

## Ear Mites FAQ

### The Pet Health Care Library

#### Answering Your Questions About Ear Mites (*Otodectes cynotis*)



Most people have heard of ear mites and know they are a relatively common parasite of dogs and cats. There is, unfortunately, a tendency in the general public to assume their pet's inflamed ear is due to an ear mite infection, often leading to weeks of inappropriate treatment with over-the-counter remedies. It is important to distinguish an ear infected with yeast or bacteria from one infected with mites; it is also important to recognize that the old topical remedies requiring several weeks of ear cleaning and treatment have largely been replaced by far simpler products.

#### What are Ear Mites?

Ear mites are tiny infectious organisms resembling microscopic ticks. The mite can just barely be seen as a small white dot with the naked eye but usually must be detected by examination of a sample of ear wax under a microscope. Infection usually produces a characteristic dry black ear discharge commonly said to resemble coffee grounds. Because of the classical appearance of this discharge, infection is often diagnosed based on this discharge although without visual confirmation of the mite under the microscope, it is possible to be led astray. The discharge is composed of ear wax, blood, inflammatory biochemicals, and the ear mites themselves.

#### The Bizarre Ear Mite Life Cycle

The mite lives on the surface of the ear canal skin, although it sometimes migrates out onto the face and head of its host. Eggs are laid after 4 days of incubation they hatch. The larva hatches from the egg, feeds on ear wax and skin oils for about a week, and then molts into a protonymph, which in turn molts into a deutonymph. The deutonymph mates with the adult male. What seems especially bizarre to us mammals is the deutonymph has not yet developed a gender at the time it mates with the adult male.

After mating, the deutonymph molts into either an adult male or an adult female. If the deutonymph becomes a female, she will be gravid with eggs as a result of the mating. If the deutonymph develops into a male, there are no consequences to the mating and he is ready to mate with deutonymphs of his own choosing. The adult mite lives for approximately two months, happily eating ear wax and skin oils. The life cycle (the time it takes for an egg to develop into an adult mite ready for parenthood) requires three weeks.

Most ear mite cases are found in cats. Dogs can be infected as well but, since dogs more commonly get ear infections of other types, ear infections in dogs usually do not involve mites.

#### How did my Pet get Ear Mites?

Ear mites readily transmit from host to host by physical contact. Ear mites came from some other animal with which your pet has been socializing. Because mites are easily transmissible by physical contact, treatment for mites often must include all household pets.



**Adult male mite mating with a deutonymph.**



**What Harm Comes from Ear Mite Infection?**

Ear mites are inflammatory and they can generate very irritating ear infections. Skin disease can also result from infection by the ear mite.

**Is this Contagious to Me?**

Ear mite infection is certainly contagious among cats and dogs. Typically, the victim is an outdoor cat. Humans have been reported to develop skin rashes rarely; in general, we may consider that a human pet owner is extremely unlikely to experience any symptoms when their pet is infected with ear mites.

**How do I Get Rid of Ear Mites?*****Topical Treatments: At Least Three Weeks Usage***

There are numerous products available for ear mite eradication. Most older and over-the-counter products contain insecticides that do not kill incubating mite eggs. Because of this limitation, such products must be used for at least the duration of the 21-day life cycle of the mite. Some specialists recommend a 30-day treatment course with such products. While these products do work and are readily available at most pet supply stores, three weeks of use is relatively inconvenient and the pet may not always be cooperative.

***Topical Treatments: At Least Ten Days Usage***

Another approach involves the use of a prescription topical ear medication called Tresaderm® (manufactured by Merial) that contains an antibiotic for any secondary bacterial infections, a cortisone derivative for the inflammation, and thiabendazole to kill yeasts and mites. This is an excellent ear product and is able to kill the developing mite eggs. This cuts the treatment course down to 10 to 14 days and provides an excellent oily lubricant with which to clean the ears as well. This product has been favored by veterinarians for decades; still, it is no longer state of the art.

***Injection: Two to Four Treatments***

A newer treatment, which is not FDA-approved, involves the use of ivermectin, a powerful anti-parasite medication. Ivermectin is especially helpful for pets who will not allow direct treatment of their ears. Most ivermectin injectable protocols involve shots weekly or every two weeks. This is a highly effective method of ear mite eradication but there are some limitations. Certain breeds of dogs are sensitive to this medication and cannot take it. Certain individuals have similar sensitivities that cannot be predicted by breed. Injectable ivermectin is not approved for the treatment of ear mites in small animals.

***Single Use Products***

There are currently several prescription products available that reliably eradicate an ear mite infection with one single use, although a thorough ear cleaning is still needed to remove the wax and debris from the ear. These may be applied directly in the ear or to the pet's skin behind the shoulders.

The two current products that are applied directly in a cat's ear canal are: A-carexx, a topical version of ivermectin; and Milbemite, a topical version of milbemycin oxime, the same active ingredient as in the heartworm preventive Interceptor. These products are approved for cats only and are available only through veterinarians. A single dose should be all that is needed to clear the infection.

As for topical products that go behind the pet's shoulders, there are two that control ear mites (as well as fleas and intestinal worms: Revolution®, which uses selamectin as an active ingredient,



and Advantage Multi® (called Advocate® outside the U.S.), which uses moxidectin as an active ingredient. Both selamectin and moxidectin are ivermectin derivatives. With either product, a single application is used on the skin; the product is absorbed into the body where it kills numerous other parasites and then returns to the skin to be concentrated. When these products are used as regular flea control, they have the added benefit of on-going ear mite prevention. Advantage Multi® only has approval against ear mites in cats. Both products are available by prescription only. In some cases a final ear cleaning is needed a month or so after the product has been applied to remove any dried or old ear wax still left in the ear.

See general information on Revolution® from the manufacturer.

See general information on Advantage Multi® from the manufacturer.

See more detail on ACarexx® from the manufacturer.

See more detail on Milbemite® from the manufacturer.

### **What if they just Don't Seem to Ever go Away?**

Occasionally, we receive messages regarding a case of ear mites for which "everything" has been used and the mites simply will not go away. In this situation consider the following tips:

1. Was the mite infection confirmed initially? Remember, it is easy to be fooled by a discharge that appears "mite typical." This mite not be an ear mite infection at all or perhaps it was in the beginning but is now a bacterial or fungal infection.
2. Has the continuing mite infection been confirmed after therapy? Sometimes, a telltale hard bit of ear wax must be removed from the ear before comfort is finally achieved. Sometimes a bacterial infection remains even though the mites are long gone. Treating for ear mites when none are present will not achieve results.
3. Were all the hosts in the family treated? If all pets were not treated, begin again, this time including all pets in the family. If all pets are not treated, they will simply re-infect each other.
4. Consider using one of the new products. If you are trying to use one of the daily products, it is easy to skip a day here and there.

Do not make the diagnosis of ear mite infection yourself. If you think your pet has an ear infection, see the vet for proper evaluation rather jumping straight to an over-the-counter remedy. You will need the right diagnosis before you can intelligently choose an ear treatment product.

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