

# Can Pets Contract Coronavirus from Humans or Vice Versa?



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*Dr. Niels Pedersen, a distinguished emeritus professor at the UC Davis School of Veterinary Medicine and a renowned expert on infectious and immunologic diseases in dogs and cats, addresses the question, "Can pets contract coronavirus from humans or vice versa?"*

The simple answer is as follows: No, you won't get or give the coronavirus to your family pet. Coronaviruses occur in virtually every species of animal, including humans, and are commonly associated with unapparent or transient intestinal and respiratory infections. They tend to be very species-specific and cross-species transmission is uncommon.

The more complex answer goes like this: Coronaviruses have adapted themselves by mutation over a period of 50,000 years or more to virtually every species of animal, including humans. They only cause disease in their new species and tend to remain in that species in whatever genetic form that allows adaptation to their new hosts.

The various coronaviruses have been sequenced and their relationship to each other determined. The common cold-causing coronaviruses of humans (OC43, 229E, and NL63) are in the alphacoronavirus group, along with the intestinal coronavirus of our pet cats and dogs. The more recently humanized strains of coronavirus, MERS, SARS, and Wuhan (2019-nCoV) have jumped over from the beta coronaviruses of bats, possibly by intermediate infection of other animals such as camels and civet cats. Interestingly, MERS and SARS coronaviruses did not quite make the jump from bats to humans and died out.

However, the Wuhan coronavirus appears to have successfully adapted to humans (i.e., it has become humanized) and is, therefore, looming as an even more severe disease problem than MERS and SARS. Viruses that have either not fully humanized, or have only recently adapted to humans, tend to cause much more severe disease, as is the case with the MERS-, SARS- and Wuhan-Coronaviruses.

Although coronaviruses can jump from one host to another, this is a slow process and requires significant genetic change. There is no evidence that coronaviruses of our common veterinary species have entered humans in the recent past or vice versa. However, the tendency for coronaviruses to jump species is an ongoing occurrence and it is possible that a coronavirus from a common pet species such as a cat or dog may enter humans and cause disease sometime in the future. However, if it should ever humanize, it will no longer be a cat or dog virus, but rather a new human virus. The same is true for a coronavirus of humans that decides to change their host species.

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Source:

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