

Fighting Fungus with Facts: SPORE Program and Finishing School Foster

Fighting Fungus with Facts


Presented by
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SF SPCA



SPORE Program and Finishing School Foster



Ringworm in the Shelter Setting



This is Harvey. He came from a high-kill municipal shelter. He deserved a chance and with the help of the SPORE program at the SF SPCA, he got one.

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Four Kittens Walk into the Shelter







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First Steps

- History – previous shelter, location, siblings...
- Full physical examination- take your time
- Check for hair loss and breaks in the hair.


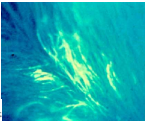




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Wood's Lamp Exams

- About 90%* of M. canis infections fluoresce
- Fluoresce on the hairs is cause by the fungus depositing a metabolite on the hair shaft as it grows
- The individual hairs should glow an "apple green"



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Spot the Ringworm

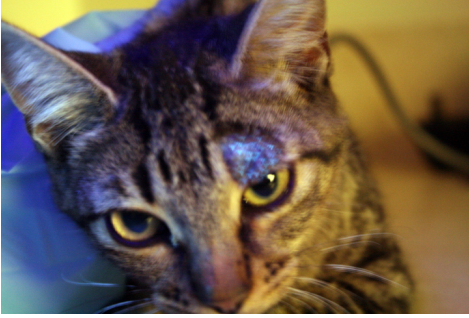
Can you see it?



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Spot the Ringworm
Now you can!



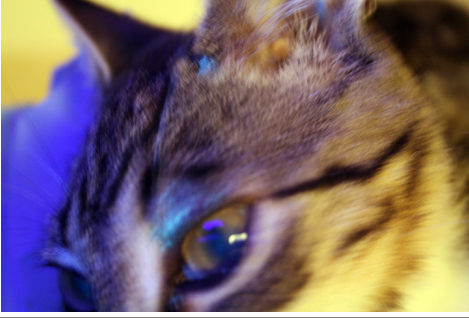
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Spot the Ringworm
Can you see it?



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Spot the Ringworm
Now you can!



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Four Kittens Walk into the Shelter

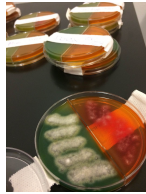
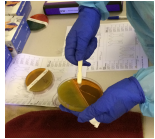


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Second Steps

- After the initial Wood's lamp examination, a plan needs to develop for the exposed kittens to determine their disease status.
- Systematically gathering samples for an in-house culture will help to determine how much, if any, ringworm infection is found on the kittens



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To Pluck or Not to Pluck...that is the question

By the time the lesion is noticed and visible, most of the affected hairs have fallen off, due to the nature of the infection.



Hair plucks can lead to false negatives and does not give a good representation of the skin infection.



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Starting a Fungal Culture

- Use a plate culture, not slant ones
- Toothbrush sampling gives larger sample size for cytology
- Brush the cat 15 times from nose to tail (avoiding actual lesion) then brush the suspected lesion 5 times. If no apparent lesion, brush cat 20 times covering all areas
- Store upside-down in warm (80-85F) dark location

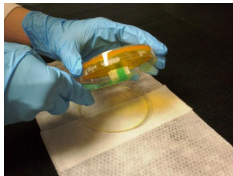


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Inoculating a Fungal Culture

- Always set up cultures in a clean area
- Hold culture plates with medium side up*
- Gently stab the tips of the toothbrush into the media.
- Cover the whole plate in a **consistent pattern**.
- Use Accel wipes as a drop cloth to prevent contamination of area



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Pathogen Scoring of Culture Plates

Just because it grows – does not mean there is an infection

"P-score" or "Pathogen score" refers to the number of colony forming units (cfu) growing on the plate and is used in decision making for treatment and for monitoring the response to treatment.

P-1: less than 4 colonies on the plate

P-2: 5-9 colonies on the plate

P-3: more than 10 colonies, too many to count colonies or a "swarmed plate"

This is why it is important to have a consistent standard way of plating each culture

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Pathogen Scoring of Culture Plates

P1 P1

P2 P3

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Interpreting the P-score

P-1 Score:
These cats should be examined again with the wood's lamp and if they do not have any lesions they should receive one final topical dip and then can be cleared from isolation. If a new lesion is seen upon the second exam, the animal remains in isolation and begins treatment

P-2 Score:
These cats also require a second examination with a wood's lamp. If no new lesions are seen then they are topically treated one more time and then released from isolation. If a lesion is seen upon the second exam, the animal remains in isolation and begins treatment.

P-3 Score:
Ensure proper isolation of animal and treatment has begun.

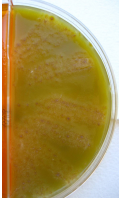
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Four Kittens – A Week Later

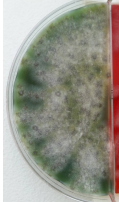
- Where are the housed?
- Any more testing needed?

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Reading and Interpreting DTMs in the First Week

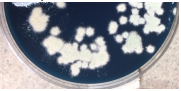


m. Canis - day 5

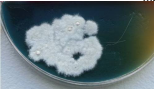


m. Canis - Day 7

Early growth will not fully confirm the species, but it will let you know that you are dealing with an infectious agent and the animal can get started on treatment.



t. Mentagrophytes - day 7



m. Gypsum - day 7

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RINGWORM IDENTIFICATION CHART

Microsporum canis

- Spores appear thin-walled
- Macroconidia can have up to 19 septa
- Macroconidia are located on or near hyphae
- Fuzzy "soft" expanding growth on the culture plate





Microsporum gypsum

- Thin-walled, more clubbed shaped macroconidia only 4-6 septa
- Macroconidia are located away from hyphae
- Condensed, powdery growth on the culture plate





Trichophyton mentagrophytes

- Olive shaped, thin-walled macroconidia
- Colored hyphae, "grape" clusters of microconidia
- Condensed, granular growth on the culture plate





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Ringworm Treatment

- **Oral Medication:** Itraconazole and Terbinafine
- **Topical Medication:** Lime-Sulfur Dips Peroxiwash Shampoo, Miconazole Shampoo
- **Environmental Cleanliness:** De-clutter and clean with appropriate disinfectants



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Lime Sulfur: your friend in the fight against ringworm

- Kills spores on contact, environmental containment
- Use at an 8oz per gallon dilution.
- Yes, it's stinky... but smells like victory!



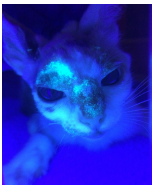
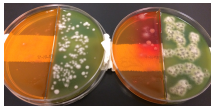



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SFSPCA Ringworm Treatment Protocol

- Daily Itraconazole 5mg/kg for 21 days only.
 - If under 6 months pulse one week on one week off
 - If over 6 months 21 consecutive days
 - Keep an eye on culture results, may need to pulse one more week for severe cases after 8 weeks
- Keep in isolation until 2 negative DTMs
- Twice weekly Lime-Sulfur dips while in isolation
- Weekly cultures to determine response to treatment
- Weekly 'deep' cleaning of isolation wards

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The SPORE Program

Shelters Preventing Outbreaks of Ringworm through Education

Through the education of staff and volunteers, many ringworm outbreaks can be avoided and all can be controlled without the use of euthanasia.

Many shelters do not have the funds and staff to treat ringworm at their own facility. The SFSPCA would like to help these shelters use their own resources and create a partnership with them so that we do not have to euthanize for this curable disease.

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Volunteer Engagement

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SPORE's Impact

42 Shelters in 19 states have received training from the SPORE Program and are currently treating ringworm at their facility, eliminating fear through education in their community and saving lives.

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Finishing School Foster Program

Placement of confirmed ringworm positive animals into foster homes after 4-5 weeks of initial treatment to finish out their treatment in a low stress environment.

The kittens would stay under treatment, in the foster home, until they have received 2 negative DTM cultures, which would be approximately 3-5 weeks

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Treatment and Isolation in Foster

What we ask of the foster home

- comfortable with medical treatment and isolation practices
- willing to receive training on how to manage ringworm in the home setting
- ability to communicate with foster team, continue bi-weekly dips and any oral medications in the foster home
- ability to keep all resident animals safely away from the isolated foster space
- willing to house the animal(s) for an extended period of time, up to 8 weeks.



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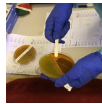
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Treatment and Isolation in Foster

Culturing at home



Brush the cat 15 times from nose to tail (avoiding actual lesion) then brush the suspected lesion 5 times. If no apparent lesion, brush cat 20 times covering all areas



Gently stab the tips of the toothbrush into the media. Cover the whole plate in a **consistent pattern**.



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Treatment and Isolation in Foster

Bathing and cleaning at home



Dilute solution 1:20 with warm water

Apply to dry coat with sprayer

Use sponge on face and ears

Squeeze dry

Provide heat support

Spot clean/deep clean environment



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Setting up your Foster Space



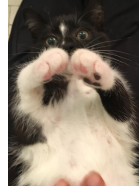
- Cleanable environment
- 'Foster friendly' clothes
- Everything you need in room, but out of reach of fosters
- Small and simple



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Most of all...Have FUN!



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Lots of FUN!

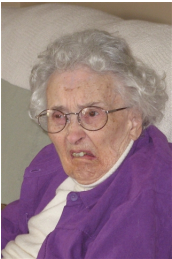


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Eliminating the Fear of Ringworm

We can do this together!



We need to go from this



To this!

We need to change the attitude of ringworm through education and discussion.

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Thank You!

A special thanks to:
Sandra Newbury, DVM, Kate Hurley, DVM and especially Karen Moriello, DVM who proved to us that we can beat ringworm in the shelter environment, without the use of euthanasia

and

The SFSPCA for providing the care and housing needed to save these ringworm animals