

Prevention of Rabies in Humans:

Rabies Pre-Exposure Prophylaxis Vaccination

The pre-exposure prophylaxis (PrEP) regimen

Two doses of rabies vaccine (1.0 mL intramuscular (deltoid) injection of RabAvert or Imovax) on Days 0 and 7

Who should receive PrEP

Pre-exposure vaccination should be offered to people according to the following risk categories:

Risk Category	Who this typically affects	Recommendations
Risk Category 1 <i>Highest risk</i>	People who work with live or concentrated rabies virus in laboratories	2 doses, days 0 and 7. Check titer* every 6 months
Risk Category 2	People who frequently do at least one of the following: handle bats, have contact with bats, enter high-density bat environments like caves or perform animal necropsies	2 doses, days 0 and 7. Check titer* every 2 years.
Risk Category 3	People who interact with, or are at higher risk to interact with, mammals other than bats that could be rabid, for a period longer than 3 years: This group includes: <ul style="list-style-type: none">• Most veterinarians, veterinary technicians, animal control officers, wildlife biologists, rehabilitators (who don't rehab bats), trappers, spelunkers• Certain travelers to regions outside of the United States where dog rabies is commonly found**	2 doses, days 0 and 7, plus either one-time titer check between 1 to 3 years after the first 2-dose vaccination* OR 1-dose booster between 3 weeks and 3 years following the first vaccine in the 2-dose vaccination
Risk Category 4	Same population as risk category 3, but only at risk for ≤ three years after they received the PrEP	2 doses, days 0 and 7
Risk Category 5 <i>Lowest risk</i>	General U.S. population	none

*Minimal acceptable rabies titer = 0.5 IU/ml; if titer ≤ 0.5 IU/ml, then a booster should be given

**CDC's Travelers' Health Destinations: <https://wwwnc.cdc.gov/travel/destinations/list>

Management of deviations from the recommendations.

- Unavoidable delays of a few days from the recommended date of the second dose of the 2-dose primary series are clinically inconsequential. The effect of longer lapses of 2 weeks or more is unknown. When substantial delays occur, local and state public health authorities should be consulted for guidance.

- The second dose of the primary series should not be administered before the recommended interval between doses has elapsed; if it is inadvertently administered earlier, local and state public health authorities should be consulted for guidance.
- If deviations occur, a titer check is recommended regardless of immune status. Titers should be checked 2 to 4 weeks (and no sooner than 1 week) after the second vaccination.

PrEP in immunocompromised persons

- Modern rabies vaccines are inactivated and have been safely administered to persons of all ages, including pregnant women and immunocompromised persons.
- Among persons with primary or secondary immunodeficiencies, the immune response to vaccines, including rabies vaccines, can be suboptimal.
 - When possible, vaccination should be delayed until a temporary immunocompromising condition has resolved or immunosuppressive medications can be withheld.
 - If delay is not practical, rabies vaccines can be administered, but an antibody titer should be checked 2 to 4 weeks (and no sooner than 1 week) after completion of the 2-dose PrEP series. If the titer is still low, then another booster dose should be given followed by a subsequent titer check.
 - If two such booster doses fail to elicit an acceptable antibody titer, local or state public health authorities should be consulted.

Where can PrEP be administered?

- Local Health Departments (see <https://www.ncdhs.gov/county-health-departments>)
- Private physicians and other healthcare providers
- Hospitals
- Travel clinics (see <https://www.travelclinicsofamerica.com>)

Where is rabies serological testing (RFFIT) performed?

The local health department or your healthcare provider may provide assistance with obtaining RFFIT testing through two commercial laboratories that perform RFFIT testing for rabies:

Atlanta Health Associates
 309 Pirckle Ferry Road, Suite D300
 Cumming, GA 30040
 Phone: 800-717-5612 or 770-205-9091
 Fax: 770-205-9021
www.atlantahealth.net

Kansas State University
 2005 Research Park Circle
 Manhattan, KS 66502
 Phone: 785-532-4522
 Fax: 785-532-4474 or 785-532-4522
 Email: rabies@vet.k-state.edu
<http://www.ksvdl.org/rabies-laboratory/>

Facts about PrEP

- Pre-exposure prophylaxis **does not eliminate** the need for rabies risk assessment and post-exposure prophylaxis after a rabies exposure.

- **If a rabies exposure does occur in a pre-vaccinated person, post-exposure prophylaxis should always be administered; however, the post-exposure regimen is simplified and reduced to:**
 - **Two doses of rabies vaccine on Days 0 and 3** (1.0 mL intramuscular injection of RabAvert or Imovax); **and**
 - **NO post-exposure human rabies immunoglobulin (HRIG)** is required.
- Pre-exposure prophylaxis may offer partial immunity if post-exposure prophylaxis is delayed or in areas of the world where modern products might not be available or less safe, cruder products might be used.
- Conserves use of rabies biologics in a population with known risk.
- Might provide some protection in the event of an unrecognized exposure.

For more information

CDC: https://www.cdc.gov/rabies/prevention/pre-exposure_vaccinations.html

See the published guideline:

Rao AK, Briggs D, Moore SM, 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;71:619–627. DOI: <http://dx.doi.org/10.15585/mmwr.mm7118a2>