

Feline Ringworm Infection

**What is ringworm?**

Ringworm is a skin disease caused by a fungus. Because the lesions are often circular, it was once thought to be caused by a worm curling up in the tissue, but this disease actually has nothing to do with worms! Instead, ringworm is an infection in the dead layer of the skin, hair and nails. The fungus is able to utilize this dead tissue, called keratin, as a source of nutrition.

 Ringworm is also known as dermatophytosis. Four different species of fungi can cause dermatophytosis in cats; however, it is most often caused by the organism Microsporum canis. Microsporum canis is so common, in fact, that up to 20 percent of cats are thought to be asymptomatic carriers. This means the cats carry the organism but show no outward signs.

**Which cats are likely to get ringworm?**

Genetic and environmental influences play an important role in feline ringworm infection, though a significant amount of research remains to be done on the disorder. It appears that Persian cats are affected most frequently. In catteries, ringworm can be difficult to control because of the number of animals involved.

**What are the clinical signs?**

The fungi that cause ringworm live in hair follicles and cause the hair shafts to break off at the skin line. This usually results in round patches of hair loss. As the fungus multiplies, the lesions may become irregularly shaped and spread over the cat's body. These patches may be associated with scaling and crusting of the skin. The lesions are sometimes pruritic (itchy), but this is not a consistent finding. The incubation period is 10 to 14 days. This means that exposure to the fungus and establishment of infection occurs 10 to 14 days before any lesions occur.

**How is ringworm diagnosed?**

Feline ringworm can be diagnosed by four different methods. In some cases, more than one technique is used.

* Identification of typical "ringworm" lesions on the skin: This is the least accurate method since other skin diseases may have the same appearance.
* Examination of the hair under a microscope: Some of the fungal elements, such as spores, can visualized with this technique.
* Fluorescence of infected hairs under a special light: This screening test is useful because Microsporum canis will sometimes fluoresce as a bright apple green color under ultraviolet light. However, failure to fluoresce does not eliminate ringworm as a potential diagnosis.
* Culture of the hair: This method is the most accurate way to diagnose feline ringworm infection. After some hair is plucked from a lesion on the skin, it is placed on a special gel (culture media) to watch for fungus growth. The color of the gel will also change from yellow to red as the fungus grows. These cultures are checked daily. Most cats with ringworm will have a positive culture within 10 days, but in rare cases, growth may not occur for 14 to 21 days.

**How is it transmitted?**

Transmission occurs by direct contact between infected and non-infected individuals. It may be passed from dogs to cats and vice versa. It may also be passed from dogs or cats to humans and vice versa.

If your child has ringworm, he/she may have acquired it from your pet or from another child at school. Adult humans are usually resistant to infection unless there is a break in the skin, but children are quite susceptible. If you or your family members have suspicious skin lesions, see your family physician.

Transmission may also occur from the infected environment. The fungal spores may live in bedding or carpet for several months. They may be killed with a dilution of one pint chlorine bleach per gallon of water where it is feasible to use it.

**How is it treated?**

There are several means of treatment. The specific method(s) chosen for your cat will depend on the severity of the infection, how many pets are involved, if there are children in the household and how difficult it will be to disinfect your pets' environment.

These include:

* **Griseofulvin**: This antifungal medication is concentrated deep in the hair follicles, where it can reach the site of active fungal growth. Griseofulvin should be given daily. Cats with active lesions should receive the tablets for a minimum of 30 days. At that time, your cat should be rechecked to be sure the infection is adequately treated. These tablets are not absorbed from the stomach unless there is fat in the stomach at the time they are given. This can be accomplished by feeding a high-fat diet, such as a rich canned cat food or a small amount of fat trimmings (often available at the meat departments of local grocery stores upon request) or by allowing the cat to drink some rich cream. This is the most important part of treatment. If you are not successful in giving the tablets, please call us for help. If you are aware of fat consumption having caused a problem for your cat in the past or if your cat has had an episode of pancreatitis, bring this to our attention immediately.
* **Topical antifungal medication**: Apply one of these products to the affected areas once daily for 10 days. Do not risk getting it in your dog's eyes by treating lesions very near the eye.
* **Baths using an antifungal shampoo**: A bath should be given three times on an every other day schedule. Bathe exposed but unaffected pets once. These baths are important in getting the spores off the hairs so they do not drop into the environment and result in re-exposure. A lather should be formed and left on for five to 10 minutes before rinsing. Be aware that antifungal shampoos alone cannot be expected to provide a cure but are useful in the overall treatment plan.
* **Lime sulfur dip**: This should be done twice weekly for the first two weeks, then once weekly for four to six weeks. Lime sulfur dip should also be applied to other pets (dogs or cats) in the household to prevent them from being affected. If any other pets develop ringworm lesions, they should begin on griseofulvin. Use gloves when applying the dip. This is an effective form of treatment, but the dip has an objectionable odor and can tarnish jewelry.
* **Shaving of the cat's hair**: This will remove the infected hair. We recommend this only when the infection is extensive. A total clipping of the cat’s hair coat used to be considered standard practice. In some cases, this may still be advantageous; however, it may not be necessary in every case. Some studies have suggested that clipping may cause microscopic nicks in the skin and serve to further inoculate ringworm into the skin. Also, clipper blades can spread the fungus between cats. Clipping is most likely to be of help with long-haired cats and in households where more than one pet is infected.

**What should I expect from treatment?**

Treatment will not produce immediate results. The areas of hair loss will get larger before they begin to get smaller. Within one to two weeks, the hair loss should stop, there should be no new areas of hair loss and the crusty appearance of the skin should subside. If any of these do not occur within two weeks, your cat should be rechecked.

**How long will my cat be contagious?**

Infected pets remain contagious for about three weeks if aggressive treatment is used. Contagion will last longer if only minimal measures are taken or if you are not faithful with the prescribed approach. Minimizing exposure to other dogs or cats and to your family members is recommended during this period.

**I have heard that some cats are never cured. Is this true?**

When treatment is completed, ringworm should be cured. Although a carrier state can exist, this usually occurs because treatment is not long enough or aggressive enough or because there is some underlying disease compromising the immune system.