NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Rabies Post-Exposure Prophylaxis Guidance

First medical visit:

- Wound care
- A dose of human rabies immune globulin (HRIG) 20 IU/kg body weight*
- A dose of rabies vaccine
- Never administer the first vaccine dose in the same syringe or in the same anatomical site as human rabies immune globulin (HRIG)

***Note:** *HyperRab® has a different concentration compared to all other rabies immune globulin products, requiring lower volumes to administer the recommended dose of 20 IU/kg; take care to ensure the correct dose is administered to allow adequate immune response.

Wound care: Immediate and gentle irrigation with water or a dilute water povidone-iodine solution has been shown to significantly decrease the risk of bacterial infection.

HRIG:

- HRIG is administered only once at the beginning of the PEP course for those who have not received the rabies vaccine before. HRIG provides immediate antibodies until rabies vaccination provides immunogenicity.
- **HRIG should never be administered in the same syringe or in the same anatomical site as the first vaccine dose.** However, subsequent doses of vaccine in the four-dose series can be administered in the same anatomic location where the HRIG dose was administered.
- If possible, infiltrate the full dose of HRIG around any wound(s).
- **Administer any remaining volume intramuscularly at an anatomical site distant from vaccine administration.**
- Do not give more than the recommended dose.
- If HRIG was not administered on day 0 when vaccination was begun, it can be administered up to and including day 7 of the PEP series.

Vaccine:

- Administer 1.0 mL of Human Diploid Cell Rabies Vaccine (HDCV) or Purified Chick Embryo Cell Vaccine (PCECV) intramuscularly in the deltoid area (for children, anterolateral aspect of the thigh is acceptable).
- **Do not administer rabies vaccines in the gluteal area. If a rabies vaccine was administered in the gluteal area, this is not considered a valid dose and should be re-administered.**
- One injection each on days 0, 3, 7, and 14 for people who have not received rabies vaccine before.

Adapted from Rhode Island Department of Health, Division of Emergency Preparedness and Infectious Disease, Center for Acute Infectious Disease Epidemiology, August 2025. Revised by North Carolina Department of Health and Human Services, August 2026.

- For immunocompromised patients, a fifth dose on day 28 should be administered. In addition, such patients should have an antibody titer checked 7 to 14 days after the final dose to assess their response.
- *A rabies titer can be ordered by the treating facility provider or the patient's primary care provider. For more information on assessing immune response to rabies vaccine: https://www.cdc.gov/rabies/php/labs-specimens/testing.html
- RabAvert is a purified chick embryo vaccine and anyone with an egg allergy should receive Imovax instead.
- **Post-exposure vaccination series with previous receipt of vaccine**: Patients who have previously received rabies vaccination require only two booster doses for post-exposure prophylaxis. To qualify as "previously vaccinated," an individual must meet one of the following criteria: prior completion of a postexposure series of ≥4 doses, completion of at least two doses of a pre-exposure prophylaxis series within the 3 years prior to exposure, or prior partial completion of a pre- or post-exposure series with a subsequent titer that showed ≥0.5 international units/mL. All prior vaccine doses must have been given after the advent of modern vaccines (PCECV, HDCV, or PVRV), which became available in the United States in the early 1980s. All patients who were immunosuppressed at the time of their prior vaccinations must have had a titer check that showed ≥0.5 international units/mL.

Other important points:

- There are no known contraindications for rabies vaccination. Pregnancy is not a contraindication for rabies PEP.
- PEP is suitable for all age groups including infants and children.
- Avoid immunosuppressive agents during rabies PEP unless essential for treating other conditions. Patients on immunosuppressive medications should consult with their healthcare providers about the possibility of delaying these treatments during PEP.

PEP Documentation:

Record all rabies PEP vaccine doses received into the North Carolina Immunization Registry (NCIR) at the time of administration or by the close of business/end of shift on the day of administration. The client comment "Client has been exposed to rabies" must be added to the client's record in NCIR. For instructions on adding a client comment, please refer to the Rabies NCIR Client Comment Quick Reference Guide.

Sources:

https://www.cdc.gov/rabies/hcp/clinical-care/post-exposure-prophylaxis.html

https://iris.who.int/bitstream/handle/10665/272364/9789241210218-eng.pdf?sequence=1

Adapted from Rhode Island Department of Health, Division of Emergency Preparedness and Infectious Disease, Center for Acute Infectious Disease Epidemiology, August 2025. Revised by North Carolina Department of Health and Human Services, August 2026.

Rabies: Post-Exposure Prophylaxis Chart (Guidelines for United States)*

Category of Vaccination	Biologic Type	Vaccination Schedule
No Previous Vaccination	HRIG[1]	HRIG[2]: total dose equal to 20 IU/kg[3] of body weight on day 0. Full dose should be infiltrated around wound if accessible and remaining IM in a location different than vaccine[4].
	Vaccine	HDCV/PCECV: single dose (1 mL) IM[5] on days 0[6], 3, 7, and 14[7].
Previous Vaccination[8]	Vaccine	HDCV/PCECV: single dose (1mL) IM[5] on days 0 and 3.

* Post-exposure prophylaxis should be administered as soon as possible after exposure.

Acronyms:
HRIG: human rabies immune globulin
IM: intramuscularly
HDCV: human diploid cell vaccine
PCECV: purified chick embryo cell vaccine
PVRV: purified Vero cell rabies vaccine

Additional Resources:
IMOVAX® Package Insert: https://www.vaccineshoppe.com/assets/pdf/vsh/pi/imovaxpi.pdf
RabAvert® Package Insert: https://rabavert.com/downloads/Rabavert-Prescribing-Information.pdf
Rabies Vaccine Information Statement: https://www.cdc.gov/vaccines/hcp/current-vis/downloads/rabies.pdf

---

[1] HRIG should always be given in a different syringe from the vaccine: *Rupprecht CE, Briggs D, Brown CM, et al. Use of a reduced (4-dose) vaccine schedule for postexposure prophylaxis to prevent human rabies: recommendations of the advisory committee on immunization practices. MMWR Recomm Rep 2010; 59:1.*

[2] HRIG is derived from pooled plasma samples of hyperimmunized human donors (human RIG, or HRIG) or from horses (equine RIG, or ERIG). Both preparations are considered equally potent and effective, but only HRIG is recommended for use in the United States. Outside the United States, if ERIG is used, the dose is 40 international units/kg body weight: *Rao AK, Briggs D, Moore S, et al. Use of a modified preexposure prophylaxis vaccination schedule to prevent human rabies: Recommendations of the Advisory Committee on Immunization Practices – United States, 2022. MMWR Morb Mortal Wkly Rep 2022; 71:619.*

[3]HyperRab® has a different concentration compared to all other rabies immune globulin products, requiring lower volumes to administer the recommended dose of 20 IU/kg; take care to ensure the correct dose is administered to allow adequate immune response. https://www.cdc.gov/rabies/hcp/clinical-care/biologics.html

[4] The preferred location for IM administration of remaining HRIG is the deltoid muscle contralateral to the vaccine dose. If there is no obvious wound (eg, suspected bat exposure), the entire volume of HRIG should be administered IM, preferably into the anterolateral thigh or the deltoid muscle contralateral to the vaccine dose. Injection into the gluteus muscle should be avoided as it carries the risk for sciatic nerve damage.

[5]In adults (ie, age ≥19 years), the deltoid muscle of the arm is the only acceptable IM site of vaccine administration. In children 3 to 18 years old, the deltoid muscle of the arm is preferred, although the anterolateral aspect of the thigh is an acceptable alternative. In children ≤2 years old, the anterolateral aspect of the thigh is preferred; however, in children aged 12 months to 2 years, the deltoid muscle of the arm is an acceptable alternative if the deltoid muscle mass is adequate. Vaccine should never be administered in the gluteal area because this may result in lower antibody titers.

[6] Day 0 is the day the first dose of vaccine (and HRIG, if indicated) is administered.

[7] For persons with immunosuppression, rabies post-exposure prophylaxis should be administered using five doses of vaccine on days 0, 3, 7, 14, and 28. Such patients should have antibody titers checked 7 to 14 days after the final dose to assess their response.

[8] To qualify as "previously vaccinated," an individual must meet one of the following criteria: prior completion of a postexposure series of ≥4 doses, completion of at least two doses of a pre-exposure prophylaxis series within the 3 years prior to exposure, or prior partial completion of a pre- or post-exposure series with a subsequent titer that showed ≥0.5 international units/mL. All prior vaccine doses must have been given after the advent of modern vaccines (PCECV, HDCV, or PVRV), which became available in the United States in the early 1980s. All patients who were immunosuppressed at the time of their prior vaccinations must have had a titer check that showed ≥0.5 international units/mL. All individuals who do not meet one these criteria should be treated as if they have never been vaccinated.

Adapted from Rhode Island Department of Health, Division of Emergency Preparedness and Infectious Disease, Center for Acute Infectious Disease Epidemiology, August 2025. Revised by North Carolina Department of Health and Human Services, August 2026.