

## ECC-HOU-124-SOP Ringworm In-house Fungal Culture Protocol

**Summary:** Fungal cultures are performed in-house when possible and provide more information regarding infection status than PCR testing. Some animals are not actively infected and are simply a fomite carrier; DTM with pathogen scoring can distinguish “dust mop” animals from infected ones.

**Operational Procedure:** The Lifesaving Center staff will collect initial DTM culture and repeat weekly to monitor treatment on infected animals.

### Procedures:

#### Plating and interpreting a DTM culture:

1. Make sure culture medium is at room temperature when inoculated. Use plates, not slants.
2. Apply toothbrush to the medium **evenly** across the entire plate while holding the plate upside down.
3. Place DTM upside-down in an incubator at 80-85 degrees F.
4. Read DTM daily, noting growth and color change. Record number of colonies (if applicable) when growth is significant.
5. Considered negative test if no growth after **10 days** on **initial** DTM.
6. For positive growth, a pathogen score should be recorded:
  - a. P1: 4 or fewer colonies on the plate
  - b. P2: 5-9 colonies on the plate
  - c. P3: 10 or more colonies on the plate
7. P score interpretation and follow-up at 7 days
  - a. P1: Examine with wood’s lamp
    - i. “Dust mop”: if no lesions, dip and clear from isolation.
    - ii. Incubator: will have subtle lesions; check face, ears, paws carefully
  - b. P2: Continue isolation and treatment.
  - c. P3: Continue isolation and treatment.
8. See below for clearing animals undergoing treatment.
9. If there is a need for faster results, submit a Ringworm PCR (Idexx code 3565) using the toothbrush method, as outlined above.

#### Serial Fungal Cultures

1. Colony counts and pathogen scores should trend down over time, indicating therapeutic progress.
2. DTM should be obtained using the toothbrush collection method, starting after 1-2 weeks of any treatment (including topical, dips, oral, etc.) and repeated weekly.
3. If pathogen scores/colony counts are not decreasing, then consult DVM to troubleshoot (see section below).

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*Lifesaving Centers – All-Centers Operations Manual*

**Revision history:** Procedure ECC-HOU-124-SOP Ringworm In-house Fungal Culture Protocol

Date:	Notes:	Lead Reviewers
June 2021	Procedure Introduced	Carolyn Fitzgerald, Fraily Rodriguez, Carrie Lalonde, Dr. Erin Katribe

4. Start DTM's on day of lime dip; collect sample **before** lime dip is done.
5. Read DTM daily and record.
6. Positive DTM consists of white fluffy growth AND color change in the medium.
7. Contaminants are common. Contaminant growth that overwhelms the plate is considered negative.
8. The animal is considered cleared/negative when an animal has **one negative DTM grown out to 14 days and the following DTM negative at 7 days**
9. If housing/facilities allow, cats with one negative at 7 days (second culture has just been collected) should be housed separately from cats continuing to test positive.
10. A Ringworm PCR can be used to clear an animal. Because false positives are more common in PCR testing, submit a culture to the lab or collect an in-house culture at same time.

**Related documents:** *ECC-HOU-120-Ringworm Protocol*

**Sources:**

Diagnosis and treatment of dermatophytosis in dogs and cats. Clinical Consensus Guidelines of the World Association for Veterinary Dermatology. Karen A. Moriello, Kimberly Coyner, Susan Paterson and Bernard Mignon. *Vet Dermatol* 2017; 28: 266–e68

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Million Cat Challenge: Fighting Fungus with Facts. Laura Mullen, SFSPCA.  
[https://www.youtube.com/watch?v=MwD\\_zuNTCww](https://www.youtube.com/watch?v=MwD_zuNTCww)

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