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# CHAPTER 1

## DISASTER FIRST AID INTRODUCTION

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**This chapter will cover the following topics:**

- **Introduction:** The basic concepts of providing disaster first aid and the equipment required to safely respond to medical emergencies during disaster conditions.
- **Size-Up and Scene Safety:** How to evaluate hazards and lessen your risks prior to implementing patient care procedures.
- **Life-threatening Conditions:** How to recognize and treat an airway obstruction, bleeding, and shock.

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**INSTRUCTOR OVERVIEW**

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**OBJECTIVES**

At the end of this chapter, participants should be able to:

- Identify basic first aid equipment.
- Understand the concepts of the three phases of trauma death.
- Understand the techniques for opening the airway, controlling bleeding, and treating for shock.

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**SCOPE**

The scope of this chapter will include:

- Introduction.
- Size-up and scene safety.
- Life threatening conditions.
- Chapter Summary.

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**ESTIMATED  
COMPLETION TIME**

15 – 20 minutes.

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**TRAINING METHODS**

The lead Instructor will introduce the Instructors. The Instructor will then provide an overview of the topics included in the chapter: Basic disaster first aid introduction; first aid equipment; size-up and scene safety; ABC's of first aid.

During this class, some discussion will take place about the differences between disaster medical operations and the participants' image of everyday first aid.

For example, mouth-to-mouth resuscitation and cardiopulmonary resuscitation (CPR) lose some of their importance in disaster situations when there are multiple casualties needing immediate attention and limited resources.

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**INSTRUCTOR OVERVIEW (CONTINUED)****RESOURCES  
REQUIRED**

Disaster Preparedness—First Aid Medical Operations—Instructor Guide  
 Disaster Preparedness—First Aid Medical Operations—Student Manual  
 PowerPoint Visuals

**EQUIPMENT**

You will need the following equipment for this chapter:

- A computer with PowerPoint software
- A computer projector and screen
- 1 box of latex examination gloves

**Note:** Some students may be allergic to latex examination gloves. If someone in the class is allergic, provide non-latex exam gloves or allow the student to practice without gloves.

**PREPARATION**

No hands-on for this chapter.

**NOTES**

A suggested time plan for this chapter is as follows:

Introduction and Chapter Overview ..... 5 minutes  
 Size-up and Scene Safety ..... 5 minutes  
 Life Threatening Conditions ..... 5 minutes  
 Chapter Summary ..... 5 minutes

***Total Time: 20 minutes***

**REMARKS**

Be sure to emphasize throughout the session the importance of rescuer safety (e.g., using safety equipment, working with a buddy, and doing a thorough size-up). These points cannot be made too often or too strongly. First aid team members cannot help anyone if they become patients themselves.

Understand that this Chapter is for review only. The less time spent on skills that participants already should have, the more time allowed for the hands-on injury treatment skills.

**INTRODUCTION AND CHAPTER OVERVIEW****INTRODUCE  
CHAPTER****VISUAL 1.0****EXPLAIN  
ASSUMPTIONS**

Introduce this chapter by welcoming the participants to First Aid Medical Operations.



Explain that the need for disaster medical operations is based upon the following assumptions:

- The number of patients will exceed the local capacity for treatment.
- Survivors will assist others. They will need to build upon their Basic First Aid skills to provide care for a multitude of injuries.
- The primary steps of providing care for patients following a disaster are basically the same as for any medical emergency. Check:
  - Airway.
  - Breathing.
  - Circulation.

## INTRODUCTION AND CHAPTER OVERVIEW (CONTINUED)



VISUAL 1.1

**Chapter One**

- **Identify basic first aid equipment**
- **Understand the three phases of trauma death**
- **Understand the techniques for:**
  - **Opening the airway**
  - **Controlling bleeding**
  - **Treating shock**

Visual 1.1

Tell the group that at the end of this chapter, they should be able to:

- Identify basic first aid equipment.
- Understand the concepts of the three phases of trauma death.
- Understand the techniques for opening the airway, controlling bleeding, and treating for shock.

Stress once more that the goal of disaster medical operations is to do the greatest good for the greatest number. In a disaster with many patients, time will be critical. First aid team members will need to work quickly and efficiently to help as many patients as possible.

## INTRODUCTION AND CHAPTER OVERVIEW (CONTINUED)



VISUAL 1.2

**Trauma Death**

- **Phase 1: Death in minutes**
- **Phase 2: Death in several hours**
- **Phase 3: Death in several days or weeks**

Visual 1.2

**EXPLAIN  
TRAUMA DEATH**

Emphasize the need for neighborhood-level medical operations by describing the three phases of death from trauma:

- Phase 1: Death within minutes as a result of overwhelming and irreversible damage to vital organs.
- Phase 2: Death within several hours as a result of excessive bleeding.
- Phase 3: Death in several days or weeks as a result of infection or multiple-organ failure (i.e., complications from the injury).

**INSTRUCTOR'S  
NOTE**

**Explain that these phases underlie why disaster medical operations are conducted as they are (by identifying those with the most serious injuries as soon as possible and treating those with life-threatening injuries first).**

Add that first aid team members are trained to provide:

- Treatment for life-threatening conditions—airway obstruction, bleeding, and shock—and for other less urgent conditions.

Remind the group that, in a disaster there will be more patients than rescuers and that immediate help will not be available to function quickly and efficiently to save lives.



VISUAL 1.3

## FIRST AID EQUIPMENT

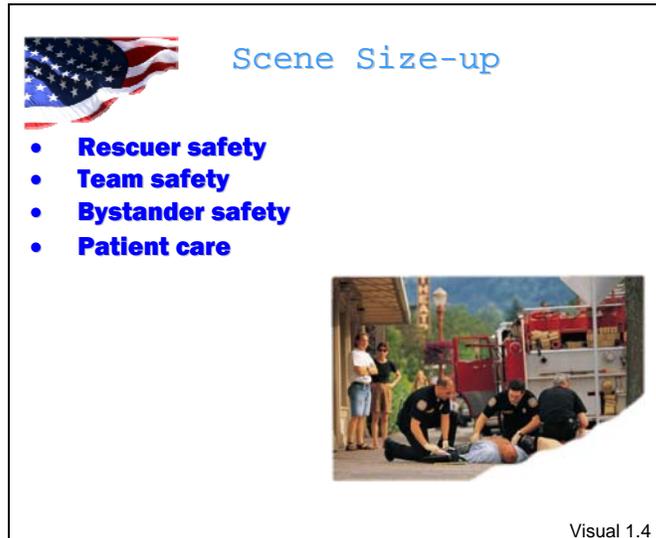


The equipment necessary to provide proper medical treatment is usually available.

- Most schools, businesses and residents have some basic first aid supplies:
  - Dressings and bandages.
  - Medical tape.
  - Blankets and pillows.
  - Band-aids.
  - Soap and water.
  - Splinting materials.
- More specialized supplies will enhance the delivery of disaster first aid:
  - Stretchers and/or backboards.
  - Triage tape.
  - Latex gloves.
  - Medical ointment.
  - Saline solution.
- In addition, all team members must have some basic personal protective equipment:
  - Hard hat or helmet.
  - Leather work gloves.
  - Dust mask.
  - Durable clothing and shoes.
  - Personal kit with food and water.

**SCENE SIZE-UP AND SAFETY**

VISUAL 1.4

**EXPLAIN  
ASSUMPTIONS**

Any emergency scene can present hazards to the rescuers as well as other bystanders. Prior to committing yourself or your team members to assisting patients, you must make sure you have identified and controlled all hazards. Rescuer safety is the priority.

The safety of the team is of the utmost importance. **DO NOT** let yourself be injured or killed while trying to save someone. Your training and knowledge will be needed for other patients you can safely assist.

## PERFORMING THE ABC'S



VISUAL 1.5

Reiterate that this session will introduce the participants to treating the “three killers” and the principles of triage.



INTRODUCE  
TOPIC

Tell the group that, in emergency medicine, airway obstruction, bleeding, and shock are “killers.” The first priority of medical operations is to attend to those potential killers by:

- Opening the airway.
- Controlling excessive bleeding.
- Treating for shock.

Explain that this section will train the group to recognize the “killers” by recognizing their symptoms and their effects on the body.

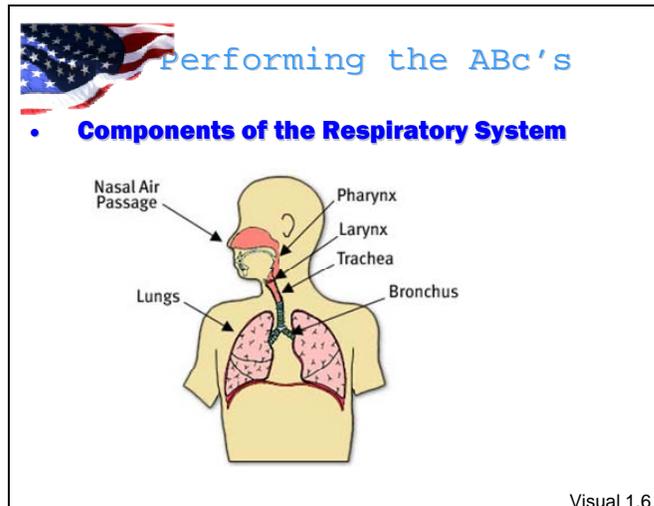
**PERFORMING THE ABC'S (CONTINUED)****INSTRUCTOR'S  
NOTES**

Remind the participants to wear safety equipment: Helmet, goggles, gloves, mask, and boots. Tell them that a time-saving technique is to wear latex gloves under their work gloves. Then, when they find a patient, they can remove their work gloves and are ready to work with the patient.

**Note that those who have taken first aid courses will need to understand that First Aid Medical Operations covers disaster medical operations where time is critical to conduct triage and treat many patients. CPR is not taught in this course because it is labor-intensive and not appropriate when there are many patients and professional help will be delayed.**

**INTRODUCE  
OPENING THE  
AIRWAY****OPENING THE AIRWAY**

Point out that the respiratory system includes airways, lungs, and muscles.

**VISUAL 1.6**

## PERFORMING THE ABC'S (CONTINUED)



## ASK QUESTION

**Does anyone know what the most common airway obstruction is?**

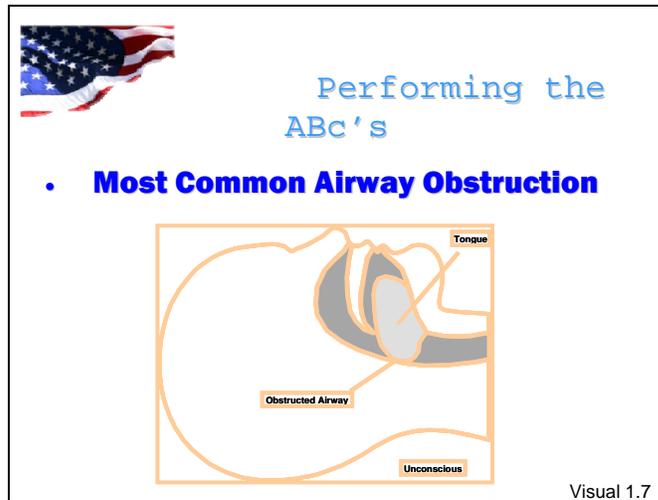


SM, P. 1-5

If not mentioned, tell the group that the most common airway obstruction is the tongue. Refer the participants to the illustration titled, *Airway Obstructed by the Tongue*, in the Student Manual. Explain that, in an unconscious or semiconscious patient, especially one positioned on his or her back, the tongue—which is a muscle—may relax and block the airway. A patient with a suspected airway obstruction must be checked immediately for breathing and, if necessary, the airway must be opened.



VISUAL 1.7



SM, P. 1-5

Explain that when an airway obstruction is suspected, first aid team members should clear the airway using the Head-Tilt/Chin-Lift method. Refer the participants to the table titled, *Head-Tilt/Chin-Lift Method for Opening an Airway*, in the Student Manual.

**PERFORMING THE ABC'S (CONTINUED)****OPENING THE AIRWAY (CONTINUED)**

	SM, P. 1-5	<b>Head-Tilt/Chin-Lift Method for Opening an Airway</b>
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Step	Action
1	At an arm's distance, shake the patient by touching the shoulder and shout, "Can you hear me?"
2	If the patient does not or cannot respond, place the palm of one hand on the forehead.
3	Place two fingers of the other hand under the chin and tilt the jaw upward while tilting the head back slightly.
4	Place your ear over the patient's mouth, looking toward the patient's feet, and place a hand on the patient's abdomen.
5	<i>Look</i> for chest rise.
6	<i>Listen</i> for air exchange.
7	<i>Feel</i> for abdominal movement.

	<b>EXPLAIN STEPS ONLY</b>	Explain the steps to the students of opening an airway. Again, this is a refresher only, as all participants must have a current CPR and first aid certification.
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**PERFORMING THE ABC'S (CONTINUED)****INTRODUCE  
CONTROLLING  
BLEEDING****CONTROLLING BLEEDING**

Introduce this section by telling the group that uncontrolled bleeding initially causes weakness. If bleeding is not controlled, the patient will go into shock within a short period of time, and finally will die. An adult has about five liters of blood. Losing one liter can result in death.

Explain to the group that there are three types of bleeding and the type can usually be identified by how fast the blood flows:

- Arterial bleeding. Arteries transport blood under high pressure. Bleeding from an artery is spurting bleeding.
- Venous bleeding. Veins transport blood under low pressure. Bleeding from a vein is flowing bleeding.
- Capillary bleeding. Capillaries also carry blood under low pressure. Bleeding from capillaries is oozing bleeding.

**VISUAL 1.8**

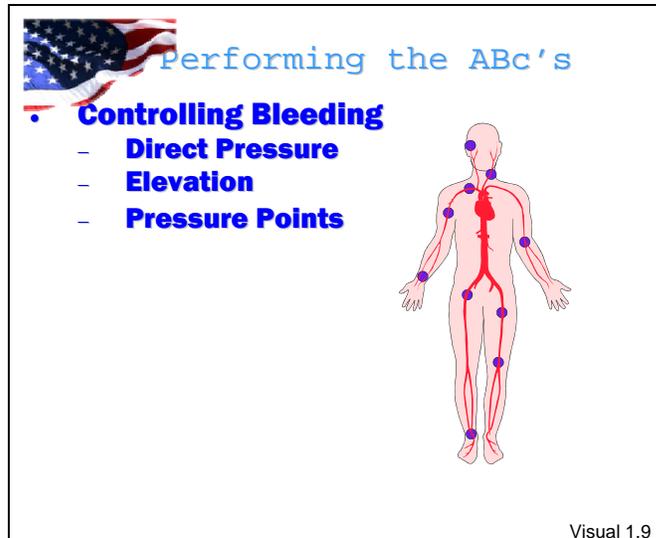
**Performing the ABC's**

- **Controlling Bleeding**
  - **Arterial is bright red and spurting**
  - **Venous is dark red and flowing**
  - **Capillary is red and oozing**

Visual 1.8

**PERFORMING THE ABC'S (CONTINUED)**

VISUAL 1.9

**CONTROLLING BLEEDING**

Tell the group that there are three main methods for controlling bleeding:

- Direct pressure
- Elevation
- Pressure points



SM, PP. 1-7

Refer the participants to the table titled, *Procedures for Controlling Bleeding*, in the Student Manual.

## PERFORMING THE ABC'S (CONTINUED)

## CONTROLLING BLEEDING (CONTINUED)

	SM, PP. 1-7	<b>Procedures for Controlling Bleeding</b>
<b>Method</b>		<b>Procedures</b>
Direct Pressure	<ul style="list-style-type: none"> <li>▪ Place direct pressure over the wound by putting a clean dressing over the wound and pressing firmly.</li> <li>▪ Maintain pressure on the dressing over the wound by wrapping the wound <u>firmly</u> with a pressure bandage.</li> </ul>	
Elevation	<ul style="list-style-type: none"> <li>▪ Elevate the wound above the level of the heart.</li> </ul>	
Pressure Points	<ul style="list-style-type: none"> <li>▪ Put pressure on the nearest pressure point to slow the flow of blood to the wound. Use the:               <ul style="list-style-type: none"> <li>• Brachial point for bleeding in the arm.</li> <li>• Femoral point for bleeding in the leg.</li> </ul> </li> <li>▪ (Page 8 in the Student Manual contains illustrations of these pressure points.)</li> <li>▪ There are other pressure points that the Instructor may demonstrate.</li> </ul>	

**PERFORMING THE ABC'S (CONTINUED)****CONTROLLING BLEEDING (CONTINUED)**

Explain to the group that direct pressure combined with elevation will address most bleeding. Demonstrate the procedure for controlling bleeding through direct pressure:

- **Step 1:** Place direct pressure over the wound by putting a clean dressing over the wound and pressing firmly.
- **Step 2:** Maintain pressure on the dressing over the wound by wrapping **firmly** with a pressure bandage.

Stress that direct pressure and elevation can take 5 to 7 minutes to stop the bleeding completely. The use of a dressing and pressure bandage allows the rescuer to move on to the next patient.

Explain that a pressure bandage should be tied with a bow, so that it can be loosened—rather than cut—to examine the wound, and then retied. This procedure helps to conserve supplies and saves time.



**INSTRUCTOR'S  
NOTE**

**Explain that the bandage maintains the direct pressure needed to stop the bleeding. First aid team members continue to assess the patient's status. If the patient's limb is turning blue or becoming numb below the bandage, then it should be loosened.**

Demonstrate the procedure for controlling bleeding through elevation: Elevating the wound above the level of the heart. Elevation is used in combination with direct pressure.

Tell the students that there are also pressure points that can be used to stem the flow of bleeding.

The pressure points most often used are the:

- Brachial point in the arm.
- Femoral point in the leg.



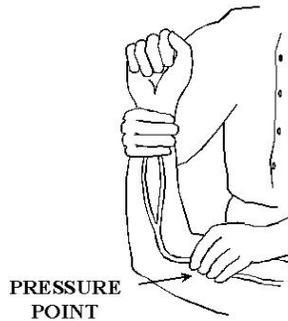
**SM, PP. 1-8**

Refer the students to the illustrations of these pressure points and the figure titled, *Methods for Controlling Bleeding*, in the Student Manual. Motivate the participants to get patients to help themselves, whenever possible.

PERFORMING THE ABC'S (CONTINUED)

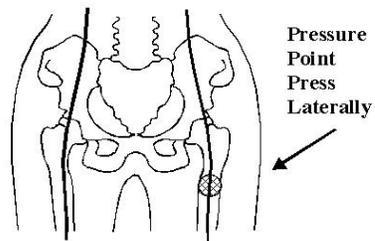
CONTROLLING BLEEDING (CONTINUED)

	<p>SM, PP. 1-8</p>	<p>Methods for Controlling Bleeding</p>
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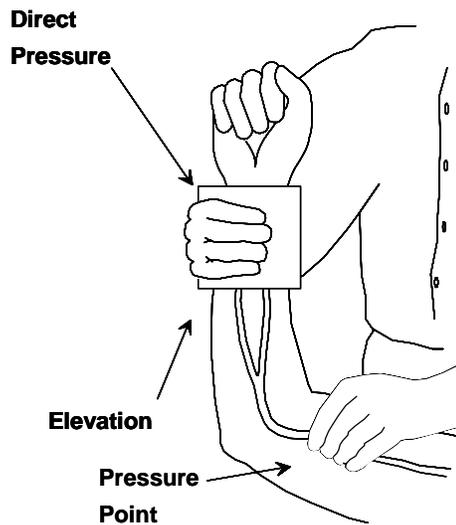
**Brachial Pressure Point**

Brachial Pressure Point, just above the elbow.



**Femoral Pressure Point**

Femoral Pressure Point, in the Upper thigh.



Methods for Controlling bleeding by using direct pressure on wound, elevation, and pressure points.



INSTRUCTOR'S  
NOTE

## PERFORMING THE ABC'S (CONTINUED)

### CONTROLLING BLEEDING (CONTINUED)

**Demonstrate use of the brachial pressure point by applying pressure to your own arm. Then, have the students apply pressure to their own arms so that they can feel the effect of this method.**

Reiterate the three main ways to control excessive bleeding:

- Direct pressure
- Elevation
- Pressure points

Stress that bleeding must be controlled as quickly as possible so as not to endanger the patient's life from blood loss.

Remind the group that they should always wear their latex gloves, goggles, and a mask as a protection against blood-borne pathogens.

## PERFORMING THE ABC'S (CONTINUED)



### INTRODUCE RECOGNIZING AND TREATING SHOCK

### RECOGNIZING AND TREATING SHOCK

Introduce this section by explaining that shock is a disorder resulting from ineffective circulation of blood. Remaining in shock will lead to the death of:

- Cells.
- Tissues.
- Entire organs.

Stress that the body will initially compensate for blood loss and mask the symptoms of shock. Stress the importance of continually evaluating patients for shock and monitoring their condition.



### VISUAL 1.10

Performing the ABC's

- **Signs of Shock**
  - **Rapid and shallow breathing**
  - **Capillary refill greater than 2 seconds**
  - **Failure to follow simple commands**

Visual 1.10

Tell the group that the main signs of shock that first aid team members should look for are:

- Rapid and shallow breathing.
- Capillary refill of greater than 2 seconds.
- Failure to follow simple commands, such as “Squeeze my hand.”

Ask the students to check their own capillary refill by squeezing their index finger and then releasing. Tell them to watch what happens. Ask one of the students to explain. Tell the group that this is referred to as the “blanch test.”

## PERFORMING THE ABC'S (CONTINUED)



VISUAL 1.11

## RECOGNIZING AND TREATING SHOCK (CONTINUED)

**Performing the ABC's**

- **Treatment of Shock**
- **Position patient on back**
- **Maintain airway**
- **Control bleeding**
- **Maintain normal body temperature**
- **Avoid rough or excessive handling**

Visual 1.11



SM, P. 1-9

Demonstrate the procedure for treating patients of shock. Refer the students to the chart titled, *Procedures for Controlling Shock*, in the Student Manual.

- Step 1: Position the patient on his or her back. Maintain an open airway.
- Step 2: Control obvious bleeding.
- Step 3: Maintain body temperature.
- Step 4: Avoid rough or excessive handling.



ASK QUESTION

**Ask if anyone has a question about the signs or treatment of shock.**

Emphasize that, although patients who are suffering from shock may be thirsty, they should not eat or drink anything initially because they may also be nauseated.

**PERFORMING THE ABC'S (CONTINUED)**

	<b>SM, P. 1-9</b>	<b>Procedures for Controlling Shock</b>
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<b>Step</b>	<b>Action</b>
1	<ul style="list-style-type: none"><li>▪ Lay the patient on his or her back.</li><li>▪ Maintain an open airway.</li></ul>
2	<ul style="list-style-type: none"><li>▪ Control obvious bleeding.</li></ul>
3	<ul style="list-style-type: none"><li>▪ Maintain body temperature - e.g., cover the ground and the patient with a blanket (if necessary).</li></ul>
4	<ul style="list-style-type: none"><li>▪ Avoid rough or excessive handling unless the rescuer and patient are in immediate danger.</li></ul>

Reiterate the key points about recognizing and treating shock:

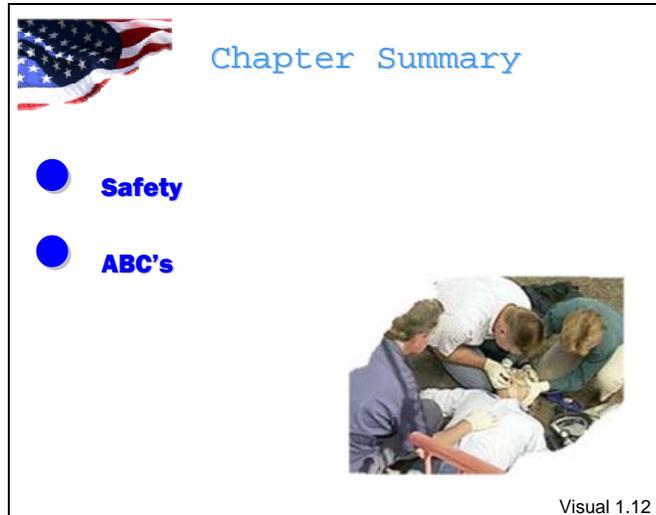
- A patient may display one or more signs of shock.
- If there is any reason to suspect shock, apply immediate treatment.

## PERFORMING THE ABC'S (CONTINUED)

## CHAPTER SUMMARY



VISUAL 1.12



Visual 1.12



## SUMMARIZE THE KEY POINTS

Summarize the key points from this chapter:

- Safety of the first aid team members is the main priority.
- First aid team member members' ability to open airways, control bleeding, and treat shock is critical to saving lives.
  - Use the Head-Tilt/Chin-Lift method for opening airways.
  - Control bleeding using direct pressure, elevation, and/or pressure points.
  - If there is a question about whether a patient is in shock, treat for shock.

Remind the participants that disaster medical operations require careful planning, teamwork, and practice. Urge them to take advantage of participating in community-wide disaster exercises whenever they are scheduled.