RINGWORM IN CATS (DERMATOPHYTOSIS)

What is ringworm?

"Ringworm" is the common name given to a fungal infection of the superficial layers of the skin, hairs and nails. The name comes from the classical appearance of the round, red, raised 'ring' marking the boundary of inflammation in people infected with the disease. The fungi responsible for ringworm belong to a specialized group known as *dermatophytes*, and these organisms can cause disease in both humans and animals. There are many distinct species within the group. Some species of dermatophytes will only infect humans or only infect certain animals, whereas others can be spread from animals to man.

In cats, one species of dermatophyte, called *Microsporum canis,* is responsible for almost all ringworm infections, and this species is infectious to cats, dogs and man. Occasionally ringworm infections in cats may be caused by species such as *Trichophyton mentagrophytes*.

What does ringworm look like?

The lesions of ringworm in cats may be very mild or even undetectable. A "cigarette ash" scaling in the depths of the coat may be the only visible indicator. In other cases there are discrete, circular, thickened plaques with hair loss *(alopecia)* that occurs due to the increased fragility of infected hairs. The main sites for these lesions are the skin of the head, chest, forelegs and along the ridge of the back to the base of the tail. These lesions are not usually itchy. Occasionally, infection of the claws, known as *onychomycosis,* may occur. The claws become rough and pitted with a scaly base. The claw may ultimately become deformed. Ringworm may sometimes cause a more generalized disease where a much larger area of the body is affected, often seen as patchy hair loss.

How do you diagnose ringworm infection?

The majority of cases of feline ringworm caused by *M. canis* will show-up as a yellow-green fluorescence when the skin and coat are examined in a dark room with a special ultraviolet lamp. However, not all cases show clear fluorescence and some other dermatophytes like *Trychophyton mentagrophytes* do not fluoresce. In addition, some skin ointments and other materials will fluoresce and may give a false positive result.

Confirmation of ringworm requires culture of the fungus in a laboratory. For this, samples of hair and skin scrapings are taken. Culture results can take up to four weeks, but there is usually an indication that a sample will be positive within a few days.

Other causes of hair loss may have to be ruled out by additional testing.

How is ringworm treated?

Although ringworm is a self-curing infection in many cats, with resolution typically taking three to five months, treatment of the disease is *always* indicated to minimize the risk of spread of infection to humans, especially children, and other pets.

Two forms of treatment are commonly used for cats with ringworm:

1. topical therapy (application of creams, ointments or shampoos) and
2. oral therapy (administration of anti-fungal drugs by mouth).

In addition, careful attention must also be given to cleaning the environment.

1. Topical treatment

Occasionally, topical therapy is used alone for treatment of ringworm, but more commonly it is used in combination with oral medication. Various creams and ointments are available to apply to localized areas of the skin affected by ringworm. If there is more generalized disease your veterinarian may advise the use of a shampoo. It is extremely important *only* to use preparations that have been specifically provided or recommended by your veterinarian for topical treatment of cats.

2. Oral treatment

For most cases of ringworm, effective treatment will require administration of an oral anti-fungal drug. Traditionally, *griseofulvin* was the drug of choice, although newer alternative drugs such as *lufeneron* are being used more frequently. The response of individual cats to treatment varies, and if therapy is stopped too soon, the disease may recur. Treatment must usually be continued for a minimum of six weeks, and in some cases much longer therapy is required. If there is more than one cat in the household, try to separate infected from non-infected cats and just treat the infected ones. In some situations, it may be preferable to treat all of the cats. Your veterinarian will be able to advise you regarding your own circumstances.

Environmental cleaning

Hairs infected with ringworm contain numerous microscopic fungal spores that can be shed into the environment. Infection of other animals and humans can occur, either by direct contact with an infected cat, or through environmental contamination with these fungal spores. In addition to minimizing direct contact with an infected cat, it is therefore also important to attempt to keep the environment free of spores. Topical treatment of affected skin, and clipping of infected hairs (with careful disposal) may help to reduce environmental contamination. It is also worthwhile to restrict the cat to certain rooms of the house that are easy to clean. Thorough vacuuming of rooms where the cat has access to is the best way to minimize environmental contamination, and this should be done as frequently as is possible (e.g. daily or every other day). In addition, the use of diluted bleach is recommended in areas that can be readily disinfected.

Will my cat recover from ringworm?

The vast majority of cats, if treated appropriately, will recover from ringworm infection within a few weeks. While the appearance of the lesions may not change much during the first week or so of treatment, some improvement should be evident within two to three weeks. Occasionally, despite appropriate treatment, the infection persists, and in this situation your veterinarian may have to try alternative anti-fungal drugs.

What is the risk to humans?

Ringworm can be transmitted quite easily to humans, particularly children, and it is important to take appropriate steps to minimize exposure to the fungus while the cat is being treated (see *Environmental Cleaning* above). If any humans in the house develop skin lesions, especially small patches of skin thickening and reddening that are typically sharply demarcated with raised scaly edges, early medical attention should be sought. Ringworm in humans generally responds very well to treatment.
