

Rabies Prevention and Control Protocol, 2009

Preamble

The Ontario Public Health Standards (OPHS) are published by the Minister of Health and Long-Term Care under the authority of the Health Protection and Promotion Act (HPPA)¹ to specify the mandatory health programs and services provided by boards of health. Protocols are program and topic specific documents which provide direction on how boards of health must operationalize specific requirement(s) identified within the OPHS. They are an important mechanism by which greater standardization is achieved in the province-wide implementation of public health programs.

Protocols identify the minimum expectations for public health programs and services. Boards of health have the authority to develop programs and services in excess of minimum requirements where required to address local needs. Boards of health are accountable for implementing the standards including those protocols that are incorporated into the standards.

Purpose

This protocol has been developed to provide direction to boards of health in the implementation of specific requirements of the Rabies Prevention and Control Standard. The purpose of this protocol is to prevent a human case of rabies by standardizing animal rabies surveillance and the management of human rabies exposures.

Further direction is also articulated, with respect to rabies case and contact management, in the disease-specific chapter for rabies which is included in Appendix A of the most current version of the Infectious Diseases Protocol.

Reference to the Standards

The table below identifies the OPHS standard and requirements to which this protocol relates.

Standard	Requirement
Rabies Prevention and Control	Requirement #2: The board of health shall report rabies data elements in accordance with the Health Protection and Promotion Act and the <i>Rabies Prevention and Control Protocol, 2008</i> (or as current).
	Requirement #3: The board of health shall conduct surveillance of rabies in accordance with the <i>Population Health Assessment and Surveillance Protocol, 2008</i> (or as current) and the <i>Rabies Prevention and Control Protocol, 2008</i> (or as current).
	Requirement #7: The board of health shall ensure that the medical officer of health or designate is available on a 24/7 basis to receive reports of and respond to suspected rabies exposures in accordance with the Health Protection and Promotion Act; the <i>Public Health Emergency Preparedness Protocol, 2008</i> (or as current); and the <i>Rabies Prevention and Control Protocol, 2008</i> (or as current).
	Requirement #8: The board of health shall address the prevention and control of rabies threats as per a local Rabies Contingency Plan, as outlined in the <i>Rabies Prevention and Control Protocol, 2008</i> (or as current).

Operational Roles and Responsibilities

For rabies associated with bat exposures, this protocol shall be followed in accordance with current Ministry of Health and Long-Term Care (the “ministry”) recommendations (please see section “i” of this protocol for additional details).

These recommendations shall replace any previous recommendations in Ontario with regard to bat exposures (e.g., the *Canadian Immunization Guide*² or National Advisory Committee on Immunization (NACI) recommendations³).

For rabies associated with all other animal exposures (e.g., cat, dog, or ferret), this protocol shall be followed in accordance with the Rabies Vaccine chapter of the *Canadian Immunization Guide* or NACI statements published after the most recent immunization guide. Consult the *Canadian Immunization Guide*⁴ for information on vaccine schedule, dose, route of administration, and products licensed for rabies post-exposure prophylaxis (PEP) use in Canada.

1) Animal surveillance and contingency planning

- a) The board of health shall monitor rabies positive animals in its health unit. This information shall be collected from animal test reports from the Canadian Food Inspection Agency (CFIA)⁵. The board of health shall monitor rabies positive animals in bordering health units to keep informed about potential rabies threats. This information shall be collected from the Ministry of Natural Resources' quarterly publication, the Rabies Reporter.⁶ With respect to rabies positive animals, the board of health shall obtain information on:
 - i) The number of rabies positive animals;
 - ii) The type of animal; and
 - iii) The location of the animal, by county or district.
 The information shall be monitored over time.
- b) On the request of the ministry, the board of health shall develop and maintain a Rabies Contingency Plan within the timeline prescribed by the ministry. The ministry will provide a situation-specific template to the board of health at the time of the request.

2) Management of suspected rabies exposures

Notification

- a) Section 2(1) of Regulation 557⁷ (Communicable Diseases-General) under the HPPA states that “a physician, registered nurse in the extended class, veterinarian, police officer, or any other person who has information concerning any animal bite or other animal contact that may result in rabies in persons shall as soon as possible notify the medical officer of health and provide the medical officer of health with the information.”

The board of health shall communicate the reporting/notification process outlined in Section 2(1) of Regulation 557 under the HPPA in writing annually to physicians, veterinarians, police officers, and nurses in the extended class (i.e., nurse practitioners). The reporting/notification process must allow for and provide an on-call system for receiving and responding on a 24 hours per day, 7 days a week (24/7) basis to any suspected rabies exposures.

Investigation

- b) The board of health shall have a written procedure for the investigation of human exposures to animals suspected of having rabies, as follows:
 - i) The board of health shall, upon receiving notification of a suspected rabies exposure, initiate investigation of the incident within 24 hours of the notification.
 - ii) The board of health shall collect data from the investigation of an individual exposed to an animal suspected of having rabies. The data shall include information pertaining to:
 - Person exposed:
 - Name, sex, date of birth, age, weight;
 - Address and telephone number;
 - Has the person been examined by a physician;
 - Name of physician;
 - Rabies immunization status, date of last immunization, type of vaccine used (human diploid vaccine, purified chick embryo cell vaccine, or other); and
 - Is the person immunocompromised.

- Exposure incident:
 - Date of exposure to the suspect rabid animal;
 - Animal species involved in the exposure;
 - Geographical location of the exposure incident;
 - Type of exposure (i.e., bite, non-bite, bat);
 - The anatomical location of the exposure;
 - Exposure circumstances (i.e., was the exposure provoked or unprovoked); and
 - Animal behaviour (i.e., was behaviour normal or abnormal).
- Animal owner (if owned):
 - Name, sex, date of birth; and
 - Address and telephone number.
- Animal:
 - Species and description;
 - Name of animal (if animal has a name);
 - Age of animal;
 - Previous contact with wild animals;
 - Rabies immunization status of the animal; and
 - Rabies immunization status of other animals residing with the suspected rabid animal.

Risk assessment

- c) The board of health shall conduct a risk assessment that shall be completed on all individuals with suspected rabies exposures to determine the required actions. The conclusion of the risk assessment shall be provided to the attending physician. The attending physician ultimately makes the decision to provide PEP.

The risk assessment shall include:

- i) Type of exposure (i.e., bite, non-bite, bat);
- ii) The anatomical location of the exposure;
- iii) The risk of rabies in the animal species involved;
- iv) The presence of rabies in the area where the incident occurred;
- v) The behaviour and health status of the implicated animal;
- vi) Exposure circumstances (i.e., provoked or unprovoked exposure);
- vii) Rabies immunization status of the animal; and
- viii) Rabies immunization status of the human.

Animal management

- d) The board of health shall ensure that when a dog, cat, or ferret requires a 10-day observation period, the animal is confined and isolated from all animals and persons (except the person caring for the dog, cat, or ferret) for at least 10 days from the date of exposure in accordance with section 3(2) of Regulation 557 under the HPPA.
- e) The board of health shall check the vaccine status of any animal involved in a human exposure incident. The boards of health that are listed in Regulation 567⁸ (Rabies Immunization) under the HPPA, shall ensure that animals identified as not being up to date on their rabies vaccination status are vaccinated for rabies after the 10-day observation period is completed.
- f) The board of health shall notify and furnish particulars to the nearest district veterinarian of the CFIA[†] as soon as possible, where the board of health has reason to believe that an animal is rabid or has been in contact with another animal known or suspected of having rabies.

[†] These veterinarians are familiar with the regulations concerning rabies and, if necessary, will collect and ship appropriate specimens to a federal laboratory for diagnosis. Further information and advice is obtainable from the CFIA regional offices or local district office on the CFIA website (<http://www.inspection.gc.ca/english/anima/heasan/offbure.shtml>) or by consulting the blue pages of the local telephone directory.

Vaccine management

- g) The board of health shall follow vaccination handling guidelines as outlined in the *Vaccine Storage and Handling Protocol, 2008* (or as current).
- h) If a board of health provides rabies vaccine and rabies immune globulin (RabIg) on a contingency basis to institutions, then the board of health shall arrange annually with those institutions to notify the board of health within one business day of beginning a course of rabies PEP with vaccine and RabIg in order for the board of health to report to the ministry.

Rabies prophylaxis administration

- i) The board of health shall ensure individuals requiring treatment have access to rabies PEP within 24 hours after the decision is made that PEP is required.

For bat-related rabies, PEP administration is no longer indicated for the scenarios where people are sleeping unattended in a room where a bat was found, or a bat is discovered in close proximity to an individual who is cognitively impaired or near a young child. In the following recommendations, PEP is only indicated when there is direct contact with a bat as defined below.

Immediate washing and flushing of the wound or anatomic location that the bat contacted with soap and water is imperative. This is probably the most effective procedure in the prevention of rabies. Suturing the wound should be avoided if possible. Tetanus prophylaxis and antibacterial drugs should be given as required.

With respect to human exposures to bats, PEP is recommended only:

- when a bat bite or scratch has occurred;

OR

- when there is direct contact (*the bat should be observed to touch or land on the person*) with a bat

AND

either of the following cannot be eliminated;

- a bat bite or scratch; or
- saliva from a live bat entered an open wound or mucous membranes.

An exception to administering PEP would be if the bat lands on the clothing of a person who can be sure that a bite or scratch did not occur and that the bat's saliva did not contact an open wound or mucous membranes.

Extreme care should be taken to ensure that there is no further exposure to the bat if it is captured or handled. In the event that the bat is captured, it should be submitted for rabies testing. Unless exposure from the bat is to the head or neck region, PEP can be delayed for up to 48 hours until the rabies test result on the bat is obtained. If PEP was initiated, it can be discontinued if the bat tests negative for rabies.^{9,10}

Please note that spelunker exposure in caves will require special consideration.

For other animal-related (e.g., cat, dog, or ferret) rabies administration:

- i) PEP should be started as soon as possible after exposure and should be offered to exposed individuals regardless of the elapsed interval.
- ii) Based on a risk assessment, and where the specimen is received at the lab within 48 hours of exposure, treatment may be withheld until the Fluorescent Antibody Test (FAT) result is available. The FAT report can be obtained within six to 24 hours of receipt of an animal specimen at the laboratory.
- iii) If the suspect animal is a cat, dog, or ferret and is available for observation, then immunization of the human may be withheld pending the animal's status during the 10-day observation period. If the animal shows signs of rabies during the observation period, PEP should be initiated. If the animal rabies test results are negative, then PEP can be discontinued.
- iv) Incubation periods of less than one week have been reported after severe bites on the face, head, and neck. For bite wounds to the head and neck region, prophylaxis should generally begin immediately and not be delayed for

laboratory testing or the observation period (for this situation, the board of health shall deliver the post-exposure treatment to the health care facility immediately. That is, sooner than the 24 hour period identified in 2 b)i)). Considerations that may support delaying initiation of prophylaxis and instead observing the animal for a 10-day period include:

- If the animal is a domestic pet;
 - If the animal is fully vaccinated;
 - If the bite was provoked; and
 - If there is very low prevalence of rabies in the area.
- v) If a rabies exposure is considered likely, such as exposure to a dog in a country with endemic canine rabies, then PEP should never be delayed.
- vi) The vaccine series may be discontinued after consultation with public health/infectious disease experts if the FAT of the brain of an animal killed at the time of attack is negative.
- vii) Serological testing:
- Healthy people immunized with an appropriate post-exposure regimen do not require routine post-immunization antibody determinations.
 - Serological testing may be advisable in the following situations:
 - For those whose immune response may be reduced by illness, medication, or advanced age;
 - After vaccine schedule deviations; or
 - For testing status of immune protection from pre-exposure immunization upon being exposed to a suspect rabid animal.
 - When assessing the immune protection provided by a course of vaccinations, serological tests should be conducted two weeks after the final dose was given.
 - Where antibody levels are required, a sample of 5 ccs whole clotted blood or serum should be submitted to the nearest Ontario Agency for Health Protection and Promotion regional laboratory or directly to:

Ontario Agency for Health Protection and Promotion
 Public Health Laboratory Toronto
 81 Resources Road
 Toronto, Ontario M9P 3T1
 Telephone: (416) 235-5725 during work hours
 (416) 605-3113 after work hours

There is no charge for this test. The purpose of the sample shall be indicated to establish laboratory priority. An acceptable antibody response is a titre of **>0.5 IU/mL** by the rapid fluorescent-focus inhibition test.

Reporting

- j) The board of health shall report data for individuals receiving PEP as specified in the integrated Public Health Information System (iPHIS) or any other method specified by the ministry, and shall comply with the minimum data elements identified in:
- i) Regulation 569¹¹ (Reports) under the HPPA;
 - ii) Disease specific user guides published by the ministry; and
 - iii) Bulletins and directives issued by the ministry.

The data shall be entered into iPHIS or any other method specified by the ministry within one business day after the initiation of the post-exposure treatment.

3) Human case management

- a) The board of health, upon receiving a report of a suspect or confirmed human case of rabies, shall immediately report to the ministry. The notification shall be made verbally. In addition, data pertaining to the case shall be reported in iPHIS or any other method specified by the ministry within one business day of notification.

References

1. *Health Protection and Promotion Act*, R.S.O. 1990, c. H.7.
Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm.
2. National Advisory Committee on Immunization. Rabies vaccine. In: *Canadian Immunization Guide*. 7th ed. Ottawa: Public Health Agency of Canada, Infectious Disease and Emergency Preparedness Branch, Centre for Infectious Disease Prevention and Control; 2006. Available from <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-rabi-rage-eng.php>. Errata and clarifications (March 2008) available from: http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/guide_errata03-2008-eng.pdf.
3. National Advisory Committee on Immunization (NACI). Recent statements. Public Health Agency of Canada website. Available from <http://www.phac-aspc.gc.ca/naci-ccni/#rec>.
4. National Advisory Committee on Immunization. *Canadian Immunization Guide*. 7th ed. Ottawa: Public Health Agency of Canada, Infectious Disease and Emergency Preparedness Branch, Centre for Infectious Disease Prevention and Control; 2006. Available from http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/cig-gci-2006_e.pdf. Errata and clarifications (March 2008) available from: http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/guide_errata03-2008-eng.pdf.
5. Canadian Food Inspection Agency. Countries recognized as rabies free for domestic dogs and cats. Available from http://www.inspection.gc.ca/english/anima/heasan/import/rabies_freee.shtml.
6. Rabies Research and Development Unit, Ministry of Natural Resources. Rabies Reporter. Peterborough, ON: Queen's Printer for Ontario; 2008. Available from <http://www.mnr.gov.on.ca/en/Business/Rabies/2ColumnSubPage/196811.html>.
7. R.R.O. 1990, Reg. 557. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900557_e.htm.
8. R.R.O. 1990, Reg. 567. Available from http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900567_e.htm.
9. Ministry of Health and Long-Term Care. Recommendations for rabies t with respect to bat exposures [Internet]. Toronto, ON: Queen's Printer for Ontario; 2008. Available from: <http://www.health.gov.on.ca/english/providers/pub/disease/rabies.html>.
10. Ministry of Health and Long-Term Care. Rabies vaccine: questions and answers for health care providers [Internet]. Toronto, ON: Queen's Printer for Ontario; Health Care Providers. 2008. Available from: http://www.health.gov.on.ca/english/providers/pub/disease/rabies_qa.html.
11. R.R.O. 1990, Reg. 569. Available from: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900569_e.htm.