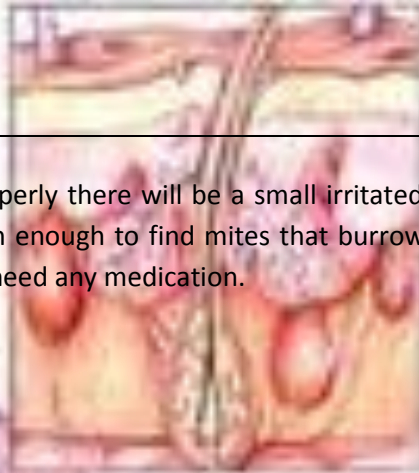
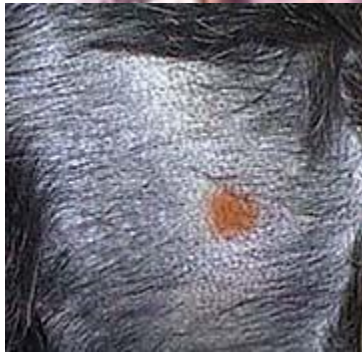
Mites burrow into the skin or hair follicles, some burrowing deeper than others. Sometimes we need to perform several scrapings at various locations in order to find mites. Some mites have a propensity to affect certain areas, so these are the areas we emphasize when we perform the test. A negative skin scraping does not guarantee your pet is free of mites. Demodex mites are relatively easy to find under the microscope, while Scabies (*Sarcoptes*) mites can be very difficult to find under the microscope.

Obtaining a Sample

The first step is to gently scrape the surface of the skin with a scalpel blade. This will yield skin, hair, dander and sometimes the mites if they are present.



When the scraping is performed properly there will be a small irritated area on the skin. This signifies that the scraping was done thorough enough to find mites that burrow deep. The minor irritation will resolve in a short time and does not need any medication.



The entire life cycle is spent on the host



Adult Demodex Mite

Analysis

The scraped material is transferred to a slide for viewing under the microscope. The slide is methodically analyzed for mites, mite eggs, or evidence of a fungal infection. This takes 5 minutes, so the report is available while you wait.



part of the skin fauna and is usually in low numbers in healthy

Treatment: Treatment options vary widely based on the severity of the case and preferred protocols. For some cases, a medicated shampoo and "watch and wait" approach, and for others, a battery of treatments is required to bring the mite population and skin infection under control.

Mild/localized cases: Shave affected areas. Wash skin with a benzoyl peroxide shampoo to help "flush" out the hair follicles and keep secondary bacterial infections under control.

And "old time" treatment for localized demodicosis is a product called Goodwinol ointment, which contains rotenone, an insecticide. The efficacy (usefulness) of this treatment is a topic of debate.

Generalized cases: Like the localized cases, shave affected areas and wash skin with a benzoyl peroxide shampoo to help "flush" out the hair follicles and keep secondary bacterial infections under control.

Additional treatment options for generalized demodicosis:

- Ivermectin - considered the best treatment option. This drug is used off-label for *Demodex* mites and not to be used in Collies or Collie-crosses.
- Amitraz (Mitaban) dips - approved by the FDA, but not to be used on small dogs or dogs younger than 4 months. Labor-intensive to apply, side effects possible.
- Milbemycin oxime (Interceptor) - this heartworm preventative, when used on a daily basis, may be effective against generalized demodicosis. The cost may be a prohibiting factor, however.
- Promeris/Advantage Multi - have been used with mixed results for demodicosis. Please consult with your veterinarian.

Dogs affected with demodicosis should be checked for other parasites (skin, ears, intestinal), be on a healthy diet, and have any other health problems addressed for maximum effectiveness of the demodicosis treatment. Dogs being treated for demodicosis should not be given corticosteroids. Dogs with concurrent bacterial skin infections often need oral or injectable antibiotics.

Demodicosis is often a prolonged treatment protocol of weeks or months. Two negative skin scrapings, one month apart confirm case resolution.

Demodex is part of the normal skin fauna and is usually present in small numbers in healthy animals

