



MARYLAND Department of Health

IMPORTANT INFORMATION ABOUT PRE-EXPOSURE RABIES VACCINATION

Please read carefully and complete this form before beginning pre-exposure rabies immunization (PrEP). If you do not understand this material or have questions, be sure to ask your healthcare provider.

What is rabies?

Rabies is a viral disease of mammals that attacks the nervous system. Humans are exposed to rabies from the bite of an infected animal or by its saliva or brain tissue entering a fresh, open wound or mucous membranes (such as, the lining of the eye, nose or mouth). Once the symptoms of rabies develop (usually 3 - 8 weeks after an exposure), no treatment can prevent the death of the patient. In Maryland, the animals most likely to get rabies are raccoons, cats, bats, skunks, foxes, groundhogs, horses, cattle, and dogs. However, the possibility of rabies exposure must be considered each time a person is bitten by any mammal, either wild or domestic.

What is PrEP rabies vaccination?

Pre-exposure rabies vaccination is a way to protect a person from getting rabies before they come into contact with a rabid animal. Two types of rabies vaccines are licensed for pre-exposure in the US; both are equally safe and produce an antibody response against rabies virus. The available vaccines are as follows: Human Diploid Cell Vaccine (HDCV), and Purified Chick Embryo Cell vaccine (PCEC).

What are the advantages of preexposure vaccination?

Although PrEP does not eliminate the need for additional vaccination once you are exposed to a rabid animal, it does reduce the number of doses needed. If an individual with a history of receiving PrEP is exposed to a rabid animal, only 2 doses of rabies vaccine are necessary instead of 4 doses of vaccine plus antirabies serum (Human Rabies Immune Globulin).

THE FIRST LEVEL OF PREVENTION IS TO AVOID RABIES EXPOSURE.

Pre-exposure vaccination is the second level of prevention.

Who should consider receiving PrEP?

A person whose work, interests, or hobbies that may bring them in regular and close contact with animals capable of having rabies should consider PrEP. PrEP is generally recommended for groups such as veterinarians, laboratory workers, animal handlers, animal control personnel, wildlife workers, trappers, and raccoon hunters. People who will not have ready access to medical care, those backpacking to a remote area, and persons on more than 30 days international travel or visiting families in a foreign country where rabies is a problem, should also consider PrEP.

How many shots in a PrEP series?

The primary vaccination series consists of two injections (shots) of a killed rabies virus vaccine. The two doses are given one week apart (day 0 and 7). An additional third dose may be given to persons depending on their risk category for rabies exposure (See Table). Adults and children receive the same dose and schedule for vaccination.

How is the vaccine given?

All PrEP rabies vaccinations are administered in the muscle of the upper arm (deltoid) in adults; in children less than 5 years in the upper mid-thigh (vastus lateralis). Rabies vaccines should **NEVER** be administered in the buttock (gluteus) areas.

Are booster doses of the vaccine needed?

Either a blood test (titer) or a booster dose of rabies vaccine is recommended based on level of risk. A titer shows that antibodies to the rabies virus are present and at a certain antibodies levels, the need for the booster is not necessary. If the titer is low or negative, a booster dose is necessary.

Current Centers for Disease Control and Prevention (CDC) recommendations				Recommendations	
Risk Category	Nature of Exposure	Typical population	Relevant disease biogeography	Primary PrEP immunogenicity	Long-term immunogenicity
1. Elevated risk for unrecognized and recognized exposures including unusual or high-risk exposures	Exposure, often in high concentrations, might be recognized or unrecognized, might be unusual (e.g., aerosolized virus)	Persons working with live rabies virus in research or vaccine production facilities or performing testing for rabies in diagnostic laboratories	Laboratory	IM rabies vaccine on days 0 and 7	Check titers every 6 months; booster if titer <0.5 IU/mL
2. Elevated risk for unrecognized and recognized exposures	Exposure typically recognized but could be unrecognized; unusual exposures unlikely	Persons who frequently 1) handle bats, 2) have contact with bats, 3) enter high-density bat environments, or 4) perform animal necropsies (e.g., biologists who frequently enter bat roosts or who collect suspected rabies samples)	All geographic regions where any rabies reservoir is present, both domestic and international	IM rabies vaccine on days 0 and 7	Check titers every 2 years; booster if titer <0.5 IU/mL

Risk Category	Nature of Exposure	Typical population	Relevant disease biogeography	Primary PrEP immunogenicity	Long-term immunogenicity
3. Elevated risk for recognized exposures, sustained risk	Exposure nearly always recognized; risk for recognized exposures higher than that for the general population and duration exceeds 3 years after the primary vaccination	Persons who interact with animals that could be rabid; occupational or recreational activities that typically involve contact with animals include 1) veterinarians, technicians, animal control officers, and their students or trainees; 2) persons who handle wildlife reservoir species (e.g., wildlife biologists, rehabilitators, and trappers); and 3) spelunkers Selected travelers. PrEP considerations include whether the travelers 1) will be performing occupational or recreational activities that increase risk for exposure to potentially rabid animals (particularly dogs) and 2) might have difficulty getting prompt access to safe rabies post exposure prophylaxis (PEP) e.g., rural part of a country or far from closest PEP clinic	All domestic and international geographic regions where any rabies reservoir is present International geographic regions with rabies virus reservoirs, particularly where rabies virus is endemic in dog populations	IM rabies vaccine on days 0 and 7	1) One-time titer check during years 1–3 after 2-dose primary series; booster if titer <0.5 IU/mL or 2) booster no sooner than day 21 and no later than year 3 after 2-dose primary series
4. Elevated risk for recognized exposures, risk not sustained	Exposure nearly always recognized; risk for exposure higher than for general population but expected to be time-limited (≤ 3 years from the 2-dose primary PrEP vaccination series)	Same as for risk category 3 (above), but risk duration ≤ 3 years (e.g., short-term volunteer providing hands-on animal care or infrequent traveler with no expected high-risk travel >3 years after PrEP administration)	Same as for risk category 3 (above)	IM rabies vaccine on days 0 and 7	None
5. Low risk for exposure	Exposure uncommon	Typical person living in the United States	Not applicable	None	None

Could there be undesirable effects from the rabies vaccines?

The current rabies vaccines have been used in the U.S. since 1980 and are considered safe and effective. Approximately 16,000 – 39,000 people receive these vaccines each year. Minor local reactions, such as pain, itching, swelling, and redness at the site of the injection (shot) may occur within 24-48 hours. These reactions are usually gone in several days. A few individuals (around 6 out of 100) may experience one or more allergic symptoms, such as itching rash, fever, joint pain, swelling nausea, vomiting and shortness of breath. These symptoms may occur up to 21 days (though usually within 12 days) following the injections. Most individuals recover rapidly following vaccination; to date no one has died or has been permanently affected following such a reaction.

What health conditions may affect getting PrEP rabies vaccination?

GENERAL - If you are sick, have been exposed to an infectious disease, or are getting well from an illness the vaccine should be postponed. Tell the health care provider if you have had reactions to a previous dose of a rabies vaccine.

PREGNANCY - Pregnant women may receive pre-exposure vaccination if there are valid reasons to do so. Ask your health care provider, if needed.

ALLERGIES (hypersensitivity) - Persons having a history of hypersensitivity (allergy) to any vaccine or other substances such as foods, drugs and antibiotics should obtain permission from their health care provider before beginning pre-exposure vaccination.

IMMUNOSUPPRESSED Individuals – Pre-exposure immunization for immunosuppressed persons is not recommended. Persons, who have or have had cancer or are taking corticosteroids or other immunosuppressive drugs should obtain permission from their health care provider before receiving pre-exposure vaccinations.

ANTIMALARIAL DRUGS – May affect the vaccination response. Please tell the health care provider if you are taking anti-malarial drugs.

QUESTIONS - If you have any questions about PrEP rabies vaccination, please ask us now or call your health care provider before you sign this form.

REACTIONS - If you have any serious reaction in the 4 weeks following vaccination, contact your health care provider and report these reactions to the local health department.