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**Infectious Disease A to Z**

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Please Note:
The Advisory Committee on Immunization Practices (ACIP) released new recommendations for a reduced (4-dose) vaccine schedule for Post Exposure Prophylaxis (PEP) to prevent human rabies (previously ACIP recommended a 5-dose rabies vaccination regimen).

There no longer is a limited supply of rabies vaccine, and clinicians do not need to contact SFDPH Communicable Disease Control Unit (CDCU) to receive authorization to order rabies vaccine. However, clinicians should continue to call CDCU at (415) 554-2830 to report a potential rabies exposure or to discuss the need for post-exposure prophylaxis (PEP).

All clinicians should report to Animal Care and Control (ACC) all instances in which any mammal has bitten a human being, even if the risk of rabies is low (e.g., bite from a domestic cat). Please click here for ACC contact information.

What is Rabies?
Rabies is a preventable viral disease transmitted in the saliva of infected mammals. Rabies among wildlife occurs throughout the United States (only Hawaii remains consistently rabies-free) and is the most common source of infection for humans and domestic animals. Since 1980, most of the human cases of rabies diagnosed in the United States have been associated with bats. In most other regions including
Asia, Africa, and Latin America, dogs are the most common source of transmission to humans.

More than 90% of all animal rabies cases reported to the Centers for Disease Control and Prevention (CDC) each year occur in wild animals like raccoons, skunks, bats, and foxes. In California, domestic animals, farm animals, and pets such as dogs, cats, and cattle account for approximately 3% of the reported rabies cases. In San Francisco, all animal rabies cases in the past 60 years occurred in bats, recently at a rate of 1 - 5 confirmed cases per year (2004-09).

• What You and Your Physician Should Know About Rabies
• How to Order Rabies Vaccine and Human Rabies Immune Globulin
• ACIP Recommendations on Use of a Reduced (4-Dose) Vaccine Schedule for PEP to Prevent Rabies

How Do You Get Rabies?
The rabies virus lives in nerve tissue and is present in saliva of a rabid animal. Rabies can be transmitted from the bite of a rabid animal, or when the animal's saliva contacts a person's mouth, eyes, or an open sore. Some bats have extremely small, needle-thin teeth, and there have been cases where a person became infected without knowing they had been bitten by a rabid bat.

How Do You Avoid Exposure to Rabies?
Avoid contact with wild animals. Put screens on all windows and use chimney caps. Place draft-guards beneath doors to attics and ensure that all doors to the outside close tightly. Do not keep doors or unscreened windows open, especially if people are sleeping. Evacuate any room with a live bat and close the door. Call Animal Care and Control immediately at 415-554-9400 if there is a live or dead bat in or near your home or work place. Do not touch bats even if appearing dead. Keep your pets’ rabies vaccinations up-to-date.

Symptoms
Rabies symptoms in humans appear an average of 3 to 8 weeks after exposure to a rabid animal but can appear earlier and up to years after exposure. The typical symptoms include a sense of apprehension, headache, fever and malaise. The disease progresses to paralysis and spasm of the muscles used for swallowing, which leads to fear of water (hydrophobia), confusion, convulsions and eventually death.

Unfortunately, once symptoms have developed, no drug or vaccine will improve the chance for survival. Most persons with human rabies die from the disease, despite intensive medical care. Of the few patients reported to have survived rabies infection, all but one had received some sort of prophylaxis with rabies vaccine before the onset of symptoms.

Post Exposure Prophylaxis- Rabies Prevention
Although rabies among humans is rare in the United States, every year approximately 23,000 persons receive post-exposure prophylaxis. If you think you have been exposed to rabies from contact with a rabid or possibly rabid animal, wash the wound thoroughly with soap and warm water. It is critical to contact your health care provider immediately. Your health care provider, in consultation with SFDPH, will decide if anti-rabies treatment with Post-exposure prophylaxis (PEP) is necessary. Administration of rabies PEP is a medical urgency, not a medical emergency, but decisions must not be delayed. In San Francisco, rabies PEP is indicated for certain bat exposures even in the absence of a bite wound.

PEP consists of a regimen of one dose of Human Rabies Immune Globulin (HRIG) and four doses of rabies vaccine (except in immunosuppressed persons who should receive 5 doses of rabies vaccine). HRIG and the first dose of rabies vaccine should be given by your health care provider as soon as possible after exposure. Additional doses or rabies vaccine should be given on days 3, 7, and 14 after the
first vaccination (immunosuppressed persons should receive a 5th dose on day 28 after the first vaccination). Post-exposure prophylaxis (PEP), combining wound treatment, HRIG, and vaccination is 100% effective in preventing human rabies. There have been no vaccine failures in the United States (i.e. no one has developed rabies) when PEP was given promptly and appropriately after an exposure.

For additional information about rabies PEP, please see:
What You and Your Physician Should Know About Rabies.

**How to Order Rabies Vaccine and Human Rabies Immune Globulin (Physicians and Pharmacists Only)**
For details on how to order rabies vaccine and human rabies immune globulin refer to the document:
How to Order Rabies Vaccine and Human Immune Globulin.

**Additional Rabies Information**
For more information, please contact your physician, the Communicable Disease Control Unit at (415) 554-2830, or visit the Centers for Disease Control Rabies Website.