Testing and Management of Cats for Influenza:

Guidance for Veterinarians

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Background

Avian influenza A (H5N1) is a virus that primarily infects wild and domestic birds. The current strain has been recognized as a cause of avian morbidity and mortality since the early 2000s. In late 2021, the 2.3.4.4b European strain of H5N1 was first detected in North America. Since then, the virus has been identified in numerous commercial poultry operations, backyard flocks, and wild birds. In 2024, H5N1 was identified for the first time in dairy cattle, which are infected chiefly in mammary tissue and shed the virus in their milk. Coincident with the detection in dairy cows was the observation of sick and dead domestic cats on some affected farms—leading to confirmation that H5N1 can infect domestic cats.

Guidance for Veterinarians

The pathogenesis and full spectrum of clinical illness in cats has yet to be described, but illness can range from non-specific signs to acute onset respiratory disease and, commonly, rapidly progressive encephalopathy. Routes of infection for cats are traditionally through predation and consumption of infected birds, but cats can also be infected following consumption of contaminated food, including raw milk or other unpasteurized dairy products, raw pet foods, and possible raw meats sold for human consumption.

Clinical presentation:

Influenza A(H5N1) can cause systemic infection in a cat, affect several organ systems, and often leads to severe, possibly fatal, illness. Clinical signs can include:

- Lethargy,
- Loss of appetite
- Fever
- Acute onset respiratory illness (e.g., dyspnea, tachypnea, or oculonasal discharge)
- Neurologic illness
    - Neurologic signs are acute and rapidly progressive and mimic those of rabies; they include ataxia, paralysis, seizures, and cortical blindness/chorioretinitis

History

Owners who present cats with illness compatible with influenza should be asked about all possible exposures. Obtain a thorough diet history (including any consumption of raw

dairy, raw meat, or raw pet foods), indoor vs outdoor status, proximity to dairy and poultry farms, and contact with wild birds or other animals.

Treatment:

There is no treatment that has been shown to be effective to treat influenza in cats. Oseltamivir ("Tamiflu") is considered part of the first line of defense in human influenza, but it is not approved for use in animals, and infection may not be readily detectable early enough in its course for oseltamivir to be effective. Overuse or inappropriate use of oseltamivir could create influenza drug resistance.

Management of Index Case and Contacts

Any detection of Influenza A in a cat is highly unusual and strongly indicative of H5. Detections of Influenza A in a cat will trigger a public health response, and the public health investigation should not be delayed while awaiting confirmatory H5 testing. If Influenza A is detected, local public health will contact your clinic to gather more information.

Index Case – Infected Cat

- Cats are typically dead-end hosts for influenza, but there have been cases of transmission to humans after prolonged, unprotected contact (outbreak of H7N2 in shelter cats). The amount, time period, and modality of virus shedding, and probability of transmission of the virus to people or other animals, are unknown. Hospitalized cats with influenza-like illness should be isolated in cages/wards or at least separated from other cats.

Contacts – Animals

- The potential for cat-to-cat transmission of influenza viruses remains unknown. Infections in household cats are more likely a result of coincidental exposure to the same food source (e.g., raw pet food, raw milk) as the index cat.

Contacts – Humans

- Veterinarians and veterinary staff who will have ongoing contact with the index cat while it is ill should wear appropriate personal protective equipment (PPE), including:
    - NIOSH approved respirators (N-95)
    - Disposable gloves
    - Safety goggles or a face shield
    - Disposable or dedicated gowns

- Individuals should consult with their health care provider if they have any questions or concerns about their own health or develop symptoms following exposure to an infected cat.
- Staff who have had contact with an infected cat should report their contact to their local public health department and self-monitor for flu-like symptoms (fever, headache, myalgia, malaise) for ten days following the last contact with the cat.
- Additional guidance is available from the CDC: Considerations for Veterinarians: Evaluating and Handling of Cats Potentially Exposed to Highly Pathogenic Avian Influenza A(H5N1) Virus | Bird Flu | CDC

Guidance for Pet Owners

Humans rarely become infected with influenza A(H5) (i.e., bird flu), but those who interact with infected animals are at higher risk. People can be infected with bird flu when enough virus gets into a person's eyes or nose. It is unknown whether a person can be infected through inhalation. Individuals should consult with their health care provider if they have any questions or concerns about their own health.

Pet owners who have concerns about their pets' health after a possible exposure to avian influenza should contact their veterinarian. Pet owners who suspect their cats may have bird flu should inform their veterinary clinic **before arriving** so the veterinary team can prepare to handle the cat in a manner that reduces risk of transmission to veterinary staff, other clients, and their animals.

Owners can help prevent bird flu infection in their pets by:

- Avoid feeding their pets raw dairy, raw meat, raw poultry, and raw pet food diets
- Keeping cats away from livestock, poultry, wild birds, and environments where these animals are present

Owners with sick cats: Owners should limit their cat's contact with people who are at higher risk for severe illness, including children under 5 years of age, adults over 65 years of age, pregnant women, and immunocompromised persons. The number of people who have contact with the cat and its environment (e.g., litter box) at home should be limited, and persons should wear a mask and practice good hand hygiene after touching their cat. All household members should monitor themselves for signs of influenza-like illness for at 10 days after their last contact with the ill cat and report any illness to their health care provider.

H5 Testing Options for Felines

The California Department of Public Health (CDPH) and the UC Davis California Animal Health and Food Safety (CAHFS) Laboratory request that all specimens from felines for influenza/H5 testing be routed through local public health departments, commercial

diagnostic laboratories, or academic institutions as outlined in the 3 testing scenarios below. Please note that not all local public health departments/laboratories are able to test specimens from veterinary patients.

Scenario 1: Neurologic cats that die or are euthanized may be submitted to your local public health laboratory for rabies rule-out testing and follow up Flu A testing if appropriate as outlined below:

Step 1	Follow your standard protocol for submitting deceased cats for rabies testing.
Step 2	Complete the Feline Influenza Test Request Form and include it with your submission.
Step 3	Neurologic cats that died or were euthanized will first be tested for rabies.
Step 4	If positive for rabies, rabies protocol will be enacted. Specimen will not be tested for Flu A.
Step 5	If negative for rabies and the cat meets criteria for Flu A testing, swabs from the brain will be screened for Flu A at the local or state public health laboratory. Flu A positives at local public health labs will be forwarded to the CDPH Viral and Rickettsial Disease Laboratory (VRDL) for further virus identification and in-house sequencing. VRDL will route positive samples to the National Animal Health Laboratory Network (NAHLN) network for confirmatory testing at the USDA National Veterinary Services Laboratory.

Scenario 2: Live cats with neurologic and/or respiratory signs may be eligible for testing at a public health laboratory if the cat meets testing criteria.

Step 1	Ensure that the patient meets the public health Flu A testing criteria and that rabies testing is not indicated. If rabies testing is indicated, refer to Scenario 1.
Step 2	If possible, collect a nasal, oropharyngeal, and rectal swab and place them into separate sterile tubes. Do not pool swabs.
Step 3	Complete the Feline Influenza Test Request Form and include it with your submission.
Step 4	Contact your local public health department disease controller for test request, specimen collection instructions, and case report submission instructions.

If testing criteria are met, public health will instruct you on how to submit samples.

Scenario 3: Live cats that do not meet the testing criteria for testing at a public health laboratory

Option 1	Veterinarians may submit samples to a commercial veterinary diagnostic laboratory and request Influenza A testing.

Option 2 Some veterinary academic laboratories in other states have accepted samples from cats for Influenza A upon request. Veterinarians may contact veterinary academic laboratories in other states to inquire if they are accepting samples for Influenza A in cats. There is no comprehensive list of academic laboratories currently offering this service.

Option 3 For animal welfare organizations and shelters, the University of Wisconsin - Program for Shelter Medicine and Community Engaged Care offers H5N1 testing. Testing inquiries may be directed to uwsheltermedicine@vetmed.wisc.edu.

Criteria for Submission Through a Public Health Laboratory:

Domestic animal species submitted by veterinarians for Influenza A testing through a public health laboratory that meet the following clinical **and** history criteria:

1) The cat must have one or more of the following clinical signs (after other possible etiologies have been ruled out)
   - Acute onset respiratory illness (e.g., dyspnea, tachypnea, oculonasal discharge, thoracic radiographic findings consistent with pneumonia).
   - Neurologic illness (acute and rapidly progressive encephalopathy, ataxia, paralysis, seizures, blindness/chorioretinitis)
   - Lethargy, loss of appetite, and fever (especially with neutropenia/leukopenia, thrombocytopenia, and/or hepatopathy)

AND

2) A history of one of the following within the 2 weeks preceding onset of the present illness:
   - Consumption of raw milk, raw meat/egg, or raw pet food
   - Hunting and/or consumption of wild birds or poultry
   - Close proximity to or direct contact with dairy farms or poultry farms with H5 detection
   - Lives in the same household or have frequent contact with a cat presumptive or confirmed H5 infection