

## CANINE DEMODICOSIS

Demodicosis (red mange) is a skin disease of dogs that is caused by the microscopic hair follicle mite, *Demodex canis*. It is seen in both sexes and occurs more commonly in young animals. This disease can be seen in purebred or mixed-breed dogs. The disease can be mild with spontaneous recovery or severe with death occurring on rare occasions.

### Transmission

The entire life cycle of the mite is spent on the dog in the hair follicles. Normal dogs have small numbers of these mites. They are transmitted to pups from the mother when they nurse during the first few days of life. Although all animals have a few mites, normally the mites do not cause disease. However, in some animals the mites begin to reproduce rapidly and skin disease results. The reason this happens in some dogs and not in others is unknown in most cases. Immunosuppression from various causes likely plays a role. Entire litters may be affected, or certain parents may consistently produce litters with affected individuals. **Juvenile-onset generalized demodicosis is a familial disease and affected dogs and their parents should not be bred.**



### Clinical Signs

Demodicosis is seen in two forms in the dog. There is a localized form in which only a small area of the skin is affected and a generalized form in which the whole body is involved. Because the animal is exposed while nursing, the face and the forelimbs are commonly affected first. Loss of hair and reddening of the skin often occur. The skin can be scaly or crusty in these areas. Some dogs are itchy while others are not. In some cases, bacteria invade the damaged skin. With bacterial involvement, pustules (pimples) can be seen, and the dog may have a bad odor.

### Diagnosis

Veterinarians are always suspicious of this disease when animals are seen with areas of hair loss and the skin is red and crusty, especially in puppies. The mite can be identified by scraping affected areas of the skin and observing this material under a microscope. The mite and its immature forms can then be identified. Because the mite lives deep in the skin and can be difficult to demonstrate, numerous skin scrapings are often needed.

### Treatment

Treatment of this condition depends upon the severity of the disease. In the localized form, with only a few limited areas affected, the dog may heal on its own. Many veterinarians recommend using a cream that is applied to affected areas to help kill the mite and limit its spread. It is important that all animals

with the localized form be observed for worsening of the condition or the spread to other areas. If either of these occurs, your veterinarian should be consulted promptly.

Animals with generalized demodicosis require intensive specific treatment. The only FDA approved treatment is Mitaban® dips. Whole body clipping of long haired dogs is required so that the medication can get into the hair follicles.

Treatments are applied every two weeks for 4-6 treatments. Although the dog may respond well to the dip and look normal, he may still have the mite infection. Dipping must be continued until multiple negative skin scrapings on separate visits are found. Even with strict treatment, some dogs are not cleared and frequently relapse. Some dogs require treatment for life. Animals that have secondary bacterial infections also need special shampoos and/or antibiotics. Side effects to the dip can occur. Sleepiness is common the day after the dip. Uncommon side effects include decreases in body temperature, vomiting, diarrhea, loss of appetite, excitability, staggered gait, itching or other behavioral changes. Notify your veterinarian if any of these signs occur.

Another treatment that is available for generalized demodicosis is a drug called ivermectin. This drug is not approved for use in dogs at the doses needed to treat demodicosis. It is approved for use in dogs as a heartworm preventative, but is used at much lower doses for that use. Some dogs have a nervous system sensitivity to ivermectin at the high doses needed for demodicosis (especially Collies and Collie crosses) and therefore cannot tolerate this drug. If ivermectin is used it must be given orally daily for 2-4 months. Side effects include wobbly gait, disorientation, change of personality and occasionally vomiting. More severe and life-threatening reactions can also occur. Ivermectin is generally effective when Mitaban® is not.

A third treatment option is daily milbemycin (Interceptor®). Inteceptor® is another monthly heartworm preventative. For demodicosis it is given daily at higher than normal doses for several months. However, it is very expensive when used this way.

### Prognosis

Animals with localized demodicosis have a good prognosis. As the severity increases, the prognosis worsens. Some patients with severe disease require regular treatment for the rest of their lives. It is important in all cases to treat secondary bacterial infections, intestinal worms or heartworms. Stress should also be reduced. This often includes spaying females to reduce the stress of the heat period, which often causes a relapse. Dogs with onset of demodicosis at an older age should be examined for any underlying immunosuppressive disease.