

# CHRONIC WASTING DISEASE

## THINGS YOU SHOULD KNOW



The Tennessee Wildlife Resources Agency (TWRA) has launched a statewide surveillance program to monitor Tennessee's deer and elk populations for the presence of Chronic Wasting Disease (CWD). Each year, when monitoring takes place, successful deer hunters will be asked to volunteer their deer's head for testing at selected deer checking stations. The appropriate tissues will then be collected from the deer heads by TWRA personnel and submitted for testing to the Southeastern Cooperative Wildlife Disease Study in Athens, Georgia. Additionally, TWRA will conduct targeted surveillance of deer and elk that display unusual behavior or appear to be in poor health. Presently, there is no evidence that CWD has entered Tennessee. However, in light of the recent discoveries of CWD in previously unaffected states, TWRA believes that monitoring for this disease is now prudent for the welfare of our natural resources.

### What Is CWD?

CWD belongs to a class of neurological diseases known as transmissible spongiform encephalopathies (TSEs) and is known to infect white-tailed deer, mule deer and Rocky Mountain elk. Other TSEs include scrapie of sheep and goats, transmissible mink encephalopathy, Bovine Spongiform Encephalopathy (also referred to as mad cow disease), and in humans, Creutzfeldt-Jakob Disease and new variant Creutzfeldt-Jakob Disease. All TSEs attack the central nervous system and cause small holes to form in the brains of infected animals. Upon examination under a microscope, nervous tissues from infected animals appear to have a sponge-like appearance, thus the name "Spongiform". Encephalopathy refers to any disease that involves changes to the brain. All TSEs result in the death of the infected animal. While CWD is similar to scrapie and mad cow disease in cattle, there is no known relationship between CWD and any other TSE of animals and people.

### What Are the Symptoms of CWD?

Deer and elk that are infected with CWD may not show any symptoms in the early stages of infection. Experiments have shown that the incubation period, the time between infection and the onset of symptoms, is usually a minimum of 15 months. In the later stages of the disease, however, affected animals will become emaciated (thus, called a wasting disease), may walk in repetitive courses, stagger, stand in a wide-based stance, and appear to be drowsy. Animals may lack control of bodily functions, salivate, drool, and urinate excessively, and carry the head and ears lowered. Infected animals are sometimes found near water and will frequently drink large amounts of water. The late-stage symptoms of CWD are also typical signs of other diseases found in deer such as epizootic hemorrhagic disease (EHD). In Tennessee, EHD is fairly common and has no direct human health implications. Consequently, a deer or elk displaying these symptoms may not necessarily be infected with CWD.

### What Causes CWD?

The exact cause of CWD is not known at this time but most disease experts believe that it is a prion disease. A prion is a mutated protein that causes other normal proteins to mutate and no longer function in a normal fashion. Prions differ from many disease agents such as bacteria, fungi, and viruses in that they do not contain any genetic material and are extremely resistant to breakdown by disinfectants or environmental conditions such as extreme heat or cold. The origin and life cycle of these prions are the target of ongoing research aimed at ultimately developing a management plan to eliminate, or at least contain, the existence of these prions in both wild and captive herds, as well as in the environment.



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## How Is CWD Transmitted Between Animals?

Research studies have found that animal-to-animal transmission is the most likely cause for the spread of CWD, although the exact method of transmission is unknown. In all probability, a healthy animal is first exposed to CWD by coming into contact with saliva, feces, or urine from an infected animal. Animals that are crowded or confined to a small area will have increased exposure to bodily fluids and likely will have an increased risk of contracting CWD when the disease agent is present. The prions that cause CWD appear to persist for long periods of time in the environment, even after infected animals have been removed.

## Where Has It Been Found?

Chronic wasting disease has been discovered in wild deer and elk herds in northeastern Colorado, southeastern Wyoming, western Nebraska, southwest South Dakota, south-central New Mexico, southwest Wisconsin, and west-central Saskatchewan. It has been diagnosed in captive deer and elk herds in Montana, South Dakota, Nebraska, Colorado, Kansas, Oklahoma, Minnesota, Alberta, and Saskatchewan. Presently, **CWD has not been found in Tennessee** or anywhere in the Southeast.

## How Are Animals Tested for CWD?

A definitive diagnosis of CWD cannot be made based solely upon observations of an animal's behavior or body condition. Many diseases share the same outward signs shown by CWD infected animals. Furthermore, an infected animal may actually appear to be in excellent health due to the long period between infection and the onset of symptoms. Currently, the only reliable test for CWD involves microscopic examination of a specific region of the brain for accumulation of the disease agent. To conduct this test, the animal must first be deceased. There is currently no accepted test for live animals. A tonsil test has

been developed for diagnosis of CWD for living animals, but it has not yet received approval for widespread use. Furthermore, this type of test would not be practical for intensive testing of wild populations.

## If My Deer Is Selected for Testing, When Will I Know the Results?

Because several states plan to sample hunter harvested deer and only a limited number of laboratories are equipped to test for CWD, TWRA believes that testing could take up to 12 weeks. You may obtain your test results by calling toll free, 1-866-355-5463.

## Can Humans Be Infected With CWD and Is It Safe to Eat My Deer?

There is no evidence that humans can contract CWD by coming into contact with infected animals or by consuming the meat from infected animals. **The Center for Disease Control has conducted an exhaustive study of CWD and human health risk and has stated: "The risk of infection with the CWD agent among hunters is extremely small, if it exists at all."** Additionally, there is no evidence that deer in Tennessee have CWD at this time. However, because we are still learning about this disease, TWRA recommends that hunters take precautions to limit risks, including the use of latex gloves when field dressing deer.

## What Should I Do If I Observe a Deer That Shows CWD Symptoms?

If you observe a deer that displays the characteristics typical of animals infected with CWD, do not disturb, shoot, handle, or consume the animal. Note the exact location, if possible, and call your TWRA regional office immediately.

## TWRA Offices

### West Tennessee - Region I

200 Lowell Thomas Drive  
Jackson, TN 38301 ..... 731-423-5725  
..... 1-800-372-3928

### Middle Tennessee - Region II

Ellington Agricultural Center  
P. O. Box 41489  
Nashville, TN 37204 ..... 615-781-6622  
..... 1-800-624-7406

### Cumberland Plateau - Region III

464 Industrial Blvd.  
Crossville, TN 38555 ..... 931-484-9571  
..... 1-800-262-6704

### East Tennessee - Region IV

3030 Wildlife Way  
Morristown, TN 37814 ..... 423-587-7037  
..... 1-800-332-0900

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