

# ***Michigan Department of Agriculture***

## **Step by Step Sample Collection from Cervids** *for Accredited Veterinarians*

**Bovine Tuberculosis (TB) Surveillance  
and  
Chronic Wasting Disease (CWD) Surveillance**

David Minier, D.V.M.

Angela Butler, DVM

And Sara Ross, LVT

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# Precautions

- Bovine TB is a zoonotic disease; CWD is a disease that may be transmitted through soil:
  - N99 face masks
  - Gloves
  - Coveralls
  - Disposable boots
  - Be sure not to contaminate samples
  - Use scrub in – scrub out procedures

# Bovine TB Slaughter Surveillance

- Veterinarians are required to be certified by the Michigan Department of Agriculture prior to performing bovine TB slaughter surveillance on privately owned cervids
- Examinations may be conducted during necropsy of entire carcasses, or from tissues identified and saved by the owner in advance.
- If the owner is collecting tissues for examination at a later date, the following carcass parts need to be saved in order to allow the complete examination:
  - Head (the head part remaining following removal of the antlers and cape by a taxidermist is still appropriate for examination)
  - Heart and attached Lung field
  - Liver with attached Hepatic lymph node

# Bovine TB Slaughter Surveillance



- Visual inspection of lymph nodes
  - Submandibular
  - Parotid
  - Retropharyngeal
  - Mediastinal
  - Bronchial
- Visual inspection of lungs

# Where do I start to find the lymph nodes?

- Cut skin down midline of neck to anterior point of mandible
- At about the posterior point of mandible, cut skin to between the ear and eye

# Where are the lymph nodes?

- **Parotid** – insert knife into muscle posterior to eye and make cut toward neck
- **Submandibular** – near the posterior point of mandible, usually just toward the midline
- **Retropharyngeal** – just ventral to hyoid bones, left and right
- **Mediastinal** – between esophagus and aorta
- **Bronchial** – at first bifurcation of trachea (left anterior lung lobe)

# Sample Collection

- Only if there is evidence of gross lesions, or the deer was chronically ill, should samples be submitted.
- Bovine TB in Cervids may be:
  1. Pea size bumps in the chest cavity
  2. Gross lesions in the lymph nodes
  3. Lesions in the lungs

# Sample Collection

- For bovine TB testing - Tissues may be kept in refrigeration for up to 7 days. If examination will occur later than 7 days following euthanasia, the tissues need to be kept frozen until thawed for immediate exam. Examination of tissues may be done on farm, at a clinic, or at any other suitable location.

# Bovine TB Suspect Lesions Sample Collection

Properly package and  
send to the MSU  
Diagnostic Center for  
Population and  
Animal Health Lab



Photo Courtesy of MDNR

# Chronic Wasting Disease (CWD)

## Sample Collection: The 10 Step Program

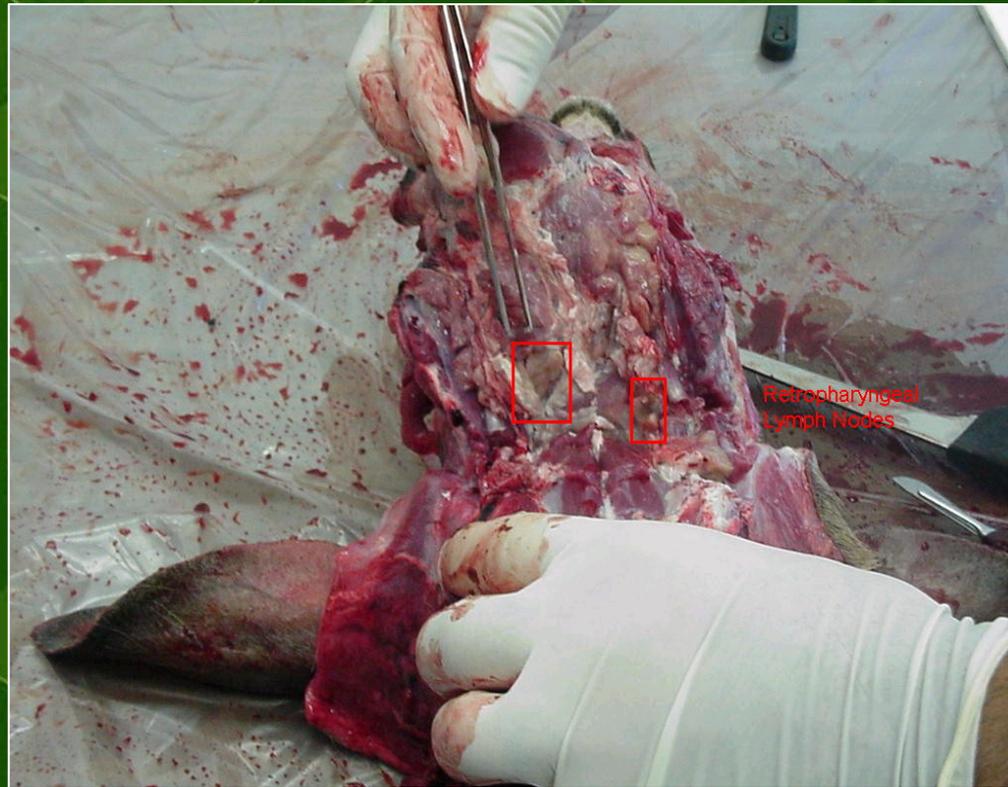


# CWD Collection Step 1



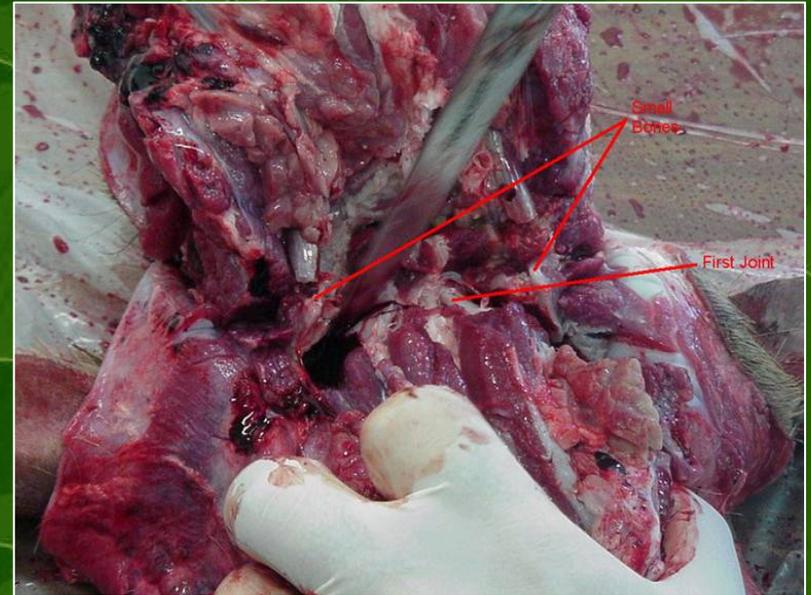
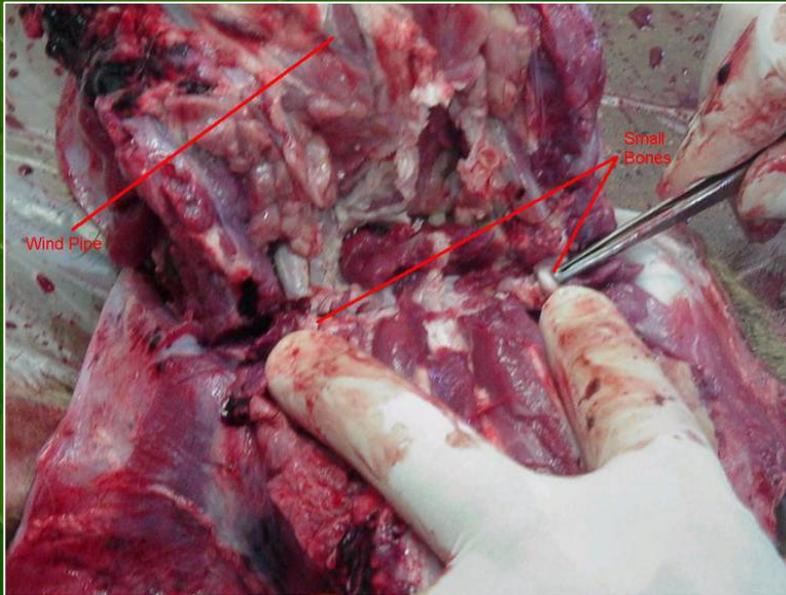
Cut trachea at larynx and retract

# CWD Collection Step 2



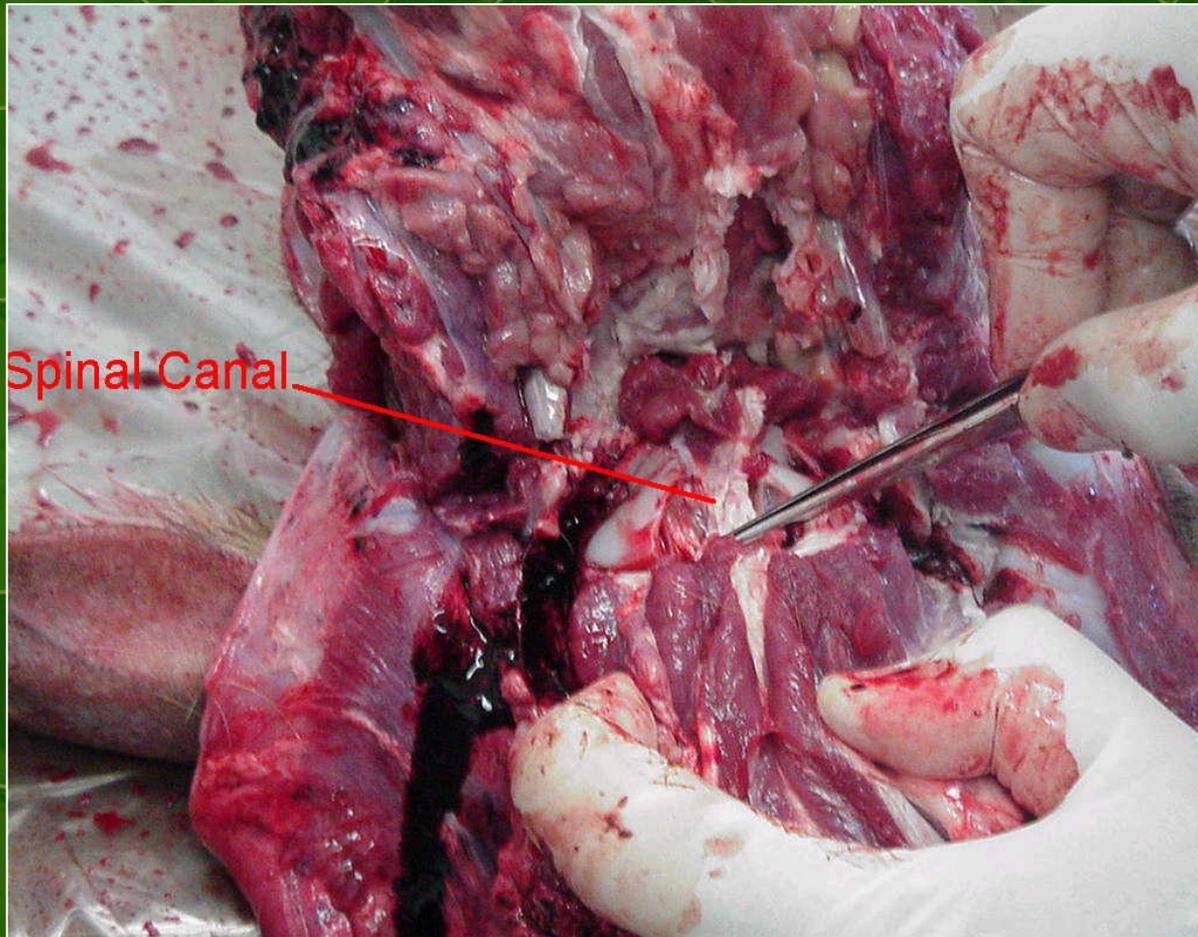
- Remove Retropharyngeal lymph nodes for submission – just ventral to hyoid bones, left and right

# CWD Collection Step 3

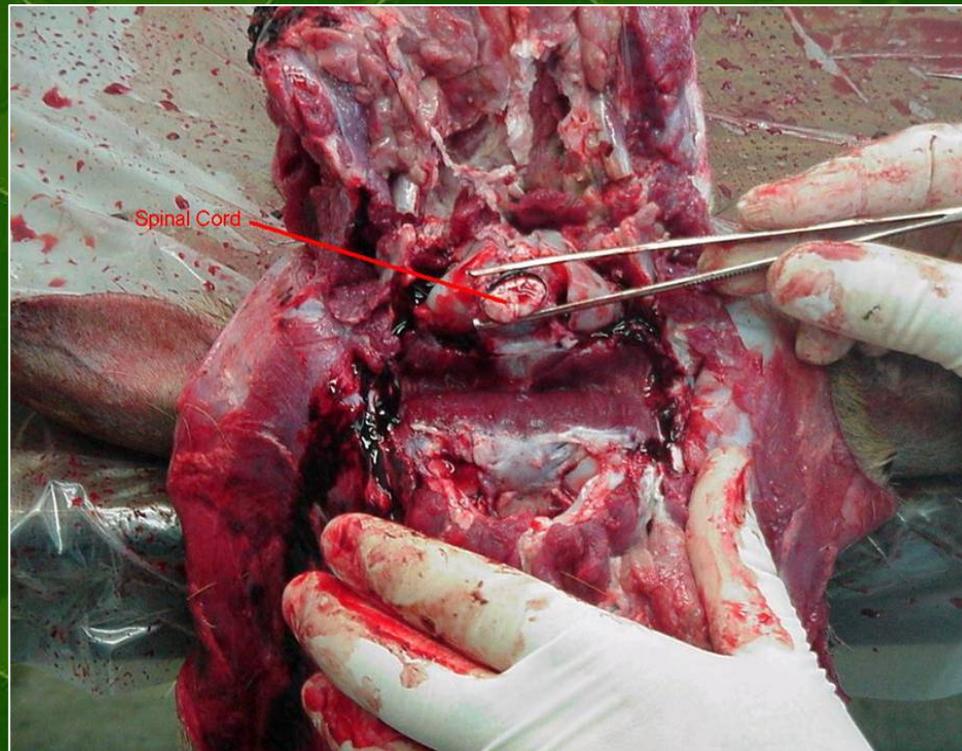


Cut down to atlanto-occipital joint

# CWD Collection Step 4

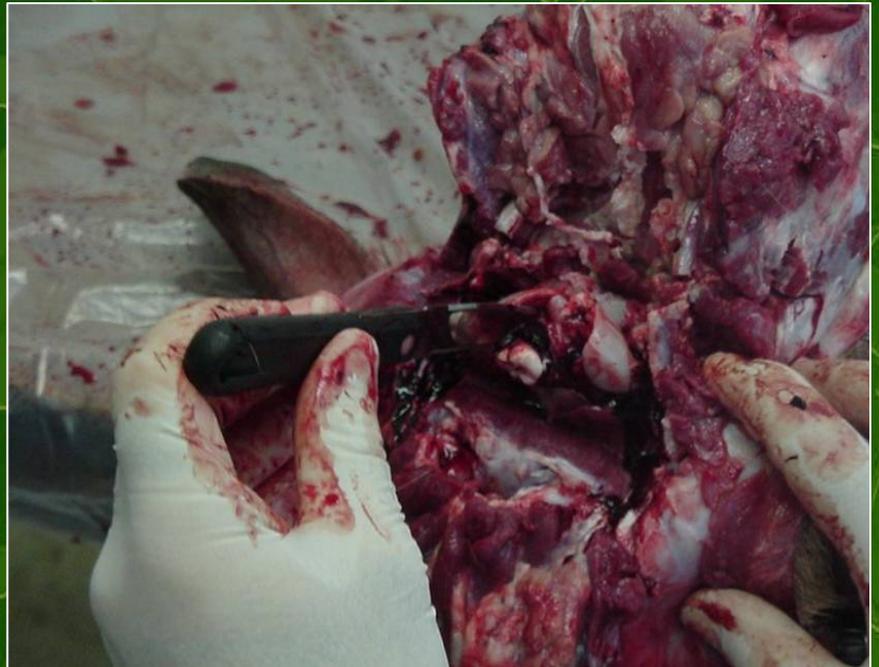


# CWD Collection Step 5



Cut spinal cord

# CWD Collection Step 6



Insert knife and cut cranial nerves

# CWD Collection Step 7



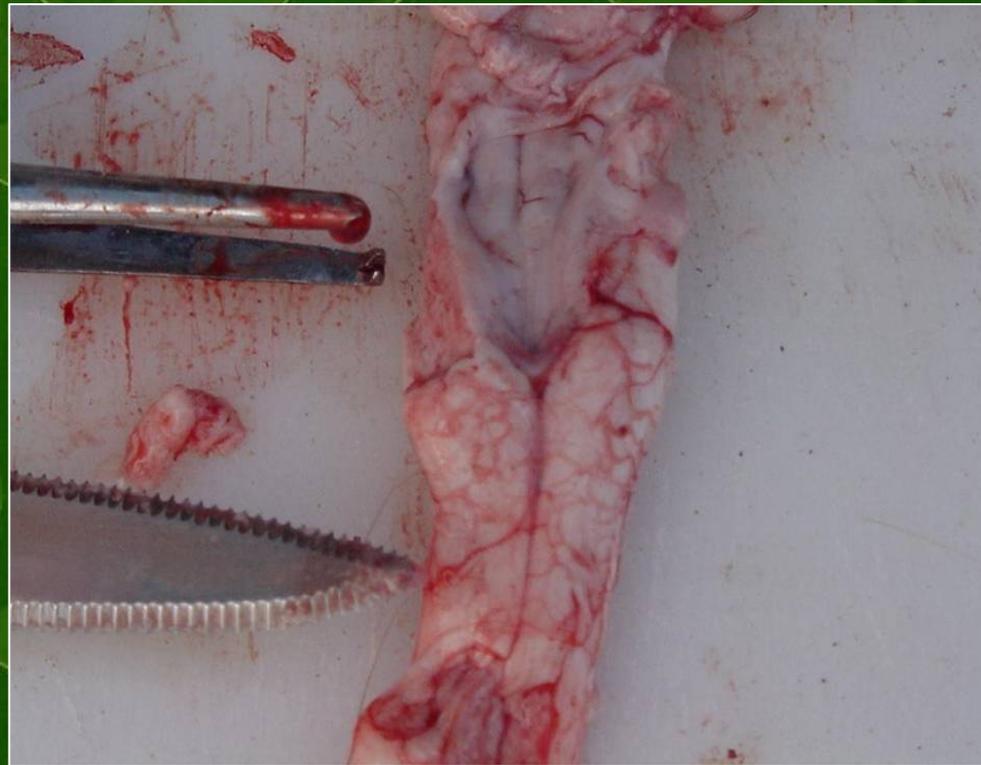
Cut brain stem

# CWD Collection Step 8



Remove brain stem

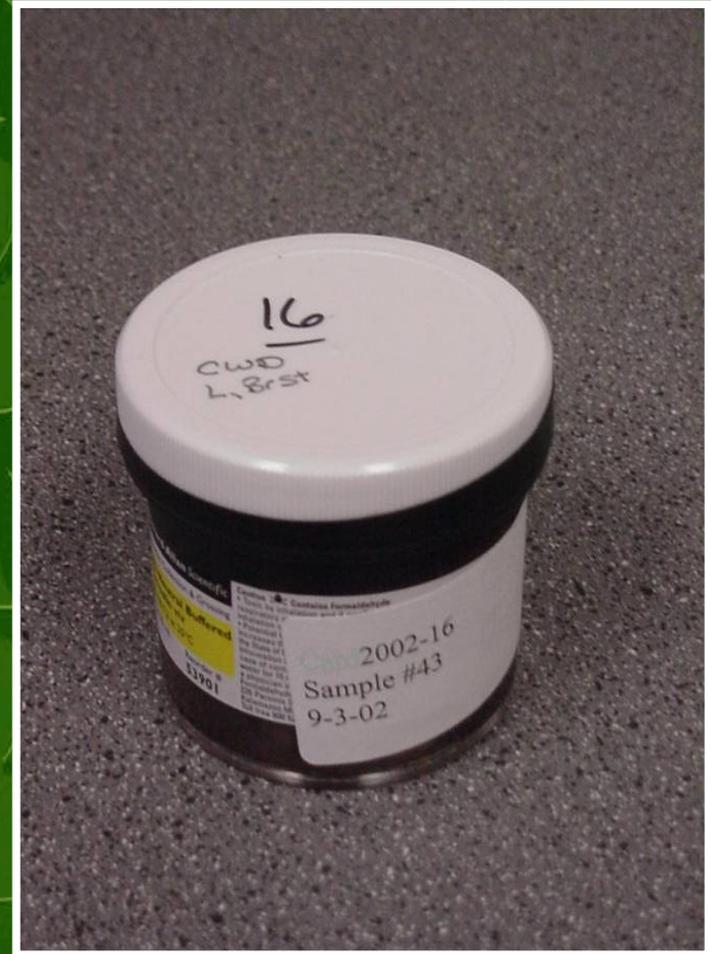
# CWD Collection Step 9



Trim brain stem

# CWD Collection Step 10

Properly package and  
send to the MSU  
Diagnostic Center for  
Population and  
Animal Health Lab



# Questions?



Dr. Butler, MDA Cervid Program Manager:  
1(800) 292-3939