

Demodicosis in Dogs

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BASIC INFORMATION

Description and Causes

Demodicosis is the proliferation of *Demodex canis* mites in hair follicles. Dogs that develop clinical signs may have localized or generalized lesions. *Demodex* mites are passed from the mother to the puppy within the first few days of birth, so dogs that are born by cesarean section and not allowed to nurse do not have these mites. The presence of very low numbers of *Demodex* mites on dogs is considered normal.

Clinical demodicosis occurs when the number of mites increases to excessive levels. Dogs that develop juvenile-onset, generalized disease appear to be genetically predisposed to the condition. Adult-onset demodicosis is frequently associated with poor immune function (immunosuppression) resulting from underlying conditions such as Cushing's disease, hypothyroidism, immunosuppressive drugs, or cancer.

Clinical Signs

Demodicosis is called *localized* when hair loss occurs only in isolated, patchy areas. Comedones (blackheads) may also be present. Pimples and small red bumps may occur and indicate a secondary bacterial infection. Localized demodicosis is rarely itchy.

With generalized demodicosis, hair loss and lesions may occur over the body and be extensive. Blackheads, pimples, red bumps, and bleeding areas may be present. Scabs often indicate secondary infection, which can cause itchiness.

Diagnostic Tests

Diagnosis is based on finding *Demodex canis* mites in samples taken from the skin. Samples are taken by scraping the skin or plucking hairs and are examined under the microscope. Rarely, a skin biopsy is needed to identify the mite. Other laboratory testing may be indicated in dogs with adult-onset demodicosis.

TREATMENT AND FOLLOW-UP

Treatment Options

Localized and demodicosis are treated differently:

- For localized disease, rotenone ointment (*Goodwinol*) can be applied to one or two lesions; however, areas of hair loss may become larger, because the hair may be rubbed off during the application process.
- Benzoyl peroxide gel (*Pyoben*, *Oxydex*) can be applied once daily to areas of hair loss. It does not kill or remove the mites from the follicles but helps to limit secondary infection and

unplugs hair follicles. This product bleaches fabric, so make certain that the product dries completely after application.

- Many cases of localized demodicosis are self-limited and require only monitoring. Because localized demodicosis may progress to a generalized form, be sure to watch for new areas of hair loss or the development of blackheads.

For dogs with generalized demodicosis of juvenile onset, all secondary bacterial infections are treated, and efforts are made to improve the overall health of the animal. Measures that your veterinarian may discuss with you include deworming, vaccinations, nutrition, and spaying or neutering. The demodicosis is specifically treated with amitraz (*Mitaban*) dips, as follows:

- The hair must be trimmed very short, after which the dog is bathed in a benzoyl peroxide–based shampoo and towel dried.
- Mix one bottle of Mitaban with 2 gallons of warm water.
- Sponge the mixture onto the dog, making sure to wet all skin surfaces.
- Allow the dog to air dry, and keep it from getting wet between dips.
- Repeat dips every 2 weeks until two negative skin scrapings occur 2 weeks apart; follow with one more dip.
- Sedation is a likely side effect, but occasionally a dog has more serious signs such as vomiting, severe itching, or seizures. Small dogs are more susceptible to these side effects, and sometimes it is best to dip small dogs in the hospital and closely monitor them for 24 hours afterward. Notify your veterinarian if any of these signs occur.

In cases of adult-onset generalized demodicosis, all secondary bacterial infections are treated. Sometimes infections are so severe that they must be treated first, with amitraz dips delayed for awhile. Any underlying cause must also be addressed. Several other products are available for treating demodicosis but have not been specifically approved for this disease. Your veterinarian may discuss these options if the amitraz treatment is unsuccessful.

Follow-up Care

Successful management of demodicosis can be difficult. Localized cases are rechecked every few weeks until the dog outgrows the disease. Dogs with juvenile-onset generalized disease are usually rechecked monthly until secondary infections are resolved, then every 4-8 weeks throughout the course of therapy. Some animals with generalized disease are not cured and must be treated periodically for life to control the lesions.

Prognosis

Prognosis is very good for puppies with localized demodicosis. Eighty-five percent of dogs with juvenile-onset generalized demodicosis are cured. Resolution of adult-onset cases varies based on the overall health of the animal.