

# **Common Bites and Stings**

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## **Disclosures**

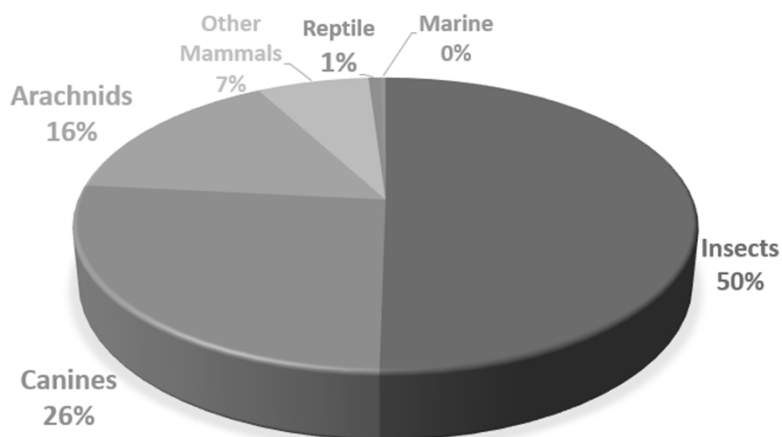
- **None**

## 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



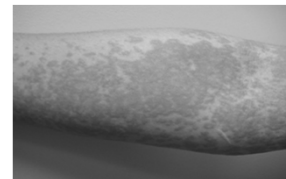
# Insects - 50%

## Hymenoptera

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



Source: Alvesgaspar - Own work  
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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

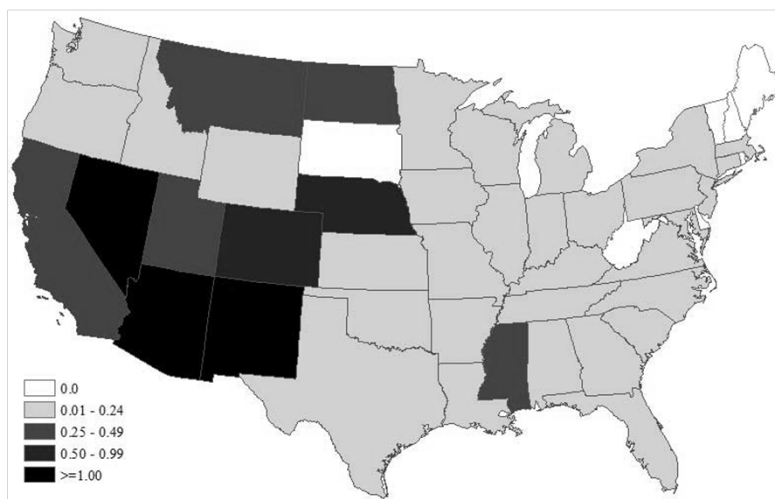
- Travel medicine
  - Chikungunya
  - Dengue
  - Japanese Encephalitis
  - Malaria
  - Yellow Fever
  - Zika
- Endemic to United States
  - Eastern Equine Encephalitis
  - St Louis Encephalitis
  - La Crosse Encephalitis
  - West Nile



## 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



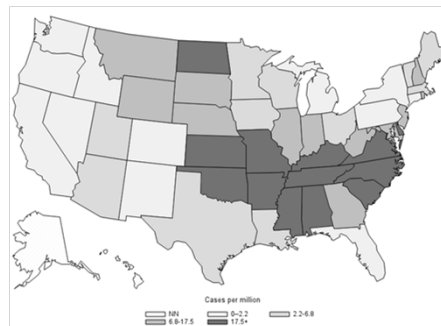
Source: CDC

# Rocky Mountain Spotted Fever

- Clinical Diagnosis
- Doxycycline



Source: CDC

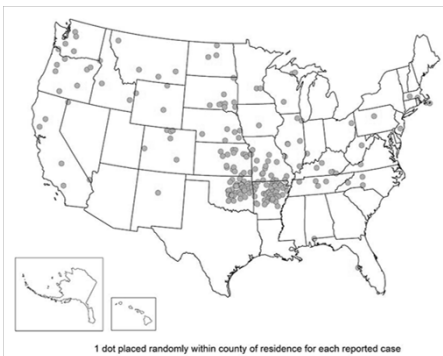


Source: CDC



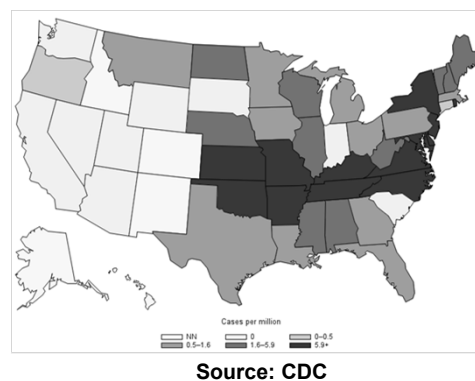
# Other Tick Borne Illnesses

## Tularemia



Source: CDC

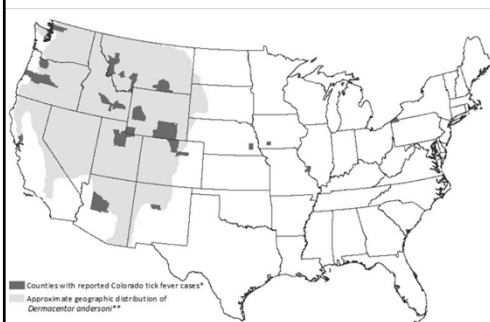
## Ehrlichiosis



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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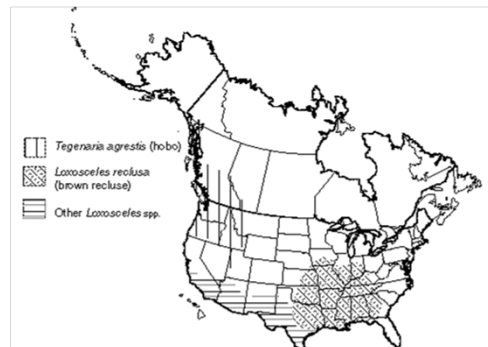
Source: CDC

# 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



Source: Musides at English Wikipedia, CC BY-SA 3.0,

# 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,