

## Introduction

As part of the skin work-up we have performed a skin scrape. This entails the use of a razor to gently scrape the top layers of the skin to obtain a sample for microscopic evaluation. On the microscope slide, we have identified Demodex mites.

Demodex mites are parasites which live in very small numbers in hair follicles in almost every dog. However, when we can identify these mites on a skin scrape in conjunction with skin lesions then “mange” is diagnosed. These mites are not contagious from dog to dog in the traditional sense – so adult dogs will not catch mange from another infected dog. Puppies contract it from their mothers shortly after birth when suckling. Not every puppy exposed to Demodex will develop mange.

Mite overgrowth may occur because of an immature immune system (such as in puppies), poor nutrition, oestrus/heat cycle in females, immune-suppressive medication (such as steroids), or internal disease. Sometimes, no underlying reason can be found. The tendency to be susceptible to generalized demodicosis during puppyhood has been found to be genetically transmitted, therefore affected pups should not be bred, but should be spayed/neutered.

Dogs with mange are treated for long periods of time to clear the mite infestation. Typical therapy for the mites usually lasts 60 to 90 days – and at least 30 days past a negative repeated skin scrape. In a small number of cases we are not able to clear the infestation despite aggressive treatment – these dogs become chronic carriers and sometimes have problematic skin for life.

## Therapy

In most cases we use a combination of products to attempt to eliminate the mites, decrease the associated itching and address the secondary bacterial infections that occur due to the skin trauma from scratching. In some cases we will also recommend special therapeutic shampoos for you to use.

**Medications:** The following medications should be administered according to their label:

### 1. **Ivermectin Liquid** daily (see below)

Starting today (“Day 1”), treat and increase every 24 hours:

Day 1: \_\_\_\_\_ ml by mouth (0.01 ml/kg),

Day 2: \_\_\_\_\_ ml by mouth (0.02 ml/kg),

Day 3: \_\_\_\_\_ ml by mouth (0.03 ml/kg),

Day 4: \_\_\_\_\_ ml by mouth (0.04 ml/kg),

Day 5: \_\_\_\_\_ ml by mouth (0.05ml/kg),

Day 6: \_\_\_\_\_ ml by mouth (0.06 ml/kg).

Continue this last dose every 24 hours, until directed otherwise at recheck.

### 2. **Antihistamine** to reduce itching

Dose: \_\_\_\_\_ tablet (s) twice daily

### 3. **Cephalexin** antibiotics for bacterial infections

Dose: \_\_\_\_\_ tablet/capsule (s) twice daily

**Recommended Shampoo:** Pyohex shampoo and conditioner weekly for six weeks to remove crusts and scabs, and help control bacterial infection.



**Spey or Neuter:** Because hormone fluctuations can cause recurrent outbreaks of Demodex, it is very important to have any puppy with a prior history of mange speyed or neutered as soon as reasonably possible.

Due to large numbers of mites dying when treatment begins, it is not uncommon for more hair loss to occur during the first 2-4 weeks of treatment. This will resolve as treatment continues.



**If your dog is not currently on monthly heartworm preventative, he/she should be tested before starting this protocol, to prevent risk of anaphylactic shock if heartworms are present.**

**Your next visit for a repeat examination and skin scraping is on \_\_\_\_\_**

### Ivermectin Side Effects

The Ivermectin drug we are using to treat the Demodex mites is the same product used in monthly Heartworm Prevention – in the liquid dose it is far more concentrated than in the monthly tablets.

Side effects of Ivermectin include drowsiness, anorexia, vomiting, diarrhoea, dilated pupils, disorientation, and wobbliness. These symptoms usually go away when the drug is stopped. For this reason, we usually start treatment with Ivermectin at a low dose and slowly increase the amount given each day to the effective dose. If a dog shows adverse effects at any time, Ivermectin must be stopped or more serious side effects (collapse, blindness, coma, death) may develop. The drug is given orally once daily. Unless side effects develop, the daily Ivermectin is given for at least two months, or one month past a negative skin scrape, whichever is longer.

It is a large animal deworming medicine and this is an “off-label” use for this drug, although it is one of the standard treatments for generalized demodicosis in veterinary medicine – if you are not comfortable with this, please let us know.

This drug cannot be used in herding-breed dogs (Collies, Shelties, Old English Sheepdogs, Border Collies), because these breeds are overly sensitive to having adverse side effects. Occasionally, other individual dogs can be sensitive to the medication. There is a DNA test available to screen for susceptibility prior to starting treatment if you wish.

**NOTE: Comfortis or Panoramis should NOT be given whilst on Ivermectin.**