

FAQ ON COVID-19 AND OPERATIONAL K9S

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WHAT IS COVID-19?

- Coronavirus Disease 2019 (COVID-19) refers to the illness that develops from the novel betacoronavirus known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) that emerged in China in 2019.

IS MY K9 AT RISK FROM COVID-2?

- It remains unclear what risk or what role, if any, dogs have in this human disease.
- To date, the collected information from infectious disease experts and multiple international and domestic human and animal health organizations all agree that, at this point, COVID-19 is a **human-specific disease**.
- In general, viruses tend to be species specific, or only cause disease in select species populations. COVID-19 appears to be a *human-specific* disease caused by SARS-CoV-2.

BLUF: Based upon current available knowledge, there is no evidence that even if infected or colonized with SARS-CoV-2 that K9s become clinically sick or develop disease (i.e. develop COVID-19).

CAN SARS-COV-2 INFECT K9S (OR OTHER ANIMALS)?

- Two dogs from Hong Kong are known to have tested positive for SARS-CoV-2. At the time of testing, both dogs were living with their infected owner and both tested only '*weakly positive*' for the same strain of SARS-CoV-2 as their infected human owner. These cases are considered human-to-animal transmission.
- Neither of the two dogs have developed any detectable antibody response to the virus nor any clinical signs consistent with COVID-19. Furthermore, the type of assay used to test these dogs is not specific for isolating whole, intact virus versus only viral genetic material (i.e. RNA). It is undetermined whether the presence of viral genetic material means that the dogs are truly *infected* or only *colonized* (i.e. virus is present but doesn't replicate or cause disease).

BLUF: SARS-CoV-2 may be able *colonize* and/or *infect* dogs; however, it remains undetermined the grade of '*infection*' dogs experience from exposure to SARS-CoV-2 as well as what, if any, risk they pose to humans or other animals.

UPDATE: The first dog to test positive in Hong Kong was a 17-year old Pomeranian with previous underlying heart and kidney conditions unrelated to the SARS-CoV-2. After testing negative for the virus on two subsequent tests, the dog released from quarantine. It died 3 days later, however, it is believed to have passed away from its underlying prior medical conditions and old age, that were most likely exacerbated by the stress of quarantine away from familiar surroundings. The dog was displaying no signs consistent with COVID-19 at the time of death. Further updates to the current cases and future cases involving dogs testing positively SARS-CoV-2 are available at: <https://www.wormsandgermsblog.com/>

IF COLONIZED WITH SARS-COV-2, CAN MY K9 SPREAD THE VIRUS TO OTHER PEOPLE OR OTHER ANIMALS?

- *Colonized*, indicates that the virus is detectable within the host (dog), however, the virus does not replicate or multiply, does not trigger an immune response, and does not lead to clinical disease (COVID-19) within the host. Without the ability to mass produce (replicate) within their host, transmission of the virus to others or in to the environment becomes unlikely.
- Just because your K9 is *colonized* or, even *infected*, with a virus doesn't necessarily mean they are *contagious* or able to transmit the virus to people or other animals.
- Except for the proposed, yet unconfirmed, initial transmission from an animal origin (bat) to a human, all subsequent spread of the virus has been human-to-human, or human-to-animal as proposed with the two dogs in Hong Kong. There are currently no reported cases of humans contracting the virus from dogs.

BLUF: Based upon current available knowledge, there is a low, if any, probability that K9s, even if infected or colonized with SARS-CoV-2, play a significant role in the spread or transmission of SARS-CoV-2 to other animals or humans

HAVE ANY OTHER DOGS TESTED POSITIVE FOR COVID-19?

- As of 22 March 2020, only two dogs in Hong Kong are known cases to test positive for SAR-CoV-2.
- Surveillance tests conducted by veterinary diagnostic laboratories have not detected any evidence of SARS-CoV-2 in samples submitted from thousands of pet dogs and cats; however, these samples were not obtained from pets living with people known to be infected with SARS-CoV-2.
- Further testing of dogs living with infected people is warranted in order to know the true ‘*transmission*’ rate amongst companion animals.

Press release by IDEXX Reference Laboratories, dated 13 March 2020: "*the company has seen no positive results in pets to date of SARS-CoV-2, the coronavirus strain responsible for the coronavirus disease 2019 (COVID-19) respiratory outbreak in humans. IDEXX evaluated thousands of canine and feline specimens during validation of a new veterinary test system for the COVID-19 virus*". <https://www.idexx.com/.../about-.../news/no-covid-19-cases-pets/>

IS TESTING AND/OR SCREENING FOR SARS-CoV-2 AVAILABLE FOR ANIMALS IN THE UNITED STATES?

- Veterinary diagnostic labs have developed assays, similar to those used in people, to test dogs for SARS-CoV-2; however, these tests are currently used for surveillance purposes only (e.g. getting a baseline of the presence of SAR-CoV-2 in the ‘*normal*’ population).
- Commercial tests to screen dogs are not currently offered in the United States. Since COVID-19 is considered a human-specific disease, and attempting to test a potentially infected animal places veterinary personnel at risk of exposure, at this time, experts do not recommend screening asymptomatic pets for the SARS-CoV-2 virus. However, since this is an ever-evolving situation, public and animal health officials may elect to start testing certain animals in the future.

<https://www.idexx.com/en/veterinary/reference-laboratories/coronavirus-diagnostic-update/>

<https://www.antechdiagnostics.com/news>

ARE K9s IMMUNE FROM SARS-CoV-2?

- Whether K9s are immune to SAR-CoV-2 also remains unknown. At the time of writing this article, the only two dogs that tested positive for SARS-CoV-2 had not developed antibodies to SARS-CoV-2; presence of antibodies indicate one-arm of an immune response. There are a few possible reasons for the lack of detectable immune response, either:
 - The virus is primarily or predominantly a *human-specific* virus and does not trigger a reaction or stimulate an immune response in dogs (no immunity required), OR
 - Testing took place too early in the stage of infection. Typically, it takes at least two weeks (sometimes longer) to develop a significant immune (antibody) response to a bacterial or viral infection. In order to fully evaluate the immune response in the two SARS-CoV-2 positive dogs requires evaluating serum antibody levels at least 2 weeks after their initial testing.

CAN I INTERACT WITH MY K9 IF I DO NOT HAVE SARS-CoV-2 OR COVID-19?

- YES. Per CDC guidelines, if you are not ill with COVID-19, you can interact with your K9 as normal (walking, feeding, playing, etc.).
- Practice good hygiene during those interactions and ensure:
 - Wash hands before and after handling or touching.
 - Keep your K9 well-groomed.
 - Clean and disinfect your K9’s food & water bowls, bedding material, and toys on a regular basis.

HOW DO I MAKE PREPARATIONS FOR MY K9 IF I GET SICK WITH COVID-19 OR HAVE TO SELF-QUARANTINE?

- Preparing in advance is key. In case you become infected with the COVID-19 virus and have to self-quarantine, isolate, or hospitalize, ensure that you:
 - Have an emergency kit prepared, with **at least two weeks'** worth of your K9's food and any needed medications;
 - Designate a care-taker and have a plan of action in place to ensure care is provided for your K9.

WHAT SHOULD I DO WITH MY K9 IF I TEST POSITIVE FOR SARS-CoV-2 AND HAVE COVID-19?

- Although there have not been any reports of companion or other animals becoming sick with COVID-19 and there is no evidence that indicates animals play a significant transmission role in this human disease, experts still recommend that people who are sick with COVID-19 limit contact with companion and other animals until more information is known about the virus.
- When possible, if you are sick, receiving medical attention and are under home care and isolation for COVID-19:
 - If your K9 is kenneled and lives at home with you, keep your K9 quarantined within your house in case they have become infected or contaminated with the virus
 - Avoid direct contact with your K9.
 - Designate another member of your household to care for (walk, feed, play, etc.) your K9.
 - If you must maintain primary care responsibility for your K9 then:
 - Maintain good hygiene practices and wear a face mask if possible.
 - Wash your hands before and after any contact or handling your K9, their food, or supplies.
 - Do not allow them to kiss or lick you, and avoid snuggling and petting.
 - Do not share food, dishes, drinking glasses, cups, eating utensils, towels, or bedding with other people or pets in your home.
- Additional guidance on managing pets in homes where people are sick with COVID-19 is available from the CDC (<https://www.cdc.gov/coronavirus/2019-ncov/php/interim-guidance-managing-people-in-home-care-and-isolation-who-have-pets.html>).

IMPORTANT: If you are ill with COVID-19, be sure to tell your physician, public health official and veterinarian that you have a pet or other animal in your home.

IF I AM INFECTED, CAN MY K9'S HAIRCOAT BE CONTAMINATED WITH SARS-CoV-2 AND SERVE AS A FOMITE OR SOURCE OF EXPOSURE TO PEOPLE?

- *Possibly.* Unfortunately, we don't completely know the answer. SARS-CoV-2 is primarily transmitted by contact with an infected person's respiratory droplets (e.g. saliva, mucus droplets in a cough or sneeze, other). A possible secondary exposure may involve touching a contaminated surface or object (fomite) and then touching your mouth, nose, and/or eyes; however, this is not thought to be the main route the virus spreads.
- Based upon current evidence, smooth (non-porous) surfaces (e.g. kennels, bowls, tables, doorknobs, light switches, countertops, handles, other) transmit viruses better than porous/fibrous materials (e.g. clothing, nylon collars or harnesses, canine hair, other). Porous and fibrous materials absorb and trap the virus, making it harder to contract through simply touching the object.
- Generally, coronaviruses do not survive very long outside the host body and are easily killed with some common disinfectants (household bleach). Current evidence suggests that the virus may survive for a few hours, possibly more, on surfaces such as your K9's haircoat. However, since your K9's hair is porous and fibrous, it is unlikely that simply touching or handling your K9 would present a significant exposure risk for contracting SARS-CoV-2.

BLUF: It remains unclear whether your K9's haircoat serves as significant source of exposure to people. Even if contaminated, it is unclear whether the amount of virus that deposits onto your K9's haircoat is even enough to infect a person that comes into direct contact with them.

Best practice: If you or someone in your household is infected, ensure you practice good basic hygiene practices, wear a face mask, wash your hands, and, if possible, avoid contact with your K9, particularly, when you are symptomatic. Further, practice basic hygiene for your K9 by keeping them clean, well-groomed and consider periodically bathing them.

WHAT IF MY K9 IS SHOWING SIGNS OF COVID-19?

- To date, neither of the two dogs that tested positive for SARS-CoV-2 has displayed signs consistent of COVID-19. Although the first dog in Hong Kong to test positive died, at the time of death, it had tested negative for SARS-CoV-2 and was not displaying any signs consistent with COVID-19.
- Similar to people, dogs are also susceptible to other more common types of viral and bacterial respiratory infections that may show flu-like signs (e.g. coughing, sneezing, nasal discharge, lethargy, etc.).
- Canine infectious respiratory disease complex (CIRDC) is a common cause of acute respiratory diseases in dogs. CIRDC is caused by one or more of the following viral and bacterial organisms to include:
 - *Viral pathogens:* Canine distemper (CDV), canine parainfluenza (CPIV), canine adenovirus type 2 (CAV-2), canine influenza (CIV), canine herpesvirus (CHV), canine respiratory coronavirus (CRCoV), pantropic canine coronavirus, canine reovirus, and canine pneumovirus (CnPnV).
 - *Bacterial pathogens:* Bordetella bronchiseptica, Mycoplasma spp., and Streptococcus equi subsp. zooepidemicus one such pathogen is Canine Respiratory Coronavirus (CRCoV).

BLUF: If your K9 presents with flu-like signs, it is more likely due to one of the viral or bacterial pathogens associated with CIRDC rather than COVID-19. Contact your veterinarian to conduct appropriate testing.

WHAT IF MY K9 IS SICK OR HAS A MEDICAL EMERGENCY?

- If you feel your K9 is sick or needs veterinary care for any reason, contact your veterinarian by phone to determine a plan for evaluation and treatment.
- Do not drive directly to your veterinarian's hospital without calling them first. Consider, many veterinary facilities have closed, provide only limited onsite services (e.g. Emergency situations only), and/or are practicing more telemedicine consultations.

WHAT CAN I USE TO DISINFECT MY HOME, VEHICLE, KENNEL AND K9 RELATED ITEMS (COLLAR, LEASHES, BOWLS, ETC.)?

- Most common US Environmental Protection Agency (EPA)-registered household disinfectants are considered effective against COVID-19. The American Chemistry Council's (ACC) Center for Biocide Chemistries (CBC) has compiled an extensive, but not exhaustive, list of products that have been pre-approved by the EPA. This list is available at: <https://www.americanchemistry.com/Novel-Coronavirus-Fighting-Products-List.pdf>
- Additionally, the CDC website provides general recommendations for home and business disinfection to include cleaning and disinfection of hard and soft surfaces and materials. <https://www.cdc.gov/coronavirus/2019-ncov/prepare/disinfecting-your-home.html>.
- Per CDC, *diluted* household bleach, 70% alcohol solutions or EPA-approved disinfectants can be effective against coronaviruses. Regardless the disinfectant used, always:
 - Ensure all products are within their expiration date and are appropriate for the surface / material that you plan to clean and disinfect.
 - Follow the manufacturer's instructions for all cleaning and disinfection products (e.g. *concentration/dilution, application method, contact time, etc.*).
- **"Soft" surfaces (clothing, collars, blankets, etc.)** – Launder items according to the manufacturer's instructions. Use soap and water or appropriate detergent in the **warmest appropriate water setting**. Consider disinfecting with an EPA-registered household disinfectant, but ensure item is rinsed with warm water thoroughly and dried completely; especially, if the item will come into contact with your K9's skin.

CDC GUIDELINES FOR PROPERLY DILUTING AND USING HOUSEHOLD BLEACH INCLUDE:

- Ensure the surface/material you plan to disinfect is appropriate for using bleach on.
- Check to ensure the product is not past its **expiration date**
- Follow **manufacturer's instructions** for proper application (*e.g. concentration, application method and contact time, etc.*).
- **Never mix** household bleach with ammonia or any other cleanser, particularly those containing acids; this can create extremely toxic vapors such as chlorine gas.
- **Clean first** with soap (or a detergent) and water remove gross contaminants and dirt from surfaces prior to disinfecting.
- **Protect yourself** by ensuring proper ventilation and always wear disposable gloves.
- **Dilute** household bleach by either mixing:
 - 5 tablespoons (1/3rd cup) bleach per one gallon of water, OR
 - 4 teaspoons bleach per quart of water.
- **Contact time** - Leave the surface or object that you are disinfecting wetted down with diluted bleach solution for at least 10 minutes prior to rinsing; this contact time ensures complete disinfection (killing of germs) with bleach.

NOTE: The same general guidelines for using diluted bleach are applicable when using other approved EPA-registered household disinfectants.

KEY TAKE-AWAYS

- COVID-19 is a clinical disease caused by the SARS-CoV-2 virus; to date, it is considered a **human-specific disease**.
- The current spread of SARS-CoV-2 is considered primarily **human-to-human** transmission.
- Although, it seems possible that dogs can be colonized and possibly infected with SARS-CoV-2, there is currently no evidence that dogs can spread the disease to people or other animals or that dogs will become clinical sick with COVID-19.
- If your K9 develops flu-like signs, it more likely due to other respiratory pathogens that are more common to K9s. Contact your veterinarian by phone to develop the best plan for testing and treatment.
- Always practice good basic hygiene.

THIS IS AN EVER-EVOLVING SITUATION, WHAT WE KNOW AND PRINT TODAY, MAY CHANGE TOMORROW. PLEASE USE THE REFERENCES PROVIDED TO STAY ABREAST OF THE SITUATION.

STAY SAFE

REFERENCES

The following resources were used to provide the information in this FAQ and serve as a future source for updates regarding COVID-19 and Operational K9s:

- **American Veterinary Medical Association Resources and Guidelines (AVMA) on COVID-19**
<https://www.avma.org/resources-tools/animal-health-and-welfare/covid-19>
https://www.avma.org/sites/default/files/2020-03/COVID-19-What-veterinarians-need-to-know_031620.pdf
- **AVMA FAQ Canine Respiratory Coronavirus (CRCoV):**
<https://www.avma.org/resources/pet-owners/petcare/canine-respiratory-coronavirus-faq>
- **CDC - Animals and Coronavirus Disease 2019 (COVID-19)**
<https://www.cdc.gov/coronavirus/2019-ncov/prepare/animals.html>
- **CDC - Considerations for COVID-19 patients under home care and isolation who have pets or other animals:**
<https://www.cdc.gov/coronavirus/2019-ncov/php/interim-guidance-managing-people-in-home-care-and-isolation-who-have-pets.html>
- **The World Organization for Animal Health (OIE):**
<https://www.oie.int/scientific-expertise/specific-information-and-recommendations/questions-and-answers-on-2019novel-coronavirus/>
- **Veterinary Partner, COVID-19 FAQ for Pet Owners**
<https://veterinarypartner.vin.com/default.aspx?pid=19239&id=9548687>
- **Worm and Germs Blog – COVID-19**
<https://www.wormsandgermsblog.com/>
<https://www.wormsandgermsblog.com/2020/03/articles/diseases/other-diseases/covid-19-testing-animals/>

ADDITIONAL RESOURCES

- **DHS COVID-19 Resource page**
<https://www.dhs.gov/keywords/coronavirus-covid-19>
- **USDA - COVID site addressing impacts to food and pets:**
<https://www.usda.gov/coronavirus>
- **List of state Public Health veterinarians:**
<http://www.nasphv.org/Documents/StatePublicHealthVeterinariansByState.pdf>