Guide for Collecting Tissues for TSE Testing

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Three tissues are necessary for screening deer and elk for chronic wasting disease. Those tissues are obex, tonsil, and retropharyngeal lymph node.

Figure 1 depicts how to remove the head from the neck. The knife should be advanced through the "throat-latch" area, entering one side of the throat at the base of the ear and directing it to the base of the opposite ear. In order to keep the knife from dulling, always try to cut from the inside-out, thus avoiding cutting hair. This will gain access to the first vertebrae. The portion of the skull that the first vertebrae articulates with is called the occipital condyles.

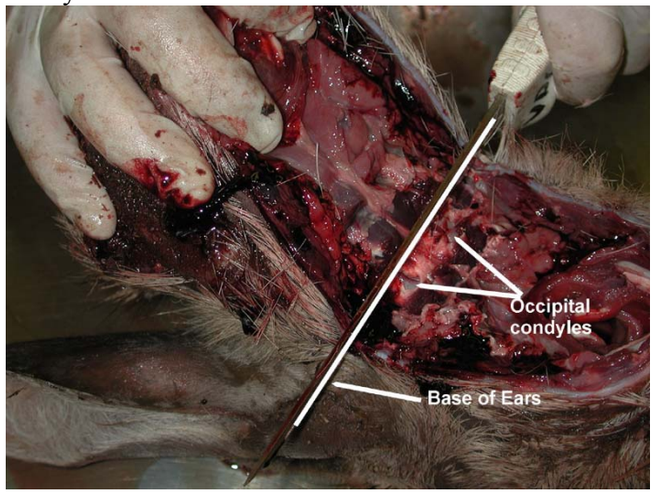

Figure 1

Figure 2 depicts another view of the same cut to remove the head from the neck. This cut does not have to extend throught the neck. Just deep enough to completely expose the spinal cord. Once exposed, the spinal cord can be severed.

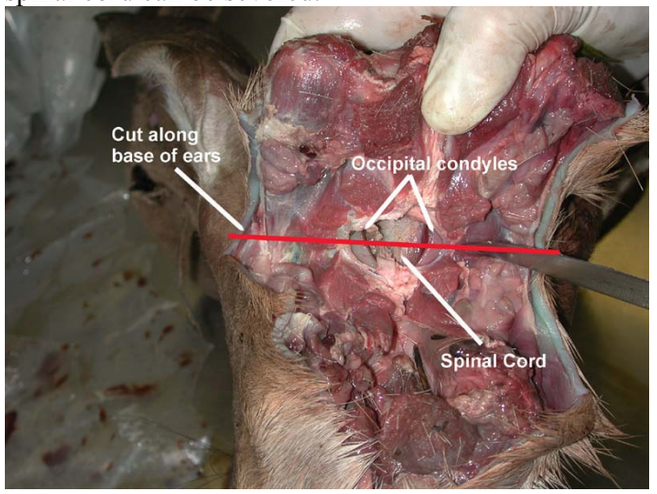

Figure 2

Figure 3 shows where to begin cutting cranial nerves that branch off the brainstem. The scissors should be advanced forward along each side of the brainstem, cutting the nerves and any attachments of the dura mater to the brainstem. The scissors should also be advanced on the top and bottom surfaces of the brain stem.

A tool (either a modified spoon or spatula) can then be advanced into the skull over the brain stem approximately 2 inches to separate the obex from the remainder of the brain. The obex can be identified by the "Y-shape" on the top surface, see figure 4. The redish color has been placed to more easily recognize the critical area.

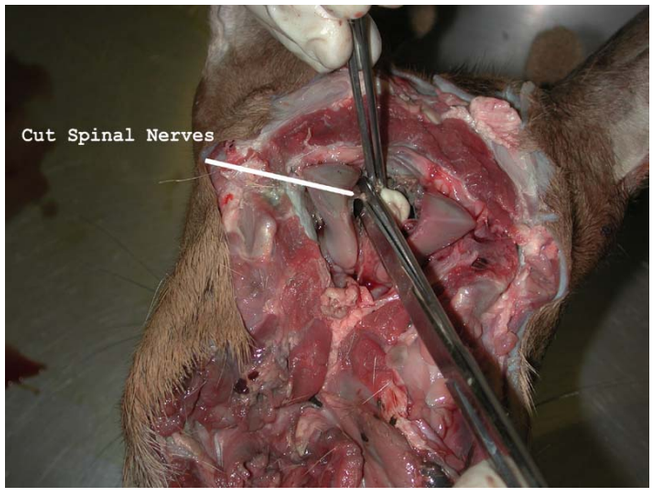

Figure 3

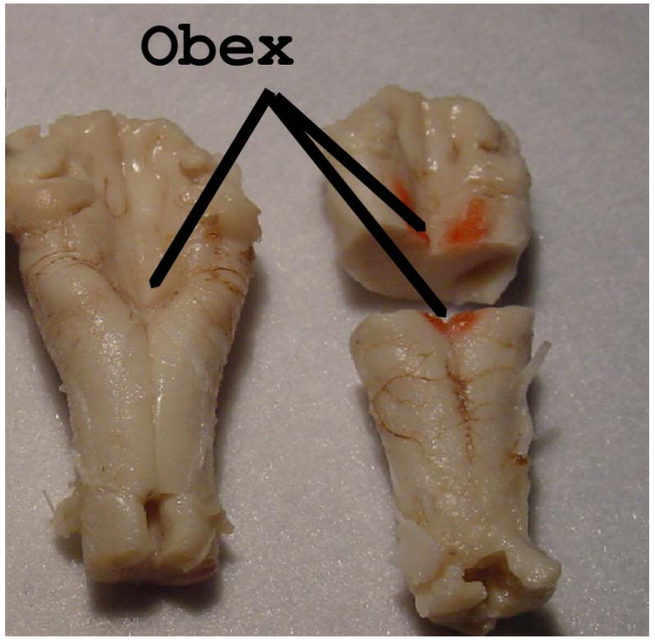

Figure 4

Once the portion of the brainstem containing the obex is removed, the next step is to expose the tonsilar crypts. This is done by making a stab cut extending from the epiglottis, forward to just anterior to ramus of the mandible and reflecting the base of the tongue forward. The tonsilar crypts, depicted in figure 5, are located on the roof of the mouth in the palate.

A second deeper cut is made by advancing the knife forward from the occipital condyle to the tonsilar crypt. This cut will expose both the retropharyngeal lymph node and the tonsil, figure 6. They may be located on either side of the cut.

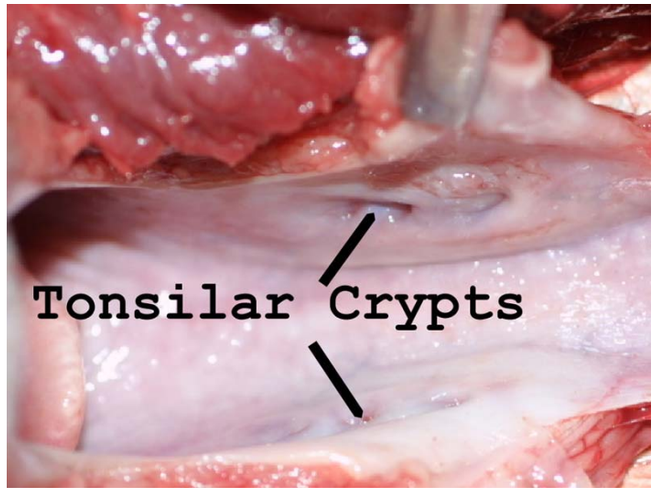

Figure 5

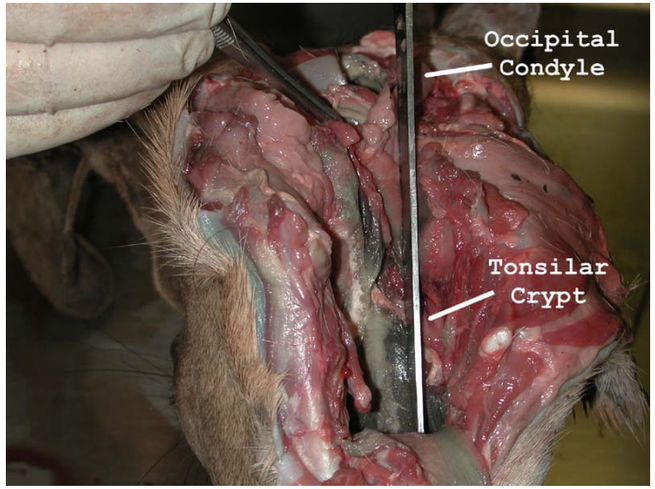

Figure 6

After a retropharyngeal lymph node and tonsil are exposed, they can be removed with a scissors or scalpel and placed in formalin with the obex.

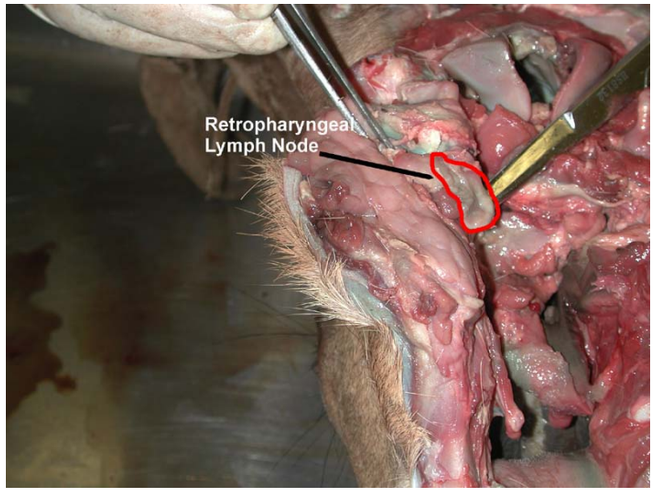

Figure 7 Cortex and medulla of lymph node

The lymph node can be identified by cutting into it to demonstrate a cortex (outer layer) and medulla (inner layer), see figure 7. Size of the retropharyngeal lymph node varies, but it is about 1 x 2 – 2 x 3 centimeters in size.

The tonsil can be identified by the folds observed on the cut suface of the tonsil, see figure 8. The actual tonsil is located just deep to the tonsilar crypts and about 1 x 2 centimeters in size.

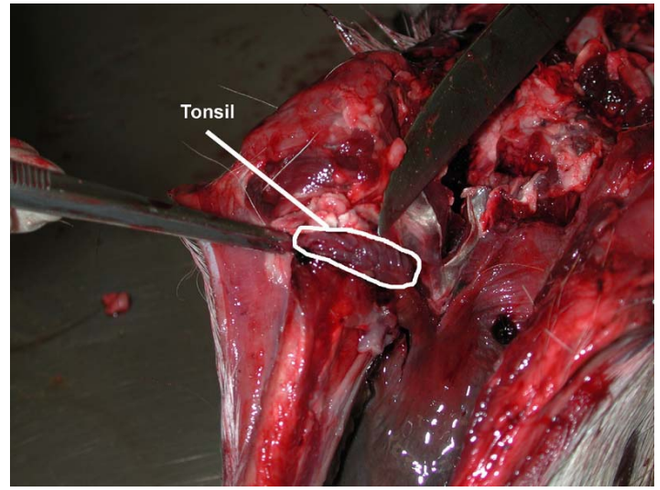

Figure 8. Folds on cut surface of tonsil.