

CWD:

Sample handling & submission at TVMDL



The Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) works with wildlife producers and wildlife/animal health agencies across the country to ensure the health of white-tailed deer, mule deer, elk, red deer, sika and moose through regular Chronic Wasting Disease (CWD) surveillance testing. Both private deer producers and the Texas Parks and Wildlife Department submit cervid samples for CWD testing. Though TVMDL conducts initial testing, if a sample is suspected to be positive, it is shipped to the USDA's National Veterinary Services Laboratory (NVSL) in Ames, Iowa, for confirmation testing.

TVMDL is aware of the impact a positive CWD diagnosis has on Texas' wildlife resources and related industries. Annually, our lab receives approximately 15,000 samples for CWD testing, and this includes surveillance testing for wildlife agencies in Texas and other states. The wildlife caseload is only a fraction of the more than 155,000 cases completed at TVMDL labs each year.

TVMDL protocols are based on sound laboratory biosecurity practices, ensuring the protection and control of and accountability for each specimen brought to TVMDL. These protocols prevent unauthorized access, loss, theft or misuse of all samples entrusted to our agency. Our biosafety protocols are based on the Centers for Disease Control and Prevention's "Biosafety in Microbiological and Biomedical Laboratories (BMBL)" manual. Proper biosafety ensures only authorized personnel access necropsy areas, samples are documented according to standard operating procedures, and control and accountability are adhered to for all specimens.

What happens when a CWD sample is sent to TVMDL?

1. **The sample submission is assigned a unique accession number.** This number follows the submission – whether it is the obex, retropharyngeal lymph nodes or multiple samples such as tonsil, rectal biopsy, etc. – through the laboratory, from receiving until the diagnostic report is released to the submitter and on into storage.
2. Biosafety and **adherence to standardized, validated diagnostic protocols** in each section ensures accuracy and reliability. Diagnostic equipment is cleaned after each use to prevent potential cross contamination.
3. TVMDL performs CWD testing using the **immunohistochemistry (IHC) assay, considered the "gold standard,"** for CWD diagnostics. The IHC is performed on formalin-fixed tissue and detects the abnormal prion protein in both retropharyngeal lymph nodes and obex. Because this testing is done on fixed tissue, the chances of cross-contamination between samples is essentially nil.
4. The **official diagnosis** can be made only by testing the obex and/or the retropharyngeal lymph nodes.
5. If a CWD sample is **considered suspect**, the diagnostic specimens (slides, paraffin block, fixed tissue) from the case are **sent to NVSL for confirmation**.

Since the initial positive diagnosis in a captive deer herd in Texas on July 1, Texas deer producers have voluntarily submitted 81 samples for testing (as of 7/28/15). These deer comprise Tier 1 animals sold or known to be from the infected facility. Of these, testing is complete on 42, and all have "not detected" results.

TVMDL is part of the National Animal Health Laboratory Network, and as such, is a U.S. Department of Agriculture-approved laboratory authorized to perform diagnostics on regulatory diseases, including CWD. We are also accredited by the American Association of Veterinary Laboratory Diagnosticians, meaning our facilities pass routine inspection and review for proper biosafety and security practices. The impact of the work done daily at our labs reaches across the entire \$11.4 billion Texas livestock industry, which includes wildlife.