

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.**