Mississippi Department of Wildlife, Fisheries, and Parks

Chronic Wasting Disease Facts

Chronic Wasting Disease (CWD) is a contagious neurological disease affecting deer, elk and moose. It causes a characteristic spongy degeneration of the brains of infected animals resulting in emaciation, abnormal behavior, loss of bodily functions and death.
CWD belongs to a group of diseases known as transmissible spongiform encephalopathies (TSEs).

What wildlife species are affected by CWD?

Only four species of the deer family are known to be naturally susceptible to CWD: elk, mule deer, white-tailed deer and moose.

Can humans get CWD?

Though many observers try to compare CWD with "mad cow disease", the diseases are distinctly different. Currently, there is no evidence that CWD poses a risk for humans; however, public health officials recommend that human exposure to the CWD infectious agent be avoided as they continue to evaluate any potential health risk.

What preventive measures should hunters take?

Public health and wildlife officials advise hunters to take the following precautions when pursuing or handling deer and elk that may have been exposed to CWD:

- Do not shoot, handle or consume any animal that is acting abnormally or appears to be sick.
- Wear latex or rubber gloves when field dressing your deer.
- Bone out the meat from your animal. Don't saw through bone, and avoid cutting through the brain or spinal cord (backbone).
- Minimize the handling of brain and spinal tissues.
- Wash hands and instruments thoroughly after field dressing is completed.
- Avoid consuming brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals. (Normal field dressing coupled with boning out a carcass will remove most, if not all, of these body parts. Cutting away all fatty tissue will remove remaining lymph nodes.)
- Avoid consuming the meat from any animal that tests positive for the disease.
- If you have your deer commercially processed, request that your animal is processed individually, without meat from other animals being added to meat from your animal.

Where and how did CWD originate?

The origin of CWD is unknown, and it may never be possible to definitively determine how or when CWD arose. It was first recognized as a syndrome in captive mule deer held in wildlife research facilities in Colorado in the late 1960s, but it was not identified as a TSE until the 1970s.

Scrapie, a TSE of domestic sheep, has been recognized in the United States since 1947, and it is possible that CWD was derived from scrapie. It is possible, though never proven, that deer came into contact with scrapie-infected sheep either on shared pastures or in captivity somewhere along the front range of the Rocky Mountains, where high levels of sheep grazing occurred in the early 1900s.
It may be possible that CWD is a spontaneous TSE that arose in deer in the wild or in captivity and has biological features promoting transmission to other deer and elk.

How does CWD spread?

It is not known exactly how CWD is transmitted. The infectious agent may be passed in feces, urine or saliva. Transmission is thought to be lateral (from animal to animal). The minimal incubation period between infection and development of clinical disease appears to be approximately 16 months. The maximal incubation period is unknown, as is the point at which shedding of the CWD agent begins during the prolonged course of infection.
Because CWD infectious agents are extremely resistant in the environment, transmission may be both direct and indirect. Concentrating deer and elk in captivity or by artificial feeding probably increases the likelihood of both direct and indirect transmission between individuals. The movement of live animals is one of the greatest risk factors in spreading the disease into new areas.

What are the symptoms of CWD?

The most obvious and consistent clinical sign is weight loss over time. CWD affected animals continue to eat but amounts of feed consumed are reduced, leading to gradual loss of body condition. Excessive drinking and urination are common in the terminal stages.
Behavioral changes also occur in the majority of cases, including decreased interactions with other animals, listlessness, lowering of the head, blank facial expression and repetitive walking in set patterns. Excessive salivation, drooling and grinding of the teeth also are observed.

How is CWD detected?

Clinical signs of CWD alone are not conclusive, and there is currently no practical live animal test. Currently, the only conclusive diagnosis involves an examination of the brain, tonsils or lymph nodes performed after death.

Why are we concerned about CWD?

CWD poses serious problems for wildlife managers, and the implications for free-ranging deer are significant:

- Ongoing surveillance programs are expensive and draw resources from other wildlife management needs.
- Impacts of CWD on population dynamics of deer and elk are presently unknown. Computer modeling suggests that CWD could substantially reduce infected cervid populations by lowering adult survival rates and destabilizing long-term population dynamics.
- Where it occurs, CWD may alter the management of wild deer and elk populations, and it has already begun to do so.

- Ultimately, public and agency concerns and perceptions about human health risks associated with all TSE's may erode hunter's confidence and their willingness to hunt in areas where CWD occurs.

Is the meat safe to eat?

Hunters are recommended to not eat meat from animals known to be infected with CWD. Hunters in CWD areas are also advised to bone out their meat and to not consume those parts where prions likely accumulate.

Information from CWD Alliance. www.cwd-info.org Accessed 31 August 2016.

For more information

MDWFP - www.mdwfp.com/wildlife-hunting/deer-program/diseases-and-abnormalities/chronic-wasting-disease.aspx
Chronic Wasting Disease Alliance - www.cwd-info.org
USDA APHIS VS - www.aphis.usda.gov
USGS National Wildlife Health Center - www.nwhc.usgs.gov/disease_information/chronic_wasting_disease/index.jsp
Department of Health & Human Services Center for Disease Control - www.cdc.gov/prions/cwd/index.html