

# Resources to Complete Advanced First-Aid Certification

**Unit:** General Skills

**Problem Area:** Certifications

**Lesson:** Resources to Complete Advanced First-Aid Certification

- **Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

- 1 Explain various uses for first-aid kit supplies.**
- 2 Explain advanced first-aid techniques and treatments.**
- 3 Describe advanced first-aid life-saving techniques.**

- **Resources.** The following resources may be useful in teaching this lesson:

*American Heart Association.* Accessed Jan. 1, 2008.

<<http://www.americanheart.org/presenter.jhtml?identifier=1200000>>.

“Best Practices Guide: Fundamentals of a Workplace First-Aid Program,”  
*Occupational Safety and Health Administration.* Accessed Dec. 22, 2008.

<<http://www.osha.gov/Publications/OSHA3317first-aid.pdf>>.

“Emergencies and First Aid,” *Harvard Medical School Family Health Guide.*  
Accessed Dec. 15, 2008. <<http://www.health.harvard.edu/fhg/firstaid/firstaid.shtml>>.

“Emergency First-Aid Chart,” *Iowa Methodist Medical Center and Iowa Lutheran Hospital.* Accessed Dec. 28, 2008.

<[http://www.ihsdesmoines.org/documents/Documents/emergency\\_aid\\_guide.pdf](http://www.ihsdesmoines.org/documents/Documents/emergency_aid_guide.pdf)>.



“First Aid: 2005 International Consensus Conference on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science and Treatment Recommendations,” *National Guideline Clearinghouse*. Accessed Dec. 15, 2008. <[http://www.guideline.gov/summary/summary.aspx?doc\\_id=8487](http://www.guideline.gov/summary/summary.aspx?doc_id=8487)>.

First-Aid Guide. *Mayo Clinic*. Accessed Dec. 1, 2008.

<<http://www.mayoclinic.com/health/FirstAidIndex/FirstAidIndex>>.

Salamon, Maureen. “First Aid for Heart Attack Victims: From 911 to CPR and More,” *About.com*. Accessed Dec. 30, 2008.

<<http://heartdisease.about.com/lw/Health-Medicine/Conditions-and-diseases/First-Aid-for-Heart-Attack-Victims--16d.htm>>.

Thygeson, Alton. *First Aid, CPR, and AED Standards*, 5th ed. Jones & Bartlett, 2006.

## ■ **Equipment, Tools, Supplies, and Facilities.**

- ✓ Classroom resource and reference materials
- ✓ Computers with printers and Internet access
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)

## ■ **Key Terms.** The following terms are presented in this lesson (shown in bold italics):

- ▶ black eye
- ▶ choking
- ▶ contusion
- ▶ cuts and scrapes
- ▶ fainting
- ▶ first-degree burns
- ▶ fishhook sticks
- ▶ fractures
- ▶ frostbite
- ▶ hypothermia
- ▶ lacerations
- ▶ poison
- ▶ recovery position
- ▶ second-degree burns
- ▶ shock
- ▶ shock position
- ▶ splint
- ▶ splinters

- ▶ sprains
- ▶ strains
- ▶ third-degree burns
- ▶ unconsciousness

■ **Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situation. A possible approach is included here.

*Give students between 5 and 10 minutes to write down what they believe should be in a first-aid kit. Then ask them to share their responses with the class. Write them on the board, and discuss any critical items that have been overlooked.*

## SUMMARY OF CONTENT AND TEACHING STRATEGIES

**Objective 1:** Explain various uses for first-aid kit supplies.

**Anticipated Problem:** What are some common uses for first-aid kit supplies?

- I. First-aid supply uses
  - A. Medications and pharmaceutical liquids should be checked regularly for expiration dates. In some cases, they must be kept in safe or cool environments. Some active ingredients are only active for a certain period of time, even if the product is not open.
    1. It is necessary to read and follow the directions for administering any medications, drugs, or pharmaceuticals.
    2. It is necessary to read labels to determine the correct dosage for the victim. The proper authorities must be contacted in case of an overdose.
  - B. Common uses of medications
    1. Allergy medications (antihistamines)
      - a. Antihistamines treat allergic reactions.
      - b. Allergic reactions result from exposure to an allergen.
      - c. Common allergens are airborne pollens, bee stings, and foods (e.g., milk or peanuts).

2. Providone-iodine or antiseptic solutions (e.g., Betadine) are antimicrobial (germ-killing) ointments used to prevent infection. These ointments may be applied directly to a wound but are also applied via an adhesive gauze bandage.
    - a. They are used to clean areas of the skin prior to surgery or invasive procedures.
    - b. They are used to disinfect unclean areas.
  3. Aspirin, acetaminophen, and ibuprofen
    - a. These are anti-inflammatory medications.
    - b. Aspirin is only for adults. Acetaminophen and ibuprofen can be used to treat children.
    - c. These medications are used to counteract minor aches and pains; they also may help diminish a fever.
  4. Calamine lotion is a skin protectant used to soothe and protect skin following minor skin irritations (e.g., itching, pain, or discomfort), to diminish an itch response, and to calm rashes from such irritants as:
    - a. Poison ivy
    - b. Poison oak
    - c. Poison sumac
  5. Antimicrobial lotions or liquid disinfectants
    - a. These reduce the contaminants (e.g., bacteria) that may transfer from the victim to the first responder and vice versa.
    - b. These are applied prior to and following the administration of first aid.
  6. Antimicrobial ointment (e.g., Neosporin)
    - a. This helps fight bacteria and thus aids in the timely healing of cuts, abrasions, and lacerations.
    - b. It helps reduce scarring and may be reapplied throughout the healing process.
  7. Sterile eye drops or water
    - a. These can be used to flush contaminants from the eyes.
    - b. These can be used to flush contaminants from wounds.
- C. Common uses of absorbent materials, bandages, elastic wrap, and adhesive tape
1. Absorbent materials
    - a. These help to slow bleeding, especially when used in conjunction with bandages.
    - b. They serve to patch or pack wounds, depending on the severity and location.
    - c. Absorbent cloths (e.g., clean towels) and gauze pads are used in several ways.
      - (1) They can be used to wipe away sweat prior to attaching AED pads.
      - (2) They can be used to clean dirt and grime from a wound.
      - (3) They can be used to absorb large amounts of blood.
      - (4) They can be used to place over wounds to stop or slow bleeding.

- d. Bandages (especially triangular), elastic wrap, and adhesive tape assist in holding gauze pads in place or in securing limbs to the body to limit movement.
2. Bandages
- a. Bandages may be wrapped in various ways to exert pressure on body surfaces.
  - b. They may be wrapped in various ways to hold injured appendages close to the body.
  - c. Bandages may be cut and folded to secure specific areas of the body (e.g., a sling for an arm).
  - d. They may be used to secure joints when elastic wrap is unavailable.
  - e. Bandages may be used to secure gauze when adhesive tape is unavailable.
3. Elastic wrap
- a. It holds joints in place more securely than bandages.
  - b. It maintains pressure during the moving or bending of joints.
  - c. It may be pinned in place to maintain pressure when bandages or tape are unavailable.
  - d. It remains rigid and taut in the presence of moisture (e.g., when ice packs melt).
4. Adhesive tape
- a. It sticks to itself and many other surfaces without being tied or pinned.
  - b. It holds gauze in place better than bandages and elastic wrap.
  - c. It may be used in moist situations when bandages and elastic wrap are unavailable.
5. Miscellaneous supplies
- a. Scissors are used to cut or shorten tape or other materials to address an injury situation.
  - b. Safety pins are used in conjunction with bandages and elastic wrap to hold them in various positions instead of tying them together.
  - c. A flashlight allows first responders to illuminate injuries.
  - d. Sewing needles are used to stitch cloth together or to remove splinters.
  - e. Matches are used to sanitize needles and to start fires.
  - f. Tweezers are used to retrieve splinters protruding from the skin.
  - g. Cold and hot packs
    - (1) A cold pack cools a burn site.
    - (2) A hot pack warms up extremities.
  - h. Sugar packets may be administered to diabetic patients as a quick aid for low blood sugar.
  - i. Gloves protect first responders from blood contact.
  - j. A mouthpiece serves as a protection device during cardio-pulmonary resuscitation (respirations).

- k. Cotton-tipped swabs help to clear injured areas prior to cleaning and bandaging.

*Display VM–A, VM–B, and VM–C to prompt a discussion. You may ask a first responder to visit your classroom with a manikin and a first-aid kit.*

**Objective 2:** Explain advanced first-aid techniques and treatments.

**Anticipated Problem:** Which advanced first-aid techniques and treatments can be employed by first responders?

## II. Common advanced first-aid techniques and treatments

- A. First responders must be prepared for unexpected complications at an accident scene. When complications occur or multiple victims are at the scene, first responders seek additional professional medical assistance. The following are some common advanced first-aid techniques and treatments.
  1. Nosebleeds often occur in children and are usually not serious. However, if bleeding continues or is uncontrollable, medical assistance should be requested. Nosebleeds may be treated in the following manner:
    - a. The victim should be seated in an upright position.
    - b. The victim should lean forward while pinching the bridge of the nose and applying pressure to the area.
    - c. When a nosebleed follows a head injury, further assistance may be necessary.
  2. A **black eye** is an injury caused by bruised or inflamed skin and soft tissue around the eye and eye socket area.
    - a. It may be treated by applying cold packs or cloth-wrapped ice with light pressure for 24 to 48 hours.
    - b. If blood appears in the eye (hyphema) or if pain and swelling persist, further assistance may be needed to prevent long-term eye damage.
  3. **Cuts and scrapes** (abrasions and damage to the skin), fishhook sticks, and splinters may be treated in a similar manner.
    - a. Cuts and scrapes
      - (1) It is necessary to stop the bleeding.
      - (2) It is essential to clean the wound.
      - (3) Next, antibiotics should be applied.
      - (4) The wound should then be covered.
      - (5) The bandages should be changed as needed.
    - b. **Fishhook sticks** are punctures to the skin.
      - (1) It is necessary to push the hook through the skin to expose the barb.
      - (2) It is essential to use wire cutters to cut off the barb.
      - (3) Next, the hook should be removed.

- (4) Then the puncture should be treated like a cut or a scrape.
- c. **Splinters** are small wooden, metal, or organic slivers caught in the skin.
  - (1) Most splinters may be pulled out with tweezers.
  - (2) Deeply embedded splinters may need to be removed by a physician.
  - (3) After removal, the area should be treated like a cut or a scrape.
4. **Shock** describes all types of acute peripheral vascular collapse in which widespread dilation of the blood vessels institutes a series of circulatory changes (e.g., when the tissues in the body do not receive enough oxygen or nutrients to function). Shock may damage multiple organs and can be fatal. It is most commonly associated with victims of severe trauma, burns, peritonitis, hemorrhage, allergic reactions, or heatstroke.
  - a. Classes of shock
    - (1) Hypovolemic shock is the most common type. It is the result of inadequate blood volume (bleeding or hemorrhage).
    - (2) Cardiogenic shock occurs due to heart problems.
    - (3) Distributive shock results from a dilation of blood vessels as in:
      - (a) Anaphylactic shock due to an allergic reaction
      - (b) Septic shock caused by infections
      - (c) Neurogenic shock resulting from nervous system damage or damage to the spinal cord
    - (4) Obstructive shock results from obstructed blood flow and impeding circulation.
      - (a) Cardiac tamponade is fluid in the pericardium that prevents blood flow to the heart.
      - (b) Tension pneumothorax is blood flow to the heart that is prevented.
      - (c) Pulmonary embolism is a thromboembolic incident in the blood vessels of the lungs that hinders the return of blood to the heart.
      - (d) Aortic stenosis hinders circulation by obstructing the ventricular outflow tract.
    - (5) Endocrine shock is the result of endocrine disturbances, as in:
      - (a) Hypothyroidism reduces cardiac output.
      - (b) Thyrotoxicosis may induce a reversible cardiomyopathy.
      - (c) Acute adrenal insufficiency is frequently the result of discontinuing corticosteroid treatment.
  - b. Symptoms of hypovolemic shock are:
    - (1) Anxiety or restlessness
    - (2) Clammy, ashen gray skin
    - (3) Staring, lackluster eyes, distracted
    - (4) Confusion
    - (5) Rapid, shallow breathing
    - (6) Low or no urine output

- (7) Dizziness (lightheaded; faint)
- (8) Chest pain
- (9) Unconscious
- (10) Bluish lips and fingernails
- (11) Sweating, moist skin
- (12) Rapid, weak pulse

c. Treatment

- (1) The victim should be kept warm and comfortable. Tight clothing should be loosened.
- (2) It is necessary to check the airway, breathing, and circulation. If necessary, the first responder should begin rescue breathing and CPR. It is essential to check the rate of breathing at least every five minutes.
- (3) It is essential to talk to the victim. If he or she does not have an injury to the head, leg, neck, or spine, place the person in the **shock position**, as follows:
  - (a) The person should be placed on his or her back.
  - (b) The legs should be elevated about 12 inches. However, the head should not be elevated. If raising the legs will cause pain or potential harm, leave the person lying flat.
  - (c) The head should be turned to one side if a neck injury is not suspected.
- (4) To prevent choking, the person should be turned on his or her side in the **recovery position**. The **recovery position** involves:
  - (a) Placing the victim on his or her side with one arm under the head and the same leg extended straight down, while the other arm and leg are extended in front with the knee and elbow touching
  - (b) Allowing the arm under the head to support an open airway in the event the victim vomits
  - (c) Enabling the victim to bear his or her own weight to prevent rolling onto the back and possibly cutting off the airway

5. **First-degree burns** damage only the outer layer of skin and present as red, swollen, and painful.

a. The skin has come in contact with:

- (1) Heat
- (2) Chemicals
- (3) Electricity
- (4) Sunlight
- (5) Radiation

b. Most common causes

- (1) Scalds from hot liquids and steam
- (2) Fires



- (3) Flammable liquids and gases
- c. Treatment
  - (1) It is necessary to cool the burn under cold running water for at least five minutes or until the pain subsides. The burn can also be immersed in cold water or cooled off with cold compresses to reduce the swelling.
  - (2) The area should be covered with sterile gauze bandages. However, the gauze should be wrapped loosely to avoid putting pressure on the burn and to keep air off the burned skin to reduce pain and protect blisters.
  - (3) It is recommended to administer over-the-counter pain medications (e.g., aspirin, ibuprofen, naproxen, or acetaminophen). But aspirin should not be given to children or teens.
- d. If the burn worsens (i.e., oozes or becomes infected), it is critical to seek medical help.
- 6. **Sprains** (stretched or torn ligaments) and **strains** (stretched or torn muscles or tendons)
  - a. Sprains are usually the result of falls or twists. Ankle and wrist sprains are common; victims may report hearing a pop or tear at the time of the injury. Symptoms are:
    - (1) Pain
    - (2) Swelling
    - (3) Bruising
    - (4) The inability to move a joint
  - b. Strains are often a result of twisting or pulling tissues and can occur suddenly or develop over time (e.g., back and hamstring). Strains often occur as a result of excessive exercise workouts (e.g., lifting weights). Symptoms are:
    - (1) Pain
    - (2) Muscle spasms
    - (3) Swelling
    - (4) Trouble moving the muscle
  - c. Treatment
    - (1) Resting the affected area
    - (2) Using ice on the affected area
    - (3) Compressing the affected area (e.g., with a bandage or elastic wrap)
    - (4) Elevating the affected area to prevent swelling
  - d. The victim should seek medical help if the injury does not improve within two to three days.

- B. Non-life-threatening injuries may develop into more threatening situations.
1. **Choking** victims usually have food lodged in their throat and can be assisted using the Heimlich maneuver, which enables the rescuer to dislodge objects caught in the mouth by applying thrusts to the abdomen.
    - a. The victim must be conscious and responsive and not able to pass air through the airway prior to the responder wrapping his or her hands around a victim's stomach (above the naval) and applying upward and inward thrusts.
    - b. If a victim becomes unresponsive and unconscious, the first responder should immediately treat him or her with CPR and call 911.
  2. **Fainting** occurs when a sudden drop in blood pressure causes an inadequate amount of blood to circulate to the brain.
    - a. Symptoms are blurred and narrowed (tunnel) vision and lightheadedness.
    - b. Treatment can include having the victim sit with his or her head between his or her knees. Another option is to have the victim lie down with feet elevated.
    - c. Additional treatment is required when the victim is not breathing, has other injuries from a fall, or has no pulse.

*Display VM–D, VM–E, VM–F, VM–G, and VM–H. Ask students to work in groups to research online and to discuss common myths pertaining to symptoms or treatment of conditions listed in this objective.*

### **Objective 3:** Describe advanced first-aid life-saving techniques.

**Anticipated Problem:** How do first responders assist victims who are in urgent and life-threatening situations?

- III. Support care and first aid for victims suffering from life-threatening injuries or in life-threatening situations
- A. General life-threatening injury responses
1. First responders must be prepared to take control of an accident scene for the welfare of the victim and to provide guidance to onlookers.
  2. It is essential to calm the victim.
  3. Onlookers who are uninvolved with the rescue should be asked to step away from the scene and to call 911.
  4. The most severely injured victim should be treated first. For example, a victim with a head wound or a victim who is unconscious should be treated before attending to a victim with a cut or a scrape.

- B. Animal bites, from domestic and wild animals, may carry and transmit rabies through saliva.
1. Treating animal bite wounds
    - a. It is necessary to clean the area with soap and water.
    - b. Antibacterial ointment should be applied.
    - c. It is essential to bandage the area.
    - d. When a wound appears deep and excessive bleeding or infection may occur, it is critical to apply pressure, to bandage the wound, and to seek medical help.
    - e. When rabies is suspected, it is essential to contact medical help immediately. Although some animals may show no signs of rabies, medical help should still be contacted immediately as a precautionary measure.
  2. **Poison** (by contact, ingestion, or inhalation of a toxic substance) is something that makes a person sick or hurts when he or she eats, drinks, touches, or smells it. Poisons may be:
    - a. Solid (e.g., batteries, pills, plants, or berries)
    - b. Liquid (e.g., floor cleaners, antifreeze, cough syrup, or lamp oil)
    - c. Sprays (e.g., furniture polish or bug spray)
    - d. Invisible (e.g., found almost anywhere that something is burning or mixed with smoke)
    - e. Common poisons found in the home and office
      - (1) Medicines
      - (2) Iron pills
      - (3) Cleaning products
      - (4) Laundry products (e.g., chlorine)
      - (5) Nail glue remover and primer
      - (6) Batteries
      - (7) Insect and weed killers (e.g., copper sulfate, copper arsenite, sodium hypochlorite, sodium fluoride, nicotine, and DDT)
      - (8) Cigarettes (nicotine)
      - (9) Alcohol
      - (10) Mouthwash
      - (11) Plants (indoor and outdoor)
      - (12) Lighter fluids
      - (13) Metals (e.g., mercury, lead, copper, zinc, arsenic, and cyanide)
      - (14) Corrosives (e.g., phenol and hydrofluoric acid)
      - (15) Gases (e.g., carbon monoxide, hydrogen sulfide, chlorine, sulfur dioxide, and formaldehyde)
    - f. Signs and symptoms
      - (1) Burns and redness around the mouth
      - (2) Stains
      - (3) Spilled pills

- (4) Chemical odors on or near the victim
  - (5) Vomiting
  - (6) Shortness of breath
  - (7) Sleepiness
  - (8) Confusion
- g. First-aid tips and protocol when poisoning is expected (according to the American Association of Poison Control Centers)
- (1) If the victim has stopped breathing, the first responder should call 911 or a local emergency number immediately.
  - (2) If the victim swallowed the wrong medicine or too much medicine, the first responder should call the poison control center at 1.800.222.1222. (When a first responder calls 911 or a local emergency number first, they often call the poison control center and then call the first responder back.)
  - (3) If the victim inhaled poison, the first responder should immediately take the victim to an area where fresh air is present and should call the poison control center.
  - (4) If the victim has poison on the skin, the first responder should remove any clothing the poison touched. Then the first responder should rinse the skin with running water for 15 to 20 minutes and should call the poison control center.
  - (5) If the victim has poison in the eyes, the first responder should rinse his or her eyes with running water for 15 to 20 minutes and call the poison control center.
  - (6) The first responder should be ready to provide the poison control center with signs and symptoms, the material that may have been ingested, how much, when it was ingested, and the age of the victim.
- h. The American Academy of Pediatrics advises first responders not to induce vomiting or to administer ipecac because there is no effective evidence supporting its use.
3. Severe cuts or tears (***lacerations***) can result from many types of injuries, punctures, or stabbing and often result in gushing or squirting blood.
- a. Treatment includes applying pressure for 10 minutes and checking for bleeding.
  - b. If the bleeding has stopped, the first responder should apply gauze and bandages and then seek medical help.
  - c. If the bleeding has not stopped, the first responder should apply pressure for another 10 minutes and raise the affected area above the heart to decrease the blood flow.
  - d. If the affected area continues to bleed, the first responder should seek medical help.

4. A head injury or **contusion** (bruise or wound without a laceration) often results from a fall in which the head sustains a blunt trauma.
  - a. Symptoms
    - (1) Head pain
    - (2) Bleeding
    - (3) Swelling
    - (4) Internal brain damage
    - (5) Double vision
    - (6) Unconsciousness
  - b. Treatment
    - (1) Any bleeding should be controlled.
    - (2) Bandages should be applied.
    - (3) Ice packs should be applied.
    - (4) The first responder should seek medical help to avoid long-term head trauma.
5. **Second-degree burns** are severe and painful because the top layer of skin is burned away. The skin is bright red and blotchy, has blisters, and may look wet due to a loss of fluid from the damaged skin. These burns are usually caused by deep sunburns, exposure to flames, contact with hot liquids, burning gasoline or kerosene, or contact with chemicals. Treatment is conducted to ease the pain and to prevent infection. For second-degree heat burns with blisters:
  - a. First responders should not remove clothing that sticks to the burn.
  - b. First responders should not run water over the burn or use water on the bandage because it increases the risk of shock.
  - c. First responders should cover the area with a clean (sterile, if possible) and dry, non-fluffy bandage (e.g., a gauze pad).
  - d. First responders should not apply tape to a burn.
  - e. For extensive second-degree burns (greater in size than 2 to 3 inches), it is essential to seek medical attention for the victim.
  - f. A mild pain reliever may also be administered.
6. **Third-degree burns** of the affected area are often painless (although the tissue around the burn may be very sensitive) because all layers of the skin are involved and the nerves have been burned away. The skin may be white, or it may be black and leathery. The burns are very deep, and only the edges will heal. Scars eventually cover the remainder of the burned area, or skin grafts are applied. Third-degree burns are usually caused by clothing that is on fire; immersion in hot water or liquid; contact with flames, hot objects, or electricity; or contact with corrosive chemicals. To assist a victim of third-degree burns:
  - a. First responders should call 911. All third-degree burns require medical treatment.
  - b. If the victim's clothes are burning, the first responder should not allow the person to run. (Running can fan flames into the face.)

- c. The first responder should smother the flames with a rug, blanket, or jacket while rolling the victim.
- d. The first responder should remove jewelry and tight clothing from the affected area. However, clothing that sticks to the burn should not be removed.
- e. The first responder should not apply ice water, lotions, ointments, or sprays.
- f. The first responder should immerse the burned area in cold water or briefly apply cold compresses to bring the body temperature back to normal. (The first responder should not leave the burned area in cold water too long as this may lead to cooling the body too much.)
- g. In extensive burns, the first responder should check for signs of shock, such as:
  - (1) A decreased level of consciousness
  - (2) Rapid, shallow breathing
  - (3) Faint, rapid pulse
  - (4) Nausea (sometimes followed by vomiting)
- h. If the person is determined to be in shock:
  - (1) The first responder should be sure medical assistance is on the way.
  - (2) The first responder should only move the person if it is a matter of safety.
  - (3) The victim should be lying down.
  - (4) The first responder should elevate the affected body parts, unless the victim is having trouble breathing.
  - (5) The first responder should cover the victim with a blanket to conserve body heat.
  - (6) The first responder should keep the victim as calm as possible.
  - (7) The first responder should wrap the victim loosely in a sheet if the burn is extensive.
  - (8) If the burn is not extensive, the first responder may apply dry, non-fluffy, and loose bandages (e.g., gauze or a pillowcase).
  - (9) The first responder should raise a burned extremity higher than the person's heart and keep his or her head and shoulders raised slightly if the burn is on the neck or face or if the person is having trouble breathing.
  - (10) When a person is conscious and not vomiting and when medical assistance is more than two hours away, the first responder should give small sips of water or clear juice to the victim.
  - (11) If the person is in shock and asks for water, the first responder should moisten the lips, but he or she should not allow the person to drink.
  - (12) The first responder should not give the person alcohol.

- i. Chemical burns are severe burns that involve corrosive substances that scald the body. Treatment includes:
  - (1) Flushing any liquid chemical from the skin thoroughly with running water for 15 to 30 minutes
  - (2) Removing any clothing and jewelry on which the chemical spilled
  - (3) Brushing any dry chemicals from the skin if large amounts of water are not available because small amounts of water can activate some chemicals
  - (4) Keeping chemicals away from victims' and responders' eyes
  - (5) Covering the affected area with a dry, loose bandage
  - (6) Calling for medical help
7. Eye injuries involve particles or chemicals in the eye and may cause tearing, pain, and redness. Treatment may include:
  - a. Flushing the eye for 15 minutes
  - b. Preventing the victim from rubbing his or her eye
  - c. Removing foreign particles by lifting the lower or upper eyelid and/or flushing the eye
  - d. Seeking medical help
8. Frostbite and hypothermia occur in extreme cold when the body loses heat and the skin starts to lose circulation.
  - a. **Frostbite** begins in susceptible areas and extremities (e.g., hands, feet, nose, and ears). Frostbite turns the skin red, gray, or white and may go unnoticed because the nerves are damaged in the process.
    - (1) The affected areas should not be rubbed or massaged.
    - (2) Blisters should not be broken.
    - (3) The affected areas should be warmed gradually with warm water.
    - (4) When the body temperature drops below 93°F, hospitalization is necessary.
  - b. **Hypothermia** is an internal body temperature of 95°F or below. Symptoms are shivering, pale skin, slow breathing, and fatigue.
    - (1) The first responder should call for medical help.
    - (2) The first responder should move the victim to a warm area.
    - (3) The first responder should remove wet or cold clothing.
    - (4) The first responder should apply direct heat.
9. Heat-related injuries occur when the body is unable to cool itself fast enough or when exhaustive exercise or an insufficient amount of fluids has been consumed. Symptoms are dizziness, headache, sweating, fatigue, nausea, pale skin, cessation of sweating, rapid heartbeat, heat cramps, heat exhaustion, or heatstroke.
  - a. The first responder should move the person to a shady, cool area.
  - b. The first responder should have the person drink cool water.
  - c. The first responder should fan or spray water around the person.

- d. The first responder should call 911 if the person becomes unresponsive or the heat-related injury worsens.
10. **Unconsciousness** is a condition in which a victim is unresponsive and cannot be aroused.
- a. The first responder should check for responsiveness; then he or she should check the airway, breathing, and circulation.
  - b. The first responder should call for medical help.
  - c. If the victim responds, the first responder should keep him or her under observation.
  - d. If the victim has a blocked airway, the first responder should begin CPR and check the airway between CPR cycles.
  - e. The first responder should call for advanced help if necessary.
  - f. If the victim is not breathing and has no pulse, the first responder should begin CPR and call for medical help.
  - g. When the victim regains consciousness, starts breathing, and has a pulse, the first responder should place him or her in the recovery position.
11. **Fractures** (breaks or ruptures) and broken bones result from a major trauma to a bone in which it is cracked or split. Symptoms are intense pain, swelling, heavy bleeding, a deformed appearance, a bone piercing the skin, or an inability to move a joint or the affected area. Fractures and broken bones are painful. Some injuries can be in critical locations (e.g., the neck, back, or spine). Application of a **splint** (a support used to immobilize a broken bone) may be necessary to safely transport victims.
- a. Treatment for a fracture
    - (1) The first responder should stop the bleeding by applying pressure to the area.
    - (2) The first responder should immobilize the area with splints tied by bandages on opposite sides.
    - (3) The first responder should apply ice packs to the injury.
    - (4) The first responder should treat the victim for shock.
    - (5) The first responder should call for medical help.
  - b. Treatment for a suspected back injury
    - (1) The first responder should move the victim with a back-board and preferably with advanced medical help.
    - (2) Neck braces may be needed for successful transport of the victim.

*Use VM-I to illustrate second-degree burns and the associated blisters. Use VM-J and VM-K to illustrate the application of splints, casts, and slings to immobilize and limit patient movement. You may want to bring several bandanas and ask a student volunteer to make a sling. Then ask another volunteer to put the sling on the first volunteer.*



- **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle.
- **Application.** Use the included visual masters and lab sheets to apply the information presented in the lesson.
- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

## ■ **Answers to Sample Test:**

### **Part One: Matching**

1. c
2. b
3. f
4. i
5. j
6. e
7. g
8. d
9. a
10. h

### **Part Two: Short Answer**

1. Answers will vary but should include two of the following first-aid uses (or others discussed in class) of elastic wrap, bandages, and adhesive tape:
  - a. Elastic wrap:
    - (1) It holds joints in place more securely than bandages.
    - (2) It maintains pressure during the moving or bending of joints.
    - (3) It may be pinned in place to maintain pressure when bandages or tape are unavailable.
    - (4) It remains rigid and taut in the presence of moisture.
    - (5) It may be used to hold gauze pads in place.
  - b. Bandages:
    - (1) They may be wrapped in various ways to apply pressure on certain body surfaces.
    - (2) They are able to hold injured appendages close to the body.
    - (3) They may be cut and folded to secure specific areas of the body (e.g., sling).

- (4) They may be used to secure joints when elastic wrap is unavailable.
  - (5) They may be used to secure gauze when adhesive tape is unavailable.
- c. Adhesive tape:
  - (1) It sticks to itself and many other surfaces without being tied or pinned.
  - (2) It holds gauze pads in place better than bandages and elastic wrap.
  - (3) It may be used in moist situations when bandages and elastic wrap are unavailable.
2. Answers will vary but should include three of the following ways in which gauze is used in first-aid applications:
  - a. It is used to wipe away sweat prior to attaching AED pads.
  - b. It is used to clean dirt and grime from around a wound area.
  - c. It is used to absorb large amounts of blood.
  - d. It is used to place over a wound to stop or slow bleeding.
3. Answers will vary but should include three of the following medications, ointments, or lotions used in first-aid situations:
  - a. Medications:
    - (1) Antihistamines treat allergic reactions.
    - (2) Aspirin is an anti-inflammatory medication for adults; acetaminophen and ibuprofen are for minor aches and pains in children and teens.
  - b. Ointments:
    - (1) Providone-iodine or antiseptic solution (e.g., Betadine) is used to clean areas of the skin prior to surgery or invasive procedures.
    - (2) Antimicrobial ointment (e.g., Neosporin) is applied to cuts, abrasions, and lacerations to speed healing.
  - c. Lotions:
    - (1) Calamine lotion relieves itchy, irritated skin.
    - (2) Antimicrobial lotion or liquid disinfectants can be used prior to and after first aid, thereby reducing contaminants that transfer from the victim to the first responder or other victims.

### **Part Three: Completion**

1. cuts and scrapes
2. unconscious
3. third-degree
4. contusion
5. sprains, strains
6. first-degree
7. expiration

# Resources to Complete Advanced First-Aid Certification

## ► Part One: Matching

**Instructions:** Match the term with the correct definition.

- |                        |                   |
|------------------------|-------------------|
| a. contusion           | f. frostbite      |
| b. black eye           | g. shock position |
| c. second-degree burns | h. hypothermia    |
| d. laceration          | i. poison         |
| e. fainting            | j. shock          |

- \_\_\_\_ 1. A condition in which the top layer of skin is burned away
- \_\_\_\_ 2. A condition caused by bruised or inflamed skin and soft tissue
- \_\_\_\_ 3. A condition that begins in susceptible areas and extremities (e.g., hands, feet, nose, and ears) and may turn the skin red, gray, or white
- \_\_\_\_ 4. Contact, ingestion, or inhalation of a toxic substance
- \_\_\_\_ 5. A condition that occurs when the tissues in the body do not receive enough oxygen or nutrients to function
- \_\_\_\_ 6. The result of a sudden drop in blood pressure that causes an inadequate amount of blood to circulate to the brain
- \_\_\_\_ 7. The placement of a victim on his or her back, with legs elevated about 12 inches
- \_\_\_\_ 8. Severe cuts or tears that can result from many types of injuries, punctures, or stabbing and often produce gushing or squirting blood
- \_\_\_\_ 9. A bruise or a wound without a laceration
- \_\_\_\_ 10. An internal body temperature of 95°F and below



## ► Part Two: Short Answer

**Instructions:** Answer the following.

1. What are two first-aid uses for elastic wrap, bandages, and adhesive tape?
  - a. Elastic wrap:
  - b. Bandages:
  - c. Adhesive tape:
2. List and describe three ways in which gauze may be used in first-aid situations.
3. List and describe three medications, ointments, or lotions used in first-aid treatments.

## ► Part Three: Completion

**Instructions:** Provide the word or words to complete the following statements.

1. Cleaning the wound, applying direct pressure from sterile gauze, and wrapping the wound with bandages is a first-aid treatment for \_\_\_\_\_.
2. When a rescuer has confirmed a victim's airway, breathing, and circulation are normal and the victim remains unresponsive, the victim is probably \_\_\_\_\_.
3. Burns that are painless in the affected area are \_\_\_\_\_ in nature.
4. When a victim faints, a head injury or \_\_\_\_\_ is possible.
5. When athletes practice rigorously, they must be careful to avoid \_\_\_\_\_ and \_\_\_\_\_, involving joints and muscles.
6. Although painful, \_\_\_\_\_ burns are minor, often resulting from the victim coming into brief contact with a hot surface or from sustaining a sunburn.
7. Prior to placing medications and drugs into a first-aid kit, always check the \_\_\_\_\_ date.

# ELASTIC WRAP

---



# BANDAGED FINGER

---



# LEFT CALF BANDAGE

---



# MEDICAL SCISSORS

---





# ADHESIVE TAPE

---



# STITCHED, CUT, AND BLACK EYE



# CUTS AND SCRAPES

---



# RECOVERY POSITION

---



# SECOND-DEGREE BURNS

---



# KNEE SPLINT



# BROKEN ARM IN A SLING AND CAST

---



# First-Aid Kit Orientation and Organization

## Purpose

The purpose of this activity is to increase awareness and preparation in terms of first-aid kit supplies.

## Objectives

1. Familiarize yourself with common first-aid kit supplies.
2. Organize a first-aid kit to minimize the time needed to locate supplies.

## Materials

- ◆ fully stocked first-aid kit supplies and kit (one set per group)
- ◆ writing utensil
- ◆ scratch paper

## Procedure

1. Work in small groups of four to five students.
2. Collect first-aid kit supplies and a kit.
3. Review the contents of a typical first-aid kit, and name the items.
4. Sort the first-aid supplies into categories. For example, tapes and medications may be two of the categories used to organize the kit. Each group may have a different method of sorting the categories.
5. List your group's categories and the items in each category on the board.
6. Determine the placement of the first-aid supplies in the kit, and assemble the kit.





7. Each group member will record a personal first-aid supply category list, a diagram of the kit, and the rationale for category choices and placement (to be turned in to the instructor).
8. Display and describe (to the class) your group's categories and organization, with a rationale for each category and each placement. Share your group's categorization and placement efficiency discussion.
9. After reviewing all of the groups' categories and kit organization, revise your group's categories and kit placement as needed. Reassemble your group's first-aid kit. Then ask your instructor and one other group to review the revisions.
10. Turn in your completed category listing of supplies, organization diagram, and rationale to your instructor.

# Practice First-Aid Techniques: Bandages and the Recovery Position

## Purpose

The purpose of this activity is to practice two common first-aid techniques.

## Objectives

1. Fold and wrap bandages to enhance first-aid delivery to victims.
2. Practice the recovery position.

## Materials

- ◆ VM-H
- ◆ fully stocked first-aid kits
- ◆ writing utensil
- ◆ scratch paper

## Procedure 1: Fold and wrap bandages

1. Work in groups of three to four students.
2. Watch several demonstrations of folding and wrapping bandages to support various injuries, as directed by your instructor. Draw any necessary diagrams.
3. Demonstrate the use of bandages to support various body parts:
  - a. Arm
  - b. Hand



- c. Knee
- d. Leg
- e. Foot
- f. Head

### **Procedure 2: Demonstrate the recovery position**

1. Work with a partner.
2. Review the details of the recovery position. Use VM–H.
3. Practice the recovery position with a partner.
4. With your partner, demonstrate the recovery position to your instructor and the class while verbalizing the step-by-step process and rationale for use of the position in a first-aid situation.
5. Each student will take a turn as the responder and as the victim.