

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 Chronic Wasting Disease (CWD) susceptible cervid species through surveillance testing. Though TVMDL conducts initial testing, if a sample is suspected to be positive, it is shipped to the United States Department of Agriculture (USDA) National Veterinary Services Laboratory (NVSL) in Ames, Iowa, for confirmation testing.

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. TVMDL is currently offering deer producers the following testing options:

1. Postmortem testing

- a. IHC on obex and medial retropharyngeal lymph nodes
Price for IHC postmortem one tissue is \$40; \$45 for both tissues (recommended)
- b. ELISA on obex and medial retropharyngeal lymph nodes
Price for ELISA postmortem is \$25 for one tissue, \$30 for both tissues

2. Live animal testing (conducted only at the College Station laboratory)

- a. IHC on tonsils, rectal biopsy, or medial retropharyngeal lymph nodes
Price for live animal IHC is \$40 per tissue

NOTE: The following statement will be included on reports of live animal testing results.

Testing of live animals for CWD is currently not an officially approved test under the USDA's CWD program. These results cannot be used to qualify animals for interstate movement or to meet the USDA Herd Certification Program requirements. It is the responsibility of the submitter to ensure that these results are used in accordance with the most current standards and regulations of the Texas Parks and Wildlife Department and the Texas Animal Health Commission for herd-level surveillance for CWD.

What happens when a CWD sample is sent to TVMDL?

1. Each sample receives a unique accession number that follows the submission through the laboratory, from receiving until the diagnostic report is released.
2. Biosecurity 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. If a CWD sample is considered *suspect positive*, the diagnostic specimens (slides, paraffin block, fixed tissue) from the case are *sent to NVSL for confirmation*.

Proper sample preservation and shipment is imperative for an accurate diagnostic result. Depending on test choice, sample preservation varies.

Follow these guidelines when sending samples.

- Complete a TPWD CWD submission form (available on tpwd.tx.gov)
- List official deer identification on all forms & on sample containers

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When submitting samples for IHC:

1. Samples must be fixed in 10% formalin. Antemortem - (retropharyngeal lymph nodes, tonsil biopsy, rectal biopsy) . Postmortem - (obex or retropharyngeal lymph nodes).
 - a. The rectal, tonsil biopsies, or retropharyngeal lymph nodes must be placed in plastic histopathology cassettes. These cassettes are available from TVMDL at a nominal cost to the practitioner or producer. The plastic cassettes should be placed in 10% formalin prior to submission to TVMDL.
 - b. On the cassette, with pencil, write the official deer ID.
2. TVMDL recommends shipping samples by overnight courier or direct delivery to the laboratory.

When submitting samples for ELISA:

1. Obex or medial retropharyngeal lymph node samples must be submitted fresh in a plastic tube or Whirlpack-type plastic container. *Tissues submitted in formalin cannot be tested with the ELISA method.**
2. Upon collection, samples must remain chilled until delivery to the lab. If necessary, samples may be frozen until shipped.
3. Ship sample on cold packs; overnight courier is strongly recommended.

When sending a deer head, remember:

1. Triple-bag all heads individually. If you have multiple deer heads in one shipment container, ensure they are bagged separately.
2. Send the head(s) with cold packs – *not frozen* – and use cold packs instead of ice cubes. The cubes may melt and water can affect the structure of the brain, which may cause an inconclusive test. This is also the reason for *not* freezing the deer heads. If freezing is necessary, we will make every effort to obtain a valid test but the submitter must realize that freezing may decrease the chance of a valid test result.
3. Use absorbent material in the package to prevent leaking.
4. Label each sample bag using an indelible marker; place the same ID on the form.
5. Complete a CWD submission form from TPWD TWIMS site, listing individual deer IDs. Place the forms in a plastic bag. Do not place the form in the bag with the deer head(s).

Call TVMDL for forms and/or instructions when necessary. Visit tvmdl.tamu.edu to download the submission, shipping, or delivery information.

Only laboratories approved by the USDA may perform diagnostic testing for CWD; TVMDL conducts approved live animal testing only at the College Station lab. If a complete deer head is sent for testing there is a \$20 fee to remove the brain stem for testing; an additional \$20 head disposal fee will apply. TVMDL recommends the more cost effective option of two tissue testing, which includes both the obex and medial retropharyngeal lymph nodes. Occasionally, testing one tissue (obex) results in an inconclusive test, which will then result in a second one-tissue test charge to test the retropharyngeal lymph nodes.

Detailed test information and fees are available online. Laboratory professionals are always available to answer questions or concerns regarding testing.