



Adenovirus Hemorrhagic Disease (AHD)



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What is AHD?

AHD is caused by a virus within the Adenoviridae family. There are a variety of adenoviruses that can infect different species – both wild and domestic. AHD of deer is caused by *Odocoileus* adenovirus (OdAdV) and was first discovered in black-tailed deer in California in 1993. Cervids (mule deer, white-tailed deer, elk, moose) and pronghorn are all susceptible to the disease; however, mule deer appear to be more severely affected. AHD is similar to other hemorrhagic diseases including Bluetongue and Epizootic Hemorrhagic Disease.

What are clinical signs in deer with AHD?

Adenovirus can manifest in both an acute systemic form and a chronic localized form. Acute clinical signs of AHD include: difficulty breathing, foaming/drooling from the mouth, diarrhea (sometimes bloody), and seizures. This disease course is often rapid and fatal. Chronic signs include ulcers and abscesses in the mouth/throat which can eventually lead to weight loss and death. Fawns are more susceptible to AHD and experience much higher mortality than adults.

How is it spread?

Adenovirus can be spread through direct contact between deer and contact with bodily fluids (saliva, feces, urine). Transmission through airborne routes, contaminated water, and contaminated equipment may also occur.

How can it affect mule deer in Wyoming?

This disease was first documented in Wyoming in 1999. Since that initial discovery, wildlife veterinarians have routinely seen a few cases most years, until a spike in the disease was seen in 2015. With the help of improved diagnostic tools, disease experts have documented 18 cases of Adenovirus in 2015 alone. It is unknown if this increase is due to improved diagnostics or the disease itself (perhaps both). AHD in Wyoming could lead to potentially significant localized mule deer losses in some areas. There is currently no data to suggest that AHD is responsible for long term mule deer declines in Wyoming; however, this disease is still poorly understood and further research is needed.

Can it be transmitted to Humans or livestock?

There is no known evidence that adenovirus can be transmitted to humans. Preliminary research suggests that OdAdv is not transmitted to cattle or domestic sheep.

What can be done for management of AHD?

There is no treatment or vaccine for AHD. We can take actions to help prevent AHD including: disposing of carcasses properly, not moving infected, live deer to new areas, and preventing aggregation of deer near artificial feeding or water sources. Additionally, individuals handling mule deer should take precautions to limit potential for disease spread (wear gloves, clean equipment between deer).

What to do if you see an animal with signs of AHD?

To help further our understanding of this disease and its distribution across the state, we request that you report cervids or pronghorn displaying any of the clinical signs listed above to your local WGFD wildlife biologist, game warden, or WGFD office. For additional information on AHD or any other wildlife disease, please contact the WGFD Wildlife Health Laboratory at 307-745-5865.