

MAPAC Guidelines for managing rabies in dogs in northern communities

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Rabies

Rabies is a fatal disease. It is endemic in Arctic foxes and red foxes. In years when these species are more abundant, rabies cases are more common. The territory is large. Even if no cases are discovered in a year, caution is essential. Rabies is out there.

The virus and the disease

The rabies virus infects the nerves and brains of foxes, dogs and humans. Any mammal can die from it. A few days before death, the virus in the brain spreads to the salivary glands. An animal that becomes ill because of the virus in its brain may become aggressive. By biting, it spreads the virus through its saliva. If it bites a person, a dog or other mammal, the virus in the wound will reach the nerves and brain of the new victim. The cycle begins again.

The time the virus takes to travel from the wound to the brain and for the disease to develop varies. This is called the incubation period. It will be shorter if the injury is near the head. For a dog, the incubation period generally lasts about 2 months. But it can be as short as 2 weeks and sometimes as long as 6 months.

A dog that starts to show symptoms of the disease will die within a few days. If a dog has been sick for more than 10 days, a cause other than rabies must be sought.

A dog with the virus in its salivary glands, which implies that its brain is already contaminated, will quickly show signs of the disease. Thus, if an animal is still healthy 10 days after biting, we can be sure that it could not have had any virus in its saliva when it bit. It could not therefore have transmitted rabies. But it may still be incubating it. That is why we start a 10-day observation period after any bite.

The rabies virus does not survive long in the environment. It is a fragile virus that is destroyed by light, heat, soaps, disinfectants and by drying. Washing a wound immediately after an incident with soap and running water is very important. Cold and frost preserve the virus. It could be present in the frozen carcass of an animal that died of rabies.

The virus is unable to penetrate healthy skin. The main method of transmission is by biting, which causes saliva to penetrate under the skin. Although rarer, other methods of transmission are possible: scratches, or fresh saliva on a wound or on a mucous membrane (eyes, nose, mouth). Since the virus can be present in the nerves and brain, care must be taken when working on a carcass. A cut with a blade that has been in contact with contaminated nerves could allow the virus to penetrate.

The virus is not normally present in blood, urine or stool.

Let's talk about dogs now.

Preventive vaccination

Rabies vaccines are very effective. All dogs over 3 months of age should be vaccinated with 1 dose every year.

There are vaccines that provide protection for 3 years after the second dose. But in the particular context of the North, it is preferable to administer them every year to increase protection.

Rabies vaccine can be given to a pregnant bitch. This is not the case for all vaccines.

In situations where the risk is very high, the rabies vaccine could be given to a puppy as young as 2 months. But in this case, another dose should be given 1 month later, when the animal is 3 months old or more. The next recall will be in 1 year's time.

The vaccine takes about 30 days to confer optimal protection. The animal can be considered vaccinated after this time. Following a booster shot, the dog is automatically considered vaccinated, as it still benefits from the effect of the previous vaccine.

If a vaccine is given to a dog that was infected more than 7 days previously, the vaccine cannot prevent the development of the disease. The virus is hidden in the nerves, well protected. This means that only 6 months after the first dose can we say that the dog is vaccinated and free of rabies.

A dog will not be considered vaccinated:

- if it is less than 4 months old
- if there is no proof of its vaccination or if it has never been vaccinated
- if it received a single dose more than 13 months ago
- if it received two doses, the most recent of which was more than 18 months ago
- if it received three doses, the most recent of which was more than three years ago

Note that:

- For regulated situations (e.g. foreign travel), the manufacturer's recommendations must be strictly followed. A booster shot given even 1 day late is not acceptable.
- A vaccine given to a puppy under 3 months of age does not count as a dose.

The annual vaccination rounds in the communities are provided by the Faculty of Veterinary Medicine. Local vaccinators are trained during these rounds. The faculty also supplies equipment and vaccines.

Avoid contact with wild animals

Stray dogs have much more chance of coming into contact with wild animals. Consequently, it is important to control the dog population in the community and to ensure that those that are loose are properly vaccinated against rabies. Their presence can even keep wild animals away.

Do not attract wildlife to come near communities. Do not leave food accessible and manage household waste properly.

Contact between a dog and an animal at risk

Any contact with a fox, wolf, coyote or other wild carnivore will be considered as a risk. Contact with a small rodent will not.

A fight with a dog that shows signs of rabies (see below) and dies within 10 days will also be considered as a risk.

In the event of a high-risk contact, an animal that has been bitten requires care over the next few weeks to prevent it from developing rabies and spreading the disease. The MAPAQ should be notified to follow up on a bitten dog.

When the incident is very recent, fresh saliva from the biting animal on the fur must not be allowed to come into contact with a person's wound or mucous membrane. Once dried, this saliva will no longer present a risk. A fresh wound should be cleaned (water, soap, disinfectant) as long as this can be done safely (wear gloves, avoid bites).

Euthanasia of an animal that has been bitten should be considered if no one can provide care and observation for the entire prescribed period (e.g. an unvaccinated stray dog).

If the bitten dog has been vaccinated:

- the vaccine received will be effective. As an added precaution we recommend a **booster dose** and a **45-day observation** period.

If the bitten dog has not been vaccinated:

- Post-exposure prophylaxis (PEP) can be started by administering **3 doses of rabies vaccine**.
- The first dose should be given as soon as possible after the incident (once 7 days have elapsed, the treatment will not be effective).
- The second dose should be given in the third week after the first dose
- The third dose should be given in the eighth week after the first dose
- The animal must be kept **in isolation and under observation for 3 months**.

If the incident occurred more than 7 days ago or if PEP treatment is not possible, the animal should be **euthanized** or kept **in isolation and under observation for 6 months**.

Period of isolation and observation

Naturally, the severity of the measures to be taken depends on the risk of the animal's developing rabies despite the treatments. A dog that has already been vaccinated and receives a booster, the 45-day period does not require the dog to be kept in isolation. It must be kept under observation.

In the case of a dog that receives PEP with 3 doses of vaccine, the risk is a little higher. The dog must never be allowed to move around freely and must be prevented from running away.

It must always be in an enclosure, tethered or on a leash. It must only have contact with vaccinated dogs and family members. This is for the entire 3-month period.

An unvaccinated dog that cannot receive PEP runs a high risk of developing rabies. **In this case, the period of isolation and observation must last 6 months and be strict.** The dog must be kept in an enclosure and have no contact with other unvaccinated animals. Contact with strangers should be avoided. Any contacts that do occur should be recorded in a logbook to allow for quick tracing if the disease develops.

During observation periods, the keeper must notify the MAPAQ and the health services if the animal begins to showing signs of illness consistent with rabies.

Signs of illness consistent with rabies:

- **Decreased food or water intake**
- **Weakness or paralysis of the hind limbs**
- **Staggering gait**
- **Low head, slack jaw or abnormal facial expression**
- **Change in behaviour (e.g. loss of fear of strangers, sudden inexplicable aggression or lethargy)**
- **Excessive salivation**
- **Repetitive, inexplicable biting (e.g. own limbs, various objects)**
- **Unusual vocalizations**
- **Death**

Also, people and animals that may have come into contact with the sick animal in the 10 days prior to the onset of the disease must be identified.

How to identify a rabid dog

It is impossible to confirm that a dog has rabies while it is alive. Confirmation of a rabies case requires examination of a piece of its brain in a laboratory.

What does an animal with rabies look like?

Nothing appears until the virus has reached the brain. Once it is there, the signs of the disease will depend on the part of the brain affected. It may be very discreet at the beginning. The animal's condition will deteriorate until it dies after a few days.

The problem is that there is no classic presentation for rabies. The signs that can be observed are very often present in other, much more common diseases.

The most common signs are listed above. These are the signs that must be monitored during the observation period. The only sign that will always be present is death within a few days.

Sometimes it's easier to say what isn't rabies. Rabies is not responsible for...

- An illness that lasts more than 10 days
- A condition that improves or remains stable over a few days
- A disease in a fully vaccinated dog (2 doses or more)

Sometimes it is possible to identify the origin of a symptom. It might be more realistic to consider an explanation other than rabies. For example, if a dog limps after being hit by a car, it is more likely that the cause is the accident and not rabies. If a dog stops eating after guzzling garbage, severe indigestion is a more likely cause than rabies.

What to do with a sick dog

When an animal gets sick, there is always the possibility that it is rabies. So you have to be careful. You must...

- isolate it from other animals and humans
- keep the number of people handling it to a minimum
- wear gloves and wash hands after care
- avoid any contact with the animal's saliva
- notify the CLSC of any injury to a person caused by this dog, no matter how minor.

Note the date of onset of signs of disease. Rabies will be ruled out if the animal is still alive 10 days later.

Find out whether, in the 10 days leading up to the onset of the disease, the dog bit anyone, or anyone had contact with the dog's saliva on a fresh wound or mucous membrane (eyes, nose, mouth).

If the animal dies before the 10th day of illness, check again with people and animals who may have been exposed, especially those who cared for the animal. Anyone who has doubts should see a doctor. Keep the animal's body frozen for the next 10 days in case a test for rabies is needed.

Sick animals with obvious neurological signs (paralysis, lack of coordination, abnormal aggressiveness) are at highest risk of rabies. It is not safe to attempt treatment. Euthanasia is preferable.

Support for sick dogs is available from the **Veterinary Help Line** at the Faculty of Veterinary Medicine at **514-345-8521 ext. 0065**.

For questions specifically about rabies, you can contact **MAPAQ at 1-844-264-6289 (1 844 ANIMAUX)**.

A biting dog

Rabies is primarily transmitted by a bite and dog bites are unfortunately common. For this reason, when anyone gets bitten by a dog, it is important that they consult the CLSC. It is important to establish whether this dog could have transmitted rabies. The person who got bitten may require preventive treatment (PEP) if there is any risk.

In the case of a bite from a healthy dog, the best method is observation for 10 days following the incident. If the animal is still healthy on the 10th day, we can be certain that it could not have transmitted rabies during the incident. At the request of the health professional, the MAPAQ will supervise this observation period.

If a biting dog shows signs of disease or dies before the end of the observation period, the MAPAQ must be notified immediately. The victim may need to start a PEP quickly.

It may be necessary to have the dog tested for rabies. To this end, the MAPAQ has made available to each community a kit containing the necessary items to cut off the dog's head, pack it and ship it. The MAPAQ supervises the steps and transportation. It is important that you do not use this kit without permission and that you have the submission documents. An inappropriate use leaves the community without a kit for a period of time during which an emergency could occur.

Testing for rabies requires a brain in good condition. If a dog has been shot in the head, there is no point in testing, because the results will not be reliable enough to rule out rabies.

Using the kits on a fox suspected of having rabies

Occasionally, the dog head test kits can be used for tests on suspect foxes. The conditions for use must be observed. The goal is to confirm that rabies is still present in certain areas. The foxes sought are animals that show signs of disease consistent with rabies. They don't have to have bitten. Their heads must be intact and their bodies frozen in a position to fit in the box. For safety reasons, you are not asked to cut off their heads. There must not have been a positive case in the same area within the last year.

If such a case arises, contact the **MAPAQ at 1-844-264-6289** (1 844 ANIMAUX).

A case that does not meet these conditions may still be of interest to the MFFP. The MAPAQ will forward the report to them and the MFFP will contact the local person to give them instructions.

Adoption (rescue)

Dogs relocated from an area where rabies is present may develop rabies in their new adopted area. Adopters and those around them are at great risk if they are not made aware of the possibility that their new dog may develop rabies. It is crucial to inform them by accompanying the dog being adopted with a notice on this subject. See the attached notice.

Relocation of dogs from areas where rabies is present is not recommended.

Resources:

Help regarding a sick dog

- Veterinary Help Line (Faculty of Veterinary Medicine): **514 345-8521 ext. 0065**

Rabies-specific questions in Quebec

- MAPAQ: **1-844-264-6289 (1-844 ANIMALS)**.

Website

- www.Quebec.ca Search: “rabies” (English), “rage” (French). Several notices are available on the "rabies in animals" page in the "Notices for domestic animal owners" chapter
- www.mapaq.gouv.qc.ca/chiendunord-anglais