MANAGEMENT OF HUMAN EXPOSURES TO SUSPECT RABID ANIMALS

A GUIDE FOR PHYSICIANS AND OTHER HEALTH CARE PROVIDERS

July 2010 Update

DIVISION OF INFECTIOUS DISEASES & EPIDEMIOLOGY
RABIES CONTROL PROGRAM

Major Update: Vaccine schedule reduced to 4 doses from 5, (except in immunocomromised persons, see pg 5).

MANAGEMENT OF HUMAN EXPOSURES TO SUSPECT RABID ANIMALS: A GUIDE FOR PHYSICIANS AND OTHER HEALTH CARE PROVIDERS

Background

Since its arrival in 1994, the raccoon adapted strain of the rabies virus has become enzootic (endemic) among the wild animal population throughout the state. Animals with the greatest susceptibility to this strain are raccoons, with spill over into the skunk, fox and woodchuck populations **(target or vector species).** Unimmunized pets such as cats, dogs and ferrets **(suspicious species)** and strays can acquire rabies through exposure to wildlife. Cattle, sheep, pigs, horses and other mammals can also develop rabies. Animals such as rodents, rabbits, squirrels and opossums rarely acquire rabies and are considered **(low-risk species)**. ***Humans may be exposed to the rabies virus through a bite, scratch or direct contact, where there is contamination of a scratch, abrasion, mucous membrane, or fresh open wound with potentially infectious material such as saliva or central nervous system tissue from an animal.*** The majority of such exposures are from dog bites or cat bites/scratches. Often indirect exposures occur, such as when fresh saliva from a target species is carried passively in a wound or on the muzzle or fur of a pet animal. Exposure by inoculation of a mucous membrane (nose, eyes) or into an open skin lesion or wound of the human caretaker is, theoretically possible in such a situation. Of note, bats in RI are also endemic for the bat strain of rabies virus. ***Bat rabies strains are highly transmissible to humans, and prophylaxis is often recommended for exposure by proximity even without a visible wound, if the bat is not available for testing.***

Risk Assessment

The clinical care of a person who may have been exposed to rabies requires first the assessment of whether a significant bite or non-bite exposure has occurred, and then an assessment of the likelihood that the animal involved was rabid. To this end, it is extremely important to capture the exposing animal for quarantine, or euthanasia and testing. 10-day quarantine is the recommended option only in the case of a captive dog or cat or ferret, which appears healthy. This action is based on the biologic fact that cats, dogs and ferrets shed rabies virus in the saliva only for the 10-day period immediately prior to death. A dog, cat or ferret that is alive and well at the end of a 10-day period of observation counting from the date of exposure could not have transmitted rabies to the patient.

Target species (or pets with clinical rabies symptoms) should be euthanized and tested as soon as possible, with vaccination decisions based on results. Exposures by animals that escape capture, as well as all low-risk species, livestock and exotic animals should be assessed on a case-by-case basis with DOH expert consultation.

Primary Prevention Actions (to avoid exposure to potentially rabid animals)

- Vaccinate pets
- Avoid contact with wildlife and strays
- Wear gloves to tend pets with wounds of unknown origin, or immediately after encounters have occurred between the pet and either stray animals or wildlife

- ❖ Contain garbage to prevent attracting animals and animal proof your homes.
- ❖ Vaccinate persons in high-risk occupations (vets etc) with a pre-exposure schedule of rabies vaccine (3 doses of vaccine on days 0, 3 and 21 or 28).

Secondary Prevention (after exposure has occurred to potentially rabid animals)

- ❖ Vigorously wash exposed site
- ❖ Capture, quarantine, and/or test exposing animal (after euthanasia)
- ❖ Administer post-exposure prophylaxis with rabies vaccine as recommended.

Reporting Requirements for Animal Bites

Animal bites to humans are required to be reported to the Department of Health (DOH) by phone to (401) 222-2577 between 8:30 am and 4:30 pm or to (401) 272-5952 after hours or by fax to (401) 222-2477 within 24 hours of being brought to the notice of a physician or health care facility. Do not fax reports after hours except for low risk exposures occurring after hours or on weekends, which in your assessment need no attention until the next working day. Use the "Animal Bite Case Report" form as a guide to obtain the history and fax to the Department. This is the basic intake form which DOH staff will use to open a case-management record. Once an animal bite or suspect exposure is reported, DOH staff will provide case-management services until final resolution of the case. These services include exposure evaluation, confirmation of animal capture and quarantine or confirmation of animal capture and euthanasia, coordination with the laboratory for follow up on animal testing results, notification to the patient of the status of the investigation, rabies risk communication to the patient and release/referral for vaccine and RIG as indicated.

Make a telephone report to the local police department of the city/town where the exposing animal is located. This will involve the animal control officer (ACO) expeditiously. ACO's will initiate animal capture, quarantine or euthanasia as indicated on a case-by-case basis in accordance with the rules and regulations of the State Rabies Control Board, and will keep us informed.

Rabies Vaccine and Rabies Immune-Globulin (RIG):

Rabies vaccine and RIG are purchased and stocked at hospital inpatient pharmacies. Use the decision tree "Management of Human Exposures to Suspect Rabid Animals" as a guide to determine the immediate need for post-exposure rabies vaccination. Other than direct or indirect exposures to target species urgent vaccination is rarely required. A window of 5 to 7 days is available to try to capture and quarantine stray animals before vaccination is embarked upon. Note that rabies vaccine is in short supply, extremely expensive and not without side effects. **Therefore, as a policy, vaccine must be released on a case-by-case basis only upon pre-authorization by a DOH physician (401 222-2577) or after hours (401 272-5952) from hospital inpatient pharmacies.** Standard CDC regimens for administration of vaccine and RIG should be followed (Table 1). Note that egg allergy is a contraindication for use of Purified Chick Embryo Vaccine (PCECV), but not for Human Diploid Cell Vaccine (HDCV). Initial risk assessment and referral will be actively case managed by DOH public health staff nurses. Subsequent arrangements for follow-up for completion of therapy are the responsibility of the attending physician and of the hospital initiating the course.

Rabies Control Community Partners

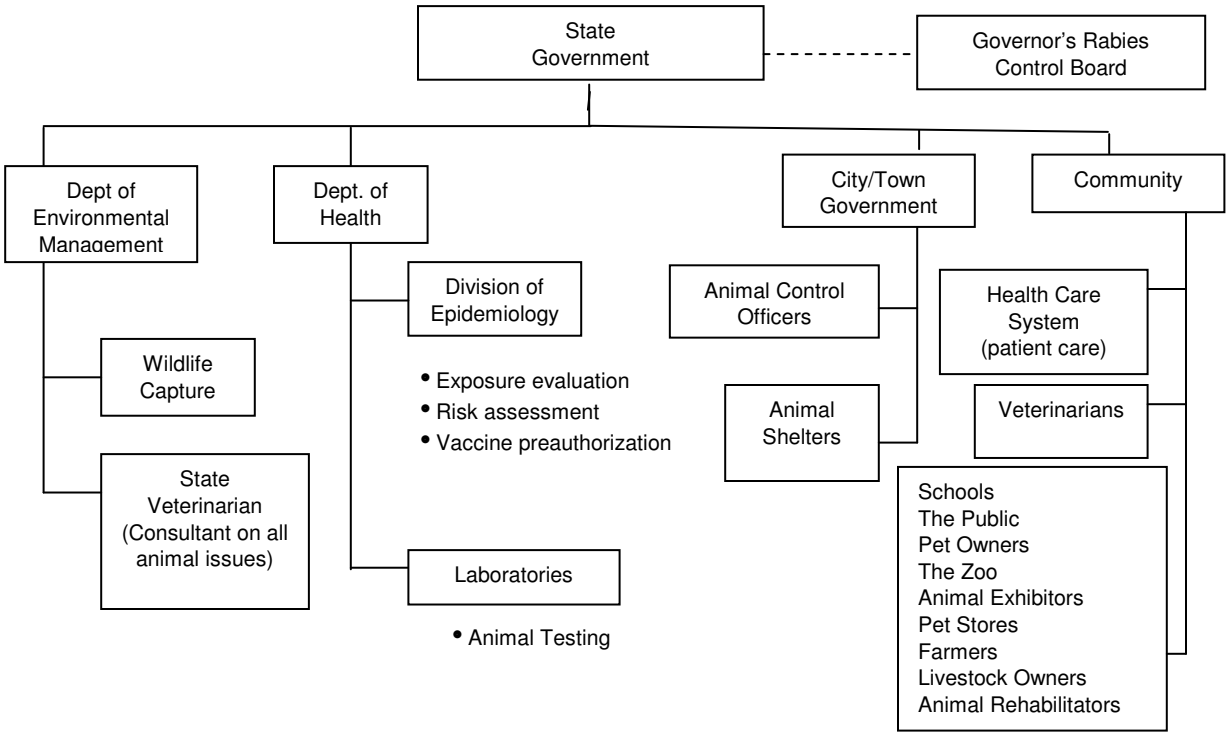


Table 1. Rabies post-exposure prophylaxis schedule, United States, 2010 (adapted from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm)

Vaccination status	Intervention	Regimen*
Not previously Vaccinated	Wound cleansing **AND**	All post-exposure treatment should begin with immediate thorough cleansing of all wounds with soap and water. If available, a virucidal agent such as a povidone-iodine solution should be used to irrigate the wounds.
	Human Rabies Immune Globulin (HRIG) **AND**	Administer 20 IU/kg body weight. If anatomically feasible, The full dose should be infiltrated around the wound(s) and any remaining volume should be administered IM at an anatomical site distant from vaccine administration. Also, HRIG should not be administered in the same syringe as vaccine. Because HRIG might partially suppress active production of antibody, no more than the recommended dose should be given.
	Rabies Vaccine	Human Diploid Cell Vaccine(HDCV), or Purified Chick embryo vaccine (PCECV††), 1.0 ml, IM (deltoid area†), one each on days 0**, 3, 7, 14 (**Exception:** in persons with immunosuppression, administer a fifth dose on day 28, and follow up with a FDA approved titer such as RFFIT, 2 weeks after completion of last dose)).
Previously vaccinated ¶	Wound cleansing **AND**	All post-exposure treatment should begin with immediate thorough cleaning of all wounds with soap and water. If available, a virucidal agent such as a povidone-iodine solution should be used to irrigate the wounds.
	Rabies Vaccine **HRIG should not be administered.**	HDCV, or PCEC†† 1.0 mL, IM (deltoid area†), one each on days 0 ** and 3.

* These regimens are applicable or all age groups, including children.

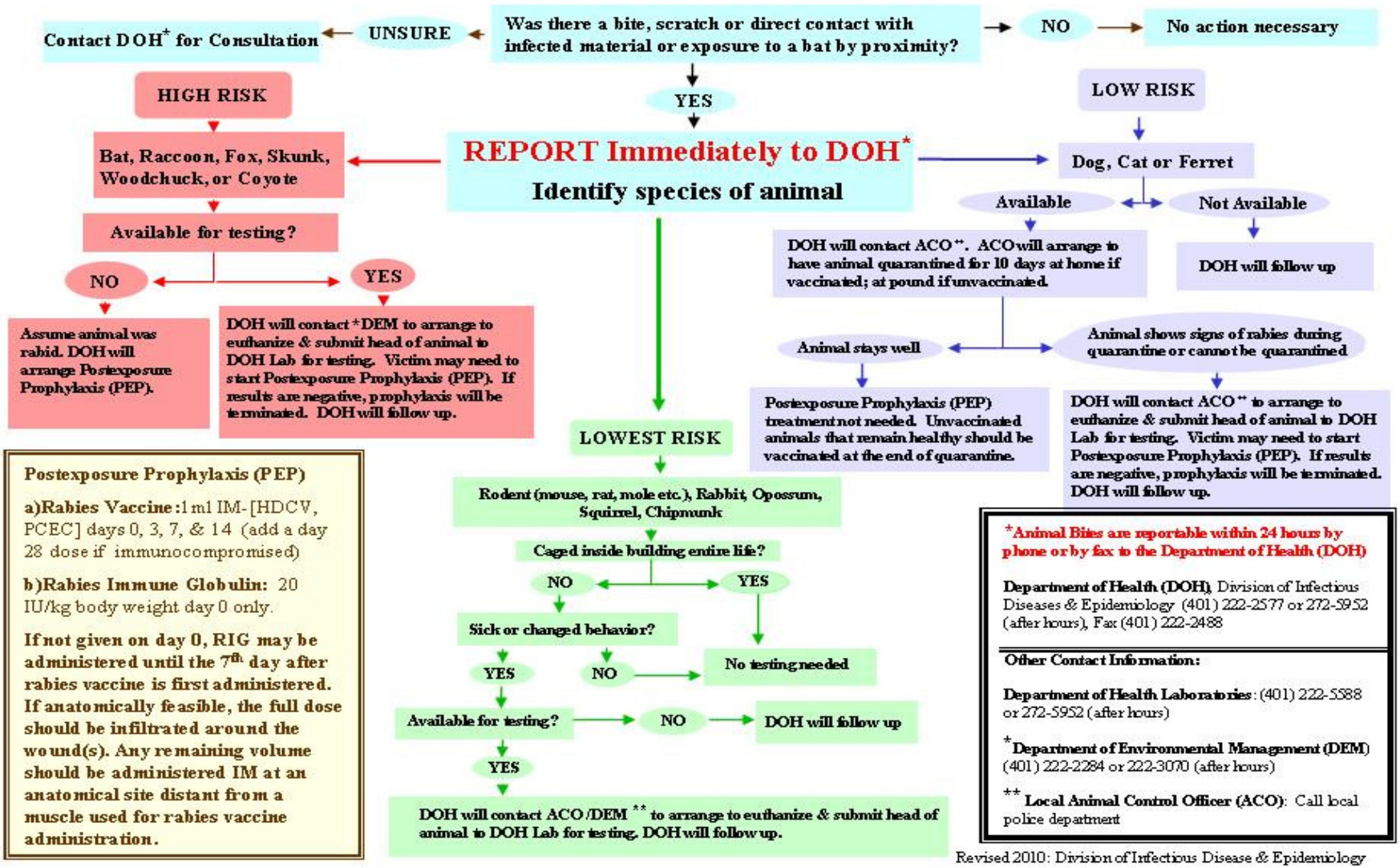
† The deltoid area is the only acceptable site of vaccination for adults and older children. For younger children, the outer aspect of the thigh may be used. Vaccine should never be administered in the gluteal area.

** Day 0 is the day the first dose of vaccine is administered.

¶ Any person with a history of a complete pre-exposure or post-exposure vaccination regimen with HDCV, PCECV or rabies vaccine adsorbed; previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.

†† If patient reports significant egg allergy, do not use PCECV.

Rhode Island Department of Health
Management of Human Exposure to a Suspected Rabid Animal



Postexposure Prophylaxis (PEP)

a)Rabies Vaccine: 1 ml IM-[HDCV, PCEC] days 0, 3, 7, & 14 (add a day 28 dose if immunocompromised)

b)Rabies Immune Globulin: 20 IU/kg body weight day 0 only.

If not given on day 0, RIG may be administered until the 7th day after rabies vaccine is first administered. If anatomically feasible, the full dose should be infiltrated around the wound(s). Any remaining volume should be administered IM at an anatomical site distant from a muscle used for rabies vaccine administration.

***Animal Bites are reportable within 24 hours by phone or by fax to the Department of Health (DOH)**

Department of Health (DOH), Division of Infectious Diseases & Epidemiology (401) 222-2577 or 272-5952 (after hours), Fax (401) 222-2488

Other Contact Information:

Department of Health Laboratories: (401) 222-5588 or 272-5952 (after hours)

***Department of Environmental Management (DEM)** (401) 222-2284 or 222-3070 (after hours)

** **Local Animal Control Officer (ACO)**: Call local police department

Revised 2010: Division of Infectious Disease & Epidemiology

Rhode Island Department of Health (RIDOH) – Animal Bite Case Report Form

RABIES VACCINE AND RABIES IMMUNE GLOBULIN ADMINISTRATION REQUIRES PRE-AUTHORIZATION BY RI DOH PHYSICIAN

For office use only

Record number: _____ Rabies Number _____ Does this case involve human exposure?: ☐ Yes ☐ No

Summary and Disposition: _____

Patient Information :

Name: Last: _____ First: _____: ☐ Male ☐ Female Age: _____ Date of Birth: ___ /___ /_____

Address: Street: _____ City _____ Zip Code_____

Phone Number(s): Home: _____ Work: _____ Cell: _____

Wt (in lbs): _____ **Insurance** (only needed for vaccine recipients): ☐ None ☐ Yes Name of Plan: _____

Human Exposure OR Incident Information:

Incident Date : _____ /_____ /_____ City/Town of Incident: _____ Report Date: _____ /_____ /_____

Reported By: _____ Phone: _____

Describe Incident: _____

_____

(continue on back)

Exposing animal Information:

Type: ☐ Dog (☐ Stray ☐ Owned) ☐ Cat (☐ Stray ☐ Owned) ☐ Bat ☐ Racoon ☐ Skunk ☐ Other (*specifyspecies*): _____

Status (*check all that apply*): ☐ Captured ☐ Retrievable ☐Quarantined ☐Euthanized ☐ Lab Exam

Rabies Vaccination Status: ☐ UTD ☐ Not UTD ☐ Unknown ☐ Does Not Apply

Owner (if not victim): _____

Address: _____ Phone: _____

Wound Information:

Type: ☐ Bite – Penetration of the skin by teeth ☐ Scratch ☐ Abrasion ☐ Proximity (bats)

☐ Saliva of animal on wound lesions/mucosa

Location: ☐ Arm ☐ Leg ☐ Head/Neck ☐Trunk Specify Location:_____

Lab Exam (animal):

Date of Report: _____ /_____ /____ Exam Results: ☐ Positive ☐ Negative ☐ Inconclusive ☐ Unable to Test.

If Bat note Species: _____

Recommendations for post exposure prophylaxis:

Immunosupressed: ☐ No ☐ Yes Specify Condition (contact medical provider as needed): _____

☐ No risk exposure (zero risk): No vaccine Recommended

☐ Rabies exposure: HRIG and 4 doses vaccine released

☐ Rabies exposure (person immunocompromised): HRIG and 5 doses vaccine released (Titer required 2 weeks after last dose in series)

☐ Patient Refused Vaccine (after risk counseling by nurse and/or MD)

☐ Exposure in person previously vaccinated with an FDA approved vaccine (HDCV or PCEC): 2 doses vaccine released (No HRIG)

☐ "Off schedule" vaccination (describe): _____

Dispensing Pharmacy: _____ Authorizing DOH Physician: _____DOH Nurse_____

Place of RX: 1st Dose _____ Subsequent doses: _____

Return Form to: Rhode Island Department of Health, Division of Infectious Disease and Epidemiology, Room 106, 3 Capitol Hill, Providence, RI 02908 or Fax to (401) 222-2477 or phone report to (401) 222 2577, (401)272 5952 after hours

Form Updated: Aug 3, 2010