

Zoonotic Diseases (or, Can I Catch an Illness from my Horse?)

What is a zoonotic disease?

A zoonotic disease is an infection or infectious disease that is transmissible under natural conditions from another species to a human.

Are there diseases that affect both species, but can't actually be spread by contact?

There are a number of infections and diseases that can affect both humans and animals, but they are usually caused by a slightly different strain of the disease organism in each animal. These are said to be "species-specific" ailments. Influenza is an example; both horses and humans get sick with the "flu," but the disease is caused by a unique organism in each host, and is not contagious between species.

How much risk is there of disease spreading from horses to humans?

While disease transmission from horses to humans is not impossible, the number of infections likely to spread from the equine to the human species is minimal. However, the few diseases that are able to cross species lines can range from merely annoying to deadly. Preventive measures and attention to cleanliness are always the best policies.

What diseases CAN'T be spread from horses to humans?

Eastern equine encephalomyelitis (EEE) and Western equine encephalomyelitis (WEE) can affect both horses and humans, but neither can be spread between those species. WEE and EEE are spread by mosquitoes that take in blood from infected rodents or birds and pass the microbes on to humans or horses. Horses and humans are considered dead-end hosts for the causative agent, with neither species developing a high enough level of infection to be picked up and passed on by a mosquito.

West Nile virus is similar in that horse-to-horse and horse-to-human transmissions are not possible. A mosquito must be the disease vector.

Venezuelan equine encephalomyelitis (VEE) doesn't actually spread from horses to humans, but unlike EEE and WEE, VEE reaches a level in the blood sufficient to be picked up by mosquitoes. Thus a VEE outbreak in an area is a danger to horses and humans, although there is still no direct transmission by contact between the species (must be spread by a mosquito).

A few years ago there was an investigation into the risk of human illness from horse manure and water contamination along hiking and riding trails. Extensive testing failed to show that horses either carried or spread *Cryptosporidium* or *Giardia*, organisms that often cause human digestive tract upsets. Such contamination is more likely to be spread in the feces of wild animals and humans than by horses.

The skin mites that cause equine mange may bite humans, causing an itchy spot, but equine mites can't live in or on human skin, so you can't actually catch mange from your horse.

Strangles, a streptococcal respiratory infection, is extremely contagious between horses, but humans aren't susceptible.

Foot-and-mouth disease and mad cow disease are not found in horses, so of course they can't be spread to humans through an equine route.

Are there some diseases that could theoretically be spread, but usually aren't?

Rabies falls into this category. There are very few if any reports of this occurrence, but it is apparently not impossible. Transmission is by saliva from an infected animal entering a bite wound (broken skin, not just a pinch). Anyone bitten by a horse should thoroughly wash the bitten area, report the bite to local health officials, and follow instructions for disease prevention.

Anthrax spores are widespread in the environment and may be ingested or inhaled. Many species, including horses and humans, are susceptible. The chance of transmission from an infected horse to a human is extremely minimal because a large number of spores must be inhaled or ingested before disease is likely. However, such transmission is not impossible.

What CAN I actually catch from my horse?

A 1994 outbreak of respiratory disease in Australia killed 14 horses and two barn employees who had been in contact with the sick horses. The infectious agent, which had never before been linked to any disease, is now known as Hendra virus. The virus was probably passed to humans in saliva from the infected horses. The host species is a fruit bat native to Australia.

Salmonella bacteria are widespread in the environment, and many of the 2500 known strains can cause illness in both horses and humans. Foals infected with this bacteria develop diarrhea, and caretakers might come in contact with the infectious organism as they handle feces, bedding, or dirty tools. Disinfection of equipment, quarantine of sick horses, and frequent handwashing can significantly decrease the danger of infection.

Ringworm, a fungus infection of the skin, affects many animals. Handling a horse with ringworm creates a risk for human infection; frequent handwashing can minimize the risk.

So, what's the take-home message on zoonotic disease?

It's highly unlikely (though not impossible) that your horse will pass on any disease to you or other humans. Common-sense measures—preventive vaccinations, quarantine of sick horses, disinfection of equipment, and thorough hand-washing after barn visits—can minimize the chance of possible infection, both horse-to-human and horse-to-horse.