Lesson Objectives

1. List guidelines for preventing common bites and stings.
2. Explain the risk of infection from common types of bites and stings.
3. Describe the first aid to give in cases of bites and stings not involving severe symptoms or an allergic reaction.
4. List signs and symptoms for which you should call 9-1-1 after a bite or sting.
5. Describe how to remove an embedded tick and the stinger from a bee or wasp.
Bites and Stings

- Millions of people every year are bitten or stung.
- Most are not medical emergencies.
- Treatment is usually for bleeding, wound care or infection.
- If victim is allergic, it can be a medical emergency.
Animal Bites

- About 4 million people bitten by dogs each year
- Over 32,000 dog bites require emergency department treatment, and about 34 people a year die from dog bites.
- Serious because of bleeding and risk of infection
Animal Bites continued

- Most victims are young children who haven’t learned how to act around dogs and other animals.
- Bite injuries to head or neck of young children are often a dangerous injury.
Rabies

- Bite of any animal carries risk.
- Fatal unless vaccination injections given early
- All dog and animal bites should be reported to public health department:
  - Unless it is your own animal with current rabies vaccination
- It is safer to assume that all wild animals have rabies.
Preventing Dog Bites

- Consult with professional before choosing pet.
- Exclude dogs with history of aggression from households with children.
- Delay acquiring dog when child fearful or apprehensive.
- Spend time with dog before bringing to household.
Preventing Dog Bites continued

- Use caution when bringing into home of infant/toddler:
  - Never leave them alone together.
- Spay/neuter dogs.
- Properly socialize/train dogs.
- Seek professional advice for aggressive/undesirable behaviors.
- Teach children basic safety around dogs.
First Aid: Animal Bites

1. Clean the wound with large amounts of warm or room-temperature water with or without soap (unless bleeding severely).
2. Control bleeding.
3. Cover wound with sterile dressing and bandage.
4. Victim should see health care provider or go to emergency department.
Human Bites

- Small children often bite when angry or acting out.
- Our mouths harbor many bacteria:
  - Bite from a human can cause wound infection.
- All human bites that break the skin should be seen by health care provider.
First Aid: Human Bites

1. Clean the wound with large amounts of warm or room-temperature water with or without soap (unless bleeding severely).
2. Control bleeding.
3. Cover wound with sterile dressing and bandage.
4. Victim should see health care provider or go to emergency department.
Snake Bites

- Poisonous snakes in the United States include:
  - Rattlesnakes
  - Copperheads
  - Water moccasins (cottonmouths)
  - Coral snakes
Snake Bites continued

- 7,000 to 8,000 venomous snake bites occur each year:
  - Rattlesnakes cause most of these.
  - Alcohol use often involved – many of these victims try to handle snake to impress friends
  - Those who live or work in areas of venomous snakes should take preventive steps.
  - Treat all bites as poisonous.
  - Antivenin available in many areas.
First Aid: Snake Bites

1. Have victim lie down and stay calm. Keep bitten area immobile and below level of heart.
2. Call 9-1-1.
3. Wash wound with large amounts of warm or room-temperature water with or without soap.
4. Wrap extremity with elastic bandage, wrapping away from the body toward end of limb. Pressure is sufficient if bandage is snug but a finger can be slipped under it.
5. Remove constricting items.
Preventing Snake Bites

• Stay away from areas known to have snakes.
• If you see a snake reverse direction, retrace steps.
• Stay away from underbrush areas, fallen trees or other areas where snakes may live.
• Leave all wild animals alone.
Chapter 19 • Bites and Stings

Preventing Snake Bites *continued*

- Be aware of peak movement times.
- Keep hands and feet out of crevices in rocks, wood piles, deep grass.
- Always carry a flashlight and wear shoes or boots after dark.
- Install outdoor lighting.
- Never handle a venomous snake, even when dead.
Spider Bites

- In the United States, black widow and brown recluse spider bites are serious and sometimes fatal.
- Spiders commonly live in woodpiles, sheds, debris piles, closets, rarely used cabinets, attics, crawl spaces, etc.
Black Widow Spider

- Red, hourglass-shaped marking on underside or abdomen
Brown Recluse Spider

- Violin-shaped marking on back
- Venom can cause severe tissue damage but rarely death.
Avoiding Spider Bites

• Wear gloves and long sleeves when in basement or attic or other areas where spiders may live.

• **Wear gloves when gathering wood.**

• Shake out shoes and clothing before use.

• Check inside tents, sleeping bags and other equipment before use.

• Check between covers of bed.
Controlling Spider Populations

- Use pesticides or spider traps in known areas.
- Routinely house clean.
- Reduce clutter.
- Repair or seal off openings.
- Clean up debris around home.
First Aid: Spider Bites

1. If victim has difficulty breathing, call 9-1-1. Call 9-1-1 immediately for brown recluse bite.
2. Keep bite area below level of heart.
3. Wash area with soap and water.
4. Put ice or cold pack on area (with damp cloth or paper towel between cold pack and skin) – observe time limits.
Tick Bites

- Not poisonous but can transmit disease:
  - Rocky Mountain spotted fever
  - Lyme disease
- Bite into skin, embed mouth parts
- If not detected, may remain for days.
- Medical treatment not needed:
  - But watch for signs of Lyme disease.
Tick Bites continued

Blacklegged tick (*Ixodes scapularis*)
- Adult female
- Adult male
- Nymph
- Larva

Lone Star tick (*Amblyomma americanum*)

Dog tick (*Dermacentor variabilis*)
Tick Bites continued

1 dot placed randomly within county of residence for each reported base of Lyme disease
Preventing Tick Bites

- Keep lawns mowed, brush cleaned up, wood piles stacked.
- Wear socks, tuck long pants into socks.
- Wear light-colored clothing.
- Do not lay clothing, towels, etc., on ground.
- Walk in middle of paths.
- Comb through hair after being in infested area.
- Check body everywhere after potential exposure.
First Aid: Tick Bites

1. Remove tick by grasping close to skin with tweezers, pull gently until tick lets go.

2. Wash area with soap and water.

3. Apply antiseptic, such as rubbing alcohol, or antibiotic cream if not allergic.

Additional Care:

• Seek medical attention if rash appears or flu-like symptoms.
Mosquitoes Bites

• Carry bloodborne disease.

• 2,200 human cases of West Nile Virus were reported nationwide in 2014, causing 97 deaths.

• There are only a few human cases of eastern equine encephalitis annually in the United States.
2014 Reported West Nile Virus Activity in the United States
Preventing Mosquito Bites

- Wear long sleeves.
- Use recommended insect repellent.
- Avoid being outdoors during peak mosquito hours.
- Drain standing water around home.
- Install and repair screens.
- Report dead birds to authorities.
- Support local mosquito control programs.
Bee and Wasp Stings

- Not poisonous but can cause anaphylaxis
- On average, about 50-70 deaths have occurred yearly from allergic reactions to insect stings.
- Venomous insects include honeybees, bumble bees, hornets, wasps, yellow jackets, fire ants.
- Someone allergic may carry an EpiPen or other emergency epinephrine auto-injector.
First Aid: Bee and Wasp Stings

1. Remove stinger from skin by using a plastic card. Call 9-1-1 if known allergy.

2. Wash area with soap and water.

3. Put ice or cold pack on area (observe time limits).

4. Watch victim for 30 minutes for signs or symptoms of anaphylaxis.
Scorpion Stings

• Thousands occur each year but few are emergencies.
• Most scorpions are not venomous.
• Most can be managed safely at home:
  • Seek urgent care for child or elderly person.
  • Antivenin is available in some areas.
• Avoid by not walking barefoot or in sandals and shaking out clothing/shoes.
First Aid: Scorpion Stings

1. Call 9-1-1 if problem breathing or other severe symptoms.

2. Monitor breathing, and be prepared to give CPR if needed.

3. Wash area.

4. Put ice or cold pack on area (observe time limits).

5. Seek urgent medical attention unless symptoms very mild.
Marine Bites and Stings

- Biting marine animals include sharks, barracudas, eels.
- First aid focuses on bleeding and wound care.
- For bite with severe bleeding:
  - Stop bleeding.
  - Care for shock.
  - Summon lifeguard.
  - Call 9-1-1.
Marine Stings

- Stinging marine life includes jellyfish, Portuguese man-of-war, corals, spiny sea urchins, anemones, stingrays.
- Most are painful but not dangerous (unless allergic).
Prevention of Marine Stings

• Do not swim or snorkel in shallow water.
• Watch area in front of you when walking in shallow water.
Severe Marine Sting Reactions

- If you have an allergy, consider an allergy kit.
- Signs and symptoms include:
  - Difficulty breathing
  - Swelling of throat
  - Shock
  - Muscle paralysis
  - Seizures
  - Unresponsiveness
First Aid for Jellyfish or Portuguese Man-of-War Stings

• Wash sting area with lots of vinegar as soon as possible, for at least 30 seconds or longer. Remove any remaining tentacles with gloved hand.

• If vinegar is unavailable, use mix of baking soda and water.

• To reduce pain, immerse area in water as hot as can be tolerated for at least 20 minutes or as long as pain is felt. If pain returns on removal from the hot water, immerse the area again.
First Aid for Jellyfish or Portuguese Man-of-War Stings *continued*

- Do not use meat tenderizer, fresh water wash, commercial aerosol products or pressure bandage.
- **Call 9-1-1 if:**
  - Victim is very young or very old.
  - Sting is near mouth is causing swelling.
  - Sting involves large area of body, face or genitals.
  - Victim experiences serious signs and symptoms, such as difficulty breathing or swallowing or chest pain.
  - Sting is from box jellyfish (rare in United States).
First Aid for Urchin or Stingray Puncture Wounds

- Relieve pain by immersing area in hot water for 30 minutes:
  - Make sure water not so hot it causes burn.
- Wash wound with soap and water.
- Apply dressing.
- Seek medical attention.
Chapter – Opening Scenario

You are at the beach boardwalk with your family on a bright summer day. The girls are thirsty, so Mom opens a carton of juice and pour it into cups, trying to ignore a wasp that has appeared and is buzzing around the juice. As the toddler takes her first sip, she slaps at the wasp, which stings her lip. Her juice spills everywhere, she is screaming with pain and the wasp is now nowhere to be seen.

What, if anything, should you do?
CHAPTER 19
Critical Thinking Challenge Questions
Scenario 1

A friend is bitten by a dog, which then runs off. The wound is minor, but the skin is broken.

What should you advise him to do?
Scenario 2

You are visiting another student, who tells you she was just bitten by a spider in her basement. She saw it only momentarily but thinks it may have been a black widow spider.

What do you do?
CHAPTER 19

Discussion and Questions