niagarahealth
Extraordinary Caring. Every Person. Every Time.

PATIENT INFORMATION

Height _____ cm Weight _____ kg

Allergies _____

Rabies (ED) Post Exposure Prophylaxis Order Set

	M	K	O

Orders Processed Date (dd/mm/yyyy) _____
Time (hhmm) _____
By _____
Status _____
Processing Reviewed by _____
Status _____
Faxed by _____

For all patients

- ☒ Clean all wounds with water and soap, dress all wounds
- ☒ Update Tetanus according to **ED Tetanus Diphtheria acellular Pertussis Vaccine (Tdap) Directive**
- ☒ Provide the patient with prescriptions for antibiotics and wound care and follow up instructions
- ☒ Ensure that Public Health Animal Exposure forms are completed

Rabies Post Exposure Prophylaxis

*****Immunoglobulin and first dose vaccine are now stored on site at Blood Bank and Vaccine Fridge respectively*****

- ☒ Physician, in collaboration with Public Health on call, to assess requirement for Rabies Post Exposure Prophylaxis
- ☒ Refer to Public Health Ontario and Niagara Region Documentation available online
- ☐ Rabies Post Exposure Prophylaxis is **NOT** required
- ☐ Rabies Post Exposure Prophylaxis is required (should be started as soon as possible)

Rabies Immunoglobulin (300 units/mL – 1 mL vial)

- ☐ Weigh patient
- ☐ Physician to calculate dose:
  - ☐ Total dose = weight in kg _____ x 20 unit/kg = _____ units
  - ☐ Total dose in mL = total dose in units _____ divided by 300 unit/mL = _____ mL
- ☐ Rabies Immune Globulin (300 unit/mL): _____ mL
  - ☐ Physician to infiltrate the wound with immunoglobulin to the extent possible
  - ☐ Give remaining Rabies Immunoglobulin dose IM using a separate needle and syringe
- ☐ **Rabies Active Vaccine**
  - ☐ Give first dose of 1 mL Active Rabies Vaccine in a different IM site
  - ☐ Patient to follow up with Niagara Public health for further care and vaccination (further doses are required at days 3, 7, and 14)

*****Under no circumstances should Rabies Vaccine be administered in the same syringe or at the same site as Rabies Immunoglobulin *****

Additional Orders

- ☒ Instruct patient on use of acetaminophen or ibuprofen for pain
- ☒ Fax forms and chart to Niagara Public Health for follow up
- ☒ Fax chart to the family doctor
- ☐ _____
- ☐ _____

☐ Telephone Order _____ (Ordering Practitioner, Designation) _____ (Signature) _____ (Date/Time (dd/mm/yyyy hhmm))

If Telephone Order _____ (Ordering Physician) _____ (Date (dd/mm/yyyy)) _____ (Time (hhmm)) ☐ Read Back

Rev. 02/2020/V3 ORD257

Chart Copy – Do Not Destroy

PatientOrderSets

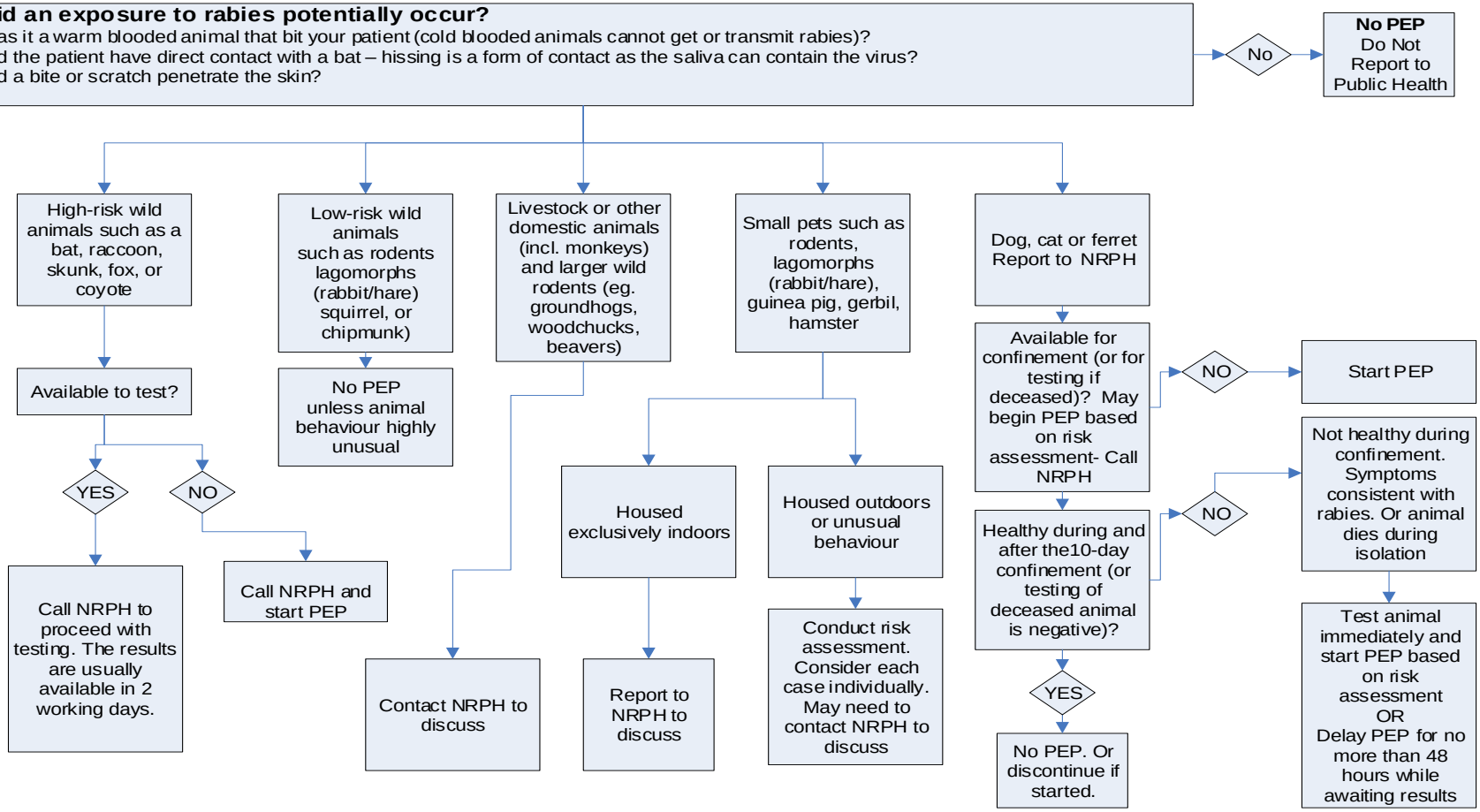
Niagara Region

To Request PEP:
(905) 688-8248 x 7590 or toll free1-888- 505- 6074
After Hours: (905) 984-3690

Rabies Exposure Assessment for Physicians: Post-Exposure Prophylaxis (PEP)

(PEP includes/may include both rabies immunoglobulin (RIG) and rabies vaccine)

Did an exposure to rabies potentially occur?
Was it a warm blooded animal that bit your patient (cold blooded animals cannot get or transmit rabies)?
Did the patient have direct contact with a bat – hissing is a form of contact as the saliva can contain the virus?
Did a bite or scratch penetrate the skin?



This guide is based on recommendations from :
Rabies Prevention and Control Protocol, 2013, Ontario Ministry of Health and Long Term Care
The Guidance Document for the Management of Suspected Rabies Exposures, 2013, Ontario Ministry of Health and Long Term Care

Access Physician Resources at www.niagararegion.ca/health/professionals

Niagara Region

RECOMMENDATIONS FOR POST-EXPOSURE ANTI-RABIES TREATMENT

HUMAN DIPLOID CELL VACCINE (HDCV) and PURIFIED CHICK EMBRYO CELL VACCINE (PCEC)

- POST-EXPOSURE PROPHYLAXIS SHOULD BE STARTED AS SOON AS POSSIBLE AFTER EXPOSURE AND OFFERED TO EXPOSED PERSON REGARDLESS OF THE ELAPSED INTERVAL. VACCINE SHOULD BE ADMINISTERED AS WELL AS RABIES IMMUNE GLOBULIN (RabIg), EXCEPT IN CERTAIN PREVIOUSLY IMMUNIZED PERSONS.

- UNDER NO CIRCUMSTANCES SHOULD VACCINE BE ADMINISTERED IN THE SAME SYRINGE OR AT THE SAME SITE AS RabIg.

Four doses of vaccine are required (a single dose is 1 vial of vaccine); the first dose as soon as possible after exposure (day 0), an additional dose on each of days 3, 7, and 14 after the first dose. The vaccine should be given intramuscularly into the deltoid muscle (never in the gluteal region) or in infants the anterolateral upper thigh. **A single dose of RabIg is given on day 0 as described on Rabies Immune Globulin sheet.** Routine follow-up antibody determination is not necessary. If the course of vaccine is initiated with one type of vaccine, the other vaccine can be substituted for any of the treatments.

Previously unimmunized immunocompromised persons (including those taking corticosteroids or other immunosuppressive agents, and those who have immunosuppressive illnesses) and those taking chloroquine and other antimalarials, should continue to receive a five-dose vaccination regimen on days 0, 3, 7, 14 and 28 with one dose of RabIg on day 0.

The vaccine series may be discontinued after consultation with public health/infectious disease experts if the testing of the brain of an animal killed at the time of attack is negative. However, if suspicion of rabies in the animal remains high, even in the presence of a negative test, the immunization series should be continued.

PLEASE ENSURE THAT ALL VACCINES ARE STORED BETWEEN 2ºC and8 °C.

IF FRIDGE TEMPERATURES FALL OUT OF THIS RANGE PLEASE CALL NIAGARA REGION PUBLIC HEALTH AT 905-688-8248 Ext. 7396 or 1-888-505-6074 Ext 7396

VACCINES CANNOT BE RELEASED TO THE PATIENT

If you have any questions regarding the administration of this vaccine, please contact the office of the Medical Officer of Health at 905-688-8248, Ext. 7590.

Niagara Region

RABIES IMMUNE GLOBULIN (RabIg)

- **RabIg SHOULD BE ADMINISTERED IN ONE OCCASION, AS SOON AS POSSIBLE AFTER EXPOSURE AND AT THE SAME TIME AS THE FIRST DOSE OF VACCINE. If anatomically feasible, the full dose of RabIg should be thoroughly infiltrated in the area around and into the wound.** The RabIg may be diluted 2-3 fold in a solution of 0.9% sodium chloride in order to provide the full amount of RabIg required for thorough infiltration of the wound. Any remaining volume should be given intramuscularly using a separate syringe and needle. If the site of the wound is unknown, as in the case of a bat found in a room when a person was sleeping unattended, administer the entire volume intramuscularly (e.g., in the gluteal or lateral thigh area).

For 300 IU/mL RabIg in 1 mL vials:

- 20 IU/kg x (client weight in kg) ÷ 300 IU/mL = dose in mL
  dose in mL ÷ 1 mL/vial = # of vials to order

- 9.09 IU/lb x (client weight in lbs) ÷ 300 IU/mL = dose in mL
  dose in mL÷ 1 mL/vial = # of vials to order

The guide below can be used to determine the number of vials needed. Do not administer in excess of recommended number of vials.

Under no circumstances should vaccine be administered in the same syringe or at the same site as RabIg.

Client's Weight		Number of Vials
LBS	**KG**	
to 33 lbs	to 15 kg	1
34 - 66 lbs	15 - 30 kg	2
67 - 99 lbs	30 - 45 kg	3
100 - 132 lbs	45 - 60 kg	4
133 - 165 lbs	60 - 75 kg	5
166 - 198 lbs	75 - 90 kg	6
199 - 231 lbs	90 - 105 kg	7
232 - 264 lbs	105 - 120 kg	8
265 - 297 lbs	120 - 135 kg	9
297 - 330 lbs	135 - 150 kg	10

Please ensure that all vaccines are stored between 2ºC and 8ºC. If fridge temperatures fall out of this range, please call Niagara Region Public Health and Emergency Services at 905-688-8248 ext. 7396 or 1-800-505-6074

If you have any questions regarding the administration of this vaccine, please contact the office of the Medical Officer of Health at 905-688-8248 ext. 7590.

Public Health Ontario
PARTNERS FOR HEALTH

Santé publique Ontario
PARTENAIRES POUR LA SANTÉ

Management of patients with suspected rabies exposure

Guidance for health care providers working with your local public health unit

April 2017

Public Health Ontario

Public Health Ontario is a Crown corporation dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, frontline health workers and researchers to the best scientific intelligence and knowledge from around the world.

Public Health Ontario provides expert scientific and technical support to government, local public health units and health care providers relating to the following:

- communicable and infectious diseases
- infection prevention and control
- environmental and occupational health
- emergency preparedness
- health promotion, chronic disease and injury prevention
- public health laboratory services

Public Health Ontario's work also includes surveillance, epidemiology, research, professional development and knowledge services. For more information, visit www.publichealthontario.ca

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Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence.

PHO assumes no responsibility for the results of the use of this document by anyone.

Contents

Purpose

This guidance document is intended to support health care providers in working in conjunction with your local public health unit to appropriately manage persons with suspected rabies exposures. It will aid in the decision of whether to administer rabies post-exposure prophylaxis (rPEP), which consists of the following:

- **In a previously unvaccinated person**: rabies immune globulin on the first day of post-exposure prophylaxis (Day 0) and rabies vaccination on Days 0, 3, 7 and 14. In those who are immunocompromised or taking antimalarial drugs, an additional dose is provided on Day 28.
- **In a person who was previously appropriately vaccinated against rabies:** only two doses of rabies vaccine are required which are given on Days 0 and 3. No rabies immune globulin is required.

The management of suspected rabies exposures involves a number of considerations, including the type of animal involved in the exposure, the details of the exposure incident, and the knowledge of animal rabies in the geographic area where the exposure occurred. Local public health units are required to conduct a risk assessment on all individuals who have had a suspected rabies exposure.[1] While the ultimate decision to administer rPEP rests with the health care provider, the local public health unit's risk assessment provides valuable information to help determine appropriate management of suspected rabies exposures.

The guidance provided in this document is based on the advice in the rabies chapter of the Canadian Immunization Guide[2]and the Management of Potential Rabies Exposures Guideline, 2018 [3].

As with any guidance document, professional judgment remains essential and may result in decisions that differ from these general guidelines.

Immediate management

The initial management of any acute wound from an animal involves thoroughly cleaning the wound. The Canadian Immunization Guide advises the following:

> *"Immediate and thorough cleaning and flushing of the wound with soap and water is imperative and is probably the most effective procedure in the prevention of rabies. Care should be taken to clean the wound to its full depth. Flushing for approximately 15 minutes is suggested. 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."* [2]

Reporting to your Medical Officer of Health/public health unit

Under Ontario Regulation 557 of the *Health Protection and Promotion Act* [4], health care providers are required to notify their Medical Officer of Health/local public health unit of any person who has a suspected rabies exposure. This notification should occur as soon as possible and should provide the local public health unit with any available information.

Gathering information to assess risk and determine management of suspected rabies exposures

Upon notification of a suspected human exposure to rabies, local public health units are required to conduct a risk assessment to determine the need for rabies post-exposure prophylaxis (rPEP). To support the risk assessment, the local public health unit's roles include:

- tracking the prevalence of rabies in your community;
- arranging for observation of the animal, if appropriate and the animal is available;
- assisting in locating the animal if it is not initially available;
- arranging for rabies testing of the animal, if appropriate and necessary;
- providing the medications for rPEP, if deemed necessary.

When working with your local public health unit, you and/or your patient will be asked to provide available information including:

- demographic and other relevant information about the exposed person;
- information about the animal, its location, its vaccination status, and its owner;
- details of the exposure incident.

Only mammals can carry rabies. Some specific questions and considerations for suspected rabies exposures from various types of animals that can carry rabies can be found in the sections below:

Although your local public health unit conducts the risk assessment concerning suspected rabies exposure, the ultimate decision regarding administering rPEP rests with the health care provider.

Resources for guidance on rabies post-exposure prophylaxis (rPEP) administration

Once the decision is made that rPEP is warranted in a particular situation, please see the following documents for guidance on administering the rabies vaccine and immune globulin, as indicated:

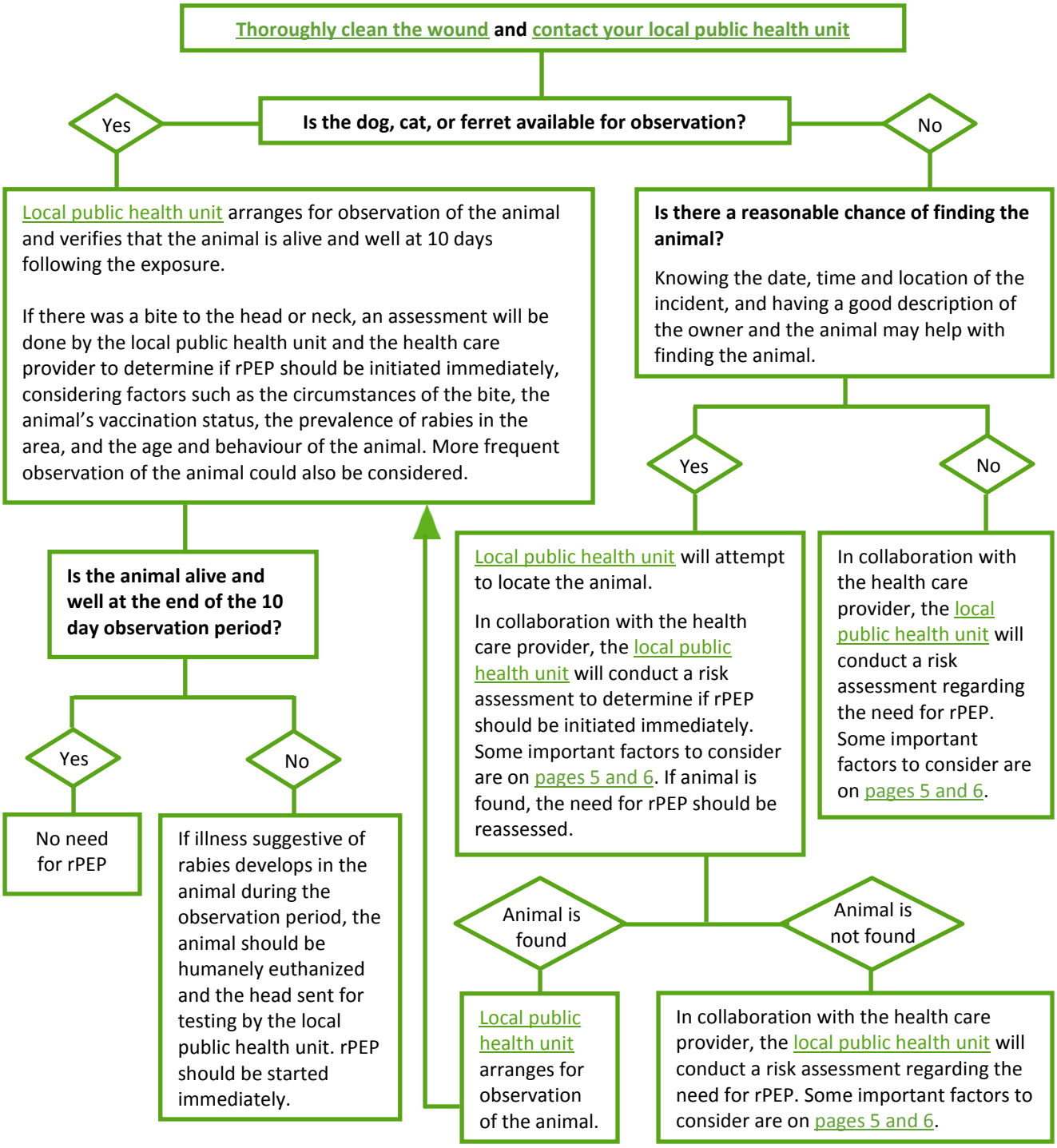
- Any information on the administration of rPEP provided by your local public health unit or included with the rabies immune globulin and vaccine.
- Ontario Ministry of Health and Long-Term Care. Management of Potential Rabies Exposures Guidelines, 2018.

  http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Management_of_Potential_Rabies_Exposures_2018_en.pdf
- National Advisory Committee on Immunization (NACI). Canadian Immunization Guide. Part 4: Active vaccines: 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
- National Advisory Committee on Immunization (NACI). Canadian Immunization Guide. Part 5: Passive immunizing agents: rabies immune globulin. https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-5-passive-immunization.html#p5a4e

Dogs, cats or ferrets – Management of suspected rabies exposures

Figure 1 provides information to consider when working with your local public health unit in determining the appropriate management, including the need for rabies post-exposure prophylaxis (rPEP), when a person presents with a bite or scratch from a dog, cat or ferret, or gets saliva from these animals into a break in the skin or onto a mucous membrane (i.e., eyes, nose, mouth).

Figure 1: Dogs, cats or ferrets post-exposure management algorithm



Dogs, cats or ferrets – Important factors to consider regarding the need for rabies post-exposure prophylaxis (rPEP) when the animal is not available for observation

Figure 2 provides some of the important factors that form part of the local public health unit's risk assessment of a suspected rabies exposure from a dog, cat or ferret that is not available for observation. Considering the following will help determine the risk of rabies and whether rPEP (i.e., rabies vaccine and rabies immune globulin, as indicated) is needed.

Figure 2: Important factors to consider regarding the need for rPEP when the dog, cat or ferret is not available for observation.

Important factors to consider	Background information	Impact on assessment[1]
Prevalence of rabies in the area When was the last case of rabies in the area (excluding bats)? How much recent rabies has been identified in animals in the area? What types of animals were recently found to have rabies? What is the risk of importation of rabid animals? How much rabies surveillance occurs in the area?	The local public health unit tracks the numbers and types of rabid animals in the area; however, the amount of surveillance of animals varies across Ontario, and may be limited in some areas. Data on rabid animals in Ontario are based on information from: • Canadian Food Inspection Agency (CFIA) • Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) • Ontario Ministry of Natural Resources Domestic animals (e.g., dogs, cats, farm animals) in Ontario with rabies are usually infected by wild animals unless the domestic animal has been imported from other areas.	The risk of rabies increases if there have been cases of rabies in the area (e.g., in the health unit area or in neighbouring health units) in non-bat species in the past few years. However, it should be noted that there is an ongoing potential risk of rabies importation into the area that may be unrecognized, especially if surveillance in the area is limited.

Continued on next page

Important factors to consider	Background information	Impact on assessment[1]
Did the animal appear to have an owner or could it be a stray?	Stray animals are more likely to have rabies as they are outdoors with more possibility to encounter rabid wildlife, may not be brought into care if they become ill and are not likely vaccinated.	Stray animals may be more likely to be infected with rabies.
What is the type of the exposure and location on the body? Was it a bite, scratch, or exposure to saliva in a break in the skin or onto a mucous membrane? Was the skin broken? Where on the body was the exposure?	For transmission to occur, saliva containing the rabies virus must enter a break in the skin or mucous membrane. Most human rabies results from bites. Human rabies from a scratch is extremely rare. The incubation period for bites on the head and neck may be quite short because of the proximity to the brain.	Although any exposure that results in saliva from a rabid animal coming into contact with a break in the skin or a mucous membrane can result in human rabies, the risk of rabies increases if the exposure was a bite wound. Because of a shorter incubation period for head and neck exposures, immediate rPEP may be indicated, as determined in conjunction with the other factors in the risk assessment.
Was the bite provoked or unprovoked? Did the exposed person approach the animal or did the animal approach the person?	Dogs/cats that are being fed, handled, or approached may bite or scratch; these would be considered provoked incidents.	If exposure occurred when the animal was provoked (e.g., the animal was being fed, handled, or approached), the provocation may have incited the exposure. If the animal approached the person without any provocation, this is potentially more concerning with respect to the risk of rabies in the animal.
Is the patient able to provide a reliable history?		Concerns about the reliability of the story from the patient may influence decisions regarding post-exposure prophylaxis.

Bats – Management of suspected rabies exposures

Rabies in bats is common although the exact prevalence is not known. The prevalence of rabies in captured bats sent for testing may overestimate the prevalence in wild bats. In 2015, 3.6% of all the bats submitted for rabies testing in Ontario were found to have rabies. [5]

Any direct contact with a bat requires appropriate management (i.e., testing the bat and/or administering rabies post-exposure prophylaxis - rPEP). The following will assist in determining if bat contact occurred or there is evidence of direct contact after potential exposures to bats.

Assessment of direct contact

Direct contact is defined as the bat touching the skin of the person or bat salivary exposure into a break in the skin or onto a mucous membrane (e.g., eyes, nose, mouth). Direct contact is ruled out if the bat did not touch the skin of the person, and if bat saliva did not enter into a break in the skin or onto a mucous membrane.

- **Contact through clothing** requires an assessment of whether direct contact with the skin may have occurred through the clothing:
    - When the person can give a reliable history and is certain that the bat did not touch the skin and bat saliva did not enter into a break in the skin or onto a mucous membrane, direct contact is ruled out.
    - If a child or person who cannot give a reliable history has had a bat landing on clothing, direct contact should be considered to have occurred.
- **Contact with a dead bat** is considered direct contact unless the dead bat was dried up at the time of contact, as the virus is easily killed by sunlight and drying.

Bat in the bedroom

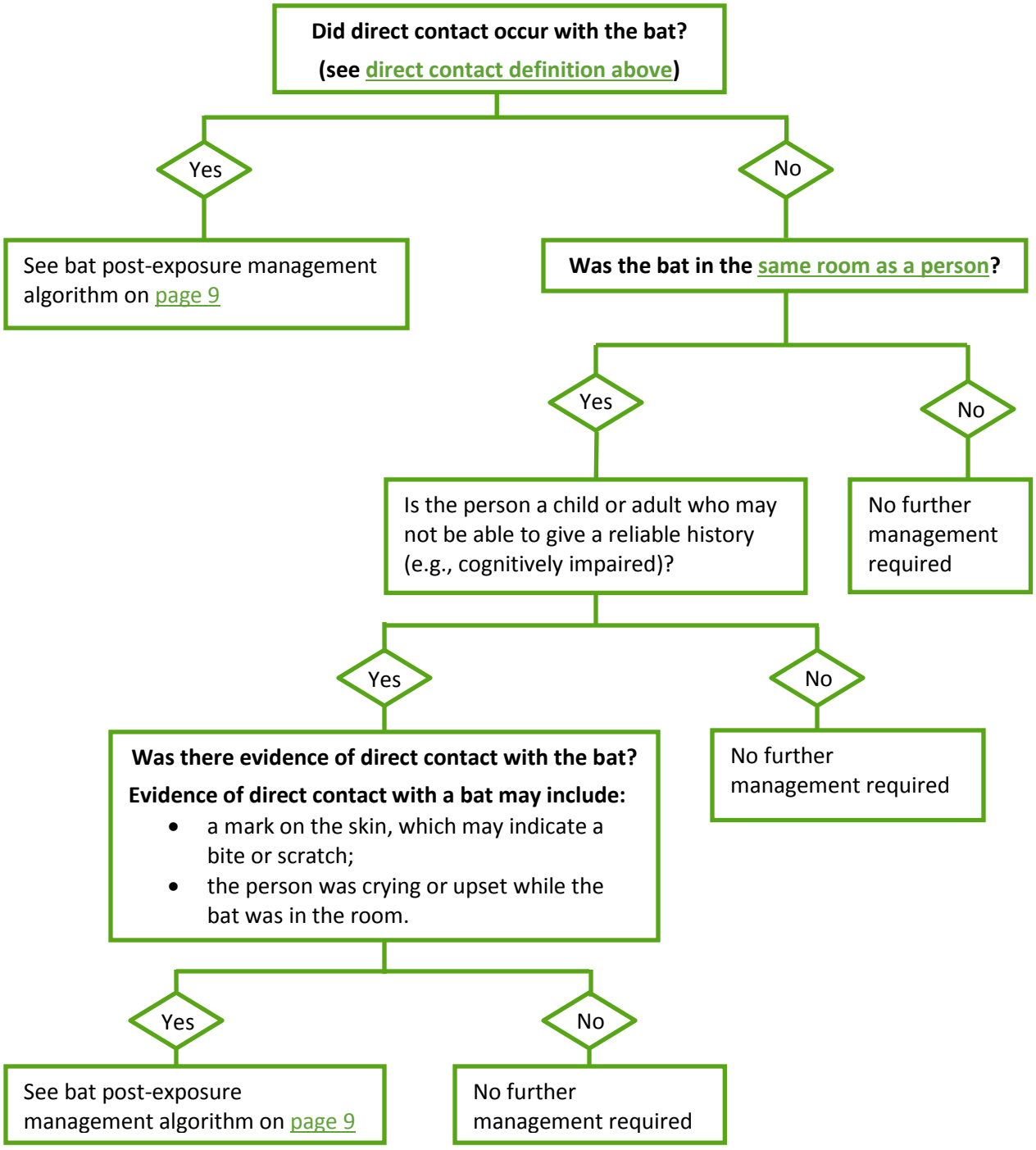
Prior to August 2008, there was a recommendation to offer rPEP to anyone who woke to find a bat in their room. This recommendation was changed because evidence indicated that when there is no recognized direct contact with a bat, the risk of rabies is extremely low.

Finding a bat in the room – even if the person was asleep – is therefore generally **NOT** a reason for prophylaxis **UNLESS** direct contact is known to have occurred or there is evidence of direct contact with the bat. If the bat was found in the room with a child or adult who is unable to give a reliable history, assessment of direct contact can be difficult.

Evidence of direct contact with a bat may include:

- a mark on the skin, which may indicate a bite or scratch;
- the person was crying or upset while the bat was in the room.

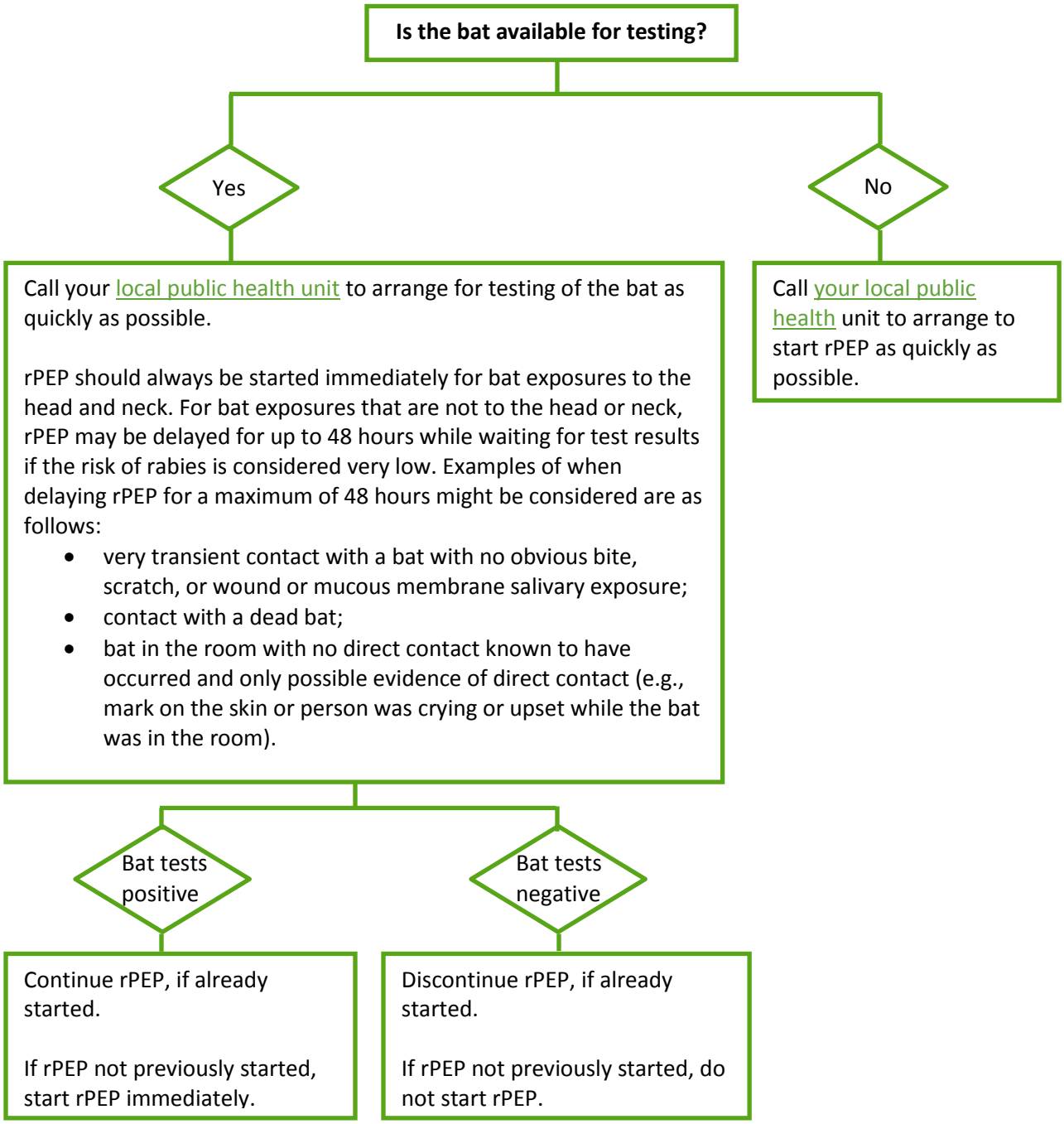
Figure 3: Assessment of exposure to bats



Bat post-exposure management algorithm

If direct contact has occurred or there is evidence of direct contact with a bat, Figure 3 will assist in determining the use of rabies post-exposure prophylaxis (rPEP).

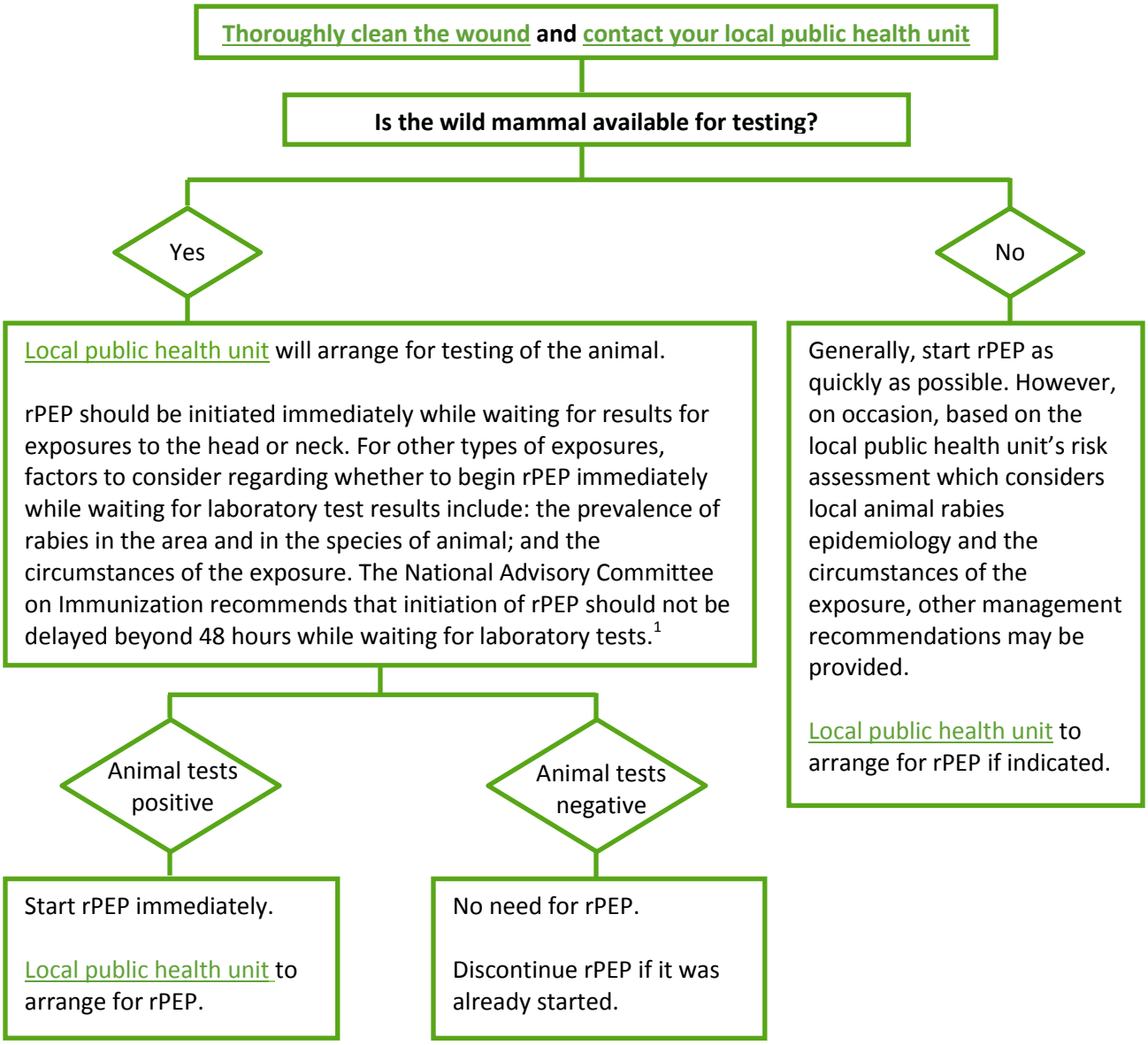
Figure 4: Bat post-exposure management algorithm



Wild mammals (e.g., raccoons, foxes, skunks, coyotes) not including rodents – Management of suspected rabies exposures

Figure 5 provides information to consider when working with your local public health unit in determining management when a person presents with a bite or scratch from a wild mammal (e.g., raccoon, fox, skunk, coyote), or gets saliva from these mammals into a break in the skin or onto a mucous membrane (i.e., eyes, nose, mouth). Considering the following will help determine the risk of rabies and whether rabies post-exposure prophylaxis (rPEP) is needed.

Figure 5: Wild mammal post-exposure management algorithm



Wild and domestic rodents (e.g., squirrels, chipmunks, rats, mice, hamsters, guinea pigs, gerbils, ground hogs (woodchucks), and beavers) and **lagomorphs** (e.g., rabbits and hares) – Management of suspected rabies exposures

The following provides information to consider when working with your local public health unit in determining management when a person presents with a bite or scratch from a wild or domestic rodent, or gets saliva from these animals into a break in the skin or onto a mucous membrane (e.g., eyes, nose, mouth). This includes squirrels, chipmunks, rats, mice, hamsters, guinea pigs, gerbils, ground hogs (woodchucks), beavers and lagomorphs (e.g., rabbits and hares).

Small rodents and lagomorphs:

Rabies is very rare in small rodents such as squirrels, chipmunks, rats, mice, hamsters, guinea pigs, gerbils, and lagomorphs (e.g. rabbits and hares), as these animals would generally be killed during the encounter with the other animal that is rabid. These small animals can, theoretically, become infected by bat strains of rabies; however, there have been no documented confirmed cases of transmission of bat strains of rabies from these animals to humans in North America.

For squirrels, chipmunks, rats, mice, hamsters, guinea pigs, gerbils, rabbits and hares, rabies post-exposure prophylaxis (rPEP) would generally only be considered if the animal's behaviour is highly unusual (e.g., if one of these animals attacked a person without provocation). A bite from these animals while feeding, touching or otherwise interacting with them would not be considered unusual behaviour.

Larger rodents:

In Canada, rabies is rare in larger rodents**,** such as groundhogs (woodchucks) and beavers. Exposure to these animals requires a risk assessment by the health unit in collaboration with the health care provider to determine the need for rabies post-exposure prophylaxis (rPEP). The risk assessment includes the frequency of rabies in these and other animals in the geographic area; the type of exposure; and the circumstances of the exposure, including whether it was provoked or unprovoked.

Livestock (e.g., horses, cattle, sheep, goats) – Management of suspected rabies exposures

Human exposures to livestock are usually related to saliva coming into contact with a break in the skin, with the exception of horses and swine, from which bites have been reported. Exposure to livestock (e.g. horse, cattle, sheep, goats) requires a risk assessment by the local public health unit in collaboration with the health care provider to determine the need for rabies post-exposure prophylaxis (rPEP). The risk assessment includes the frequency of rabies in these and other animals in the geographic area; the type of exposure; and the circumstances of the exposure, including whether it was provoked or unprovoked. An observation period of 14 days can be considered for these animals.

Other mammals such as non-human primates, exotic species, etc., including exposures to these animals in other countries – Management of suspect rabies exposures

For other mammals such as non-human primates and exotic species, including exposures to these animals in other countries, your local public health unit should be consulted regarding management of suspected rabies exposures from these types of mammals.

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3. Ontario. Ministry of Health and Long-Term Care, Public Health Division, Public Health Policy and Programs Branch, Infectious Disease Policy and Programs Unit. Management of potential rabies exposures, 2018. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Management_of_Potential_Rabies_Exposures_2018_en.pdf

4. *Communicable Diseases* - *General* RRO 1990, Reg 557. Available from: http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_900557_e.htm

5. Personal communication, Ministry of Health and Long Term Care, December 2016

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