



To: CAHAN San Diego Participants
Date: June 26, 2019
From: Epidemiology Program, Public Health Services

Health Information: Animal Rabies in San Diego County

Key Messages

- Rabies virus occurs naturally in several bat species in San Diego County, and human-bat interactions can increase in the summer months.
- The Centers for Disease Control and Prevention (CDC) recently [reported](#) that bats are the leading cause of human rabies deaths in the United States.
- Most persons will know if they are bitten or scratched by a bat. However, as the wounds may be small, they can be overlooked. Unrecognized bat contact might occur if a bat is found in a room with a young child, a person who is asleep, or a person who is mentally impaired. In these cases, healthcare providers should assume potential exposure to rabies if the bat is not available for testing.
- Timely wound care and properly administered [post-exposure prophylaxis \(PEP\)](#) of rabies vaccine and rabies immune globulin are critical to prevent rabies. The disease is nearly always fatal once symptoms begin.
- Any mammal can be infected with rabies and any person who sustains a bite from a potentially rabid animal [must be reported](#) to local public health or animal control officials, per California Code Title 17, Section 2606, and San Diego Code 62.615.
- The [County Epidemiology Program](#) is available 24/7 to provide consultation on rabies post-exposure prophylaxis (PEP) and to facilitate rabies testing of bats when human exposure is suspected by calling 619-692-8499 during working hours and 858-565-5255.

Bat Exposures

Rabies virus circulates naturally among several bat species in San Diego County. Bats are most active during summer months, increasing the likelihood of contact between bats and humans. Since 2010, 91 rabid animals have been detected in the county. All were bats, except one, a gray fox infected with a bat variant of rabies in 2010. The figure on page four shows the annual case counts for rabid animals in San Diego County from 2010 to the present.

Two rabid bats have been detected so far in 2019. The first was found in San Marcos on June 14 with no known human or pet exposures. The second bat, found in Ramona on June 19, was handled barehanded by a child. The child is being treated with rabies post-exposure prophylaxis (PEP).

Local animal control agencies should be consulted for guidance and assistance with safe capture of a live bat or [other wild animal](#) that may have exposed a person or pet to rabies. A list of local animal control agencies by zip code may be found [here](#). Bats and other animals that have potentially exposed humans to rabies should be submitted to the San Diego County Public Health Laboratory for rabies testing. The County Epidemiology Program is available 24/7 to facilitate rabies testing of bats when human exposure is suspected by calling 619-692-8499 during working hours and 858-565-5255 after hours.

[Rabies PEP](#) should be considered whenever direct contact between a bat and a person has occurred. If the bat tests negative for rabies, or the person *can be certain* that a bite, scratch, or mucous membrane exposure did not occur, rabies PEP is not indicated. The wounds resulting from a bite or scratch from a bat are usually small, and can be inapparent and unrecognized. Unrecognized bat contact might also occur if a bat is present in a room with a young child, a person who is asleep, or a person who is mentally impaired (e.g., under the influence of medication, drugs, or alcohol). In these cases, healthcare providers should assume potential exposure to rabies if the bat is not available for testing.

Rabies PEP consists of proper wound care and appropriate and timely administration of both [rabies vaccine](#) and [rabies immune globulin](#) (RIG). RIG is infiltrated in and around the bite wound to suppress local replication of the rabies virus at the exposure site. RIG is indicated in all patients who have not previously received a full course of rabies PEP or [preexposure immunization](#). Four doses of vaccine, administered over the course of two weeks, complete the rabies PEP schedule. PEP may be initiated and successfully prevent rabies up to the onset of clinical illness. Rabies is nearly always fatal once symptoms begin. The incubation period in humans is usually several weeks to a few months, but can in unusual circumstances range from days to years.

Background

According to CDC, bats are currently the leading source of rabies virus infection of humans in the United States. Bats are responsible for roughly 7 in 10 human rabies deaths in this country, possibly because people may not know of the risk bats pose. The large percentage of deaths linked to bats is striking since bats account for only a third of the 5,000 rabid animals reported each year in the U.S. Rabid dogs that people encounter during overseas travel are the second-leading cause of human rabies cases in the U.S.

The U.S. currently averages one to three human cases of rabies each year, down from 30 to 50 cases per year in the 1940s. This decrease is largely due to mandated vaccination and licensure of dogs, local animal control programs, and availability of rabies PEP to prevent infection after exposure to the virus. About 55,000 Americans are treated for potential rabies exposure each year, with an average PEP cost of \$3,800.

Staying away from wildlife, especially bats, is key to preventing rabies in people. A small percentage of apparently healthy bats carry rabies virus. As several species of bats indigenous to San Diego are present and active year-round, contact with bats and transmission of rabies virus can occur at any time. However, many people may not associate rabies risk with bats and may neither take precautions to avoid contact nor report nor seek medical care if they are bitten or scratched by a bat.

The domestic dog rabies virus variant was eradicated from the U.S. in the latter 20th century. Worldwide, dogs remain the cause of nearly all the 59,000 human deaths from rabies each year. International travelers should research the rabies risk at their destination, especially the risk from dogs. CDC recommends travelers avoid animals; have a plan to get care, if they are scratched or bitten; and

have travel health insurance to pay for treatment, should they need it. Some travelers may also want to consider pre-exposure vaccination depending on their specific travel plans, particularly if they anticipate being in rural areas or having frequent contact with animals. More information is available on the [CDC Travelers' Health website](#).

Domestic Animal Exposures

Although the risk of rabies transmission in the U.S. is greatest with exposure to wild animals and especially bats, domestic animals, including dogs and cats, can become infected with wild animal rabies and potentially transmit the virus to humans. A bite or scratch from a domestic dog or cat should be evaluated as a potential rabies exposure. The concern for rabies transmission may be elevated if the bite was unprovoked, the animal is ill, the animal is unvaccinated or not up-to-date on rabies vaccination, the animal is unowned or the owner cannot be located, or the exposure took place in an area in which rabies virus has been previously detected in bats or other wildlife.

If available, a healthy domestic dog, cat, or ferret that bites or scratches a person should be confined and observed for 10 days. If the animal is healthy 10 days following the incident, exposure to rabies can be ruled out. Animals that develop neurologic disease, die, or are euthanized within the 10-day quarantine period, should be promptly submitted for [rabies testing](#). Bites from any animal species capable of transmitting rabies are reportable to local public health or animal control officials per [California Code of Regulations, Title 17, Section 2606](#), and [San Diego Code 62.615](#).

A domestic animal has not tested positive for rabies in San Diego County since 1968. However, two or three domestic animals in California and hundreds of domestic animals in the United States test positive for rabies each year. The last human case of rabies reported in San Diego County was in 2001, a man who had been bitten by a dog in the Philippines. The last human case of rabies resulting from an animal bite in the county was a child who was bitten by a rabid bobcat in 1969.

Recommendations for Providers

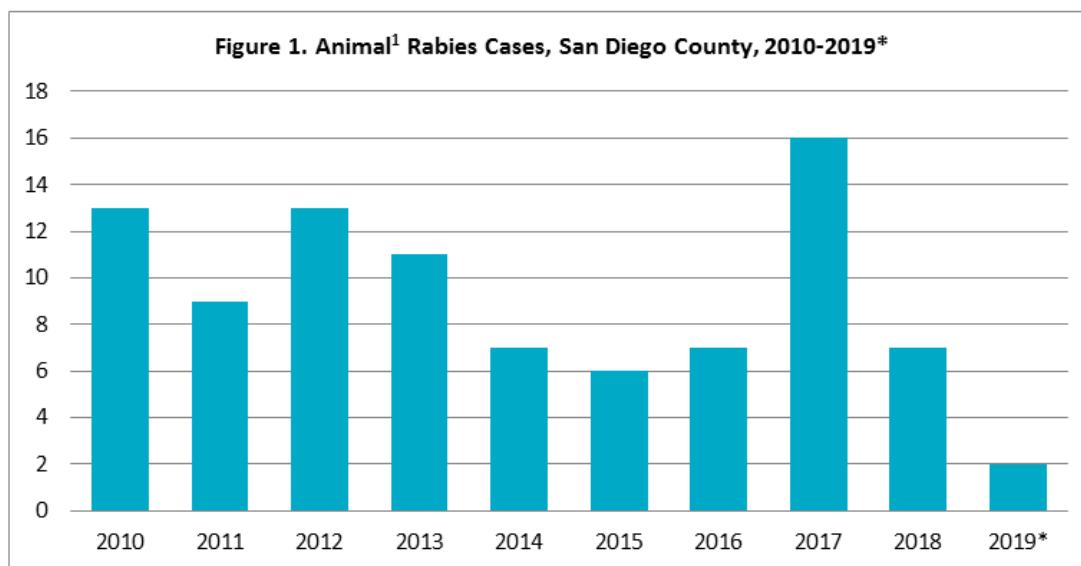
- **Consider the possibility of rabies exposure** whenever a patient reports direct contact with a bat, unless the bat tests negative for rabies, or the patient can be certain that a bite, scratch, or mucous membrane exposure did not occur. Most persons will notice a bite from a bat that occurs while they are awake, but unrecognized bat contact might occur if a bat is present in a room with a young child, a person who is asleep, or a person who is mentally impaired. Bite or scratch wounds from a bat can be inapparent and go unrecognized.
- **Thoroughly clean and irrigate wounds from a biting animal susceptible to rabies as soon as possible.** When indicated, administer rabies vaccine and rabies immune globulin promptly and according to [established guidelines](#).
- **Report bites from animals that could transmit rabies to the appropriate animal control agency.** Bites from any animal species capable of transmitting rabies are legally reportable. The agency that should be notified is determined by where the bite or other exposure incident occurred. Local animal control agencies by zip code are listed [here](#).
- **Advise international travelers to research the risk of rabies exposure at their travel destination, especially the risk from dogs.** Travelers should be advised to avoid animals, have a plan to get care

if they are scratched or bitten by a potentially rabid animal, and have travel health insurance to pay for treatment should they need it.

- **Consider consulting the County Epidemiology Program regarding the need for rabies post-exposure prophylaxis.** This can be done during business hours Monday through Friday by calling 619-692-8499, or on evenings, weekends, and County-observed holidays, by calling 858-565-5255 (ask for the Epidemiology Duty Officer). The County neither maintains stocks of rabies biologicals nor administers rabies PEP.

Resources

- [CDC Rabies website](#)
 - Resources for [physicians](#)
 - ACIP [recommendations on rabies prophylaxis](#) (2008) and [use of a 4-dose vaccine schedule for PEP](#) (2010)
 - Resources for [veterinarians](#)
 - Resources for [travelers](#)
- CDC website [Rabies: The Forgotten Killer](#)
- [CDPH Rabies website](#)
 - [California Compendium of Rabies Control and Prevention, 2012](#)
 - [Investigation, Management, and Prevention of Animal Bites in California, Third Edition 2014](#)
- [County of San Diego Rabies website](#)



¹ All are bats except one gray fox in 2010.

*2019 data are year to date.

Data are classified as confirmed and grouped by CDC years. Data are provisional and subject to change as more information becomes available. Prepared by the County of San Diego, Health & Human Services Agency, Public Health Services, Epidemiology & Immunization Services Branch, 6/20/19.

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