RABIES, HUMAN & ANIMAL

1. **Agent**: Rabies virus.

2. **Identification:**

   a. **Symptoms**: An acute encephalomyelitis of mammals, especially carnivores, characterized by central nervous system involvement leading to paralysis and death.

   b. **Differential Diagnosis**: Other causes of encephalitis, tetanus, tick paralysis, West Nile paralysis, poliomyelitis ascending myelitis, lead encephalopathy, anti-NMDA (N-methyl D-aspartate) receptor encephalitis, and various forms of acute meningitis.

   c. **Diagnosis:** Suggested by a history of exposure to a mammal species that is considered to be a rabies reservoir in the geographic location where exposure occurred (or if animal recently imported from that location). Risk increases considerably if the animal tested positive for rabies, or was a high-risk species and was not tested or quarantined, and its health monitored, after the exposure.

   Several tests are necessary to diagnose rabies ante- mortem (before death) in humans; no single test is sufficient. Tests are performed on samples of saliva, serum, spinal fluid, and skin biopsies of hair follicles at the nape of the neck (nuchal area). Saliva can be tested by virus isolation or reverse transcription followed by polymerase chain reaction (RT-PCR). Serum and spinal fluid are tested for antibodies to rabies virus. Nuchal skin biopsy specimens are examined for rabies antigen in the cutaneous nerves at the base of hair follicles.

3. **Incubation:** In humans, from 10 days to greater than 1 year; in the majority of cases, 14 to 56 days. Period tends to shorten as severity of exposure increases. In animal, generally 15 to 50 days, but variable and in rare cases even several months or longer.

4. **Reservoir**: In the United States, distinct strains of rabies virus have been identified in bats, skunks, foxes, raccoons and mongoose (Puerto Rico). In Los Angeles County, currently only the bat strain of rabies is endemic. All species of mammals are susceptible to rabies virus infection and may be capable of rabies transmission. Small rodents such as mice, rats and gophers are not considered reservoirs.

5. **Source**: Rabies virus shed in the saliva of a rabid animal. Salivary glands and neural tissues from rabid animals are also potentially infectious material.

6. **Transmission**: Transmission to humans mostly occurs when the virus-laden saliva is introduced through bite wounds. Note that bat bites may be extremely small and heal quickly. Any bat encounter should be assessed for a possible unrecognized bite and rabies exposure. Contact with the blood, urine or feces of a rabid animal does not constitute an exposure. Although rare, it is possible that a person could be infected through contact with potentially infectious material such as saliva or neural tissue into open cuts in skin, or onto mucous membranes. Transmission may occur by ingestion of infected material or inhalation of contaminated air (e.g., in caves where bats roost). Human-to-human transmission has only been documented through organ and corneal transplant.

6. **Communicability**: In cats and dogs for 1-5 days before onset of clinical signs and during course of disease. Wild animals such as skunks, bats, and foxes may have virus present in saliva for long periods before onset of clinical symptoms.

7. **Specific Treatment**: None.
   See **RABIES PREVENTION** for specific instructions.

8. **Immunity**: None known. Uniformly fatal.

REPORTING PROCEDURES

1. **Reportable**: *California Code of Regulations*, Title 17, Sections 2500, 2604, and 2606 Los Angeles County Ordinance 10.72.010.

a. Immediately telephone report of human case or suspect to Morbidity Unit.

b. Call ACDC. After working hours, contact the Administrative Officer of the Day through the County Operator.

c. Report animal bite, and current animal location (if known) to Veterinary Public Health.

2. **Reporting Forms**:

HUMAN RABIES CASE REPORT (CDPH 8526).

RABIES EXPOSURE QUESTIONNAIRE FOR HEALTHCARE WORKER (to be completed by ACDC)

ANIMAL BITE REPORTING FORM

3. **Epidemiologic Data:**

a. Date person bitten; severity and location of bite; first signs of abnormal animal behavior.

b. Location and identification of biting animal and owner.

c. Current status of quarantine or testing of biting animal (rabies testing can only be performed only on deceased animals).

d. History of circumstances of bite, e.g., whether animal provoked.

e. Rabies vaccination status of biting animal.

f. Recent travel history of patient and biting animal.

g. Occupational association with domestic or wild animals.

h. Rabies vaccination status of patient and other exposed contacts.

i. Recent surgery, particularly organ or tissue transplantation.

CONTROL OF CASE, CONTACTS & CARRIERS

FOR POST-EXPOSURE PROPHYLAXIS

Public Health Nursing Home Visit Protocol: Home visit as necessary – a face to face interview is conducted as necessary.

Refer to **"Public Health Nursing Home Visit AS NECESSARY (HVAN) Algorithm" (B-73 Part IV Public Health Nursing Home Visit Protocol).**

Investigate the day of report.

Consult with Acute Communicable Disease Control regarding investigation.

HUMAN CASE:

1. **Precaution**: Contact precautions, especially for saliva and respiratory secretions, for duration of illness

2. Search for persons and other animals bitten or exposed to saliva.

CONTACTS: Anyone in contact with saliva.

The same guidelines are used for treatment of persons significantly exposed by animal bite as those exposed to human case's saliva.

CARRIERS: Not applicable.

PREVENTION/EDUCATION

1. Vaccinate all dogs and cats against rabies.

2. Recommend pre-exposure prophylactic vaccination for high-risk occupations, e.g., animal control officers, veterinarians, and zookeepers.

3. Report all animal bites and bat encounters to Veterinary Public Health.

4. Report animals manifesting strange behavior to local animal control agency.

5. Do not pick up or handle wildlife, especially bats or sick animals or animals behaving strangely.

6. If a bat is found inside of a home where people or pets could have slept, do not let the bat escape outdoors. Call animal control. Bat should be collected by animal control for rabies testing.

7. Avoid exposure to carnivorous wildlife. Do not keep wild animals as pets.

8. Warn medical personnel of hazards of saliva and importance of universal infection control precautions.

DIAGNOSTIC PROCEDURES

Consult with ACDC and Virology Section of Public Health Laboratory.

PREVENTION OF RABIES AFTER ANIMAL BITES

RABIES PROPHYLAXIS FOR HIGH-RISK ANIMAL EXPOSURES

1. ASSESSMENT OF EXPOSURE

   a. Determine the current location of the biting animal, so that it may be assessed for rabies by the Veterinary Health Program. If the animal is deceased, its body should be held in a cool area for rabies testing. Note that if the animal ultimately tests negative for rabies, the bite victim will NOT need rabies post-exposure prophylaxis. Timely arrangement of quarantine or testing of the biting animal is critical for determining exposure.

   b. Bite exposure

      A bite exposure to rabies virus occurs when saliva or other potentially infectious material (e.g., neural tissues) is introduced into intact skin through a cut into the skin. Bite exposure is considered a significantly higher risk exposure than a non-bite exposure.

   c. Non-bite exposure

      Non-bite exposure occurs when saliva or other potentially infectious material comes in contact with mucous membrane without a bite. These are in general much lower risk than bite exposure and rarely cause rabies.

      High risk non-bite exposures have been documented among surgical recipients of corneas, solid organs and vascular tissue transplanted from a patient who died of rabies.

      Aerosolization of rabies virus has also been documented to lead to human rabies in persons exposed to large amounts of aerosolized rabies virus in the laboratory setting and in caves containing bats including domestically (Southwestern US).

      Exposure to blood, urine, or feces does not constitute exposure. Contact of saliva to intact skin does not constitute exposure.

   d. Bat exposures: Bats are by far the most common type of animal diagnosed with rabies in LA County. Bat rabies variants are responsible for most human rabies in the US. Some species of bats are very small, with very small teeth. A bite from a rabid bat may be extremely small, might not bleed, may cause minimal pain (might not wake a sleeping person), and heal quickly. Any bat encounter should be assessed for a possible unrecognized bite and rabies exposure. Bats involved in a human exposure should be tested for rabies if possible.

      Assess exposure—determine if bite, scratch, or mucous membrane exposure may have occurred.

   e. Human to human exposures: Infection via organ and tissue transplantation has been documented for corneas, solid organs, and vascular tissue.

      Although no human-to-human transmission within the US has been documented, medical staff should assume saliva and tissues may contain infectious virus, use proper precaution including wearing gowns, goggles, masks, gloves, particularly during intubation and suctioning for suspected human rabies cases.

2. REVIEW RABIES SURVEILLANCE DATA FROM AREA WHERE BITE EXPOSURE FROM POTENTIAL RABID ANIMAL OCCURRED.

   a. Bats – Rabid bats have been documented in 49 states; only Hawaii is free of bat rabies. All bat exposures are considered high risk exposure. Exposure to bat saliva can occur through minor bites.

   b. Terrestrial carnivores – Terrestrial rabies strains in the US include raccoon, skunk, fox and mongoose (Puerto Rico) rabies. All species of mammals are susceptible to rabies virus infection and may be capable of rabies transmission, including coyotes, wolves, mountain lions and opossums. Clinical signs of rabies in wildlife are not reliable. All such exposures should be considered as potentially rabid.

   c. Other wild animals – Small rodents such as squirrels, chipmunks, rats, mice, hamsters, guinea pigs, gerbils, rabbits and hares are considered to be very low risk for rabies.

Domestic dogs, cats, and ferrets –

   d. Bites from healthy, normally behaving dogs, cats, and ferrets from LA County are extremely low risk for rabies. However, the risk of rabies may be elevated from dog, cat, and ferret bites occurring outside of LA County, where terrestrial strains of rabies may exist. The Public Health Department of the jurisdiction where the bite occurred should be consulted.

      While the dog-maintained rabies virus variant was eradicated from the United States in 2007, dogs and cats from countries where the dog-maintained rabies virus variant is still endemic are regularly imported into the US, increasing the risk for the re-introduction of dog-maintained rabies virus variant into the US. Enforcement of rabies vaccination and animal licensing is also not universally enforced in the US. Any dog, cat, or ferret that bites a person should be confined and observed for 10 days regardless of the rabies vaccination status of the biting animal.

      In many developing countries, dog bites continue to be of high risk for human exposure to rabies.

3. CONSIDER CIRCUMSTANCES OF BITING INCIDENT AND VACCINATION STATUS OF EXPOSING ANIMAL

   a. Unprovoked vs. provoked – An unprovoked attack by an animal, especially an attack on more than one person or animal, is more likely to be associated with rabies than a provoked attack.

   b. Vaccination status – An animal up to date on rabies vaccination is unlikely to be infected with rabies.

TREATMENT OF WOUNDS AFTER POTENTIALLY RABID EXPOSURE

Wound cleansing – Thorough cleaning of all wounds with soap and water should be done immediately after bite exposure from any animal regardless of vaccination status. If available, use a virucidal agent such as povidone-iodine to irrigate the wounds. Assessment of the need for a tetanus vaccine booster should also be considered.

POST-EXPOSURE PROPHYLAXIS AFTER POTENTIALLY RABID EXPOSURE

Human rabies immune globulin (HRIG)

- Should be administered only once as the initial treatment to previously unvaccinated persons, or who did not complete an entire pre-exposure vaccination protocol. For the patient who has previously been vaccinated against rabies, see below.
- HRIG provides immediate rabies virus neutralizing antibody coverage until the patient responds to vaccination.
- Can be administered up to and including Day 7 after initiation of the vaccine series.

- Recommended dosage of HRIG is 20 IU/kg body weight. Manufactured in 150 iu/mL and 300 iu/mL formulations in 2mL or 10mL vials.
- Ideally the entire dose should be infiltrated around the area of the wound. The remaining amounts are administered I M at an anatomical site(s) distant from vaccine administration.

POST-EXPOSURE PROPHYLAXIS FOR PREVIOUSLY UNVACCINATED PERSONS

Human Rabies Vaccine – two vaccines are available in the US (see Table 1):

- Imovax® – Human Diploid Cell Vaccine (HDCV), manufactured by Sanofi Pasteur
- RabAvert® – Purified Chick Embryo Cell Vaccine (PCECV), manufactured by Bavarian Nordic

Either brand of vaccine can be administered in conjunction with HRIG at the beginning of post-exposure prophylaxis. For completion of the vaccine series, the two brands are considered interchangeable.

The Advisory Committee on Immunization Practices finalized recommendations on March 19, 2010, supporting a 4-dose rabies vaccine regimen in immunocompetent and previously unvaccinated individuals. Day 0 is considered to be the first day treatment starts, Provide rabies vaccine IM in deltoid muscle on Days 0, 3, 7, and 14. See details at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm.

POST-EXPOSURE PROPHYLAXIS FOR PREVIOUSLY VACCINATED PERSONS

ACIP issued new guidance for a modified rabies ***pre***exposure prophylaxis (PrEP) schedule on May 6, 2022. Under these new guidelines, rabies PrEP now consists of a 2-dose series of rabies vaccine (given IM on day 0 and 7) followed by either a booster vaccine given anytime between day 21 and year 3 or a rabies antibody titer check performed anytime between year 1 and year 3. The rabies titer must be ≥0.5 IU/mL. If it is below 0.5 IU/mL, a booster vaccine should be given. (Note – Rabies PrEP previously consisted of 3 rabies vaccinations given on days 0, 7, and then either 21 or 28).

Persons who have a rabies exposure ***after*** completing all rabies PrEP steps, which include receiving the 2-dose PrEP series and aligning with the updated PrEP guidelines (either received a rabies booster vaccine anytime between day 21 and year 3, or had a rabies titer checked to be ≥0.5 IU/mL before the end of year 3) should receive 2 doses of rabies vaccine for PEP (2 IM doses, 1.0 mL each in the deltoid, one immediately and one 3 days later).

Persons who have a rabies exposure ***after*** year 3 from receiving the 2-dose PrEP series but who have ***not*** aligned with the ACIP PrEP guidelines (either received a rabies booster rabies vaccine anytime between day 21 and year 3, or had a rabies titer checked to be ≥0.5 IU/mL) within the stated timeframes, but align with the ACIP PrEP guidelines prior to a rabies exposure occurring, should receive a 2 doses of rabies vaccine for PEP (2 IM doses, 1.0 mL each in the deltoid, one immediately and one 3 days later).

Persons who have a rabies exposure **after** year 3 from receiving the 2-dose PrEP series but who did **not** align with the ACIP PrEP guidelines prior to the rabies exposure (did not receive a rabies booster rabies vaccine anytime between day 21 and year 3, or had a rabies titer checked to be ≥0.5 IU/mL anytime between year 1 and year 3), should receive full PEP (hRIG + 4 doses of rabies vaccine IM on day 0, 3, 7, and 14].

Persons who have a rabies exposure **before** year 3 after receiving the 2-dose PrEP series should receive 2 doses of rabies vaccine for PEP (2 IM doses, 1.0 mL each in the deltoid, one immediately and one 3 days later).

Persons who previously received a complete **post**-exposure vaccination (PEP) series or who received the previously recommended 3-dose PrEP rabies vaccine series with a cell-culture vaccine or who previously had a documented adequate rabies virus- neutralizing antibody titer following vaccination with non-cell-culture vaccine, should receive 2 doses of rabies vaccine for PEP (2 IM doses, 1.0 mL each in the deltoid, one immediately and one 3 days later).
See details at:
https://www.cdc.gov/mmwr/volumes/71/wr/mm7118a2.htm

ASSESSMENT OF RISK

During DPH Working Hours (Monday – Friday 8am-5pm)

1. Using the B-73 "Guidelines for Managing Animal Bites and Bat Encounters in Humans" (See Appendix A), VPH provides initial evaluation of likelihood of rabies exposure and assessment of the need for post-exposure prophylaxis for patients and public callers during normal working hours through the Veterinarian on Call (VOC).

a. When rabies PEP is indicated (per the B-73 Guidelines), VPH VOC will coordinate with the patient's medical provider or the CFS AMD (uninsured patients or special cases) for rabies post-exposure prophylaxis to be administered to individuals who are deemed to require post-exposure prophylaxis.

b. For cases where the B-73 guidelines do not clearly recommend for/against PEP or for cases involving complex human health concerns, VPH VOC will consult with, and transfer the case to ACDC.

2. ACDC daytime on-call physician provides rabies PEP consultations for physicians and health care providers who call the physician clinical consultation line during normal working hours.

a. When rabies PEP is indicated (per the B-73 Guidelines), ACDC coordinates with the patient's medical provider or the CFS AMD (uninsured or special cases) for rabies post-exposure prophylaxis administration to individuals who are deemed to require post-exposure prophylaxis.

b. The ACDC daytime AOD coordinates management of complex human cases referred by VPH including assessing risk and notifying the patient's medical provider when PEP is recommended and referring the case to CFS AMD for rabies PEP administration (uninsured patients).

3. CFS retains the right to make the final decision on PEP administration.

Outside of DPH Working Hours

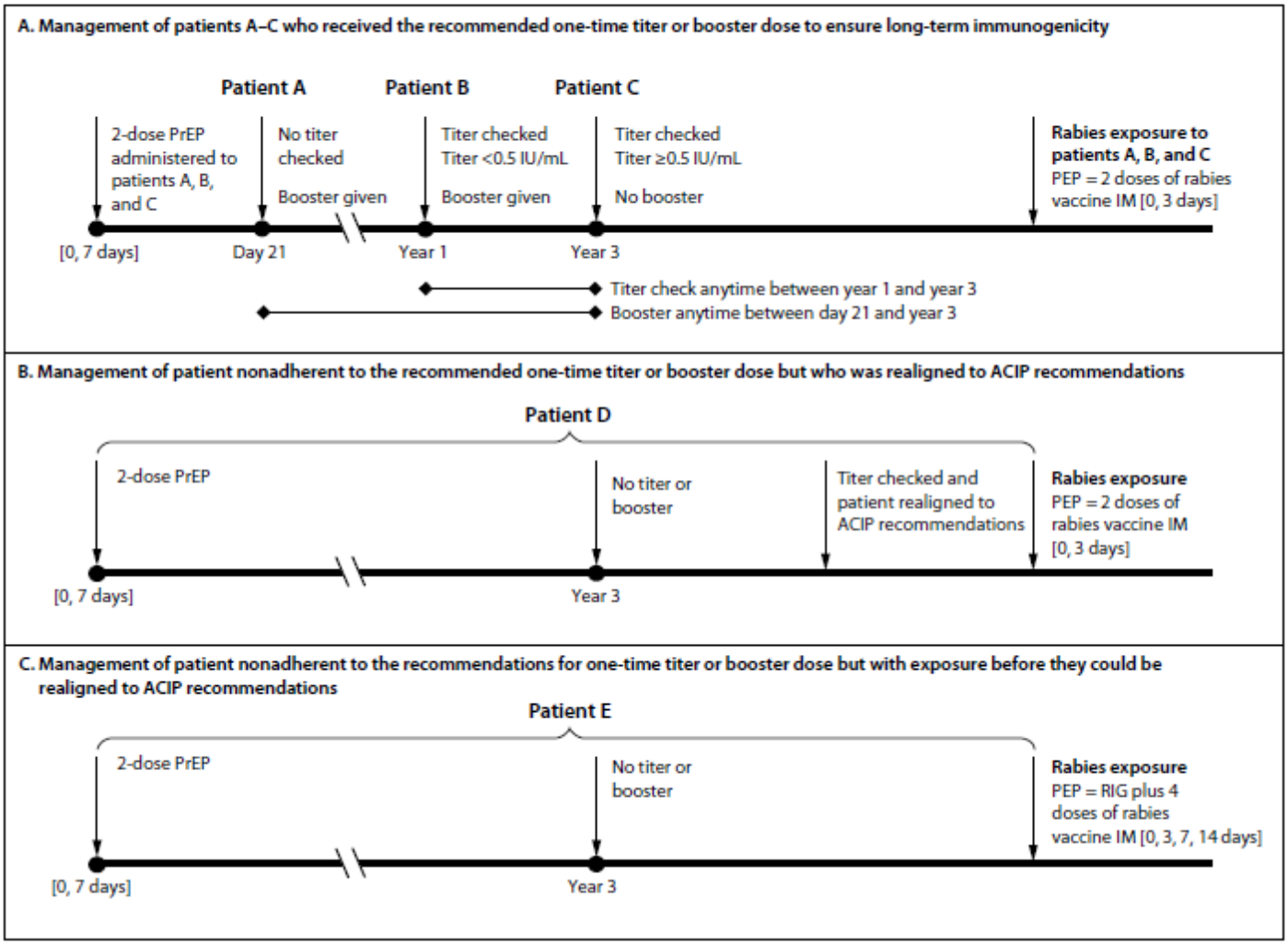
1. After-hours, medical providers in Los Angeles County can consult with the ACDC AOD regarding rabies PEP. Using the B-73 "Guidelines for Managing Animal Bites and Bat Encounters in Humans" (See Appendix A), the AOD provides evaluation and assessment of the need for rabies post-exposure prophylaxis.

a. The AOD coordinates with the patient's medical provider or CFS AMD for rabies post-exposure prophylaxis administration to individuals who are deemed to require post-exposure prophylaxis. Typically, only uninsured patients should be referred to the CFS AMD for PEP.

REFERENCES

Additional information on current rabies vaccine recommendations is available via the CDC Advisory Committee on Immunization Practices.

FIGURE. Management of long-term immunogenicity* for hypothetical patients (A–E)†,§,¶ who received the Advisory Committee on Immunization Practices recommended 2-dose rabies preexposure prophylaxis schedule and have sustained risk for recognized exposures (risk category 3) — Advisory Committee on Immunization Practices, United States, 2022**



Centers for Disease Control and Prevention, Use of a Modified Preexposure Prophylaxis Vaccination Schedule to Prevent Human Rabies: Recommendations of the Advisory Committee on Immunization Practices – United States. May 6, 2022. Vol. 71, No. 18.
https://www.cdc.gov/mmwr/volumes/71/wr/mm7118a2.htm

Table 1. Rabies Biologics Currently Available – United States (CDC Oct, 2019) (Modified Sept 2022 by ACDC)

Human Rabies Vaccine		
Biologic	**Product name/Manufacturer**	**Potency**
Human diploid cell vaccine (HDCV)*†‡	Imovax® /Sanofi Pasture	≥ 2.5 international units (IU) of rabies antigen
Purified chick embryo cell vaccine (PCECV) *†‡	RabAvert® /Bavarian Nordic	≥2.5 IU of rabies antigen

* **Dose**: Single dose vial of vaccine should be reconstituted with accompanying sterile diluent to final volume of 1mL before administration.
† **Administration Route**: Intramuscular in the deltoid area for adults, in the deltoid area or the anterolateral aspect of the thigh for children. Do NOT use the gluteal area for HDCV or PCECV.
‡ **Indications**: Pre-exposure[2] AND post-exposure prophylaxis.

Rabies Immunoglobulin			
Biologic	**Product Name/Manufacturer**	**Potency**	**Dose**
Human Immunoglobulin*†	Imogam® Rabies-HT/ Sanofi Pasture	150 IU/mL	20 IU/kg
Human Immunoglobulin*†	KEDRAB™[3] / Kedrion Biopharma and Kamada Ltd	150 IU/mL	20 IU/kg
Human Immunoglobulin*†	HyperRab™ S/D / Grifols[3]	150 IU/mL	20 IU/kg
Human Immunoglobulin*†	HyperRab® [3,4] S/D/ Grifols[3]	**300 IU/mL**[4]	20 IU/kg[4]

*** Administration Route:** Local infiltration around wound, with remaining immunoglobulin administered intramuscularly in an anatomical site distant from where vaccine was placed.
† Indications: Post-exposure prophylaxis with human rabies immunoglobulins is indicated for **ONLY** those persons who 1) did not receive appropriate pre-exposure prophylaxis[2] and 2) have not previously received post-exposure prophylaxis for rabies in accordance with ACIP recommendations.

[1] Rabies biologics marketed in other countries are not included here.
[2] Pre-exposure prophylaxis is indicated for specific populations who are at increased risk for rabies exposure such as veterinarians and rabies research laboratory workers.
[3] Licensed by the U.S. Food and Drug Administration after development of the 2010 ACIP Rabies Guidelines.
[4] Note HyperRab® immunoglobulin product has a different concentration compared to all other rabies immunoglobulins (including the very similarly named HyperRab™S/D) – requiring lower volumes to administer the recommended dose of 20 IU/kg ; care should be taken to ensure the correct dose of immunoglobulin is administered to ensure adequate immune response

Centers for Disease Control and Prevention, Rabies Biologics. October 2, 2019.

Table 2. The Advisory Committee on Immunization Practices Recommendations for the Prevention of Human Rabies (March 19, 2010) (modified Sept 2022 by ACDC)

1. PEP should begin with immediate and thorough wound cleansing with soap and water and then irrigation of the wound with a virucidal agent (e.g. povidone-iodine).
2. Human Rabies Immunoglobulin should be administered as soon as possible after exposure to previously unvaccinated persons, or persons who received the 2-dose rabies PrEP regimen and have not aligned with the ACIP PrEP recommendations by the time the rabies exposure occurred and greater than 3 years have passed since receiving rabies PrEP. Administer 20 IU/kg body weight. If anatomically feasible, the full dose should be infiltrated around and into the wound(s), and any remaining volume should be administered at an anatomical site (intramuscular [IM]) distant from vaccine administration. Also, HRIG should not be administered in the same syringe as vaccine. Because RIG might partially suppress active production of rabies virus antibody, no more than the recommended dose should be administered. HRIG Can be administered up to and including Day 7 after initiation of the vaccine series.
3. A regimen of 4 one-mL doses of rabies vaccine (HDCV) or PCECV) should be administered intramuscularly to previous unvaccinated persons with no immunosuppression or persons who received the 2-dose rabies PrEP regimen and have not aligned with the ACIP PrEP recommendations by the time the rabies exposure occurred and greater than 3 years have

passed since receiving rabies PrEP.

   a. The first dose of rabies vaccine should be administered as soon as possible after exposure and this is considered day 0 of the post-exposure prophylaxis.
   b. Additional doses should be administered on days 3, 7, and 14 after the first vaccination.

4. Deviation from recommended post-exposure vaccination schedules once vaccination is initiated by a few days for each individual dose is unimportant. The effect of longer lapses of weeks or more is unknown. Most interruptions in the vaccine schedule do not require re- initiation of the entire series.
5. Post-vaccination serologic testing is not necessary in immunocompetent persons. Immunosuppressed individuals should have serologic testing documenting seroconversion; specimens should be collected from 1 to 2 weeks after completion of rabies vaccination series. See for http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm further details and contact the Public Health Laboratory to arrange for testing. Low-cost service is available to the private sector from Atlanta Health Associates, Inc., http://www.atlantahealth.net/ and Kansas State University laboratory, http://www.vet.k-state.edu/depts/dmp/service/rabies/.
6. Precautions in Individuals with Immunosuppression: Primary or secondary immunodeficiencies can significantly reduce immune responses to vaccines. All rabies licensed vaccines are inactivated cell culture vaccines and can safely be administered to persons with altered immunocompetence. All persons with immunosuppression should be administered 5 (five) doses of vaccine.
7. See details on rabies vaccine storage and use in the Recommendations for Use and Storage of Immunobiologics and Other Prophylactic Agents (B-71).
8. For additional instructions regarding management of adverse reactions to rabies biologics and other precautions and contraindications to rabies post-exposure prophylaxis, please see http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm for additional details.
9. Patients who did not receive RIG at the appropriate time and who are not immuno- compromised generally will receive only 4 doses of rabies vaccine, regardless of the lack of RIG. If there is concern about the quality of the vaccine administered in another country, with or without RIG, an antibody titer can be obtained as described above in step 5, and an additional dose of vaccine administered if adequate antibodies are not detected.
10. Persons who previously received a complete **post**-exposure vaccination (PEP) series or who received the previously recommended 3-dose PrEP rabies vaccine series with a cell-culture vaccine or who previously had a documented adequate rabies virus- neutralizing antibody titer following vaccination with non-cell-culture vaccine, should receive a 2-dose vaccination for PEP (2 IM doses, 1.0 mL each in the deltoid, one immediately and one 3 days later).

Appendix A: Guidelines for Managing Animal Bites and Bat Encounters in Humans

Animal Species	Situation	Rabies Post-exposure Prophylaxis (PEP) Recommendations
Dogs, cats includes feral cat/strays (domestic, California)	Animal available to be quarantined for 10 days or tested for rabies	Defer administration of PEP until outcome of 10-day observation period or rabies testing is known.
	Animal unavailable	Consult with VPH; low risk (healthy animal) and generally would not recommend PEP. Refer questionable cases to ACDC.
Dogs, cats includes feral cat/strays (domestic, other states)	Animal available to be quarantined for 10 days or tested for rabies	Defer administration of PEP until outcome of 10-day observation period or rabies testing is known.
	Animal unavailable	Consult with VPH; low risk (healthy animal) and generally would not recommend PEP. Refer questionable cases to ACDC.
Horses and other domestic livestock (e.g., sheep, goat, llama, pig, cow)	Animal available to be quarantined for 30 days or tested for rabies	Defer administration of PEP until outcome of 30-day observation period or rabies testing is known.
	Animal unavailable	Consult with VPH; low risk (healthy animal) and generally would not recommend PEP. Refer questionable cases to ACDC.
Wild animals including bats, skunks, raccoons, coyotes, foxes, opossum	Wild animal available for testing	Defer administration of PEP until rabies testing is known.
	Animal unavailable	Administer PEP regimen.
Captive wild animal (e.g., zoo, aquarium)	Captive wild animal available to be quarantined for 30 days or tested for rabies	Defer administration of PEP until outcome of 30-day observation period or rabies testing is known.
	Animal unavailable	Consult with VPH. Refer questionable cases to ACDC.
Foreign animal - dogs, cats (rabies endemic country)	Animal available to be quarantined for 10 days or tested for rabies	Defer administration of PEP until outcome of 10-day observation period or rabies testing is known.
	Animal unavailable	Administer PEP regimen.
Other foreign animal (rabies endemic country)	Wild animal available for testing	Defer administration of PEP until rabies testing is known.
	Animal unavailable	Administer PEP regimen for cases with high risk species. Refer all other cases to ACDC.

Human Rabies Risk Evaluation: Species of Biting Animal

Species of Concern		
Domestic Animals		
LOW RISK	Cat	Llama
	Dog	Alpaca
	Goat	Mule
	Horse	Cow
	Ferret	Pig
	Sheep	Donkey
Wild Animals, Captive Wild, or Hybrid Animals		
LOW RISK	Deer	Seal
	Otter	Sea Lion
MODERATE RISK (animal healthy)	Bear	Mountain Lion
	Bobcat	Opossum
	Coyote	Raccoon
	Fox	Skunk
	Monkey	Wolf (includes hybrid)
HIGH RISK	Bat	
	Animal with abnormal behavior consistent with rabies	
Foreign Domestic Animals		
Rabies endemic countries	Dogs	
HIGH RISK	Cats	
Other Foreign Animals		
Rabies endemic countries	Bats	
HIGH RISK	Primates	
	Wild carnivores	
Bites from These Species are Not a Rabies Concern in Los Angeles – Not Reportable		
All amphibians	Gopher	Mole
All birds	Guinea pig	Mouse
All reptiles	Hamster	Rabbit
Chipmunk	Hare	Rat
Gerbil	Hedgehog	Squirrel