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. Fuso bacterium, 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 & diphteria 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**

### BATS

Did any of the following occur?

- Patient had contact with a bat
- The bat was found in a room with a:
  - sleeping person
  - unattended child
  - mentally disabled person
  - intoxicated person

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>No PEP</td>
<td>Report to VPH</td>
<td>Report to VPH</td>
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</table>

Is bat available for testing?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold PEP pending Lab Results</td>
<td>Start PEP</td>
</tr>
</tbody>
</table>

### All other types of animals - Did the bite break the skin and bleed?

- YES
- NO

No Treatment Indicated

#### Low Risk

- Rodent or Rabbit
- Livestock

- Low Risk
- Medium Risk
- High Risk

- Raccoon, Fox, Coyote, Skunk or other Wild Carnivore

- Treat Wound
- PEP Not Indicated
- Treat Wound
- Hold PEP pending Lab/Quarantine Results
- Treat Wound
- Hold PEP pending Lab/Quarantine Results
- Is the animal available for testing?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat Wound</td>
<td>Hold PEP pending Lab Results</td>
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#### PATIENT’S RABIES VACCINATION HISTORY

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<th>TREATMENT</th>
</tr>
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<tr>
<td>Local wound cleansing</td>
</tr>
<tr>
<td>HRIG</td>
</tr>
<tr>
<td>Vaccine</td>
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### TREATMENT REGIMEN*

**Not previously vaccinated**

- Local wound cleansing
- HRIG
- CDCV or PCECV, 1.0 ml, IM (deltoid area**), one each on days 0, 3, 7, and 14. 

*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.

****HCPH Veterinary Public Health (VPH) is the Local Rabies Control Authority for Harris County. Call (281) 999-3191 to report bites.****

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