



Animal Bites: Information for Health Care Providers

FACT SHEET

EPIDEMIOLOGY

- ◆ Dog and cat bites are responsible for 1% of emergency room visits each year, accounting for \$30 million in annual health care costs nationwide.
- ◆ In the U.S., dogs are responsible for more than 2/3 of domestic animal bites, causing 19 deaths per year; boys age 5 to 9 years are at the highest risk for injury.

MICROBIOLOGY AND PATHOGENESIS

- ◆ Infection occurs when the oral flora of a biting animal gains entry through breaks in the skin, or when open wounds become contaminated by bacteria in the environment.
- ◆ Bites that penetrate the skin have an infection rate of 6-13%. Wounds cleaned and treated in the emergency department have a rate around 5%.
- ◆ Polymicrobial infection is common, including both aerobic bacteria (e.g. Pasteurella, Streptococcus, and Staphylococcus species) and anaerobic bacteria (e.g. Fusobacterium, Bacteroides, Porphyromonas, and Prevotella). Different animal species have a different spectrum of potential microbes. Cat bites have a higher rate of infection than dog bites.
- ◆ Puncture wounds, hand wounds, and wounds that are greater than 24 hours old are at higher risk for infection.
- ◆ Individuals who are asplenic or immune compromised are at risk for systemic infection.

TREATMENT

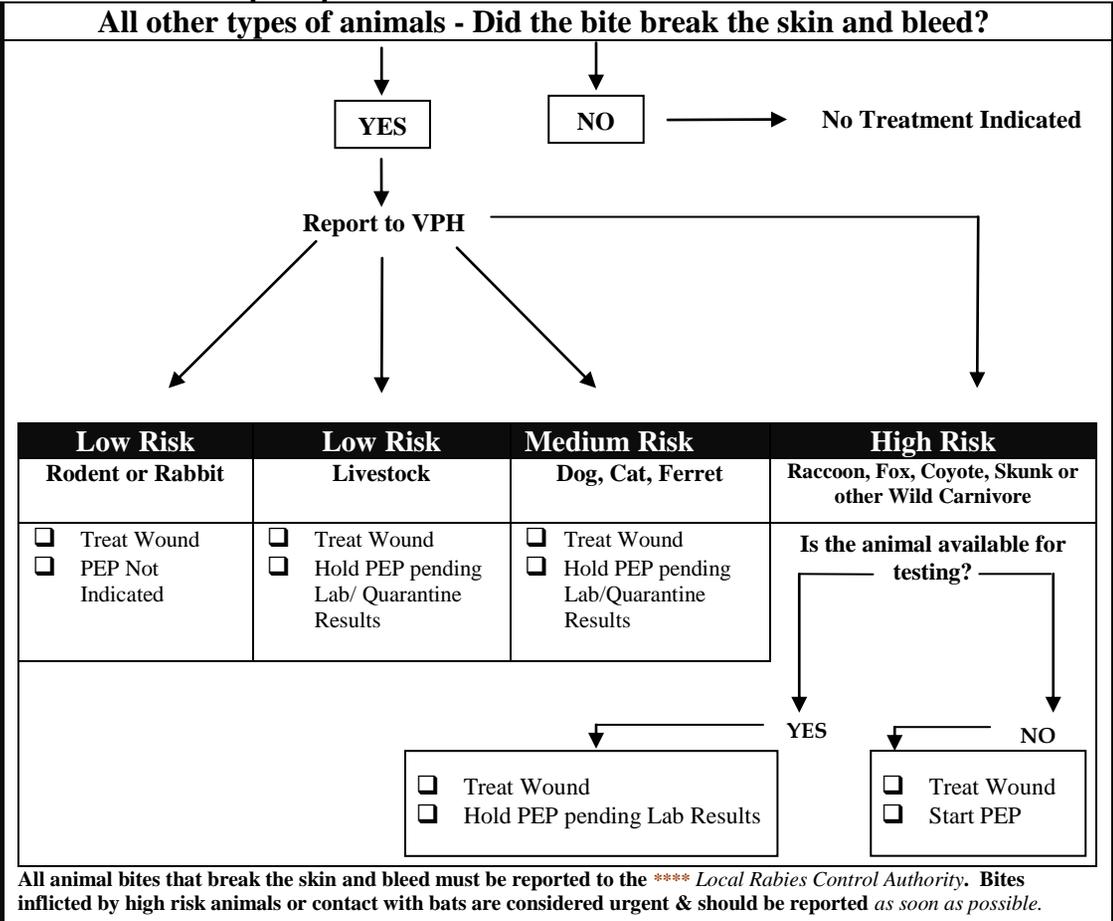
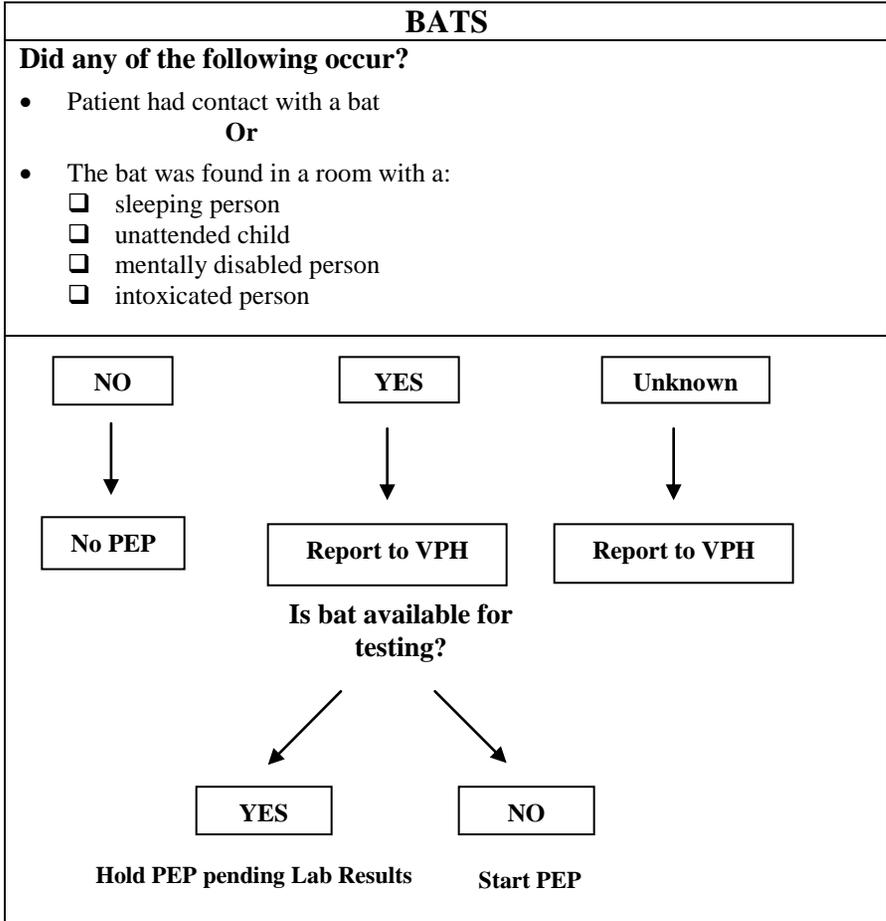
- ◆ Immediately wash the wound thoroughly with soap and water.
- ◆ Carefully clean and explore wounds.
- ◆ Irrigate wounds thoroughly with sterile saline.
- ◆ Evaluate wounds for injury to nearby nerves, vessels, tendons, ligaments, joints, and bone. Consider radiography if bone involvement is suspected.

- ◆ Debride, drain, and close wounds as appropriate.
- ◆ Consider obtaining wound cultures for identification and antibiotic sensitivity.
- ◆ Consider prophylactic antibiotics for wounds at higher risk for infection.
- ◆ Obtain the patient's history of tetanus-containing vaccine (DTaP = diphtheria, tetanus, & acellular pertussis; DT = diphtheria & tetanus; Td = tetanus & diphtheria toxoids, Tdap = combined tetanus, diphtheria, & pertussis, TT= tetanus toxoid).
- ◆ Administer a tetanus-containing vaccine if patient:
 - Has had an unknown number or less than 3 doses of tetanus containing vaccine, or
 - Has had 5 or more years since the last dose of tetanus containing vaccine.
- ◆ Administer tetanus immune globulin in addition to a tetanus containing vaccine* if patient:
 - Has had an unknown number or less than 3 doses of tetanus containing vaccine, or
 - Is under 6 months old, and has a mother with an unknown number or less than 3 doses of tetanus containing vaccine at the time of delivery.

The American Academy of Pediatrics also recommends TIG for HIV positive bite victims.

- ◆ The recommendation regarding tetanus-containing vaccine varies with age:
 - Under 7 years of age: give DTaP if pertussis vaccination is not contraindicated.
 - Age 7 to 10 years: administer Td.
 - Age 11 to 64 years: Tdap is preferred if the patient has never received Tdap; Td is preferred if the patient has received Tdap, or if Tdap is not available.
 - Age 65 and older: administer Td or Tdap.
- ◆ **Assess the patient's risk for rabies, and administer rabies post-exposure prophylaxis Using the guide on the back of this page.**

POST-EXPOSURE PROPHYLAXIS (PEP) GUIDE



PATIENT'S RABIES VACCINATION HISTORY	TREATMENT	REGIMEN*
Not previously vaccinated	Local wound cleansing HRIG Vaccine	All post-exposure treatment should begin with immediate thorough cleansing of all wounds with soap and water. 20 IU/kg body weight. If anatomically feasible, the full dose should be infiltrated around and into the wound (s), and any remaining volume should be administered IM in the closest muscle mass of suitable size to accommodate the remainder of the HRIG. HRIG should not be administered in the same syringe or into the same anatomical site as vaccine, and administration into the gluteal area is discouraged due to the increased risk of injection into adipose tissue. Because HRIG may partially suppress active production of antibody, no more than the recommended dose should be given. HDCV or PCECV, 1.0 ml, IM (deltoid area**), one each on days 0, 3, 7, and 14. NOTE: Immunocompromised individuals require a 5 th dose of vaccine on day 28 and a rabies antibody titer test 1-2 weeks later to confirm adequate response. For more information: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e507a1.htm
Previously vaccinated***	Local wound cleansing HRIG Vaccine	All post-exposure treatment should begin with immediate thorough cleansing of all wounds with soap and water. HRIG should not be administered. HDCV or PCECV, 1.0 ml, IM (deltoid area**), one each on days 0 and 3.

* These regimens are applicable for all age groups, including children.
 ** The deltoid area is the only acceptable site of vaccination for adults and older children. For younger children, the outer aspect of the thigh may be used. Vaccine should never be administered in the gluteal area.
 *** Any person with a history of pre-exposure vaccination with HDCV or PCECV; prior post-exposure prophylaxis with HDCV or PCECV; or previous vaccination with any other type of rabies vaccine and a documented history of antibody response to the prior vaccination.