

Common Bites and Stings

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Disclosures

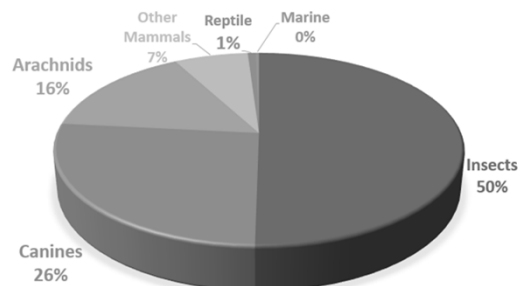
- None

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



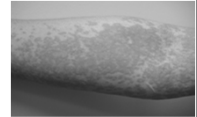
Insects - 50%

Hymenoptera

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



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Source: James Heilman, MD
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Africanized Killer Bees

| | LD50 (mg/kg) | Venom (µg) |
|-----------------------|--------------|------------|
| European Honey Bee | 2.8 | 148 |
| Africanized Honey Bee | 2.8 | 156 |
| Cape Honey Bee | 3.0 | 187 |

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
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Bed bugs

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



Source: CDC

Mosquito borne illnesses

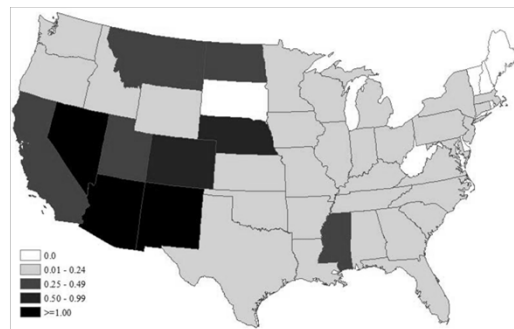
- Travel medicine
 - Chikungunya
 - Dengue
 - Japanese Encephalitis
 - Malaria
 - Yellow Fever
 - Zika
- Endemic to United States
 - Eastern Equine Encephalitis
 - St Louis Encephalitis
 - La Crosse Encephalitis
 - West Nile



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



Source: CDC

Rocky Mountain Spotted Fever

- Clinical Diagnosis
- Doxycycline



Source: CDC



Source: CDC

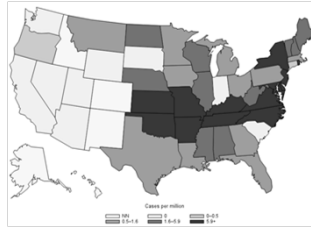
Other Tick Borne Illnesses

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



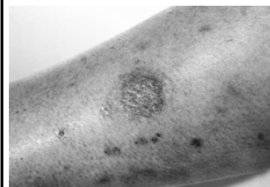
Photograph by Mark Chappell of University of California, Riverside.
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Source: CDC

Brown Recluse

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



Source: CDC



Source: CDC

Brown Recluse



By Rosa Pineda - Own work, CC BY-SA 3.0,



Source: CDC



Centruroides – Arizona bark scorpion

- Neurotoxin
- Treatment – supportive care
- Centruroides immune Fab – Anascorp

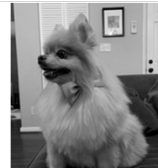


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Others

Canine - 26%

- Incidence
- Infection Risk
- Antibiotics
- Closure



Canine Bites



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



Source: CDC



Source: CDC

Reptiles - 1%

Crotalidae

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



Source: Glenn Bartolotti - Own work, CC BY-SA 4.0,

Elapidae

- Coral Snake
- Neurotoxin
- Coralmyx



Source: Norman.benton - Own work CC BY-SA 3.0,