

Equine Coronavirus

The Horse Version Is Intestinal, Prevented By Biosecurity Measures

By Dr. Krista Estell

Coronavirus has been a major news topic worldwide since the outbreak of novel (new) coronavirus disease (NOCOVID-19) was first documented in Wuhan, China in December of 2019. Coronaviruses are a large family of viruses that are known to cause the common cold as well as more severe respiratory disease, fever, pneumonia, and even death. Though the recent coronavirus outbreak is associated with

a novel coronavirus that has not been previously documented in humans, coronavirus infection has been well-documented in humans as well as many different animal species.

Coronaviruses are zoonotic, meaning that some viral strains can be transmitted between animals and people. In-depth investigations of the SARS (severe acute respiratory syndrome) and more recent MERS (Middle East respiratory syndrome) coronavirus outbreaks revealed that these viruses were spread from civet cats and camels to humans, respectively. Different strains of coronaviruses have been documented in domestic animals more commonly found in the United States including cattle, domestic cats, and horses.

Equine coronavirus is a recently described gastrointestinal virus of horses, meaning it may have existed for some time but has only recently been recognized as a specific infection. Though clinical signs are often mild and self-limiting, in some cases equine coronavirus can cause severe disease. The most common clinical signs caused by coronavirus are fever (temperature >101.5 F) and low white blood cell count. In more severe cases coronavirus may cause colic, diarrhea, dehydration, and even neurologic signs.

There is no evidence that equine coronavirus has ever been spread to humans, but immunosuppressed people should take care not to handle horses with fever or diarrhea. Common causes of diarrhea in horses include *Salmonella* spp. and *Clostridium difficile*; both of these bacteria have a strong zoonotic potential.

Your veterinarian can diagnose coronavirus by submitting a sample of your horse's feces for analysis to check for viral particles by polymerase chain reaction (PCR) and by ruling out other causes of fever and gastrointestinal disease.

While many cases can be managed on the farm with the help of your veterinarian, horses with a high fever, dehydration, or diarrhea may need to be referred to a clinic that can provide 24-hour fluid therapy and supportive care.

As with most viral diseases, there is no specific treatment that is effective against coronavirus. Therapy is targeted to control fever and colic pain, treat diarrhea, and prevent laminitis, a complication of diarrhea in horses.



Unlike the type of respiratory coronavirus that affects humans and other animal species, equine coronavirus is spread by fecal-oral transmission: exposure of a healthy horse to virus-laden feces. Viral particles can also be spread by contaminated feed, bedding, mucking equipment, and even the hands and boots of people that have handled an infected horse.

Horses with a fever or diarrhea should be separated from healthy horses until a diagnosis is made and they are no longer showing signs of illness.

In addition to physical separation, horses with a fever or other clinical signs consistent with coronavirus should have their own dedicated stall cleaning equipment. Boots, gloves, and protective outerwear should be worn when sick horses are handled, and these horses should be cared for last, after the healthy horses.

It has been shown that horses can shed coronavirus in their feces up to three weeks after resolution of clinical signs. Quarantine for at least three weeks after the resolution of the last clinical sign or serial fecal PCR tests that are negative for coronavirus are necessary to determine that a horse is no longer shedding the virus.

Equine coronavirus outbreaks have been documented throughout the US, Europe, and Asia. There is no vaccine available for equine coronavirus -- the best prevention strategy is to practice good biosecurity at home and while traveling to shows or trail rides

Smart biosecurity practices while traveling include avoiding shared water, feeding, and grazing areas, and using only your own cleaning equipment. All new horses that are introduced to a property should be quarantined for at least two weeks and have a normal veterinary exam before they turned out with resident horses.

Your veterinarian is your best resource to help you manage all types of biosecurity or infectious disease concerns. In addition, the Equine Disease Communication Center (equinediseasecc.org) is an excellent resource for disease facts and gives up to date information on disease outbreaks by state. The Equine Disease Communication Center was developed by Dr. Nat White, Professor Emeritus of Virginia Tech's Marion duPont Scott Equine Medical Center.

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