

Foster Home Based Ringworm Treatment Protocol for Cats - SAMPLE

Purpose

To provide a treatment and management protocol that facilitates ringworm (also known as dermatophytosis) treatment in foster care for cats and kittens; and to ensure ringworm positive animals are safely and effectively treated and socialized while reducing the chances of zoonotic transmission in a private home.

Background

Despite its name, ringworm is a fungal infection that causes alopecia/crusts/redness of the skin. It is contagious to other animals, as well as to people. The most common ringworm species affecting cats is *Microsporum canis*.

Transmission

Primarily through direct contact with an infected animal or secondarily through fomite transmission, such as via clothing, hands, bedding, or grooming tools. Rarely through environmental contamination.

Clinical Signs

Lesions in the fur or skin that are suspicious of ringworm infection are often noted on the muzzle, ears, paws, or tail and include:

- Fur loss or broken, brittle hairs, or whiskers
- Red, inflamed skin
- Scaling or crusting (“flakiness”) or scabs of the skin
- Itchy skin, especially where lesions are location

Diagnosis

The four main diagnostic testing options for dermatophytosis are: Wood’s lamp examination, DTM culture, PCR, and trichogram. Diagnostics should be performed on each individual animal in a litter or group.

- **Wood’s lamp examination** – most cats with dermatophytosis can be identified based on a positive Wood’s lamp examination.
- **Trichogram** – microscopic examination of plucked fluorescing hairs can identify dermatophytosis if the Wood’s lamp examination is equivocal or if further confirmation of a positive Wood’s lamp examination is desired.
- **DTM culture** – whenever possible a DTM culture combined with microscopic identification should be performed in all cases undergoing treatment to confirm infection, identify the dermatophyte species, and monitor response to treatment.

- Dermatophytosis is diagnosed when a DTM culture has a p-score of 2 or 3 and macroconidia are identified on microscopic identification. P-scoring:
 - Negative = no colonies
 - P1 = 1-4 colonies
 - P2 = 5-9 colonies
 - P3 = 10 or more colonies
- DTM cultures should be held for at least 14 days. However, positive results are often present by day 5-7.
- **Ringworm PCR** – PCR can be utilized as a tool for diagnosis in animals with a negative Wood’s lamp examination but highly suggestive clinical signs. Because of the (typically) faster results relative to fungal culture, PCR is best utilized when highly suggestive clinical signs are present and an expedient answer regarding the animal’s ringworm status is necessary. PCR testing is not the ideal method to determine mycologic cure.

Treatment

A combination of topical and oral treatments is used to clear the infection as rapidly as possible. Topical treatment kills spores on the hair coat; oral treatment kills spores in the hair follicle. Topical treatment helps reduce environmental contamination by limiting the number of spores infected animals shed between applications. Oral treatment cures the animal of infection from the inside out.

Regular vaccination schedules should continue to be followed throughout the treatment duration (repeat FVRCP vaccinations and deworming every 2-4 weeks for kittens). Re-examination via physical and Wood’s lamp exams should occur at such appointments to ensure patients are clinically resolving in an expected fashion.

Topical treatment

Bath with miconazole/chlorhexidine shampoo 2-3 times per week until an animal is cleared:

- Shake the bottle of shampoo.
- Wear protective clothing and gloves.
- Apply for a contact time of 3-5 minutes. Try to soak the coat all the way to the skin.
- Use a cotton ball or small rag to apply shampoo around the eyes, mouth, and ears.
- Rinse and dry the animal.
- Prevent hypothermia by wrapping the animal in a dry towel or blanket after bathing.

Oral treatment

Administer oral Itrafungol (refer to program veterinarian for dosing) for a 21-day course:

1. Administer Itrafungol orally once daily on alternating weeks for 3 treatment cycles. A total of 21 days of actual treatment is provided.

7 days	7 days	7 days	7 days	7 days
Daily treatment	No Treatment	Daily treatment	No Treatment	Daily treatment

2. Provide Itrafungol to all animals requiring treatment. This medication can be used in kittens as small as 0.5 lbs.
3. Offer with a small meal of canned food to enhance absorption.

4. Kittens should be weighed weekly to accurately adjust their Itrafungol dosage.

Treatment is continued until the cat is considered cured, typically based on two negative consecutive post-treatment DTM cultures. Clinical signs should also be resolving by the time the cat is considered cured, though fur regrowth may still occur after the infection is cleared.

Environmental Decontamination

After cats are considered cured, or after infected cats have left the home, any exposed parts of the home should be thoroughly cleaned. This is accomplished by:

1. Cleaning

- Mechanically remove gross debris such as hair, feces, or litter by wiping, Swiffering, or vacuuming. If vacuuming, change out the vacuum bag or discard the collected contents to prevent recontamination.
- Apply a detergent product, such as soap or Rescue (1:64, 2oz/gallon), to produce a visibly clean surface. Rinse and allow to dry.

2. Disinfecting

- Liberally apply an over-the-counter disinfectant that is labeled against *Trichophyton* spp. to the cleaned surface for a 10-minute contact time before rinsing or wiping away.
- Examples of effective OTC disinfectants that are safe around kittens include: Fantastik, Formula 409, or Simple Green. Alternatively, apply Rescue (1:32, 4 oz/gallon).

Cleaning supplies used in a contaminated area should be thoroughly cleaned and disinfected (using one of the products mentioned above) between use and dedicated for use only in that area.

Laundry can be decontaminated by putting items in the washer. Use the longest cycle possible and ensure that that washer is not overloaded. Any detergent and water temperature can be used. Dry out in the sun or in the dryer on a high-temperature setting. Clean lint filters once completed. Porous objects that cannot be laundered (such as toys or cat trees) are ideally discarded. Alternatively, items such as large cat trees can be thoroughly vacuumed then soaked in an 8oz/gallon Rescue solution, rinsed, and allowed to air dry.

Tips for Discharging Ringworm Patients

Items to Send Home

- Miconazole/chlorhexidine shampoo
- Itrafungol medication with dosing syringe
- Gowns and gloves

Instructions and Advice

- Ringworm patients may live in your foster home for 6 weeks or more while they are being treated. Socialization of these kittens, especially since they will be with you for a prolonged period, is critical to the development of friendly and adoptable animals.
- House affected patients in an area that is easily disinfected.
- Use gloves when handling ringworm patients due to their contagious and zoonotic potential. Wash hands thoroughly after handling animals.
- Maintain a separate set of clothing when handling affected patients.