

## Monkey Bites and Herpes B Virus

Several diseases can be spread through bites from monkeys. Patients should be evaluated for risk of tetanus, bacterial infection, rabies, and herpes B virus. Herpes B virus occurs naturally in macaque monkeys. Human infection is rare but serious. The incubation period is usually about one month but can be as short as three days. Early symptoms are flu-like. Other symptoms can include blisters on the skin, shortness of breath, abdominal pain, nausea, vomiting, and hiccups. These symptoms can progress to neurologic and inflammatory symptoms, brain and nervous system damage, and death. Without appropriate treatment, herpes B virus infection in humans has a mortality rate of about 80%.

People at greatest risk for herpes B virus infection are travelers, veterinarians, laboratory workers, and others who have close contact with Old World macaques or monkey cell cultures. There is no vaccine. Infection is typically caused by animal bites or scratches; mucous membrane exposure is also possible through contact with infectious macaque tissue or secretions, or through needlestick injury.

Macaques housed in primate facilities usually become B virus positive by the time they reach adulthood. In nature, Old World macaques are found in Central and Southeast Asia along with Barbary macaques in North Africa and Gibraltar. Macaques in the wild are assumed to carry B virus, but it is believed that ~1-3% are shedding virus at any given time.

Identification of the species of primate that bit a person should be made based on geographic location and description of the animal, including pictures when possible.



*Image 1: Global distribution of wild macaque monkeys.*

## Wound Management

Immediately after an exposure, the victim should scrub the wound with soap, chlorhexidine, or povidone iodine for 15 minutes and then irrigate with water for an additional 15 to 20 minutes. Delayed or inadequate cleansing increases the risk of infection. Healthcare providers should assess whether the patient requires treatment or prophylaxis for other conditions such as tetanus, rabies, and bacterial infection.

## Herpes B (*Cercopithecine herpesvirus 1*) Prophylaxis

**Species of animal.** Only monkeys of the macaque family serve as the natural reservoir for B virus infection. There is no risk of B virus transmission from any other animal species. Macaque monkeys occur naturally in Asia and Southeast Asia (see Image 1). They are also commonly found in laboratories, and feral populations may exist outside of the normal range, such as in Florida, USA. More information and pictures of macaques can be found at: [Macaque Monkeys \(gsu.edu\)](http://gsu.edu)

**Routes of exposure and infectious materials.** Bite, scratch, needlestick, or mucous membrane or open wound contact with infectious material. Infectious material includes monkey saliva, tissue, urine, feces, or surfaces (such as cages) that have been contaminated with these materials.

### Treatment should be considered in the following circumstances:

1. Bite or scratch from macaque monkey.
2. Mucosal or open wound contact with infectious material, including cell culture or contaminated surfaces.
3. Intact skin contact with a known infected animal or macaque with obvious illness or lesions.
4. Needlestick involving blood or tissue of a macaque.

### Treatment is not recommended in the following circumstances:

1. Intact skin contact with normal-appearing animal.
2. Exposure to non-macaque species of primates, unless they could have been infected by a macaque (for example, other primates housed in the same facility).

## Antiviral Therapy

Recommended dosages for specific antivirals are as follows.

1. **Prophylaxis for exposure to B virus**
  - Valacyclovir—1g by mouth every 8 hours for 14 days, or
  - Acyclovir—800 mg by mouth 5 times daily for 14 days

If the bite victim develops any neurological symptoms in the next few days to five weeks after the bite, she should be referred to a higher level of care for further evaluation and treatment.

2. **Treatment of B virus infection**

With no CNS symptoms

- Acyclovir—12.5–15 mg/kg intravenously every eight hours, or

- Ganciclovir—5 mg/kg intravenously every 12 hours.

With CNS symptoms

- Ganciclovir—5 mg/kg intravenously every 12 hours.