

<p>IN THIS ISSUE:</p> <ul style="list-style-type: none"> ▪ ALERT: Rabies in Ontario and Peel Region 	<p>FROM: Mary Choi MD MPH CCFP FRCPC Associate Medical Officer of Health</p>
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Key Messages:

- Rabies is a viral infection that causes inflammation of the brain and spinal cord, which is almost always fatal.
- Physicians should contact Peel Public Health to discuss risk assessment and determine if rabies Post-exposure Prophylaxis (PEP) is warranted. The ultimate decision to administer PEP sits with the attending physician in consultation with their patient.
- The vaccination schedule for PEP should be adhered to as closely as possible and it is essential that all recommended doses of vaccine be administered.

ALERT: Rabies in Ontario and Peel Region

Rabies is a viral infection that causes inflammation of the brain and spinal cord which is almost always fatal. It is most commonly transmitted to humans when they are bitten by a rabid animal. The virus can also be introduced following exposure to the animal’s saliva into open cuts in skin or onto mucous membranes such as mouth or eyes.

While there have been no reported human cases of rabies in Peel in decades, every year Peel Public Health investigates more than 1,200 human exposures to animals that could potentially transmit the rabies virus. Exposures can be from domestic pets and livestock, local wildlife, or animals while travelling to rabies endemic countries. In Ontario, rabies can be found in wildlife, mostly in skunks, racoons, and bats. In recent years, there have been reports of rabies-positive bats in Peel Region as well as two cases of

rabies-positive dogs that had been imported from overseas in the Greater Toronto Area.

Reporting Requirements

- Physicians have a duty to report all animal exposures/bites to Public Health under the *Health Protection and Promotion Act* and Ontario Regulation 557.

Post-exposure Prophylaxis (PEP)

When assessing a patient following an exposure to a potentially rabid animal, physicians should contact Peel Public Health to discuss risk assessment and determine if PEP is warranted. The risk assessment for rabies takes into consideration the type of animal (e.g., domestic or wildlife), animal’s behaviour (e.g., provoked, or unprovoked), type of exposure (e.g., bite or a scratch), site of exposure (e.g., face or extremities), and whether the animal is available for further assessment. Prior to determining whether PEP should be considered, Public Health can potentially locate and observe domestic animals to support risk assessment or support arrangement for testing of the animal if necessary. Rabies in animals can only be confirmed by laboratory testing of the deceased animal.

PEP is intended to neutralize the rabies virus at the site of infection before the virus can enter the central nervous system. In cases involving bats and wildlife, administration of PEP should be considered as soon as possible and should not be delayed more than 48 hours when waiting for test results of an animal.

The final decision to administer PEP sits with the attending physician in consultation with their patient. If the decision is made to administer PEP following a risk assessment discussion with Public Health, physicians should contact Peel Public Health (905-799-7700) to request and arrange delivery for the vaccine products. There are two vaccine products available in Ontario: RabAvert® and Imovax® Rabies. In previously unimmunized persons, Rabies Immunoglobulin (RabIg) is also administered.

Whenever possible, an immunization series should be completed with the same product. However, if this is not feasible, RabAvert® and Imovax® Rabies are considered interchangeable in terms of indications for use, immunogenicity, efficacy, and safety. In the event of travel, consult with Public Health regarding a product received overseas and its compatibility with Canadian approved vaccines. Do not administer RabIg or vaccine that a patient brings with them as there would be concerns related to cold chain and viability.

The vaccination schedule for PEP should be adhered to as closely as possible and it is essential that all recommended doses of vaccine be administered. If the vaccination schedule has been altered and/or there is doubt about an appropriate immune response, post-vaccination serology should be obtained 7 to 14 days after completing the vaccination series.

Steps for wound care in clinical settings:

- Immediate and thorough cleaning and flushing of the wound to its depth with soap and water for 15 minutes is imperative and is the most effective procedure in the prevention of rabies. Some guidelines also suggest the application of a viricidal agent such as iodine-containing or alcohol solutions.
- Suturing the wound should be avoided if possible, and tetanus prophylaxis and antibiotics should be given as appropriate.

- If rabies PEP is appropriate, administer as per table below.

	Rabies Immunoglobulin (RabIG)	Rabies Vaccine
For individuals not previously immunized against rabies Immunocompetent individuals: RabIG and four (4) doses of rabies vaccine over a 14-day period (Day 0, 3, 7 and 14).	On Day 0 administer RabIG 20 IU/kg body weight) should be given at different anatomical site then vaccine The full dose of RabIG should be thoroughly infiltrated into the wound and surrounding area if possible. If this is not possible, then the remainder of the RabIG should be injected intramuscularly at a site distant from the wound using a separate needle and syringe. If administering RabIG into multiple wounds: each wound should be locally infiltrated with a portion of the RabIG using a separate needle and syringe. RabIG can be diluted twofold to threefold in a solution of 0.9% sodium chloride to provide the full amount of RabIG required for thorough infiltration of all wounds.	Rabies vaccine Day 0, 3, 7 and 14 Administer rabies vaccine intramuscularly into the deltoid muscle in older children and adults or into the vastus lateralis muscle in infants. Do not administer in the gluteal region as this may result in decreased response to the vaccine. Do not use the same syringe to administer RabIG and the vaccine.
For individuals not previously immunized against rabies Immunocompromised persons or those taking antimalarial drugs	Follow same schedule and direction as for immunocompetent individuals	An additional fifth (5 th) dose of vaccine is given, plus antibody titres done 7 to 14 days after completing the series. Immunosuppressive agents should not be administered during PEP unless essential for the treatment of other conditions.
For individuals previously immunized against rabies:	Do not administer RabIG.	Two (2) doses of rabies vaccine administered on day 0 and day 3.

Pre-exposure Prophylaxis

Note: Public Health does not assess or provide vaccines for purposes of pre-exposure prophylaxis.

Individuals seeking pre-exposure vaccination should speak with their primary care provider or travel clinic. Pre-exposure rabies vaccination is recommended for people who will be:

- Travelling to areas in countries where rabies is endemic and there is poor access to medical care.

- Working in a job that may expose them to rabies, such as veterinarians and animal control workers.

More information on the management of potential rabies exposure and immunization is available at:

- Public Health Ontario's Management of patients with suspected rabies exposure:
https://www.publichealthontario.ca/-/media/Documents/R/2017/rabies-exposure-guidance-hcps.pdf?rev=238a88b0157347f898f97f41e1cd532e&sc_lang=en
- Public Health Ontario's How to administer rabies post-exposure prophylaxis:
https://www.publichealthontario.ca/-/media/Documents/R/2021/rabies-administrative-guide.PDF?rev=0b364c81b24648a9a9ca4b1b4b8ffc4c&sc_lang=en
- Canadian Immunization Guide's chapter on Rabies vaccine: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-18-rabies-vaccine.html#p4c17a5b3>

For more information about rabies, reporting requirements, and prophylaxis, contact Peel Public Health at 905-799-7700.