Common Bites and Stings

David Hartnett, MD
Assistant Professor
Department of Emergency Medicine
The Ohio State University Wexner Medical Center

Disclosures

• None
Learning Objectives

• Discuss the incidence of bites and stings in the US
• Review management of clinically relevant species
  • Insects
  • Mammals
  • Arachnids
  • Reptiles
• Describe indications and methods of rabies prophylaxis

Impact of bites and stings

• 1.5 million ED visits per year
Insects - 50%

### Hymenoptera

- Bees, vespids, fire ants
- Symptomatic control
- Localized, systemic, and anaphylactic reactions
- Stinger removal
- Killer Bees

Source: Alvesgaspar - Own work, CC BY-SA 3.0.

Source: James Heilman, MD Own work, CC BY-SA 3.0.
# Africanized Killer Bees

<table>
<thead>
<tr>
<th></th>
<th>LD50 (mg/kg)</th>
<th>Venom (µg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Honey Bee</td>
<td>2.8</td>
<td>148</td>
</tr>
<tr>
<td>Africanized Honey Bee</td>
<td>2.8</td>
<td>156</td>
</tr>
<tr>
<td>Cape Honey Bee</td>
<td>3.0</td>
<td>187</td>
</tr>
</tbody>
</table>

LD50 for a 110 lb person

- Honey Bees – 890 Stings
- Yellow Jackets – 3600 stings
- Paper wasps – 850 stings

**Rule of Thumb**

- 6 stings/lb – survival
- 8 stings/lb – LD50
- 10 stings/lb – Death

Source: James Heilman, MD - Own work, CC BY-SA 3.0,
# Bed bugs

- Behavior
- Transmission
- Incidence
- Prevention
- Symptom control
- Infestation treatment

Source: CDC

# Mosquito borne illnesses

- Travel medicine
  - Chikungunya
  - Dengue
  - Japanese Encephalitis
  - Malaria
  - Yellow Fever
  - Zika

- Endemic to United States
  - Eastern Equine Encephalitis
  - St Louis Encephalitis
  - La Crosse Encephalitis
  - West Nile
La Crosse Virus Encephalitis – Incidence per 100,000

West Nile Virus – incidence by state per 100,000
Arachnids - 16%

Source: CDC
**Lyme Disease**

- Progression
- Prophylactic Treatment
- Symptomatic Treatment
- STARI

Source: CDC

**Rocky Mountain Spotted Fever**

- Clinical Diagnosis
- Doxycycline

Source: CDC
Other Tick Borne Illnesses

**Tularemia**

Source: CDC

**Ehrlichiosis**

Source: CDC

**Other Tick Borne Illnesses**

**Colorado Tick Fever**

Source: CDC

**Babesiosis**

Source: CDC
**Black Widow**

- Localized Reactions
- Systemic Neurotoxin
- Treatment – Analgesics, BZD, antihypertensives
- Antivenin?
- Failed Therapies

**Brown Recluse**

- Necrotic Arachnidism-hemotoxin
- Local wound care
- NOT RECLUSE

Source: CDC

Photograph by Mark Chappell of University of California, Riverside. CC BY-SA 2.5

Source: CDC
Brown Recluse

Centruroides – Arizona bark scorpion

- Neurotoxin
- Treatment – supportive care
- Centruroides immune Fab – Anascorp
<table>
<thead>
<tr>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canine - 26%</td>
</tr>
<tr>
<td>• Incidence</td>
</tr>
<tr>
<td>• Infection Risk</td>
</tr>
<tr>
<td>• Antibiotics</td>
</tr>
<tr>
<td>• Closure</td>
</tr>
</tbody>
</table>
## Canine Bites

![Image of canine bites](image1)

## Other Mammals - 7%

- Humans
- Cat Bites
- Bats
- Raccoons
- Possums
### Rabies

- Pre – exposure vaccination
- Post – exposure treatment
  - Rabies vaccine – 0,3,7,14 days
  - Human rabies immunoglobulin
- Previously Vaccinated
- Waking up with a bat

### Reptiles - 1%

#### Crotalidae
- Rattle snakes, copperheads, cottonmouths
- Local necrosis and systemic hemotoxin
- CroFab

#### Elapidae
- Coral Snake
- Neurotoxin
- Coralmyn

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