



Animals (including the NY Tiger) and COVID-19

This document was compiled with information from the AVMA, CDC and the USDA. Important talking points for our veterinarians are followed by more detailed information about what we do and don't know about domestic and wild animals and COVID-19 as of April 7, 2020.

Important talking points

- This is an ever-evolving situation and the first of its kind. We will continue to receive daily updates from the USDA, the AVMA, the OIE and the CDC.
- The USDA National Veterinary Services Laboratories confirmed SARS-CoV-2 in one tiger in a zoo in New York. **This is the first instance of a tiger being infected with COVID-19.** Samples from the tiger were obtained and tested after several lions and tigers at the zoo showed clinical signs of respiratory illness. Public health officials believe the large cats became sick after exposure to an employee who was actively shedding virus.
- Despite the number of global cases of COVID-19 surpassing the one million mark as of April 2, 2020, we have **only seen examples of two dogs and one cat in Hong Kong, and a tiger in New York, that had positive results of tests for infection.** None of the dogs or cats determined to be positive showed signs of illness consistent with COVID-19. The two dogs and one cat lived closely with one or more people with a confirmed diagnosis and clinical symptoms of COVID-19.
- The USDA and CDC do not recommend routine testing of domestic animals; however, Veterinarians who believe an animal should be tested will contact state animal health officials, who will work with public and animal health authorities to decide whether samples should be collected and tested.
- **Current expert understanding is that COVID-19 is primarily transmitted person-to-person.**
- There have been no reports of **pets or livestock** becoming ill with COVID-19 in the United States. **At this point in time, there is still no evidence that domestic animals, including pets and livestock, can spread COVID-19 to people.**
- Recommendations for pet owners:
 - Animal owners without symptoms of COVID-19 should continue to practice good hygiene during interactions with animals. This includes washing hands before and after such interactions or handling animal food, waste, or supplies.
 - Preparing in advance is key. Make sure to have an emergency kit prepared, with at least two weeks' worth of their pet's food and any needed medications. This is usually thought of for natural disasters and evacuations but can also be helpful if there is a quarantine or self-isolation where an owner can't leave their home.
 - Out of an abundance of caution, and until more is known about the virus, those ill with COVID-19 should restrict contact with pets and other animals, just as they would restrict their contact with other people.
 - If bringing in a pet that has been exposed to a known or potentially positive COVID-19 person, please let the veterinary staff know this when scheduling the appointment.

What we know (detailed)

- On April 5, 2020, the USDA National Veterinary Services Laboratories confirmed SARS-CoV-2 in one tiger in a zoo in New York. **This is the first instance of a tiger being infected with COVID-19.** Samples from the tiger were obtained and tested after several lions and tigers at the zoo showed clinical signs of respiratory illness. Public health officials believe the large cats became sick after exposure to an employee who was actively shedding virus. The zoo was closed in mid-March and the first tiger began showing clinical signs on March 27. All the large cats are expected to recover and no other animals in the zoo are exhibiting clinical signs of disease. USDA and CDC are continuing to monitor the animals, and state animal and public health officials will determine whether other animals, at this zoo or in other areas, should be tested for SARS-CoV-2.
- Despite the number of global cases of COVID-19 surpassing the one million mark as of April 2, 2020, **we have only seen examples of two dogs and one cat in Hong Kong, and a tiger in New York, that had positive results of tests for infection. None of the dogs or cats determined to be positive showed signs of illness consistent with COVID-19.** The two dogs and one cat lived closely with one or more people with a confirmed diagnosis and clinical symptoms of COVID-19. There was also one cat in Belgium that was suspected of having the disease, but no conclusions can responsibly be drawn regarding this cat because of questions surrounding collection and analysis of samples for testing for SARS-CoV-2 and the absence of an evaluation of that cat for other, more common causes for its clinical signs.
- **Current expert understanding is that COVID-19 is primarily transmitted person-to-person.** This supports a recommendation against testing of domestic animals for SARS-CoV-2, except by official order. If domestic animals, including dogs or cats, present with respiratory or gastrointestinal signs, veterinarians should test for more common pathogens and conditions.
- **To date, the CDC has not received any reports of pets or other domestic animals becoming sick with COVID-19 in the United States.** As such, routine testing of domestic animals for COVID-19 is not being recommended by the AVMA, CDC, USDA, or the American Association of Veterinary Laboratory Diagnosticians (AAVLD).
- Because the situation is ever-evolving, public and animal health officials may decide to test certain animals out of an abundance of caution. In the United States, the decision to test will be made collaboratively between local, state, and federal animal and public health officials.
- **A preprint of a research article posted online on March 30, 2020 at bioRxiv has raised public concern that cats and ferrets might be able to be infected with SARS-CoV-2 and transmit the virus to other animals.** A 2003 Brief Communication published in the journal *Nature* during the SARS outbreak similarly provided results of the experimental infection of cats and ferrets with the related virus, SARS-CoV (not COVID-19). **The AVMA emphasizes caution in not overinterpreting the results described in these articles and doesn't extrapolate them to the potential for SARS-CoV-2 to naturally infect or be transmitted by companion animals kept as pets.** The rationale from the AVMA is as follows:
 - Papers published at bioRxiv are **preliminary reports that have not been peer-reviewed. A disclaimer on the website notes papers posted there "should not be regarded as conclusive, guide clinical practice/health-related behavior, or be reported in news media as established information."**
 - Experimentally induced infection does not mirror naturally induced infection. Just because an animal can be experimentally infected with a virus does not mean that it will be naturally infected with that same virus.

- The numbers of animals used in these experiments were very small and the conclusions drawn are based on data points collected from these very few animals—in some cases, as few as two animals were included.
- Only two of six uninfected cats in the 2020 study became infected via transmission of SARS-CoV-2 from experimentally infected cats. Results from so few animals should not be used as conclusive evidence that infected cats can readily transmit COVID-19, particularly under natural conditions.
- A second preprint, posted on April 3, 2020, at bioRxiv, described an investigation into the possibility that cats were exposed to SARS-CoV-2 and mounted an antibody response against the virus during the initial outbreak of COVID-19 in Wuhan, China. **Again, a disclaimer on the bioRxiv website notes papers posted there “should not be regarded as conclusive, guide clinical practice/health-related behavior, or be reported in news media as established information.”**
- **Nothing in these research articles provides conclusive evidence that cats, ferrets, or other domestic animals can be readily infected with SARS-CoV-2, nor do they demonstrate that cats, ferrets or other domestic animals transmit the virus under natural conditions.**
- **We have little to no evidence that dogs and cats become ill, and no evidence that those that may be naturally infected spread SARS-CoV-2 to other pets or people.** However, out of an abundance of caution, it is recommended that those ill with COVID-19 limit contact with animals until more information is known about the virus.

What we don't know

- If domestic or wild animals can spread COVID-19 directly **to** humans.
- Which domestic or wild animals can carry or become infected with the disease.
- Which animals (other than the big cats at the Bronx Zoo) may show clinical signs of COVID-19.

Sources

1. USDA APHIS: https://www.aphis.usda.gov/aphis/newsroom/news/sa_by_date/sa-2020/ny-zoo-covid-19
2. VIN: <https://www.vin.com/members/news/default.aspx?pid=210&id=9580718>
3. AVMA: <https://www.avma.org/resources-tools/animal-health-and-welfare/covid-19>
4. Jianzhong, Shi, et. Al. “Susceptibility of ferrets, cats, dogs, and different domestic animals to SARS-coronavirus-2”