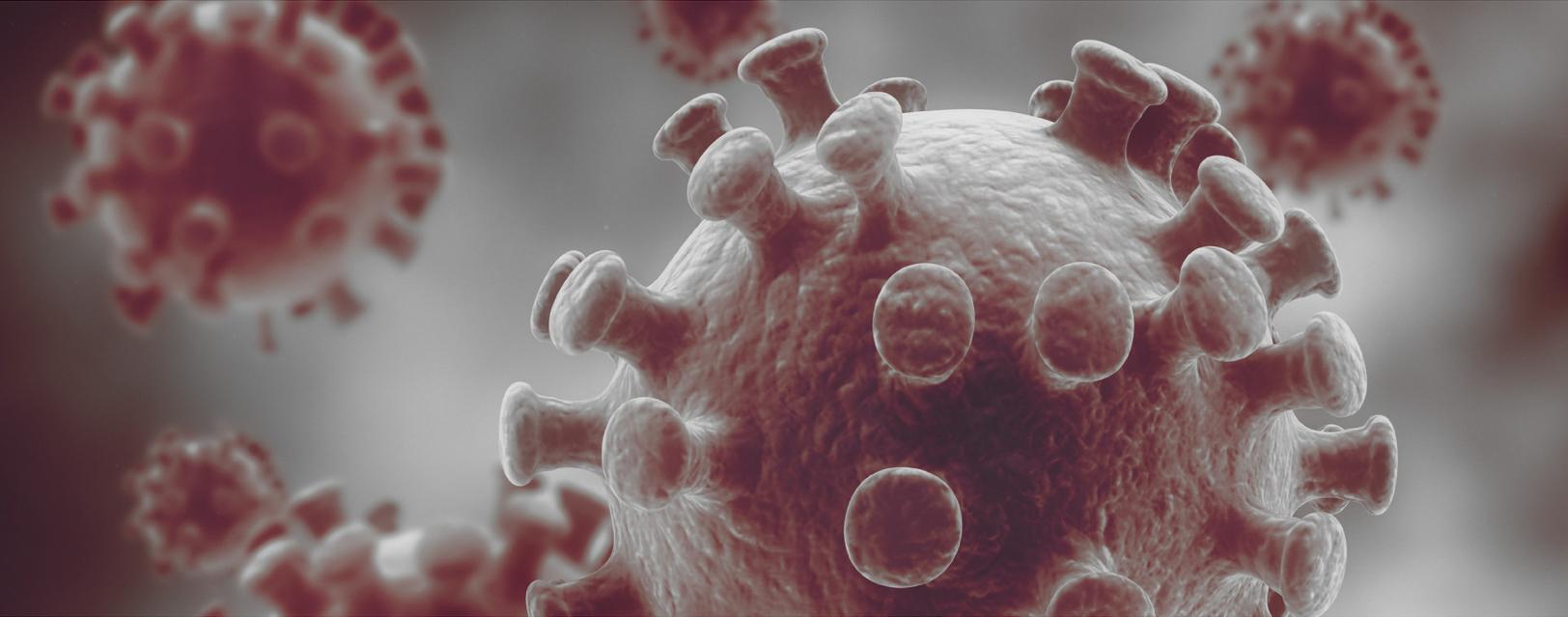


# Canine influenza (dog flu)

## What you need to know



## Influenza viruses 101

Influenza viruses are spherical enveloped viruses in the Orthomyxoviridae family of viruses. They are surrounded by a lipid membrane, embedded in which are glycoproteins – proteins linked to sugars – whose composition determine the virus type and strain. There are three types of influenza – A, B and C.

Influenza A strains belong to the genus *Influenzavirus A*, and can infect humans and animals.

- Common human influenza A strains include H1N1 and H3N2
- Common canine influenza A strains include H3N2 and H3N8
- In wild and captive birds and poultry (chickens and ducks), avian influenza strains H5N1 and H7N2 have caused global outbreaks
- Many avian, human and swine influenza strains can also infect pigs; strain mixing in pigs can give rise to new viruses

Influenza B and C viruses generally infect only humans and do not cause pandemics.

### About Canine Influenza Virus

There are two recognized strains of canine influenza A virus:

- **H3N8** was identified in greyhounds in 2003 and is related to equine influenza.
- **H3N2** was identified in 2015 in an outbreak that originated in birds.

Canine influenza A strains H3N8 and H3N2 are structurally very similar to human influenza A strains, but are not known

to cause disease in humans. However, given that viruses are constantly changing, it is possible that canine influenza strains could change and infect humans. For this reason, the US Centers for Disease Control and Prevention (CDC) and partners monitor canine influenza.

### How is Canine Influenza Virus Transmitted?

The incubation period for canine influenza is one to five days, and clinical signs can appear two to three days after exposure. The virus may be spread during the incubation period, even if there are no clinical signs of illness, and a dog can still spread the virus even if it does not develop the disease.

Canine influenza virus can survive on hands for 12 hours, on clothing for 24 hours, and hard surfaces for up to 48 hours.

There are two main routes of transmission:

- 1. Droplet transmission** via respiratory discharges from infected dogs coughing, barking or sneezing.
- 2. Direct contact** with contaminated hands, clothing, inanimate objects or environmental surfaces.

In the US, several outbreaks of canine influenza have affected thousands of dogs across the mid-West and South, and the virus has been reported in 40 states. H3N8 has been transmitted to cats, and there is evidence that it can be transmitted to ferrets and guinea pigs.

## Protecting against canine influenza

### 1. Vaccination

Vaccination is one of the best ways to prevent canine influenza. Vaccines against the most common strains H3N8 and H3N2 are available for dogs and should be given at the same time as vaccines against other respiratory pathogens such as canine distemper, parainfluenza and canine cough. Many boarding facilities in the US require a canine influenza vaccine prior to boarding.

### 2. Isolation and infection control

Canine influenza is highly contagious, so isolation and infection control are critical to preventing transmission.

- Suspected and confirmed cases should be isolated and evaluated in separate rooms to protect other dogs.
- After evaluation, disinfect walls, floors, and surfaces that the dog or a human may have contacted.
- The air supply in isolation rooms should be separate from other areas, ideally with a wall or door.
- Gloves and gowns are the minimum personal protective equipment that should be worn.
- Separate shoes for the isolation room are preferred. Otherwise, use a disinfecting footbath to disinfect shoes when exiting the isolation.
- After handling animals, staff should practice hand hygiene with soap and water or an alcohol-based hand sanitizer.

### 3. Infection prevention-cleaning and disinfection

Good infection prevention practices can reduce the risk of virus transmission in facilities housing animals, especially dogs. Only a few disinfectants carry a specific EPA-approved claim against canine influenza strains.

The American Veterinary Medical Association (AVMA) notes that *"In veterinary, boarding, and shelter facilities, the canine influenza virus appears to be easily killed by disinfectants commonly used in those facilities, such as quaternary ammonium compounds (eg, benzalkonium chloride), aldehydes, potassium peroxydisulfate, phenols and bleach (1:30 dilution) solutions."*

When selecting disinfectants, first review the product label and other technical information. The label directions will specify the required dilution and the contact time (or wet time), which is the time the disinfectant must stay wet on the surface to be effective. Clean and disinfect surfaces, cages and carriers that come into contact with either dogs or humans who have touched dogs and regularly launder clothing and bedding. Routine cleaning of water and food bowls, and toys with soap and water may help to prevent transmission.

The following Clorox disinfectants carry disinfecting claims against human influenza A virus or avian influenza A viruses with the contact times shown in the table below. Note that these products do not carry specific EPA-claims for effectiveness against canine influenza virus strains.

Disinfectant	Dilution required	EPA Registered disinfection claim	Contact times
Clorox Healthcare® Fuzion Cleaner Disinfectant	None - ready-to-use disinfectant	Influenza A virus, Influenza (H1N1) virus, Avian Influenza A (H1N1) virus	1 minute
Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant	None - ready-to-use disinfectant	Influenza A (H3N2) virus, Influenza A (H1N1) virus, Avian influenza A (H5N1) virus	30 seconds
Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant Wipes	None - ready-to-use disinfectant	Influenza A (H3N2) virus, Influenza A (H1N1) virus	30 seconds
		Avian influenza A (H5N1) virus	1 minute
Clorox® Broad Spectrum Quaternary Disinfectant Cleaner	None - ready-to-use disinfectant	Influenza A virus, Avian Influenza A (H3N2) virus	2 minutes
		Avian Influenza A (H5N1) virus	1 minute
Clorox Healthcare® Bleach Germicidal Wipes	None - ready-to-use disinfectant	Influenza A virus, Avian Influenza A virus	1 minute
Clorox Healthcare® Bleach Germicidal Cleaners	None - ready-to-use disinfectant	Influenza A virus, Influenza A (H1N1) virus, Avian Influenza A (H3N2) virus	1 minute
Dispatch® Hospital Cleaner Disinfectant Towels with Bleach	None - ready-to-use disinfectant	Influenza A virus, Influenza A (H1N1) virus, Avian Influenza A virus	1 minute
Clorox Commercial Solutions® Clorox® Germicidal Bleach <sup>1</sup>	½ cup in 1 gallon water to yield 2400 ppm solution (approx. 1:30 dilution)	Avian influenza A (H3N2) virus, Influenza A 2009 (H1N1) virus, Influenza A virus	5 minutes

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