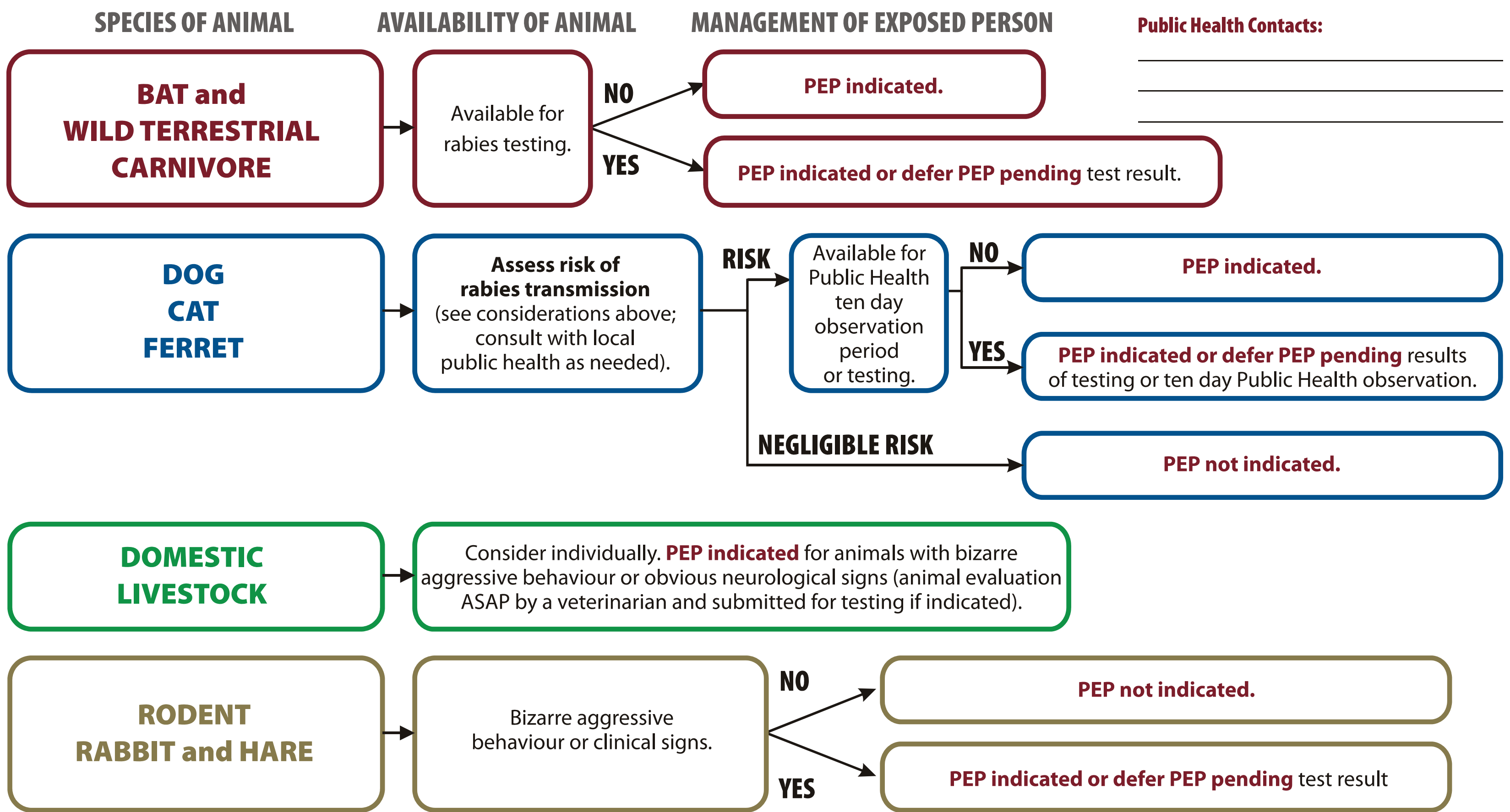


2023 Physician Rabies Risk Assessment Guidelines

Rabies post exposure prophylaxis (PEP) must be considered when potential exposures to rabies virus have occurred. If there is no exposure, PEP is not indicated.

Considerations for the assessment of risk include: species of animal, prevalence of rabies in that species, prevalence of rabies in other species in the area, type of exposure, circumstances of exposure, behaviour and vaccination status of a domestic animal, location and severity of bite, and age of exposed person. The availability of the animal influences management of exposed person.

Report human exposures to suspect rabid animal (PEP indicated or defer PEP pending) to Public Health. (Complete and submit *Hospital Report of Human Exposure to a Suspected Rabid Animal* form per reporting of Notifiable Diseases and Reportable Events.)



TYPE OF EXPOSURE

Bite: Any penetration of skin by teeth. Most common type of transmission to cause rabies.

Non-bite: Contamination of fresh, open cuts or scratches in skin or mucous membranes by saliva or neural tissue. Transmission of rabies rarely occurs from non-bite exposures.

Bat: Direct contact and a bite, scratch or saliva exposure into wound or mucous membrane can not be ruled out.

In a child, any direct contact with a bat should be considered a reason for intervention, as history to rule out a bite, scratch or mucous membrane exposure may not be reliable.

When a bat is found in the room with a child or an adult who is unable to give a reliable history, assessment of direct contact can be difficult. Factors indicating direct contact may have occurred include individual waking up crying or upset or observation of an obvious bite or scratch mark.

Recommendations Regarding the Management of Bat Exposures to Prevent Human Rabies, CCDR Nov 2009 Vol 35

SIGNS OF RABIES

Rabies affects the central nervous system. Animals may have limb paralysis and have difficulty moving or flying (bats); may have facial paralysis and drooling; may become excited and aggressive; wild animals may lose their fear of humans and appear unusually friendly; domestic animals may become depressed and try to hide in isolated places.

ANIMAL AND RISK OF RABIES

Rabies can infect any mammal. There are regional differences in the prevalence of animal rabies. Canine rabies strains predominate in Africa, Asia, Latin America and the Middle East. PEP should be initiated for bites from dogs originating in these areas prior to test or ten day observation results (*WHO Expert Consultation on Rabies, First Report*). In North America, rabies occurs mainly in certain wild terrestrial carnivore species and can spread to domestic livestock and pets. Animals most often proven rabid are skunks, foxes, raccoons, bats, cattle, and stray dogs and cats (*Canadian Food Inspection Agency*).

Bat: Regard as rabid unless geographic area is known to be rabies free.

Wild Terrestrial Carnivore: Skunk, fox, raccoon, coyote and other carnivores. Regard as rabid unless geographic area is known to be rabies free.

Dog, Cat and Ferret: Consider individually.

In low prevalence area (such as Canada) behaviour of the animal involved in exposure can also be assessed.

Unprovoked bite is when person did not surprise, antagonize or threaten animal, or enter its territory; and is more likely to indicate animal is rabid. **Provoked bite** is when person did surprise or antagonize animal and attack is animal's normal response. Bites inflicted on a person attempting to feed or handle an apparently healthy animal should generally be regarded as provoked.

Domestic pets with up-to-date rabies vaccination are unlikely to become infected with rabies.

Domestic Livestock: Consider individually. Cows, horses, pigs and other livestock may be rabid. Exposures may warrant prophylaxis if animal behaviour was unusual.

Rodent, Rabbit and Hare: Consider individually. Squirrels, hamsters, guinea-pigs, gerbils, chipmunks, rats, mice or other small rodents, rabbits and hares are rarely found rabid. Exposures may warrant prophylaxis if animal behaviour was highly unusual. Larger rodents (ground hogs, beavers) can potentially carry rabies but this is rare.

AVAILABILITY OF ANIMAL

Fluorescent antibody testing (FAT) on animal brain is done by Canadian Food Inspection Agency. FAT results available 72 hours after lab receives specimen.

Available wildlife should be submitted for rabies testing.

Healthy dogs, cats and ferrets can be observed for ten days following exposure. If animal remains asymptomatic, the animal did not have transmissible rabies at the time of exposure. If animal develops illness during ten day observation period it should be evaluated by a veterinarian.

Domestic livestock and pets with clinical signs suggestive of rabies should be evaluated by a veterinarian.

RABIES POST EXPOSURE PROPHYLAXIS (PEP)

Start as soon as possible after exposure and offer to exposed individuals regardless of the elapsed interval. PEP should begin immediately for bites to head and neck region. PEP may be discontinued if FAT negative; however if suspicion of rabies remains high PEP should continue. There are no contraindications to PEP after significant exposure to a proven rabid animal. Adverse reactions can occur.

Local Wound Care

Thorough cleaning and flushing the wound with soap and water is the most important post exposure measure. Suturing wound should be avoided if possible, and tetanus prophylaxis and antibiotics should be given as appropriate.

Post-exposure prophylaxis of previously unimmunized individuals

Human rabies immunoglobulin (Rablg) on day 0 (20 IU/kg body weight). This is applicable to all age groups. Preferably, full dose of Rablg should be thoroughly infiltrated into wound and surrounding area. If not anatomically feasible, any remaining volume should be injected intramuscularly at a site distant from vaccine administration. When more than one wound exists, each should be locally infiltrated with a portion of the Rablg using a separate needle and syringe. Rablg may be diluted 2- to 3-fold in a solution of 0.9% sodium chloride to provide the full amount required for good infiltration of wounds. If the site of the wound is unknown, the entire dose should be administered intramuscularly.

Because of interference with active antibody production, do not exceed recommended dose Rablg. Vaccine-induced antibodies begin to appear within 1 week, there is no value in administering Rablg more than 8 days after initiating an approved vaccine course.

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

Vaccine administered intramuscularly into deltoid muscle (never gluteal region) or anterolateral upper thigh in infants.

- immunocompetent persons:** Four doses of 1.0 mL of approved vaccine (HDCV or PCECV) administered IM. First dose (on day 0) and additional doses on each of days 3, 7, and 14 after the first dose.
- immunocompromised persons and those taking chloroquine and other antimalarials:** Five doses of 1.0 mL of approved vaccine (HDCV or PCECV) administered IM. First dose (on day 0) and additional doses on each of days 3, 7, 14, and 28 after the first dose. Immunocompromised persons include those taking systemic corticosteroids (equivalent to ≥ 20 mg/kg daily or ≥ 2 mg/kg daily in children of prednisone for ≥ 14 days) or other immunosuppressive agents, and those with immunosuppressive illnesses (e.g. congenital immunodeficiency, human immunodeficiency virus infection, leukemia, lymphoma, generalized malignancy).

Post-exposure prophylaxis of previously immunized individuals

PEP differs according to which preparation of vaccine was received:

- Two doses (HDCV or PCECV) one injected immediately and the other 3 days later, without Rablg, are recommended for exposed individuals with the following rabies immunization history:
 - completion of approved course of pre- or post-exposure prophylaxis (HDCV or PCECV);
 - completion of immunization with other types of rabies vaccine or with HDCV or PCECV according to unapproved schedules as long as neutralizing rabies anti body was demonstrated in serum.
- A complete course (HDCV or PCECV) plus Rablg is recommended:
 - for those who received rabies vaccines in the past but do not fulfill criteria listed above. A serum sample may be collected before vaccine is given, and if an acceptable antibody (>0.5 IU/mL) is demonstrated the course may be discontinued, provided at least two doses of vaccine have been given.