


Canadian Food Inspection Agency / Agence canadienne d'inspection des aliments



RABIES GUIDANCE INFORMATION FOR PROVINCES AND TERRITORIES

MODULE 3

Rabies Post-Exposure Management of Domestic Animals

START

Canada

OBJECTIVES

- A** Why Manage Domestic Animals Following A Potential Rabies Exposure?
- B** Determinants Of CFIA's Rabies Post-Exposure Management Of Domestic Animals
- C** Possible Actions Used In CFIA's Rabies Post-Exposure Management Of Domestic Animals And Their Rationale
- D** Details Of The Application Of The Various Actions Used In CFIA's Rabies Post-Exposure Management Of Domestic Animals

00:00 / 01:00

A Why Manage Domestic Animals Following a Rabies Exposure?

- Rabies is a zoonotic disease circulating in wildlife
- Rabies is usually fatal once symptoms develop
- Domestic animals are often the conduit of rabies between wildlife and humans
- Managing asymptomatic domestic animals that may have been exposed to the rabies virus helps protect the public from possible exposure, and helps prevent the further spread of the virus to other animals

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B **Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals**

- 1 Legislative Authority
- 2 Determination of Possibility of Exposure to Rabies Virus
- 3 Time-Line of Exposure May Have an Influence on Possible Options
- 4 Vaccination Status of Involved Domestic Animal(s) is Critical to Options

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B **Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals**

1 Legislative Authority

- Federal Health of Animals Act and associated regulations
- Rabies is a Federally reportable disease; legally can exert controls
- CFIA does not ORDER the destruction of any rabies suspect animal

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B **Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals**

2 Determination of Possibility of Exposure to Rabies Virus

- Module 1 discusses the epidemiological investigation to determine whether rabies is a risk in a given location and situation
- Evaluation of the history / circumstances of a possible rabies exposure
- Evaluation of the domestic animal for any evidence of physical damage - eg. bite wounds
- Determination of location of a rabies positive wild animal relative to a herd - intra or extra to the herd; important in the post-exposure management of herd animals

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B Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals

3 Time-Line of Exposure May Have an Influence on Possible Options

- a temporal cause - effect linkage of the exposure event is important
- certain CFIA post-exposure management actions are temporally dependant due to the nature of the virus

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B Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals

4 Vaccination Status of Involved Domestic Animal(s) is Critical to Options

- Determined as per Manufacturer's label - amount, route, frequency, approved species
- Cannot make assumptions about potential protection from previous vaccines
- Requires documented proof issued by a licensed veterinarian
- A complete list of animal rabies vaccines in Canada is available from the CFIA's [Canadian Centre for Veterinary Biologics](#).

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B Determinants of CFIA's Rabies Post-Exposure Management of Domestic Animals

4 Vaccination Status of Involved Domestic Animal(s) is Critical to Options

Vaccination status definitions direct different post-exposure management options

a) fully vaccinated
animal has received initial & booster vaccination(s) according to manufacturer's recommendation

b) primary vaccinated
an initial rabies vaccination at least 30 days prior to rabies exposure, and not yet having received a booster to this initial vaccination according to the manufacturer's recommendations.

c) unvaccinated
an animal without documented proof of receiving an initial rabies vaccination at least 30 days prior to rabies exposure; **or**
an animal whose documented records show that revaccination did not occur in the manufacturer's indicated time-frame; **or**
an animal whose vaccination status relies on a vaccination performed within the 30 days prior to exposure.

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

- different actions depending on animal's vaccination status and timelines
- actions may be in combination with other actions, or stand alone
- actions are described for different classes of domestic animals
 - a. Pets - dogs, cats and ferrets
 - b. Pets other than dogs, cats and ferrets
 - c. Farmed species
 - d. Wildlife and Zoo collections

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

- 1 Immediate vaccination / revaccination
- 2 Rabies Virus Neutralizing Antibody Titre Testing
- 3 CFIA controlled Owner Observation Periods
- 4 CFIA Rabies Quarantines
- 5 Euthanasia

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

- 1 Immediate Vaccination / Revaccination
 - performed / documented by private veterinarian
 - available for dogs, cats, and ferrets (possibly vaccinated livestock species)
 - as soon as possible following exposure event; 7 day window
 - supported by research; recommended
 - will NOT mask development of clinical signs of infection
 - may offer some protection to the animal - not guaranteed
 - does not affect the requirement or duration of an official disease control process - eg. owner observation, quarantine, etc.

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

2 Rabies Virus Neutralizing Antibody Titre Testing

- indicates level of rabies virus neutralizing antibody at a specific point in time
- only used in **fully vaccinated** dogs, cats and ferrets
- the blood sample for Rabies Virus Neutralizing Antibody titre evaluation must be collected within 7 days of exposure in order to distinguish antibody due to vaccination from an antibody immune response due to infection with rabies virus
- useful decision tool if blood collected within the 7 days post exposure
- elevated titre means there was a measurable immune response to a stimulus eg. previous vaccination
- NO conclusion about protection

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

2 Rabies Virus Neutralizing Antibody Titre Testing

- performed by [Kansas State University Rabies Laboratory](#)
- samples collected, submitted by private veterinary practitioners
- results should be reported in IU/ml to be meaningful
- 0.5 IU/ml is a human parameter, extrapolation to rabies post-exposure management of domestic animals needs to be applied with care

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

3 CFIA Controlled Owner Observation Periods

- an official agreement between animal owner and CFIA
- specific requirements regarding animal control, communication, etc. specified
- less stringent controls required than quarantine, based on an evaluation of a reduced risk of disease eg. documented vaccination status
- period of observation is defined - usually 45 days
- may be applied in fully and primary vaccinated pets (dogs, cats, ferrets)
- usually in conjunction with immediate revaccination / vaccination +/- rabies neutralizing titre testing
- inspection at placement, throughout, and at end of period - assess health of animal, discuss implementation of conditions, assess compliance and understanding of the conditions.
- does not replace a quarantine when such is indicated

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

3 CFIA Controlled Owner Observation Periods

Requirements of a CFIA controlled Owner Observation Period

- an age-appropriate responsible person(s) responsible for the animal when it is off the home property
- the conditions required when the animal leaves the property under the control of the identified responsible person(s) are defined eg. muzzle, on-leash / harness, no contact with other animals / people, etc.
- a log of all movements of the animal(s), all visitors to the premises, and any interactions with others when off the premises should be kept by the responsible owner
- restrictions from competing, breeding or showing due to the higher risk of close interactions with other animals and people during such activities
- notification and re-evaluation of any impending change in location of owner observation eg. move locations.

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

4 CFIA Rabies Quarantines

- officially placed and removed; legal requirement to comply with all conditions
- one age-appropriate responsible handler to deal with animal(s)
- use of sanitary precautions and personal protection eg. gloves
- all aspects of a quarantine are applied - no partial, relaxed quarantine
- duration dependent upon vaccination status, time from exposure,
- restricts access to animal while allowing observation and husbandry of animal
- no contact with other susceptible animals by the quarantined animal(s)
- >1 animal - quarantined separately unless a herd
- movement of animals from the quarantine site requires a License to Move in order to do so
- notification requirement if any change in health status / behaviour

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

4 CFIA Rabies Quarantines

- On-site quarantines - allowed if parameters met; must be approved by CFIA
 - unused, **properly barricaded isolated** section of basement / garage, etc. preferred
 - locked double-door entry to quarantine enclosure - indoors or outdoors,
 - outdoor quarantine considered if provides protection from inclement weather / cold
 - outdoor access from indoor quarantine - leash/harness control, properly fenced
 - inspection at placement, throughout and at end
- Off-site quarantines - allowed if parameters met; must be approved by CFIA
 - required / preferred if on-site quarantine not possible - compliance, animal welfare, owner capability; animal owner responsible for the cost
 - facility operators must be aware of their responsibilities to meet quarantine

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

4 CFIA Rabies Quarantines

c) Managing events during a rabies quarantine

- notification of any development of neurological signs indicative of rabies
- animal moved under "license" to private veterinarian for euthanasia, or other indicated medical treatment eg. spay/neuter of quarantined animal
- private veterinarian needs to be aware that the animal is under a rabies quarantine, seen at the beginning / end of appointments, directly to exam area, no contact with other animals, restrict number of people handling animal
- control during movement - muzzle, kennelled
- offspring (puppies, kittens, kits) born to a rabies quarantined dam are quarantined for a period of 6 months; can be kept with the dam until weaned at 6-8 weeks, separated from the dam and vaccinated at 16 weeks. If the dam is clinically well at this time, the offspring can be released from quarantine.

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C Possible Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals and Their Rationale

5 Euthanasia

- the decision to euthanize rests with others than the CFIA, eg. owner
- performed by licensed private practitioners, other competent authorities
- the euthanasia of an asymptomatic animal under rabies post-exposure management is not automatically tested for rabies
- the decision to test is based on the local geographic epidemiology, circumstances of exposure, timelines, etc.
- the CFIA must be informed about a decision to euthanize an animal under CFIA rabies post-exposure management

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

- 1** Pets - Dogs, Cats and Ferrets
- 2** Pets Other Than Dogs, Cats and Ferrets
- 3** Farmed Species
- 4** Wildlife and Zoo Collections

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

1 Pets - Dogs, Cats and Ferrets

Pets - dogs, cats and ferrets

- +/- Immediate vaccination / revaccination
 - may offer some protection; no change to duration of control
- +/- Rabies Virus Neutralizing Antibody Titre evaluation
 - indicates an immune response; may change duration of control
- quarantine or owner-observation period - variable duration
- Euthanasia - +/- rabies testing

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

1 Pets - Dogs, Cats and Ferrets

Fully Vaccinated Pet (dog, cat, ferret)

- OR Re-vaccination ASAP (preferably by 7 days, but no greater than 10 days), and a 45 day owner observation period.
- OR Rabies Neutralizing Antibody Titre evaluation within 7 days - follow-up actions depend on results of RNA titre test.
 - OR If < 0.5 IU/ml - quarantine for 3 months.
 - OR If > 0.5 IU/ml - Owner observation for 45 days
- OR Quarantine for 90 days (3 months).
- OR Euthanasia and Sample Submission for testing when evaluation determines testing is indicated eg. symptomatic; potential human / domestic animal exposure to rabies virus by this animal.

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

1 Pets - Dogs, Cats and Ferrets

Primary Vaccinated Pet

- OR Re-vaccination ASAP (preferably by 7 days, but no greater than 10 days), and a 45 day owner observation period.
- OR Quarantine for 90 days (3 months)
- OR Euthanasia and Sample Submission for testing when evaluation determines testing is indicated eg. symptomatic; potential human / domestic animal exposure to rabies virus by this animal.

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

1 Pets - Dogs, Cats and Ferrets

Unvaccinated Pet

OR

Quarantine for 180 days (6 months) vaccination is recommended ASAP following exposure, with a follow-up booster at the end of quarantine.

Euthanasia and Sample Submission for testing when evaluation determines testing is indicated eg. symptomatic; potential human / domestic animal exposure to rabies virus by this animal.

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

2 Pets Other Than Dogs, Cats and Ferrets

Pets other than dogs, cats, ferrets; generally no licensed vaccine

- a) pocket pets - 6 months quarantine or euthanasia
- b) captive reptiles, amphibians and birds - unaffected by rabies; no actions

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

2 Pets Other Than Dogs, Cats and Ferrets

Unvaccinated Pet

OR

Quarantine for 180 days (6 months) vaccination is recommended ASAP following exposure, with a follow-up booster at the end of quarantine.

Euthanasia and Sample Submission for testing when evaluation determines testing is indicated eg. symptomatic; potential human / domestic animal exposure to rabies virus by this animal.

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

3 Farmed Species

Licensed vaccines for horses, cattle & sheep

- a) farmed livestock - quarantine - variable durations; conditions
 - slaughter - under license;
- b) working livestock - quarantine - variable durations; conditions
- c) farmed foxes and mink - considered unvaccinated
 - quarantine for 6 months
 - handling pelts variable +/- symptoms

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

3 Farmed Species

Domestic Livestock Herd / Flock

- Only quarantine the group of livestock involved. Quarantine duration depends on the index case.
- If index case is a member of the livestock group, quarantine the livestock group for 40 days.
(Note: introduction of the virus into the group occurred sometime prior to the diagnosis of the index case)
- OR**
- If index case was external to the livestock group (fox, skunk, dog, etc.), quarantine the livestock group for 60 days (2 months).
- Extend the quarantine of a livestock group for a further 40 or 60 days for any subsequent cases within the group which meet the criteria listed above for the index case.

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

3 Farmed Species

Domestic Livestock - Working Animals - Horses, Cattle, Sheep

- Isolate quarantined animal from other animals. Move to acceptable location (home location) if off-site when quarantine placed.
- If remains asymptomatic and deemed safe to do so, continue training / working in isolation from other animals / people. (horse, cattle farm power)
- BUT**
- Don't compete, hire out or participate in any events where other animals / people have an increased possibility of interacting with the quarantined animal (breeding, racing, rodeo, eventing, showing, pulls, trailrides, outfitting, exhibitions, auctions, breed sales, penning competitions, transportation, etc.)
- Owners / handlers need to assess temperament and coordination prior to handling - eg. lunging
Avoid handling the mouth when bridling, harnessing.,
Wear gloves.

D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

3 Farmed Species

Farmed Foxes, Mink and other Furbearers

Farmed foxes, mink and other furbearers are considered unvaccinated. Quarantines are for a period of 6 months.

OR

Pelting asymptomatic animals under a rabies quarantine
Pelts are handled normally. No risk of rabies virus in nerve fibres surrounding hair follicles.

Pelting symptomatic animals under a rabies quarantine
Higher probability that rabies virus may be associated with nerve fibres surrounding hair follicles. Extra care should be taken during the pelting process. Pelts should be "hard dried" to reduce any risk during further handling of the pelts.

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D Details of the Application of the Various Actions Used in CFIA's Rabies Post-Exposure Management of Domestic Animals

4 Wildlife and Zoo Collections

Wildlife and zoo collections - considered unvaccinated
- quarantine for 6 months

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