

# Steps for Preparation of Rabies Samples



Arkansas Department of Health

**NOTE: Send bats and small rodents whole.**

**The ADH Public Health Lab will not take live animals.**

The Arkansas Public Health lab accepts the heads or brains of dead animals for rabies testing. Send small mammals, such as bats, mice, and rats, whole. If the animal is larger than the palm of your hand, remove the head before sending. Remove the brains of Livestock and/or farm animals before sending. The Arkansas Department of Health (ADH) will not take whole carcasses or large livestock heads. If the head of the animal is too big for the sample container, simply pack the brain, with the brain stem in the sample container and send it to the ADH lab.

Package all samples into approved rabies containers that are free at each ADH Local Health Unit. A form is required when sending a rabies sample

to the lab. Place the filled out form inside the rabies sample container.

An animal control officer or veterinarian should decapitate animals and prepare samples to send to the lab. All people near such activities should get a rabies pre-exposure shot. There has never been a case of human rabies linked to exposure during animal head removal. However, be careful as the brain, spinal cord, cerebral spinal fluid (CSF), salivary glands, and saliva (fluids) of the animal may have rabies virus. A rabies infection could happen if the virus enters an open cut in the skin or enters mucous membranes (such as eyes, nose, or mouth). Wearing protective gear and using care when using knives and other sharp objects is very important during this step.

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## Supplies

1. Sharp knife and sharpener or sharp hacksaw, dehorner, lopping shears, pruning shears, or brush cutters
2. Protective clothing:
  - a. Heavy waterproof autopsy gloves (or use 2 pairs of throwaway surgical gloves)
  - b. Mask (throwaway or washable) or bandana tied over nose and mouth
  - c. Safety glasses or goggles
  - d. Coveralls, waterproof apron, a large plastic garbage bag with holes for arms and head cut out can serve as good throwaway protection for clothes
  - e. Newspapers or throwaway plastic bags or sheets to place under the area of head removal to catch body fluids (if removal is not done in a tub or on a table with a drain).

**NOTE: It is very important to wear protective clothing during head removal to protect yourself from exposure to rabies virus!**

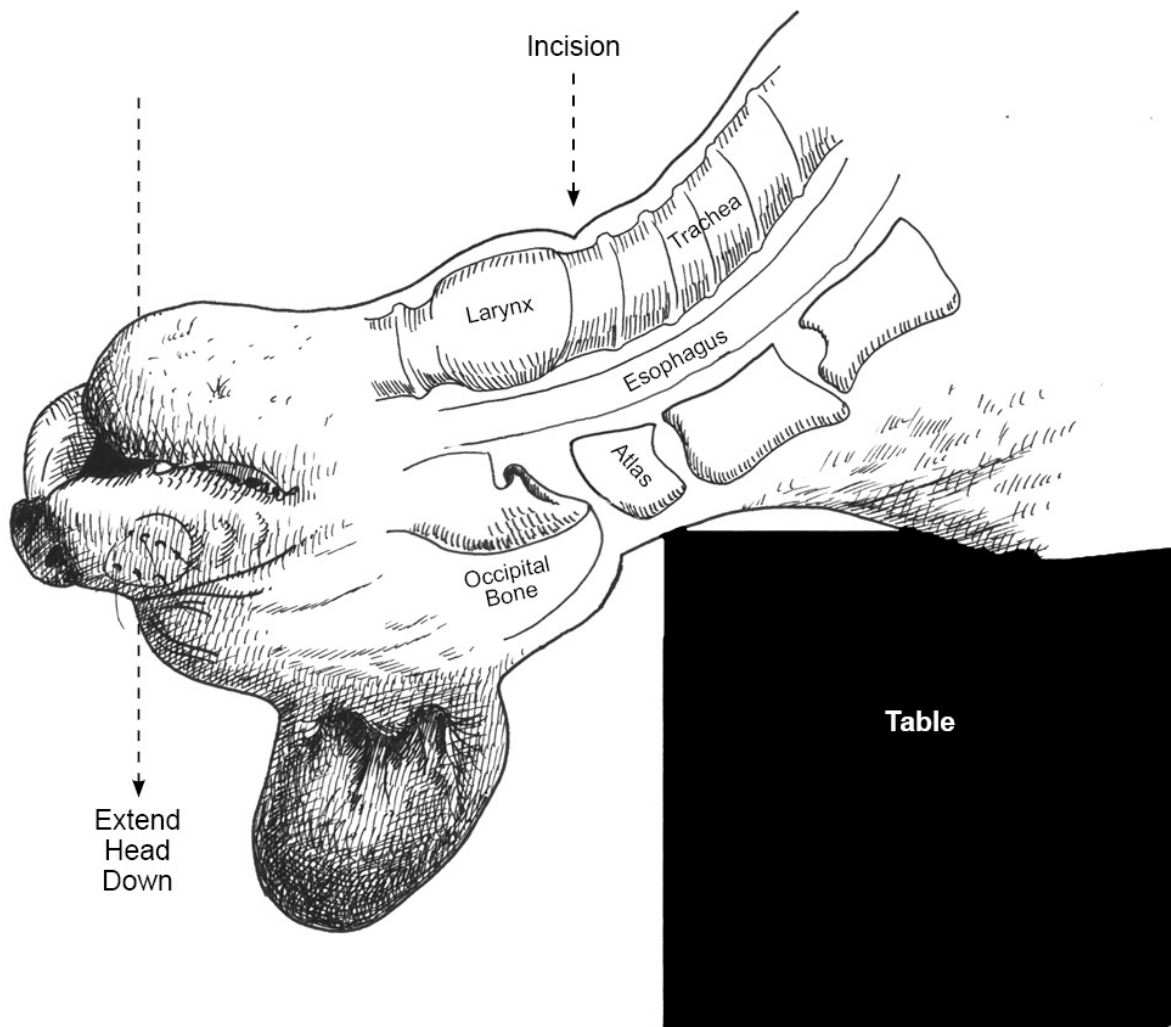
3. Cleaning Supplies
  - a. Cleaning agent (liquid or powdered soap)
  - b. Disinfectant

- c. Paper towels
- d. Plastic trash bags

## Head Removal Method

**NOTE:** These methods are suggestions. Use the technique with which you feel most comfortable.

- a. Lay animal on its back and extend the head by pushing top of nose toward ground or bend neck back over edge of table.
- b. Find the larynx (voice box). Just behind the larynx, using a sharp knife, make a cut through the skin and keep cutting down through the trachea (windpipe), and other soft tissue to the backbone.
- c. If you have cut in the right place, you can find the membrane covering the spinal cord between the first vertebrae (atlas) and the skull (occipital bone). The joint made by these two bones can be seen and felt as the animal's head is flexed and extended.
- d. The next step is to split these two bones and open up the joint. It is possible to cut through the ligaments connecting this joint, but easier and faster to extend the head backwards, which will tear the ligaments. You will hear and feel the snap when this is done.
- e. After splitting this joint, cut the left over muscle and skin with a knife to free the head from the body.
- f. Some people may opt for cutting through the vertebra instead of separating the joint. After cutting down to the backbone, use shears or a hacksaw to cut through the first vertebra (atlas). **DO NOT** use an axe, hatchet or power saw because of the dangers of flying bone and tissue.



### Clean Up

Wash tools and contaminated surfaces with dish soap and water, and clean with a virucidal (virus killing) mixture such as bleach (1 cup per gallon of water), alcohol (40-70% ethanol), iodine (25 ppm) or quaternary ammonium (200 ppm) compounds.

### Carcass Disposal

Incinerate the body of the animal. If this is not possible, bury it at a depth of at least three (3) feet.

### Packaging

The Arkansas Department of Health Lab has shipping containers for packaging and transporting the sample to the rabies lab. These shipping containers are free at all Local Health Unit.

Each animal should be labeled and packaged one at a time.

- a. Place the head or brain in a plastic bag (Ziploc bags are inside the shipping container) and then place that plastic bag inside one more plastic

- bag. That way the sample will be double-bagged.
- b. At once before shipment, place the sample and at least two (2) cold packs (ice substitutes – do not use wet or dry ice) inside the Styrofoam container in the plastic bucket and place the lid on Styrofoam container. For large samples, use more than two cold packs.
  - c. The filled out rabies form (HL-12) should be placed on top of the Styrofoam lid. **Do not place the form inside the Styrofoam container with the sample.**
  - d. Place plastic lid on plastic bucket. Use a hammer if needed to get a good seal.
  - e. Put the plastic bucket inside a cardboard box and tape shut.

- Place an envelope with the lab address on the outside of the box.
- f. Deliver the sample as soon as possible. Take the packaged sample to the Local Health Unit for shipment by courier (free) or directly to the Public Health Lab in Little Rock. If no other means are available, ship the sample by UPS on Monday through Thursday only. The lab address is:

**Arkansas Department of Health  
Public Health Lab  
201 S. Monroe  
Little Rock, AR 72205**

### **Delivery during Normal Working Hours**

Normal lab hours are from 8 AM until 4:30 PM on weekdays. Please take the sample to the receiving area at the rear of the Public Health Lab building. The lab also has free containers for samples.

❖ Turn South onto Palm St. from W. Markham and take the fourth driveway to the right. Go straight toward the building and turn right into a small parking/unloading area.

❖ The shiny, steel door to the sample receiving area is on your left, on the back of the large building and is marked for lab samples. Go through the door and check-in at the window.

If you have questions about testing samples, caring for bite victims, immunization or quarantining animals, call the State Public Health Veterinarian at (501) 280-4136.

### **After Hours Rabies Sample Delivery Instructions**

Refrigerate the sample or store it on ice in an ice chest, and deliver it to the local health unit as soon as possible during normal working hours. Do not freeze the sample unless instructed.

If the sample needs to be tested right away, please call the after-hours call center for the Health Department at 1-800-633-1735. They will contact the rabies program staff for authorization.

- ❖ These instructions apply to all rabies samples delivered after 4:30PM on weekdays, and on weekends and holidays.
- ❖ After normal business hours, take samples to Loading Dock B, behind the main health department building, the second driveway on the right from the corner of W. Markham and Palm Streets. Rather than drive down the slope to the lower level, instead walk on the right side to the upper level.
- ❖ At Loading Dock B, there is a doorbell and phone just outside the security doors, along with phone numbers for maintenance and the Emergency Communication Center (ECC).
- ❖ First, ring the doorbell to call maintenance or call 661-2103 and tell the on-call staff that you have a rabies sample to drop off.
- ❖ If maintenance does not answer, call communications at 661-2136 and the ECC will page maintenance and tell them that there is a sample for pick up.
- ❖ If the sample is not in a shipping container, maintenance will give you a bucket and ask you to fill out a form.

The lab is not responsible for shipping samples. It is the duty of the sending agency, health unit, veterinarian, or person to make sure that the integrity of the sample is preserved during shipment. If the sample is received in an unsatisfactory condition, the lab may reject it.

The Arkansas Livestock and Poultry Commission (ALPC) will take large animals such as cows, for removal of the head and preparation for testing. The Commission charges a small fee for disposal of the carcass and transportation of the sample to the lab. Their phone number is 501-907-2430.

Thank You to the State of Virginia Department of Health, Office of Epidemiology