

Rabies Prevention and Control Protocol, 2018

Population and Public Health Division,
Ministry of Health and Long-Term Care

Effective: January 1, 2018 or upon date of release

Preamble

The Ontario Public Health Standards: Requirements for Programs, Services, and Accountability (Standards) are published by the Minister of Health and Long-Term Care under the authority of section 7 of the *Health Protection and Promotion Act* (HPPA) to specify the mandatory health programs and services provided by boards of health.^{1,2} The Standards identify the minimum expectations for public health programs and services. Boards of health are accountable for implementing the Standards including the protocols and guidelines that are referenced in the Standards. Protocols are program and topic-specific documents incorporated into the Standards which provide direction on how boards of health shall operationalize specific requirement(s) identified within the Standards.

Purpose

This protocol has been developed to provide direction to boards of health in the implementation of specific requirements of the Infectious and Communicable Diseases 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 potential human rabies exposures.

Further direction is also articulated, with respect to human 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

This section identifies the standards and requirements to which this protocol relates.

Infectious and Communicable Diseases Prevention and Control

Requirement 1. The board of health shall conduct population health assessment and surveillance regarding infectious and communicable diseases and their determinants.

These efforts shall include:

- a) Reporting data elements in accordance with the *Health Protection and Promotion Act*; the *Infectious Diseases Protocol, 2018* (or as current); the *Rabies Prevention and Control Protocol, 2018* (or as current); the *Sexual Health and Sexually Transmitted/Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current); and the *Tuberculosis Prevention and Control Protocol, 2018* (or as current);
- b) Conducting surveillance and epidemiological analysis, including the monitoring of trends over time, emerging trends, and priority populations in accordance with the *Infectious Diseases Protocol, 2018* (or as current); the *Population Health Assessment and Surveillance Protocol, 2018* (or as current); the *Rabies Prevention and Control Protocol, 2018* (or as current); the *Sexual Health and Sexually Transmitted/Blood-*

Borne Infections Prevention and Control Protocol, 2018 (or as current); and the *Tuberculosis Prevention and Control Protocol, 2018* (or as current);

- c) Responding to international, Federal/Provincial/Territorial and local changes in diseases epidemiology by adapting programs and services; and
- d) Using the information obtained through assessment and surveillance to inform program development regarding communicable diseases and other infectious diseases of public health importance.

Requirement 4. The board of health shall work with appropriate partners to increase awareness among relevant community partners, including correctional facilities, health care, and other service providers, of:

- a) The local epidemiology of communicable diseases and other infectious diseases of public health importance;
- b) Infection prevention and control practices; and
- c) Reporting requirements for diseases of public health significance, as specified in the Health Protection and Promotion Act. Reporting requirements for reportable diseases, as specified in the *Health Protection and Promotion Act*.²

Requirement 5. The board of health shall communicate, in a timely and comprehensive manner, with all relevant health care providers and other partners about urgent and emerging infectious diseases issues.

Requirement 6. The board of health shall, based on local epidemiology, supplement provincial efforts in managing risk communications to appropriate stakeholders on identified risks associated with infectious diseases and emerging diseases of public health importance.

Requirement 11. The board of health shall provide public health management of cases, contacts, and outbreaks to minimize the public health risk in accordance with the *Infectious Diseases Protocol, 2018* (or as current); the *Institutional/Facility Outbreak Management Protocol, 2018* (or as current); the *Management of Potential Rabies Exposures Guideline, 2018* (or as current); the *Rabies Prevention and Control Protocol, 2018* (or as current); the *Sexual Health and Sexually Transmitted/ Blood-Borne Infections Prevention and Control Protocol, 2018* (or as current); and the *Tuberculosis Prevention and Control Protocol, 2018* (or as current).

Requirement 13. The board of health shall receive and respond to all reported cases of potential rabies exposures received from the public, community partners, and health care providers in accordance with the *Health Protection and Promotion Act*; the *Management of Potential Rabies Exposures Guideline, 2018* (or as current); and the *Rabies Prevention and Control Protocol, 2018* (or as current).

Requirement 14. The board of health shall address the prevention and control of rabies threats as per a local Rabies Contingency Plan and in consultation with other relevant

agencies* and orders of government, in accordance with the *Management of Potential Rabies Exposures Guideline, 2018* (or as current) and the *Rabies Prevention and Control Protocol, 2018* (or as current).

Requirement 21. The board of health shall ensure 24/7 availability to receive reports of and respond to:

- a) Infectious diseases of public health importance in accordance with the *Health Protection and Promotion Act*; the *Mandatory Blood Testing Act, 2006*; the *Infectious Diseases Protocol, 2018* (or as current); and the *Institutional/ Facility Outbreak Management Protocol, 2018* (or as current);
- b) Potential rabies exposures in accordance with the *Health Protection and Promotion Act*; the *Management of Potential Rabies Exposures Guideline, 2018* (or as current); and the *Rabies Prevention and Control Protocol, 2018* (or as current); and
- c) Animal cases of avian chlamydiosis, avian influenza, novel influenza, or *Echinococcus multilocularis* infection, in accordance with the *Health Protection and Promotion Act*, the *Management of Avian Chlamydiosis in Birds Guideline, 2018* (or as current); the *Management of Avian Influenza or Novel Influenza in Birds or Animals Guideline, 2018* (or as current); and the *Management of Echinococcus Multilocularis Infections in Animals Guideline, 2018* (or as current).

Operational Roles and Responsibilities

This protocol shall be followed in accordance with the ministry's *Management of Potential Rabies Exposures Guideline* and the Rabies Vaccine chapter of the *Canadian Immunization Guide* (or any National Advisory Committee on Immunization statements published since the most recent edition of the immunization guide), as current.^{3,4} The board of health shall consult the *Canadian Immunization Guide* for information on vaccine schedule, dose, route of administration, considerations for immunocompromised persons, and products licensed for rabies post-exposure prophylaxis (PEP) use in Canada.

Animal surveillance and contingency planning

- 1) The board of health shall monitor case numbers of rabies positive animals in its jurisdiction. This information shall be collected from animal test reports from the Canadian Food Inspection Agency (CFIA), the Ministry of Natural Resources and Forestry, and the Canadian Wildlife Health Cooperative. The board of health shall monitor case numbers of rabies positive animals in bordering health units in order to assess potential rabies threats locally. This information shall be collected from the Ministry of Natural Resources and Forestry's quarterly publication, the Rabies Reporter. With respect to rabies positive animals, the board of health shall obtain information on:

*Currently these agencies include the Ministry of Natural Resources and Forestry (MNRF), the Canadian Food Inspection Agency (CFIA) and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

- a) The number of rabies positive animals;
- b) The type of animal; and
- c) The location of the animal, by county or district.

The information shall be monitored over time.

- 2) At 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.

Management of potential rabies exposures

Notification

- 3) Section 2(1) of Regulation 557 (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 either or both of the following shall, as soon as possible, notify the medical officer of health and provide the medical officer of health with the information, including the name and contact information of the exposed person:
 - a) Any bite from a mammal
 - b) Any contact with a mammal that is conducive to the potential transmission of rabies to persons”.⁵

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).⁵ The reporting/notification process shall 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 potential rabies exposures.

Investigation

- 4) The board of health shall have a written procedure for the investigation of human exposures to animals with the potential to transmit rabies, as follows:
 - a) The board of health shall, upon receiving notification of a potential rabies exposure, initiate investigation of the incident within 24 hours of the notification.
 - b) 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:
 - i) Person exposed:
 - Name, gender, date of birth, age;
 - Address and telephone number;
 - Whether the person has been examined by a healthcare provider; and,
 - Full name of healthcare provider.
 - ii) Exposure incident:
 - Date of exposure to the 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).
- iii) Animal owner (if owned):
- Name, gender; and
 - Address and telephone number.
- iv) Animal:
- Species and description (animal breed, colour, markings, general size/weight);
 - Name of animal (if animal has a name);
 - Age of animal;
 - Origin of animal (e.g., acquired from breeder, shelter/rescue, pet store, internet purchase, etc.);
 - Length of time the animal has been in the care of the present owner;
 - Presence/evidence of any recent wounds or scars that would suggest the animal has itself been recently bitten;
 - Animal's travel history, both domestic and international (including city, province/state/region, and country of all destinations);
 - Previous contact with wild animals or potential for such (e.g., animal allowed to roam unsupervised or out of sight, bats found in the house, etc.);
 - Previous contact with other domestic animals of unknown rabies immunization status (e.g., in dog parks, etc.)
 - Rabies immunization status of the animal or, if the animal is a puppy or kitten younger than three months of age, the immunization status of the animal's mother; and
 - Rabies immunization status of other animals residing with the animal involved in the biting incident.

Risk assessment

- 5) The board of health shall conduct a risk assessment on all individuals with potential rabies exposures to determine the required actions. A recommendation regarding the need for PEP, based on the outcome of the risk assessment, shall be communicated to the attending healthcare provider. The attending healthcare provider ultimately decides whether PEP will be administered.

The risk assessment shall include consideration of:

- a) Type of exposure (i.e., bite, non-bite, bat);
- b) The anatomical location of the exposure;
- c) The risk of rabies in the animal species involved;

- d) The presence of rabies in the area where the incident occurred;
 - e) Risk of rabies exposure in the implicated animal (travel history, exposure to wildlife/other domestic animals of unknown rabies status, etc.)
 - f) The behaviour and health status of the implicated animal;
 - g) Exposure circumstances (i.e., provoked or unprovoked exposure); and
 - h) Rabies immunization status of the animal or the animal's mother, if the animal is a puppy or kitten younger than three months of age.
- 6) In situations where the risk assessment leads to a recommendation for the administration of PEP, and the healthcare provider has decided to administer PEP, the following additional information shall also be collected from the exposed individual in order to inform appropriate PEP dose and schedule recommendations:
- a) Residency status in Ontario;
 - b) Weight;
 - c) Rabies immunization status, including date of last immunization, type of vaccine used (human diploid vaccine, purified chick embryo cell vaccine, or other), information on compliance with vaccine administration schedules, and/or any rabies antibody titre levels available; and
 - d) Immunocompetency - Refer to Part 3 of the *Canadian Immunization Guide* for an overview of which individuals are considered immunocompromised.⁶

Animal management

- 7) 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 (day zero) in accordance with section 3(2) of Regulation 557 under the HPPA.⁵

The board of health shall ensure that when horse, cow, bull, steer, calf, sheep, pig or goat requires a 14-day observation period, the animal is confined and isolated from all animals and persons (except the person caring for the horse, cow, bull, steer, calf, sheep, pig or goat) for at least 14 days from the date of exposure (day zero) in accordance with section 3(2.1) of Regulation 557 under the HPPA.⁵

The potential for observation periods for other animals (e.g., exotic pets) shall be determined on a case-by-case basis, in consultation with the ministry.

The board of health shall advise owners of animals under an observation period that the animal(s) cannot be vaccinated prior to the completion of the observation period.

- 8) The board of health shall check the rabies vaccination status of any animal involved in a human exposure incident, as well as any other animals residing with that animal. The boards of health that are listed in Regulation 567 (Rabies Immunization) under the HPPA,⁷ shall ensure that animals identified as not being up to date on their rabies vaccination status are vaccinated for rabies after the observation period is completed. Animals over 3 months of age should be brought up to date on their rabies vaccinations within 14 days of the completion of the observation period. Animals

under 3 months of age at the time of an exposure should be vaccinated for rabies by the time they are 3.5 months of age.

- 9) Where the board of health has reason to believe that an animal involved in a human exposure is rabid or has been in contact with another animal known or strongly suspected of having rabies, the board of health shall notify and furnish particulars to the ministry
- 10) Where the board of health determines that an animal requires rabies testing following a potential human exposure, the board of health shall submit a Request for rabies specimen collection to the Ontario Association of Veterinary Technicians Rabies Response Program (OAVT RRP).
- 11) The board of health shall order dedicated animal specimen shipping supplies from the Ontario Government Pharmacy and Medical Supply Service, and shall ensure that adequate stocks of shipping supplies are on hand at all times. Shipping supplies shall be made available to Registered Veterinary Technicians specified by the OAVT RRP, who will be dispatched to collect, process, and ship any animal specimens requiring rabies testing at the board of health's request.

Vaccine management

- 12) The board of health shall follow vaccine handling guidelines as outlined in the *Vaccine Storage and Handling Protocol, 2018* (or as current).⁸
- 13) If a board of health provides rabies vaccine and rabies immune globulin (Rablg) 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 Rablg in order for the board of health to meet its requirements as per section 22) below.

Rabies prophylaxis administration

- 14) The board of health shall ensure individuals requiring prophylaxis have access to rabies PEP within 24 hours of receiving a request for PEP made by a healthcare provider.
- 15) The board of health shall limit access to publicly-funded rabies PEP biologicals (Rablg and vaccine) to:
 - a) residents of Ontario with a potential rabies exposure acquired either domestically or while travelling internationally; or
 - b) residents of Canada with a potential rabies exposure acquired while in Ontario, or requiring completion of PEP initiated within their home province or territory (with appropriate documentation of initiation of PEP within that province or territory)

The board of health shall direct non-residents of Canada requesting rabies PEP while in Ontario to obtain rabies biologicals from a healthcare provider at their own cost. Healthcare providers shall, in turn, be directed to order rabies biologicals for non-

residents from a pharmacy. Access to publicly-funded rabies PEP biologicals shall only be granted to non-residents of Canada under extenuating circumstances.

- 16) If recommended on the basis of a risk assessment, PEP shall be started as soon as possible after exposure and shall be offered to exposed individuals regardless of the elapsed interval.
- 17) Based on the outcome of a risk assessment, PEP 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.
- 18) If the suspect animal is a cat, dog, ferret or domestic livestock species and is available for observation, then PEP may be withheld pending the animal's status during the observation period. If the animal shows signs of rabies during the observation period, PEP should be initiated, and the animal shall be examined by a veterinarian as soon as possible in order to determine whether euthanization and submission for rabies testing is warranted. If the animal rabies test results are negative, then PEP can be discontinued.
- 19) Incubation periods of less than one week have been reported after severe bites to 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 PEP to the health care facility immediately, *i.e.* sooner than the 24 hour period identified in 14) above).

In certain cases, prophylaxis following severe bites to the face head and neck may be delayed pending the outcome of observation periods or animal testing.

Considerations that may support delaying initiation of prophylaxis 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.

- 20) Postexposure prophylaxis that has been initiated may be discontinued after consultation with public health/infectious disease experts if the brain of the animal tests negative on the Fluorescent Antibody Test for rabies.
- 21) If a rabies exposure is considered likely, such as exposure to a raccoon, skunk or fox within a Rabies Surveillance and Control Zone established by the Ministry of Natural Resources and Forestry, or exposure to a dog in a country with endemic canine rabies, then PEP should never be delayed.

Reporting

- 22) 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:
 - a) Regulation 569 (Reports) under the HPPA;⁹

- b) Disease specific user guides published by the Ontario Agency for Health Protection and Promotion (herein referred to as Public Health Ontario (PHO)); and
- c) Bulletins and directives issued by PHO.

The data shall be entered into iPHIS or reported using any other method specified by the ministry within five business days after the initiation of the PEP.

Human case management

- 23) The board of health, upon receiving a report of a suspect or confirmed human case of rabies, shall immediately report by telephone 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. Ontario. Ministry of Health and Long-Term Care. Ontario public health standards: requirements for programs, services, and accountability, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/default.aspx
2. *Health Protection and Promotion Act*, RSO 1990, c H.7. Available from: <https://www.ontario.ca/laws/statute/90h07>
3. Ontario. Ministry of Health and Long-Term Care. Management of potential rabies exposures guideline. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/protocol_sguidelines.aspx
4. National Advisory Committee on Immunization, Public Health Agency of Canada. Canadian immunization guide. Part 4 - Active vaccines: Rabies vaccine [Internet]. Evergreen ed. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2015 [cited 2017 Sept 13]. Available from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-18-rabies-vaccine.html>
5. *Communicable Diseases – General*, RRO 1990, Reg 557. Available from: <https://www.ontario.ca/laws/regulation/900557>
6. National Advisory Committee on Immunization, Public Health Agency of Canada. Canadian immunization guide. Part 3 - Vaccination of specific populations [Internet]. Evergreen ed. Ottawa, ON: Her Majesty the Queen in Right of Canada; 2015 [cited 2017 Sept 13]. Available from: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-3-vaccination-specific-populations.html>
7. *Rabies Immunization*, RRO 1990, Reg 567. Available from: <https://www.ontario.ca/laws/regulation/900567>
8. Ontario. Ministry of Health and Long-Term Care. Vaccine storage and handling protocol, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/protocol_sguidelines.aspx
9. *REPORTS*, RRO 1990, Reg 569. Available from: <https://www.ontario.ca/laws/regulation/900569>

