CHRONIC WASTING DISEASE-FREQUENTLY ASKED QUESTIONS FOR PUBLIC HEALTH PERSONNEL

What is chronic wasting disease?

Chronic wasting disease (CWD) is a chronic and fatal neurodegenerative disease that affects cervids, including mule deer, white-tailed deer, elk and moose. This disease belongs to a family of disease referred to as Transmissible Spongiform Encephalopathies (TSEs). Research suggests that TSEs are caused by an infectious, misfolded protein called a prion. Prions appear to convert normal proteins into an abnormal form that accumulates in the brain, destroying normal tissue, and eventually causing the brain to have a "spongy" appearance.

Where is this disease found?

Chronic wasting disease was originally documented in a Colorado wildlife research facility in 1967. Since 1967, CWD in free-ranging cervids has spread to include 21 U.S. states and two Canadian providences. The only documented emergence of CWD in Montana were detected in a captive game facility near Philipsburg, MT in 1999. That facility was depopulated and has remained vacant. FWP started surveillance for CWD in wild cervids in 1998. To date, no cases of CWD have been detected in free-ranging wildlife in Montana.

How does the disease spread?

Chronic wasting disease is thought to be transmitted through direct animal-to-animal contact and/or through the consumption of contaminated food and water. Infected animals accumulate prions throughout their central nervous system and lymphoid tissues and shed prions in their saliva, urine, and feces. Prions can remain stable in the environment for years and can be ingested by healthy deer, elk, and moose at a later date. Vaccination against prion diseases in animals do not exist.

Is CWD dangerous to humans?

The Centers for Disease Control and Prevention (CDC) has not received any reported cases of CWD infection in people. However, animal studies suggest CWD poses a risk to some types of non-human primates, like monkeys, that eat meat from CWD infected animals or come into contact with brain or body fluids from infected deer or elk. As a precaution, public health officials recommend that people avoid consuming meat from known CWD-infected animals. CWD prions accumulate in the brain, eyes, spinal cord, lymph nodes, tonsils and spleen of infected animals, so these tissues should not be consumed from deer, elk or moose.Hunters are encouraged to take basic precautions when field dressing and processing animals from CWD-infected areas:

- Do not shoot or eat any animal that appears sick.
- Wear protective gloves when field dressing carcasses.
- Wash hands and instruments thoroughly after field dressing.
- Bone out the meat, and avoid cutting through the brain or spinal cord, and minimize handling of nervous tissues (normal field dressing coupled with boning out of a carcass will essentially remove these parts).

Is CWD dangerous to pets?
There is no evidence that chronic wasting disease can be contracted orally by domestic pets/companion animals or livestock at this time. Natural transmission of CWD to North American animals outside the cervid family has not been found.

How can you tell if an animal has CWD?
Animals with CWD cannot be diagnosed based on clinical signs because they are unspecific and mild at the beginning of the disease. Diagnosis is therefore made by testing central nervous system and lymph node tissues. Symptoms of infected animals can include emaciation, excessive salivation, lack of muscle coordination, difficulty swallowing, excessive thirst, and excessive urination. Clinically-ill animals may have an exaggerated wide posture, may stagger and carry the head and ears lowered, and are often found consuming large amounts of water. However, these symptoms don't appear until the terminal stage of the disease. It is important to remember that infected animals may not have symptoms, but can still be shedding infectious prions.

What do I do if a healthcare provider calls regarding a patient who may have prion disease?
TSEs are a reportable condition in Montana under ARM 37.114.203. Through a public health case investigation, potential exposures to both human and animal prions are collected. MT DPHHS will work closely with local public health jurisdictions during these investigations. Sporadic Creutzfeldt – Jakob Disease (CJD) is the only human prion disease identified in Montana. Cases of this illness are caused by a spontaneous mutation of normal prion proteins in the human body. Variant CJD has been linked with consumption of cattle infected with bovine spongiform encephalopathy (BSE), and the majority have been observed in the United Kingdom and France.

The Institute of Pathology at Case Western Reserve University operates the National Prion Disease Pathology Surveillance Center. Cerebrospinal fluid, urine, and blood may be submitted for antemortem testing for direct and indirect markers of prion disease. When submitting specimens, clinical information is requested along with potential exposures to prion disease. Laboratory results will show an estimated probability of prion disease, and testing to confirm prion disease is performed postmortem (brain tissue from biopsies may also be submitted, if available). Resources for healthcare professionals can be found at Prion Resource Center for Healthcare Professionals.

For providers, consultation with infectious disease doctors can be a valuable asset. Questions may arise regarding infection control within facilities, too. Infection control guidelines from the CDC are available at the following URL: Prion Infection Control CDC Guidelines. Please contact DPHHS CDEpi at 406-444-0273 to report potential cases of prion disease or if questions arise.

What do I recommend if someone ate meat from a CWD positive animal? If he or she ate it, can it be spread to other people?
People who consume organs or meat from a CWD positive animal are not considered at risk for contracting CWD. However, new research showed macaque monkeys became infected after oral consumption of infected brain tissue. Because of this new research, people should not eat any animal exhibiting clinical signs of CWD or any animal that acts sick prior to harvesting. There is no post-exposure prophylaxis available.

For the most common human prion disease, person-to-person transmission of CJD (iatrogenic transmission) has been linked to use of contaminated human growth hormone, dura mater and

corneal grafts, or neurosurgical instruments and electrodes. Typical human contact does not spread TSE disease.

References

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