

## Demodex in Puppies

Demodectic mange looks like hair loss in small dime to quarter shapes on the face and forelegs.

There is a **big** difference between Localized and Generalized Demodex.

Demodectic mange is caused by a microscopic mite called **Demodex canis**. All dogs raised normally by their mothers possess this mite as mites are transferred from mother to pup via cuddling during the first few days of life. For some reason, conditions change in certain dogs to allow demodex mites to "gain the upper hand;" the mites proliferate and can cause serious skin disease. It is also noted that puppies over vaccinated or have Rabies vaccine prior to 6 months are affected. Also certain brands of vaccine seem to affect the immune system, which lets the mites get out of control.

Mites are not transmitted to people or other dogs except from mother dog to pup as described. Demodectic mange (unlike Sarcoptic mange) is not contagious.

- Mites live inside hair follicles.
- Mites are normal residents of dog skin and human skin; it is only in some individual dogs that mites cause problems.

Demodectic mange -- also called "demodicosis"-- has three forms:

### **LOCALIZED**

Usually a red, scaly, well-circumscribed lesion on the face or forelegs is present. It generally goes away on its own. Goodwinol ointment, an insecticide, may be used daily to control localized demodicosis. Another good safe controller is lime and sulphur purchased at the garden store or a good tar and sulphur shampoo. Hair regrowth should be evident after about a month of treatment; however, some localized cases appear "destined" to become generalized and no treatment will prevent this from occurring.

When ointment is used, rubbing the medication on the area may break off the weaker hairs at the margin of the lesion. The lesion may thus appear to get larger at first. **Antibacterial gels** are also used against localized demodicosis and associated skin infections. Often it is best not to treat this condition and to simply allow it to resolve on its own.

## **CAN THE PUP BE BRED LATER?**

Sometimes the puppy with localized demodicosis was obtained for breeding purposes. The current recommendation is not to treat these puppies so that it can be determined if the condition will stay localized and resolve or if it will generalize. If it stays localized and eventually resolves without treatment, the animal is still a candidate for breeding. If the condition generalizes to cover the entire body, the animal should be sterilized. If the condition receives treatment and resolves, we will never know how the disease would have gone in its natural state and will not know whether the pup is carrying the genetic predisposition for demodectic mange. In this case, it is best to be conservative and not take the chance of passing on genetic predisposition for this disease.

Localized demodicosis is almost exclusively a "puppy hood" disease. When a puppy develops localized demodicosis the chance of the condition resolving are 90%

## **GENERALIZED**

The "entire" dog is affected with patchy fur, skin infections, bald, scaly skin.

ADULT ONSET-- Most demodicosis occurs in young dogs. An older dog should not get demodicosis unless it has an underlying problem with its immune system, possibly even cancer. A veterinarian should be consulted regarding possible primary diseases.

JUVENILE ONSET -- 30-50% of dogs under age 1 year recover spontaneously from generalized demodicosis without any form of treatment. Usually treatment is recommended, though, to facilitate recovery.

**IT IS VERY IMPORTANT THAT DOGS WITH A HISTORY OF GENERALIZED  
DEMODECTIC MANGE NOT BE BRED AS THERE IS A HEREDITARY  
COMPONENT TO THE DEVELOPMENT OF THE DISEASE**

## **DEMODECTIC PODODERMATITIS**

This condition represents demodectic mange confined to the paws. Bacterial infections usually accompany this condition. Often as generalized demodicosis is treated, the foot is the last strong hold of the mite. Old English Sheepdogs and Shar-peis tend to get severe forms of this condition. The infection can be so deep that biopsy is needed to find the mites and make the diagnosis.

## STRESS AND GENERALIZED DEMODECTIC MANGE

Physiological stress is an important factor determining the degree of severity of demodectic mange.

1. Females should be spayed as soon as the disease is controlled. Coming into heat, hormone fluxes, and pregnancy are very stressful. Also, predisposition to demodicosis is hereditary and should not be passed on.
2. The dog should be fed a reputable brand of dog food so as to avoid any nutritionally related problems.

Keep the pet parasite-free. Worms are irritants that the pet need not deal with and fleas may cause stress. Physiological stress is an important factor determining the degree of severity of demodectic mange.

The mites themselves cause suppression of the immune system so the pet needs every advantage to stay healthy.

Skin infections are usually present in these cases and antibiotics will likely be necessary. It is very important that cortisone type medications such as prednisone NOT be used in these cases, as they will tip the immune balance in favour of the mite.

## PROGNOSIS

The younger the dog, the better the chance of cure. In many cases of adult-onset demodicosis, dips and baths control the disease but cure is not always possible. Some cases can never be controlled.

## **TRADITIONAL TREATMENT, AMITRAZ (MITABAN) DIPS**

Unless the animal is largely bald or has a short coat, complete clipping will be required for maximal contact with the dip.

Dip should be preceded by a **benzoyl peroxide bath (oxydex or pyoben shampoo)**. This helps clear up skin infections and also helps open the hair follicles so the dip can penetrate to the mites. Shampoo must sit on the pet at least 10 minutes before rinsing. For your convenience, dipping and bathing may be performed at the hospital thus allowing for veterinary supervision in the event of side effects.

Dipping/bathing is recommended every two weeks on the bottle of dip. Most universities are finding that the cure rate jumps from 25% to 80% when dip is used at double strength and applied weekly. No toxic effects have been seen using the dip in this way and this is our current recommendation except in very small dogs and puppies..

The pet's skin is scraped every 2 weeks until 2 consecutive scrapings are negative. Dipping/bathing is discontinued and the pet is rechecked in one month. Dipping/bathing are reinstated if mites are again found.

### **AMITRAZ DIPPING SHOULD NOT BE USED IN TOY BREEDS OR IN VERY YOUNG PUPPIES**

## **IVERMECTIN**

Ivermectin is a broad-spectrum anti-parasite medication generally used for food animals and horses. It is licensed for use in dogs and cats, as the FDA does not approve a heartworm preventive only thus the use of this medication to treat demodicosis. When ivermectin was a new drug it was hoped that it could be used against demodectic mange mites. At first it was found ineffective but later it was determined that daily doses are needed (most other parasites can be controlled with worming spaced several weeks apart.) Ivermectin is inexpensive relative to Interceptor and involves no labour intensive bathing. It DOES, however, taste terrible if given orally (it may be necessary for the owner to learn how to give ivermectin as an injectable treatment.)

