

CIWEC Hospital Health News

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Rabies Prevention in Nepal

Rabies is a form of brain infection or encephalitis caused by a virus that is transmitted in the saliva of infected animals. Nepal is endemic for rabies and dogs are responsible in >96% of cases. Monkeys and other animals including bats can also transmit rabies to humans. Therefore, any contact with an animal in Nepal that results in a wound, bite, scratch or mucous membrane exposure should lead the person to seek medical opinion as to whether rabies post-exposure prophylaxis is necessary. It is **never too late** to receive treatment no matter how much time has elapsed from a possible exposure since the incubation period can be very long.

In Nepal, most animal exposures to travelers occur in Kathmandu and monkey bites/scratches accounted for 43% of all exposures in tourists in a study done at CIWEC Clinic. Monkey bites are sustained most commonly at the monkey temple (Swoyambu) and in the Pashupati temple area. Contrary to popular belief, trekking in Nepal does not pose any added risk to the traveler.

Following an animal bite, wounds must be washed thoroughly with soap and water to get saliva out of the wounds and an antiseptic applied. **Persons who have not had rabies vaccine before**, require Rabies immune globulin (RIG: Human Rabies Immune Globulin HRIG or Equine Rabies Immune Globulin ERIG) injection directly into the wound, and 4 injections of rabies vaccine over two weeks. It takes 7-10 days for antibodies to be formed after starting the vaccine series and RIG is protective during this time. If it is more than 7 days since the vaccine was started (not since when the bite occurred), then HRIG should no longer be given, as it may interfere with antibody production from the vaccine. **Pre-immunization (pre-exposure or PrEP)** consists of 2 doses of rabies vaccine 7 days apart. Persons who have been "pre-immunized" only require 2 shots following an animal exposure. Long term protection results from a booster dose between 3 weeks and 3 years from primary immunization.

Summary approach to Rabies prevention:

Person has completed a pre-exposure rabies vaccine series	Exposed to a possibly rabid animal	Two vaccine shots as booster, 3 days apart
Person has not had pre-exposure rabies injections	Exposed to a possibly rabid animal	RIG injected into all wounds; 4 IM injections of rabies vaccine on days 0, 3, 7, 14 (5 doses for immune-compromised). Shorter ID schedule is also available at CIWEC.

CIWEC Hospital has always made HRIG and ERIG available to treat patients with animal bites in Nepal. Since HRIG is very expensive and not easily available in many countries, we recommend that most travelers be pre-immunized. There are several acceptable rabies vaccines available around the world, and they can be used interchangeably during the same rabies treatment series, if necessary. The acceptable vaccines are all referred to as "Tissue Culture Vaccines," and include the following: Human Diploid Cell Vaccine (HDCV); Purified Vero Cell Rabies Vaccine (PVRV); Purified Chick Embryo Vaccine (PCEC).

To avoid animal bites: Do not pet or pick up puppies, do not take in stray dogs, do not carry food while visiting temples, do not get too close to baby monkeys, and do not enter houses or temples that are guarded by dogs, unannounced.

CIWEC Hospital and Travel Medicine Center

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