Title: Dermatophytosis intake screening protocol for an open admission shelter

Case Description: Ringworm is the most common infectious skin disease in cats and is usually caused by the dermatophyte *Microsporum canis*. Although typically self-limiting, it is highly contagious and zoonotic. The implications of infection in shelter cats are serious and affect the adoptability of infected animals, human health, and the shelter’s reputation. The following protocol was developed for a private, open-admission shelter in Massachusetts with an annual intake of 8,000 animals and an 87% live-release-rate for cats. The shelter had a low prevalence of documented ringworm cases with only 11 recorded the previous year.

Outcome: Given the low prevalence of ringworm in cats handled by this shelter, it was decided not to perform Wood’s lamp examination and fungal cultures for every cat on intake. Cats were handled as follows:

1. No skin lesions or history of hair loss or skin lesions affecting others in the household (‘suspicious history’): further screening not performed.

2. Skin lesions and/or suspicious history: Careful examination in darkened room using Wood’s lamp.
   a. Wood’s lamp positive: pluck fluorescent hairs for direct microscopic examination.
      i. Spores and hyphae noted: Initiate biweekly lime sulfur dips (62 mL per liter warm water) and itraconazole (10mg/kg po SID). House in designated isolation area. Handle by dedicated staff wearing appropriate
personal protective equipment. Thoroughly clean and disinfect in-contact areas using sodium hypochlorite (1:10).

ii. Spores and/or hyphae not seen: negative. Further evaluation not performed.

b. Wood’s lamp negative: perform dermatophyte test medium (DTM) culture using toothbrush technique. Initiate biweekly lime sulfur dips pending results. Housing and handling as indicated for infected cats above.

i. DTM culture negative: discontinue lime sulfur dips, return to general population

ii. DTM culture positive: continue lime sulfur dips, initiate treatment with oral itraconazole.

3. Record all examinations and treatments in cat’s medical record.

4. Perform serial DTM cultures on all positive cats as determined by direct examination or prior fungal culture. Continue treatment and isolation until two negative serial cultures are obtained. Following treatment, return to general population and make available for adoption.

**Implications:** Shelter staff should be trained to recognize ringworm suspects and respond appropriately to limit the risk of inadvertent introduction of infected cats into the general population. This protocol was designed to balance the risk of disease introduction in a low prevalence setting with the best use of resources. These procedures are insufficient to fully eliminate the risk of introduction and spread of ringworm because closer examination and fungal culture is only performed on cats with clinical signs or a suspicious history. While the
appropriate response will vary according to shelter resources, suspected ringworm cases should always be isolated. Treatment may not be feasible for all shelters, particularly those that euthanize healthy animals due to considerations of capacity for care. For those shelters, removal from the general population may entail euthanasia. Shelters able to isolate and treat infected cats should train staff in specific techniques, such as recognition of lesions and application of lime sulfur, with initial observation to confirm proper technique.


*I designed the protocol described within this short report. I implemented it at the organization for which it was created and monitored its use.*