SUBMITTER’S RESPONSIBILITIES - TRANSPORTATION OF DANGEROUS GOODS

- Submitter (shipper) must comply with all applicable legislation related to Transport of Dangerous Goods within Canada.
- Proper identification, handling, packaging and shipping ensures:
  - Reduced risks to public, transporters and laboratory staff
  - Prompt delivery to CFIA rabies lab
  - Maintenance of sample quality which promotes timely and accurate test results
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

**Collection of Sample**

1. **Information required for Rabies Sample Submission Form**
   - Species
   - Exposure information
   - Sample location - longitude and latitude in decimal degree format
   - Preservative
   - Condition of carcass, e.g., damage to the head, presence of quills, bullets, sample deterioration, etc.
   - Email addresses for up to four parties that need to be notified of the result, e.g., provincial co-ordinator, intermediary party (veterinary clinic), etc.

2. **What To Submit**
   - **entire head** for most animals
     - include **proximal cervical spinal cord** if the head is damaged e.g., shot or crushed
     - no part of any animal submitted for rabies testing can be returned to the affected party, so if the body needs to be retained (e.g., a pot for burial), remove and submit the entire brain
   - **entire carcass** for small animals (<500g), e.g., bats
   - **entire brain and proximal cervical spinal cord** for large animals (>100 kg), including all livestock
     - if it is not possible to submit the entire brain, collect portions of brain tissue bilaterally from the cerebellum, hippocampus, and brainstem.
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

Collection of Sample

3 Disarticulation of the head
   - humanely euthanize the animal
   - remove head at base of skull with an axe, knife, or hand saw
     - one method is described in detail at: http://timedhealth.org/animal/health/documents/REMOVINGANIMALHEADSFORRABIESTESTING.001.pdf
   - leave head intact and do not remove skin, ears, snout, etc.
   - disinfect collection site and tools used - e.g., using a fresh solution of 10% household bleach
   - dispose of carcass in compliance with local legislation

Collection of Sample

4 Extraction of a brain
   - remove head at base of skull with an axe, knife, or hand saw
   - secure head with dorsal aspect upright
   - skin head from neck to snout across the cranium
   - make 3 cuts with a chisel or hand-saw such that they penetrate full depth of the cranium, and intersect above the eyes (Fig. A)
   - pry the cut piece of cranium free from the underlying brain
   - extract the brain (and spinal cord proximal to brain stem)

A.  
B.  

Collection of Sample

5 Sample Quality

Decomposing Samples
   - test sensitivity is decreased for decomposing samples
   - samples exhibiting decomposition should still be submitted for testing following a suspected human/domestic animal rabies exposure - it may still be possible to get a definitive positive result
   - severely decomposed samples may be declared unfit for testing

Infested Samples
   - remove any visible maggots - these will consume brain tissue during transit and may cause a sample to be declared unfit for testing
   - spray head/carcass with insecticide if fleas, ticks or other insects are evident

Temperature Control
   - there is no need to freeze samples prior to shipment
   - this will cause testing delays - keep sample cool with ice packs
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

1. Packaging and Shipping
   - Packaging includes:
     - Unique identifier and Sample submission form
     - Sample classification and selection of mode of transportation
     - Assembling the package
   - Shipping includes:
     - Markings and Labels
     - Shipping Documentation
     - Laboratory Reception

2. Sample Classification (TDG requirements)

3. Packaging Materials checklist

4. Packaging Process
Sample Submission - Packaging

1. Unique Sample Identifier
   - A unique identifier MUST be assigned to each Sample and MUST match the Sample ID supplied on the submission form
   - Assigned by submitter
   - Alpha-numeric uppercase letters only e.g., R20145K-000
   - Durable, adhesive labels, printed with indelible ink OR commercially-available identification tags can be used
   - The unique identifier is attached to the primary package

2. Submission Form

3. Sample Classification (TDG requirements)
   - Dictates the required packaging for shipping under Transportation of Dangerous Goods legislation
   - Classification of infectious substances depends on nature of pathogen, nature of sample and whether sample is suspected of containing the pathogen
   - "Biological Substance, Category B"
   - "Exempt Animal Specimen"
   - Determination made by a doctor, scientist, veterinarian, epidemiologist, genetic engineer, microbiologist, nurse, coroner, or laboratory technologist/technician
   - TDG certification is required for Biological Substance, Category B materials
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

Sample Submission - Packaging

4. Packaging Materials checklist
- Primary package - 2 plastic bags or one screw-cap plastic container and one plastic bag
- Secondary package - single plastic bag; if shipment by air, must be pressure capable to 95 kPa
- Absorbent material
- Rigid ice packs
- Rabies Sample Submission form
- Unique Sample ID
- Sturdy outer container, e.g., fibreboard box; if shipment by air, must meet required 1.2 m drop test
- Outer Package Labeling/Markings

5. Packaging Process

Primary package
1. Place a single Sample into an appropriately sized screw-cap container (brain, bat) or into a leak-proof plastic bag (animal head or small carcass) and seal.
2. Place container or plastic bag with Sample into a leak-proof plastic bag and seal.
3. Apply Unique Identifier to outside of primary package.
4. Place completed Sample Submission Form into a plastic bag, seal it and attach it to the secondary package.

Secondary package
- If shipment by air, must be pressure capable to 95 kPa
1. Wrap primary package with absorbent material.
2. Place wrapped primary package into secondary package.
3. Seal securely.

Outer Shipping Container, e.g., Sturdy fibreboard box
- Used to protect sample in transit
- If shipping by air, must meet 1.2 m drop test
1. Place a layer of newspaper into the container to cushion package - do not use Styrofoam or other granular material
2. Add rigid ice packs if ambient shipping temperature >5°C
3. Place the secondary package in the container
4. Cover with additional cushioning material
5. Secure container with tape and attach all required labels and markings
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

Sample Submission - Shipping

1. Markings and Labels

FROM: DR. BLACK
easy animal clinic
123 white road
city, province ab 203
(123) 456-7890

To: B. MINT, OTTOBi LABORATORY FALLOWFIELD
CRP
FALLOWFIELD ROAD
OTTAWA ON K2H 4K1
(613) 123-4567

50mm

BIOLOGICAL SUBSTANCE,
CATEGORY B
EMERGENCY 24-HOUR CONTACT NUMBER: (123) 456-7890

Shipper’s waybill must also state: "Biological Substance, Category B, UN3373" (If shipped by air, add PS 650)

2. Shipping Options

Courier
- Accepts Infectious Substances for transport
- Service to both Ottawa and Lethbridge labs, Monday - Friday

Airlines
- Some airlines will accept Infectious Substances, check with carrier for policies
- For air freight, notify the laboratory in advance

Medical Laboratory Transport
- Check with carrier for availability

Bus Lines
- Currently do not accept Infectious Substances, only Exempt Animal Specimens
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab

Sample Submission - Shipping

3. Laboratory Selection - sample type and suggested regional boundaries

Lethbridge:
- animal samples (except primates) from BC, AB, SK, MB, YK, NT, NU (Kvivxiiq and Kitikmeot regions), and ON (Thunder Bay and west ).

Ottawa:
- animal samples from ON (east of Thunder Bay), QC, NB, NS, NL, PEI and NU (Qikiqtaruk region).
- all human and primate samples and for all samples that are formalin-fixed.

Sample Submission - Shipping

4. Laboratory contact information and hours of operation

LETHBRIDGE:
R-Unit, Lethbridge Laboratory
Canadian Food Inspection Agency
Township Road 9-1
Lethbridge, AB T1J 3Z4
Phone: (403) 382-5559
Fax: (403) 362-5562
Email: LethbridgeRabiesLAB@inspection.gc.ca
Hours of Operation: 7 am - 3 pm Mountain Time

OTTAWA:
R-Unit, Ottawa Laboratory Fallowfield
Canadian Food Inspection Agency
3891 Fallowfield Road
Ottawa, Ontario K2C 4S1
Phone: (343)212-0340
Fax: (343)212-0202
Email: CDF_Rabies-LOF_Rabo@inspection.gc.ca
Hours of Operation: 8 am - 4 pm Eastern Time

Sample Submission - Weekend and Holiday Testing

- Diagnostic testing is available on weekends/holidays if certain criteria are met AND if testing is requested in advance.
- Shipping options are limited outside of normal business hours. It is the responsibility of the submitter to ensure that the sample can be delivered to the laboratory for testing on the weekend or holiday, prior to making a request for testing.

Criteria for testing:
- The animal is reasonably suspected of being rabid, based on a thorough investigation including consideration of the animal species involved, its behavior at the time of the exposure, presentation of clinical signs consistent with rabies, geographical area, and for domestic animals, potential for previous contact with a rabid animal.
- The person has suffered a VDH Category III exposure (i.e., single or multiple transdermal bites or scratches, licks on broken skin, contamination of mucous membrane with saliva).
- There is a medical contraindication to receiving post-exposure prophylaxis.
- The attending physician or Medical Officer of Health provides the laboratory with the name and telephone number of a contact who is readily available to receive and act upon the result on the day of testing. The laboratory must be able to speak with an individual, test results will not be left on an answering machine.
Module 2 – Sample Collection and Submission to the CFIA Rabies Lab
DOs and DON'Ts

Shipping

Shipping DOs
- Ensure all required markings and labels are on the Outer Shipping Container
- Ensure correct address and contact numbers for lab
- Contact carrier regarding shipping requirements and their schedule
- Track your shipment and call the carrier if it does not arrive as expected

Shipping DON'Ts
- Don't use Biohazard label on Outer Shipping Container
- Don't use the word Rabies on Outer Shipping Container - use “R-UNIT”

Review

Submitter
- Collects rabies suspect Sample and relevant data
- Assigns a unique identifier to Sample
- Completes, electronically submits, and prints a copy of the Rabies Sample Submission Form
- packages Sample for shipment in accordance with TDG
- Ships Sample to CFIA rabies laboratory

CFIA rabies laboratory
- Receives submission form data; notifies submitter
- Receives Sample
- Notifies submitter that sample is received and under test
- Issues Report of Analysis (ROA) when testing completed

Packaging Video

RABIES SAMPLE PACKAGING