

ANIMAL WELFARE RESEARCH INSTITUTE: Veterinary Student Scientist Program 2012

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“Animal Shelter Policy, Procedure, and Understanding of Ringworm in Cats”

ABSTRACT: In an effort to identify ways to improve the welfare of cats residing in shelters and their potential for adoption, an analysis of shelter’s policies, procedures and training in regards to ringworm was performed. Ten shelters within the Los Angeles County area and 109 staff and volunteers were surveyed with an array of questions to establish the shelters’ protocols, policies, and training programs about the fungal infection. Several areas of potential improvement were identified, including the need for diagnostic protocols, increased training of staff and volunteers and the necessity to educate the public.

INTRODUCTION & GOALS: The health of an animal plays a significant role in its adoptability from shelters and in its retention in the new home thereafter. One study that surveyed various adoption facilities in the Western states reported that 1 in 5 people returned adopted pets within one year- 4% within two weeks, another 8% six months after adoption, and an additional 8% within one year of adoption.¹ Health problems have been identified as a major concern of adopters; in a study on reasons for return, health problems comprised 13% of the causes for an animal to be returned to the shelter. These concerns ranked above other well-known considerations for lack of retention, such as destruction behaviors, inappropriate placement, separation anxiety, aggression, and moving.²

Ringworm was specifically defined as a focus in this study to establish if it was indeed an area where feline health and welfare in shelters could be improved. Due to its high contagiousness and zoonotic potential, a ringworm infection could greatly hinder a cat’s chance at adoption and pose a public health concern. *Microsporum canis* is the primary pathogen causing ringworm in shelters, a fungus that puts off spores which must adhere to and surpass the epidermal skin barrier to cause infection. Incubation from contact and germination to obvious clinical lesions is approximately 14-22 days. A positive culture is the only certain diagnosis and although curable, treatment is long and tedious in both infected animals and humans.³ However, perhaps due to the sporadic occurrence and varying prevalence of ringworm, shelters often lack established policies and procedures in regards to the management of this fungal skin infection. The goal of this project was to identify areas of need in the policies, procedures, and training of shelter staff and volunteers in regards to ringworm with the hope of facilitating improvements in shelters that would enhance the health and welfare of cats, thus promoting their adoption and retention in their new home.

METHODS & MATERIALS: A survey was conducted of ten shelters in the greater Los Angeles area, including eight in Los Angeles County, one in San Bernardino County, and one in Orange County. Five other shelters in the Los Angeles area and three in the San Diego area were contacted but were unable to be surveyed due to time constraints. All shelter staff and volunteers present on the day/s of the visit were asked to complete the survey, totaling 109 surveys completed. The positions surveyed included the following: Shelter Director, Veterinarian, Veterinary Technician, Shelter Staff that handles animals regularly and those that do not, Animal Control Officers, and Volunteers. The survey contained 32 statements on the prevalence, diagnostics, protocols, policies, and training in regards to this fungal infection in cats and those completing it were asked to assign their opinion of each statement’s accuracy with a Likert scale in which the number 1 was defined as never, 2 as rarely, 3 as sometimes, 4 as often and 5 as always. The responses were averaged and compared amongst positions to identify areas of concerns within the shelter’s policies and procedures on ringworm in cats.

RESULTS & CONCLUSIONS: Statistics on the prevalence of ringworm vary greatly, with reports indicating anywhere from 4-100% of animals infected. The number is highly variable due to several factors, including: geographic region, population density, husbandry practices, intake procedures, and diagnostic tools used to establish the diagnosis.³ This study’s survey results indicate that on average cases of ringworm are ‘sometimes’ common in the shelters and it is ‘often’ considered an area of concern for both staff and volunteers. Interestingly, the veterinary staff estimated that ringworm infections are ‘sometimes’ to ‘often’ prominent in the shelter and ‘often’ to ‘always’ a concern while the shelter volunteers on average believed the infections ‘rarely’ to ‘sometimes’ occur and are only ‘sometimes’ a concern. This appears to indicate a lack of awareness in the volunteers, which is important to note as they are often the ones handling the animals as the clean cages and provide enrichment to the animals.

However, despite this concern, results indicate that cats are ‘rarely’ screened for ringworm on entrance to the shelter unless suspected of having the disease. Again, there is a disconnect of knowledge between the volunteers and veterinary staff as the volunteers believe the cats are being screened ‘often’ and the staff says it occurs ‘rarely’ to ‘sometimes.’ The majority of the shelters diagnose ringworm with the Wood’s lamp test, but not all of the facilities surveyed have this tool available. Other studies have shown that the Wood’s lamp diagnosis has relatively low negative predicative value, such that damage or topical treatment to the hair may destroy the fluorescence, some infected scales will not glow, and certain species of *M. canis* and other fungal agents that can cause ringworm (although more rarely) also do not fluoresce. Thus, Wood’s lamp examination would ideally be confirmed through direct microscopic examination of the hair or a mycological culture.⁴ Only one of the ten shelters visited in this study possessed the means to accomplish this. Staff and volunteers indicated on the surveys that more than ‘often’ there is a need of improved diagnostic tools.

Results indicated that the staff is only trained about infectious diseases ‘sometimes’ and more ‘rarely’ about ringworm. Additionally, volunteers more ‘rarely’ received training on these topics than the staff. One major area of concern was the lack of knowledge by both staff and volunteers of where to locate policies and procedures on infectious diseases in general and, if there was a manual, whether it contained any information about the management of ringworm infections; staff stated that that the manual ‘always’ contained this information while the veterinarians indicated this was only ‘sometimes’ true and no shelter visited produced the manual to view. In addition to this, both staff and volunteers stated they would ‘often’ benefit from more training in regards to zoonotic diseases including ringworm. This is consistent with other studies, such as a survey of shelters in the Western states which indicated that infectious-disease training is only provided to 30% of staff and 35% of volunteers upon hire, with volunteers receiving less training in infectious- and zoonotic-disease identification, prevention and control than staff members. Although, 75% of the facilities had a physical manual in disinfection and cleaning, only 15% had a manual of infection control. A better recognition of infection will greatly facilitate when the disinfection protocols need to be performed. This same survey indicated that 90% of shelters reported they would benefit from training in infectious and zoonotic disease.⁵

Shelter staff agreed that a cat’s health almost ‘always’ plays a role in its ability to be adopted and they believe that the adopter ‘often’ has a clear understanding of the current health of their new family member. On occasion, the adopting public is not educated about ringworm and adoption guidelines may be lacking. The staff believes that in general adopters ‘rarely’ understand the infection and could almost ‘always’ benefit from more education in this area. Additionally, shelters almost ‘always’ advise the adopters to bring a new pet to a veterinarian, and shelters often have established recommendations or partnerships with veterinary practices in the community. Further investigation should establish the true level of knowledge in the adopting public on the animal’s health and their adherence to the recommendation to bring the animal to a veterinarian.

In addition to several means of improvement identified within the shelter facilities, other areas in need of investigation were recognized in this study. An assessment should be made in foster homes and rescue groups where kittens are often placed in order to ensure these individuals have a clear understanding of the appropriate policies and procedures when faced with ringworm. Also, it would be valuable to estimate the level of understanding in the adopting public for when they both view animals and decide to adopt; this would aid in the establishment the appropriate educational materials that would allow the staff to better inform them about the fungal infection.

SUMMARY: An analysis of the survey findings point to a couple of key areas of improvement in shelters with regards to the handling of ringworm infections. Large improvements could be made with improved diagnostic tools and the establishment of protocols such as a screening of all cats upon entrance. Additionally, this protocol and all others in reference to ringworm, zoonotic, and infectious diseases need to be in a manual and all staff and volunteers must know of its location and relevance. These improvements can only be made if all people associating with the animals are instructed about the diseases and the importance of the policies involving them. This training could be made easy with the use of educational materials already compiled by other organizations.

RESOURCES:

1. Laura Neidhart and Renee Boyd, 2002. Companion Animal Adoption Study. *Journal of Applied Animal Welfare Science*, 5:3, 175-192
2. Elsie R. Shore, 2005. Returning a Recently Adopted Companion Animal: Adopters' Reasons for Reactions to the Failed Adoption Experience. *Journal of Applied Animal Welfare Science*, 8:3, 187-198
3. Karen A. Moriello, 2012. "How Animal Shelters Are Beating Ringworm (And Yours Can, Too!). Webinar presented by Maddie's Institute.
4. Rene' Chermette, Laerte Ferreira, Jacques Guillot, 2008. Dermatophytoses in Animals. *Mycopathologia* 166:385-405
5. Kay K. Steneroden, Ashley E. Hill, M.D. Salman. A needs-assessment and demographic survey of infection-control and disease awareness in western US animal shelters. *Preventive Veterinary Medicine* 98 (2011) 52-57.