



Sampling and submitting lymph nodes for chronic wasting disease testing

Hunters play a significant role in monitoring for chronic wasting disease (CWD), a slow-moving, fatal neurological disease of deer, elk and moose. Harvested animals can be tested for CWD by collecting the retropharyngeal lymph nodes, which are where much of the infectious protein concentrates in infected animals. Here we'll demonstrate how to extract the lymph nodes needed for testing.

Though there is no evidence CWD is transmissible to humans, some simple precautions should be taken when extracting lymph nodes from deer, elk or moose.

- Wear protective gloves.
- Avoid handling brain and spinal tissues.
- Wash hands and instruments thoroughly after the process is completed.

Lymph nodes can be extracted easily with a field knife, but some other useful tools may include:

- A scalpel
- Tweezers or pliers
- A small sealable bag for storing the samples

Lymph nodes are easiest to find in freshly killed animals because the tissue's texture and coloration will change with time. Extracting the lymph nodes before removing the head from the carcass will ensure they aren't inadvertently discarded.

Begin by positioning the animal with the head and neck upside down on a tailgate or other workable surface (see **Figure 1**).



Figure 1



Next, identify the larynx, or voice box, on the front of the neck. You'll notice a firm edge at the base of the larynx. This is the best location for making an incision (see **Figure 2**). Cutting too closely behind the jaw may leave the lymph nodes in the larger portion of the carcass, making them harder to find.



Figure 2

Make an incision perpendicular to the neck (see **Figure 3**). Cut through the wind pipe and angle downward toward the back of the ears (see **Figure 4**). Widen the incision until you reach the bones connecting the head to the body.



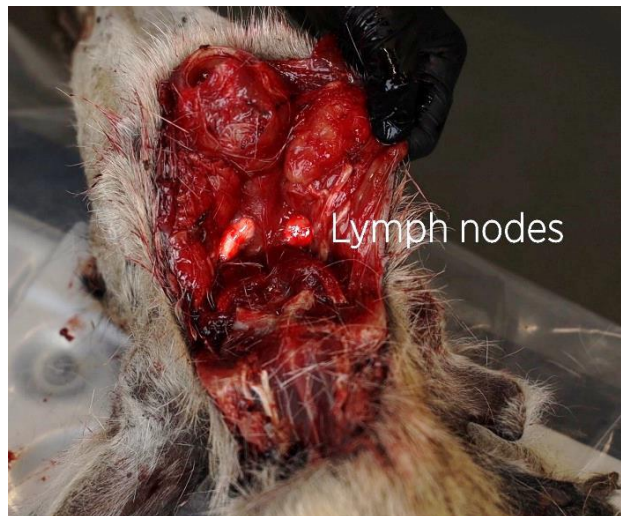
Figure 3



Figure 4



With the incision open, you'll see several organs that will help you find the lymph nodes. At the top are the wind pipe and larynx (**Figure 5**). Below them are two salivary glands (**Figure 6**). At the bottom of the incision are small muscles (**Figure 7**). The lymph nodes are generally found between the salivary glands and the muscles below them (**Figure 8**). Visibility of the lymph nodes may improve by holding the wind pipe up and forward.

**Figure 5****Figure 6****Figure 7****Figure 8**



Separate these tissues by hand or with a knife. Once the lymph nodes are identified, remove them by cutting away the adjoining tissue (see **Figure 9**). Then place them in a sealable plastic bag for storage. They should be kept cool or frozen. CWD testing for moose also requires collecting the obex; contact FWP for more information when collecting CWD samples from moose.



Figure 9

Here is a side-by-side comparison (**Figure 10**) of a salivary gland (**A**) and a lymph node (**B**). Salivary glands are often mistaken for lymph nodes, but they are usually a lighter color, larger in size and have a soft, uneven texture. The lymph nodes tend to be smaller, darker and firmer than the salivary glands, oval shaped and have a smooth texture.

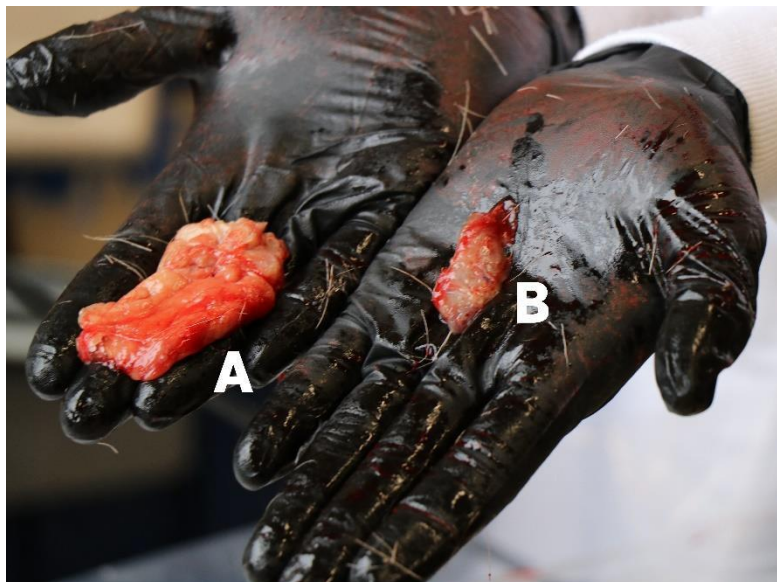


Figure 10

CWD Sample Submission Guide

1. **Collect the lymph nodes according to the instructions above.** If you have a moose, please visit one of the CWD sampling locations or a regional headquarters office for assistance with collecting the brainstem and lymph nodes.
2. **Put the lymph nodes in sealed plastic bag:**
Ziploc bags or a similar brand work best. Double bag the sample and wrap it in a paper towel.
3. **If you want to collect your own samples and drop them off at a CWD Sampling Location to be shipped,** please visit your sampling location of choice where staff will take your sample and collect accompanying data from you at that time, including the latitude and longitude of your harvest location, species, age, sex, and your contact information. You will be issued a CWD ID# at that time.
4. **If you plan to mail the samples directly to our Wildlife Health Lab in Bozeman, please follow the instructions below.**
5. **Please fill out the [Online Hunter Harvest Submission Form](#) and follow the associated directions for labeling your samples.** Your samples must be bagged and labeled to be testable. Please consider adding your name and phone number on the outside of the sample bag, too. You will receive an email that confirms your submission and assigns a unique CWD number that will be used to track your test results. Results will be [available online](#) within 3 weeks. Be sure to record the location of harvest as accurately as possible. Samples without location information will not be tested. **Samples without location information will not be tested.**
6. **Shipment:**
Place the bagged samples and a cold ice pack in a small box or shipping envelope and send via your choice of postal carrier. **Do not freeze water in a Ziploc bag to use as a cold pack. It will leak and carriers may not deliver a leaking package.** We recommend using a carrier that will deliver your samples within 24-48 hours to prevent the samples from rotting. Please try to ship your samples on Monday, Tuesday or Wednesday of each week, and avoid shipping on holidays, to prevent the samples from sitting over the weekend.
7. **Send to:**
Montana Fish, Wildlife & Parks
ATTN: Wildlife Health Lab (CWD)
1400 S. 19th Avenue
Bozeman, MT 59718
8. There is no cost for the test.