



# Heartsaver® First Aid STUDENT WORKBOOK

## **Editors**

Louis Gonzales, BS, LP, *Senior Science Editor*  
Michael W. Lynch, NREMT-P, *Content Consultant*

## **Senior Managing Editor**

Sue Bork

## **Special Contributors**

Michael A. Buldra  
Tony Fernandez, MS, NREMT-P  
Susan Fuchs, MD  
John Gosford, BS, EMT-P  
Theresa Hoadley, RN, PhD, TNS  
Scott Larson, EMT  
Mary Mast, RN  
David Parish, MD, MPH  
Adam J. Singer, MD  
Mark A. Terry, MPA, NREMT-P

## **First Aid Subcommittee 2010-2011**

Rita Herrington, FNP, *Chair*  
Louis Gonzales, BS, LP, *Immediate Past Chair, 2006-2009*  
Kostas Alibertis, CCEMT-P  
Nate Charlton, MD  
Jeffrey D. Ferguson, MD, NREMT-P  
Peter Fromm, MPH, RN  
Michael Hendricks, EMT  
Helen McCracken, RDH, MS  
George Murphy, EMT-P, MPH  
Jeanette Previdi, RN-BC, BSN, MPH  
William Smith, MD  
Jeff Woodin, NREMT-P

## ***First Aid Subcommittee 2009-2010***

Rita Herrington, FNP, *Chair*

Louis Gonzales, BS, LP, *Immediate Past Chair*,  
2006-2009

Nate Charlton, MD

Jeffrey D. Ferguson, MD, NREMT-P

Peter Fromm, MPH, RN

Michael Hendricks, EMT

Christopher Holstege, MD

Helen McCracken, RDH, MS

Jeanette Previdi, RN-BC, BSN, MPH

Norda Ratcliff, APRN-BC, NP

Karyl Reid, RN, MSN, CPNP

Paul Satterlee, MD

Adam J. Singer, MD

William Smith, MD

Jeff Woodin, NREMT-P

To find out about any updates or corrections to this text, visit [www.heart.org/cpr](http://www.heart.org/cpr), navigate to the page for this course, and click on "Updates."

# Contents

<b>Preface</b>	<b>vii</b>
<b>Introduction</b>	<b>1</b>
<b>Part 1: First Aid Basics</b>	<b>3</b>
<b>1. Rescuer Duties</b>	<b>3</b>
Deciding to Provide First Aid	3
Asking to Give First Aid	4
Supplying the First Aid Kit	4
<b>2. Victim and Rescuer Safety</b>	<b>5</b>
Assessing the Scene	5
Washing Hands	6
Universal Precautions	7
Exposure to Blood	9
Taking Off Gloves (*Skill You Will Demonstrate)	9
<b>3. Phoning for Help</b>	<b>10</b>
When to Phone for Help	11
How to Phone for Help	12
<b>4. Finding the Problem (*Skill You Will Demonstrate)</b>	<b>13</b>
<b>5. After the Emergency</b>	<b>15</b>
<b>Sample First Aid Kit</b>	<b>16</b>
<b>Review Questions: First Aid Basics</b>	<b>17</b>
<b>Part 2: Medical Emergencies</b>	<b>19</b>
<b>1. Breathing Problems</b>	<b>19</b>
General Breathing Problems	19
Assembling and Using an Inhaler	20
How to Help Someone With Breathing Problems	21
<b>2. Choking in an Adult</b>	<b>22</b>
Mild vs Severe Choking	22
How to Help a Choking Adult	23
How to Help a Choking Adult Who Stops Responding	25

# CONTENTS

<b>3. Allergic Reactions</b>	<b>26</b>
Using Epinephrine Pens (*Skill You Will Demonstrate)	26
Mild vs Severe Allergic Reactions	27
<b>4. Heart Attack</b>	<b>28</b>
<b>5. Fainting</b>	<b>29</b>
<b>6. Diabetes and Low Blood Sugar</b>	<b>30</b>
<b>7. Stroke</b>	<b>32</b>
<b>8. Seizure</b>	<b>32</b>
<b>9. Shock</b>	<b>34</b>
<b>Review Questions: Medical Emergencies</b>	<b>35</b>
<b>Part 3: Injury Emergencies</b>	<b>37</b>
<b>1. Bleeding You Can See</b>	<b>37</b>
How to Stop Bleeding (*Skill You Will Demonstrate)	37
Bandaging (*Skill You Will Demonstrate)	39
Using Tourniquets	40
<b>2. Wounds</b>	<b>41</b>
Bleeding From the Nose	42
Bleeding From the Mouth	43
Tooth Injuries	44
Eye Injuries	45
Penetrating and Puncturing Objects	45
Amputation	46
<b>3. Bleeding You Can't See</b>	<b>47</b>
<b>4. Head, Neck, and Spine Injuries</b>	<b>48</b>
<b>5. Broken Bones and Sprains</b>	<b>50</b>
Splinting (*Skill You May Demonstrate; Optional Practice)	51
<b>6. Burns and Electrical Injuries</b>	<b>52</b>
Burns	53
Electrical Injuries	54
<b>Review Questions: Injury Emergencies</b>	<b>55</b>



<b>Part 4: Environmental Emergencies</b>	<b>57</b>
<b>1. Bites and Stings</b>	<b>57</b>
Animal and Human Bites	57
Snakebites	58
Insect, Bee, and Spider Bites and Stings	59
Poisonous Spider and Scorpion Bites and Stings	60
Ticks	61
<b>2. Heat-Related Emergencies</b>	<b>61</b>
Heat Cramps	61
Heat Exhaustion	62
Heat Stroke	63
<b>3. Cold-Related Emergencies</b>	<b>64</b>
Frostbite	64
Low Body Temperature (Hypothermia)	65
<b>4. Poison Emergencies</b>	<b>66</b>
Scene Safety for Poison Emergencies	66
Removing Poisons	66
Other First Aid for Poison Emergencies	68
<b>Review Questions: Environmental Emergencies</b>	<b>69</b>
<b>First Aid Skills Summary</b>	<b>71</b>
<b>Conclusion</b>	<b>73</b>
<b>Index</b>	<b>75</b>



# Preface

---

Welcome to the American Heart Association Heartsaver® First Aid Course. This course provides a framework for learning basic skills that may save a life or prevent further injury. As cofounder of the National First Aid Science Advisory board, the AHA is dedicated to decrease death and disability when an emergency happens. The AHA believes that YOU can make a difference. We thank you most sincerely for taking this course.

Our thanks go to the many volunteers and staff who made this course possible. There are not words to express the gratitude felt for their passion, expertise, and countless hours of work.

***Rita Herrington, FNP***  
***First Aid Subcommittee Chair***

# PREFACE



# Introduction

**What You Will Learn** In this course you'll learn the basics of first aid. An important part of first aid is learning how and when to get help.

## **The First Aid Learning Process**

You will learn first aid basics through this Student Workbook and the video for the course. After each section of the course, you will answer a few written review questions and discuss the answers with your instructor.

During the course you'll practice some skills. If you demonstrate that you can do the skills taught in the course, you'll receive a Heartsaver First Aid course completion card.

## **Using This Student Workbook**

Use this Student Workbook in the following ways:

Before the course:

- Read this Student Workbook.
- Look at the pictures.
- Take notes about your group's policies and procedures. For example, if you work in a facility that has established policies and procedures for emergencies, review these documents and take notes about how this information will apply to you.

During the course:

- Use the Student Workbook to understand the important information and skills taught in the course.

After the course:

- Review the skills frequently.
- Look at the action tables and skills summaries in the Student Workbook. This will help you remember first aid.

## **How Often Training Is Needed**

Review your Student Workbook and Quick Reference Guide often to keep your skills fresh. You need to retake this course every 2 years to get a new course completion card.

**If you have a latex allergy, tell your emergency response program supervisor and your instructor before you start the course.**





# Part 1: First Aid Basics

**What You Will Learn** You'll learn the basics of first aid.

## Definitions and Key Facts

**First aid** is the immediate care that you give someone with an illness or injury before someone with more advanced training arrives and takes over.

First aid may help someone recover more completely or more quickly and may mean the difference between life and death.

Most of the time you'll give first aid for minor illnesses or injuries. You may also give first aid for a more serious illness or injury, such as a heart attack or major bleeding.

## Topics Covered

- Rescuer Duties
- Victim and Rescuer Safety
- Phoning for Help
- Finding the Problem (\*Skill You Will Demonstrate)
- After the Emergency

## 1. Rescuer Duties

### What You Will Learn

In this section we'll cover

- Deciding to Provide First Aid
- Asking to Provide First Aid
- Supplying the First Aid Kit

### *Deciding to Provide First Aid*

## Definitions and Key Facts

Some people may be required to perform first aid while working. For example, law enforcement officers, firefighters, flight attendants, life-guards, and park rangers may have a duty to give first aid when they are working. If they are off-duty, they can choose whether or not to provide first aid.

**Action:**  
**Deciding to**  
**Provide First Aid**

Providing first aid may be part of your job description. If so, you must help while you're working. However, when you're off-duty, you can choose whether or not to provide first aid.

---

*Asking to Give First Aid*

---

**Definitions and**  
**Key Facts**

Before you provide first aid, it's important to ask the ill or injured person if you may help.

**Action**

Step	Action
1	If the person responds, introduce yourself as a first aid provider before you touch him. Ask if you may help him.
2	If the person agrees, you may give first aid.
3	If the person refuses your help, phone your emergency response number (or 911) and stay with him until someone with more advanced training arrives and takes over.
4	If the person is confused or cannot answer, assume that he would want you to help.

---

*Supplying the First Aid Kit*

---

**Definitions and**  
**Key Facts**

The first aid kit contains supplies that you might need in an emergency.

Not all first aid kits contain the same supplies. Your company will decide what the first aid kit should have in it. At the end of this section, you'll find a sample list of supplies for a first aid kit. This list is from the American National Standards Institute (ANSI), but it is only 1 example of what a company might decide to include in a kit.

**Action:**  
**Supplying the**  
**First Aid Kit**

- Keep the supplies in a sturdy, watertight container that is clearly labeled.
- Know where the first aid kit is.
- Replace what you use so the kit will be ready for the next emergency.
- Check the kit at the beginning of each work period for expired supplies and to make sure it is complete and ready for an emergency.

## 2. Victim and Rescuer Safety

**What You Will Learn** In this section we'll cover

- Assessing the Scene
- Washing Hands
- Universal Precautions
- Exposure to Blood
- Taking Off Gloves (\*Skill You Will Demonstrate)

---

### Assessing the Scene

---

#### Definitions and Key Facts

You may have to give first aid in dangerous places. The ill or injured person may be in a room with poisonous fumes, on a busy street, or in a parking lot.

Before doing anything else, make sure the scene is safe for you and the injured person. Keep looking around to make sure that the scene stays safe. You can't help anyone if you're injured yourself.

---

#### Action: Assess the Scene

As you approach the scene, consider the following:

**Danger:** Look out for danger to you and danger to the injured person. Move the injured person only if she's in danger or if you need to move her to provide first aid or CPR if you know how. Move her if you can do so safely.

**Help:** Look for people who can help you and look for telephones. Have someone phone your emergency response number (or 911). Phone for help yourself if no one else is around.

**Who:** Who's injured? Figure out how many people are hurt and see if you can tell what happened.

**Where:** Where are you? Be specific. The emergency response team (or 911) dispatcher will want to know your address, floor, or location in the building or on the property.





**Figure 1.** Here are examples of ways to move an ill or injured person.

**FYI** When you give first aid, know your limits. Don't become another victim. Sometimes your wish to help can put you in danger. For example, if you are not a good swimmer, be very careful when trying to save someone who's drowning.

## Washing Hands

### Definitions and Key Facts

Washing your hands well is one of the most important protections you have. Always use soap and water if your hands are visibly dirty and after taking off gloves.

### Actions for Washing Hands Well

Step	Action
<b>1</b>	Wet your hands with clean running water (warm if available) and apply soap.
<b>2</b>	Rub hands together and rub all surfaces of hands and fingers for at least 20 seconds.
<b>3</b>	Rinse hands with lots of running water.
<b>4</b>	Dry your hands using a paper towel or air dryer. If possible, use your paper towel to turn off the faucet.



**Figure 2.** Wash your hands well with soap and lots of water after taking off your gloves.



---

### **Important**

Use a hand sanitizer if you can't wash your hands with soap and water. Rub your hands well to loosen germs and then allow the sanitizer to air dry.

---

### **Universal Precautions**

---

#### **Definitions and Key Facts**

This section is based on recommendations of the Centers for Disease Control and Prevention (CDC). Universal precautions are intended to protect you and your coworkers. For best protection, you should treat everyone's blood as if it were infected.

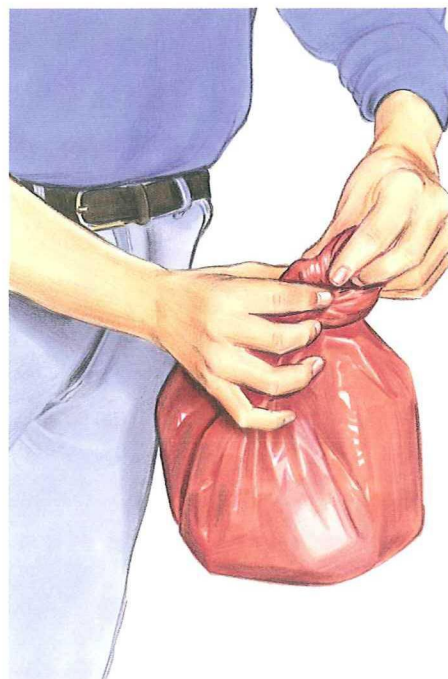
Body fluids, such as blood, saliva, and urine, can sometimes carry germs that cause diseases. Personal protective equipment (PPE) protects you. PPE includes

- Gloves to protect your hands from blood and other body fluids
  - Eye protection, if the injured person is bleeding, to protect your eyes from blood and other body fluids
  - Mask to protect you when you give breaths
-

## Actions for Universal Precautions

Step	Action
1	Wear personal protective equipment whenever necessary.
2	Place all disposable equipment that has touched blood or body fluids containing blood in a biohazard waste bag (or as required by your workplace).
3	To dispose of the biohazard waste bag, follow your company's plan for disposing of hazardous waste.
4	Wash your hands well with soap and lots of water after properly taking off your gloves.

**Figure 3.** Wear protective gloves whenever you give first aid and wear eye protection if the ill or injured person is bleeding.



**Figure 4.** Place all disposable equipment that has touched body fluids, including the gloves you wore, in a biohazard waste bag if one is available. Dispose of the bag according to company policy.

**Important**

**Latex allergies** are common and can be serious. Some rescuers and ill or injured people may be allergic to latex. Use protective gloves that don't contain latex, such as vinyl gloves, whenever possible.

If you or the ill or injured person has a latex allergy, do not use gloves that contain latex.

*Exposure to Blood*

**Definitions and Key Facts**

Bloodborne diseases are caused by germs. A rescuer may catch a disease if germs in someone else's blood or body fluids enter the rescuer's body, often through the rescuer's mouth or eye or a cut on the skin. To be safe, rescuers should wear personal protective equipment—gloves and eye shields (goggles)—to keep from touching the injured person's blood or body fluids.

Three examples of bloodborne diseases are

- Human immunodeficiency virus (HIV), the virus that causes AIDS
- Hepatitis B
- Hepatitis C

**Actions:  
Exposure to Blood**

Step	Action
1	If you are wearing gloves, take them off.
2	Immediately wash your hands and the contact area with soap and lots of water.
3	If body fluids have splattered in your eyes, nose, or the inside of your mouth, rinse these areas with lots of water.
4	Tell your company's emergency response program supervisor what happened as soon as possible. Then contact a healthcare professional.

*Taking Off Gloves (\*Skill You Will Demonstrate)*

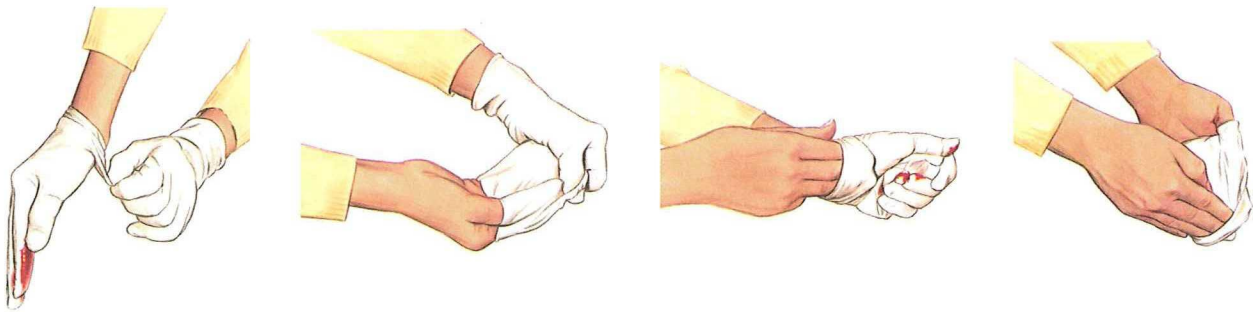
**Definitions and Key Facts**

When you give first aid, the outside of your gloves may touch blood or other body fluids. Take your gloves off without touching the outside of the gloves with your bare hands.



## Action: Taking Off Gloves

Step	Action
1	Grip 1 glove on the outside of the glove near the cuff and peel it down until it comes off inside out.
2	Cup it with your other (gloved) hand.
3	Place 2 fingers of your bare hand inside the cuff of the glove that is still on your hand.
4	Peel that glove off so that it comes off inside out, with the first glove inside it.
5	<p>If there is blood on the gloves, dispose of the gloves properly.</p> <ul style="list-style-type: none"> <li>• Put them in a biohazard waste bag or as required by your workplace.</li> <li>• If you do not have a biohazard waste bag, put the gloves in a plastic bag that can be sealed before you dispose of it.</li> </ul>
6	Wash your hands after you give first aid so that you don't spread germs.



**Figure 5.** Proper removal of protective gloves—without touching the outside of the gloves.

## FYI

Use waterless hand sanitizers only if you do not have immediate access to soap and water. Wash your hands with soap and lots of water as soon as you can.

## 3. Phoning for Help

**What You Will Learn** In this section we'll cover

- When to Phone for Help
- How to Phone for Help

## Definitions and Key Facts

The American Heart Association adult **Chain of Survival** shows the most important actions needed to treat life-threatening emergencies in adults. The first link in this adult Chain of Survival is to recognize the emergency and phone an emergency number to get help. This section will teach you how and when to phone.

Every place of business should have a plan for emergency response. This tells workers who, how, and sometimes when to phone for help in an emergency.



**Figure 6.** The AHA adult Chain of Survival. The first link in the adult chain is to recognize the emergency and phone for help. This is followed by early CPR with emphasis on compressions, rapid AED use, effective advanced care, and coordinated care afterward.

---

## When to Phone for Help

---

### Definitions and Key Facts

Your company may have some instructions about when you should phone the emergency response number (or 911). In this Student Workbook you'll learn when to phone for help in specific emergencies.

### Action: Assess When to Phone for Help

As a general rule, you should phone the emergency response number (or 911) and ask for help whenever

- Someone is seriously ill or injured
- You are not sure what to do in an emergency

Here are some examples of someone who is seriously ill or injured. The person

- Does not respond to voice or touch
- Has chest discomfort
- Has signs of stroke
- Has a problem breathing
- Has a severe injury or burn
- Has a seizure
- Suddenly can't move a part of the body
- Has received an electric shock
- Has been exposed to poison

If someone tries to commit suicide or is assaulted, phone the emergency response number (or 911) regardless of the person's condition.

---



How to Phone for Help

Definitions and Key Facts

Your company’s policy may be to call security, a response team, or the local EMS system number (in many communities this is 911).

Know your phone system. Do you need to dial 9 to get an outside line before you dial your emergency response number (or 911)? You should know your company’s emergency response number and phone that number whenever you need help.

Write the emergency response number on your Quick Reference Guide, in the first aid kit, and near the telephone. You should also write it here.

Write your emergency response number here:

Action: How to Phone for Help

If you are	Then you should
Alone	<div>1. Yell for help while you start to check the ill or injured person.</div> <div>2. If no one answers your yell and immediate care isn’t needed<div>a. Leave for a moment while you phone your emergency response number (or 911)</div><div>b. Get the first aid kit and auto-mated external defibrillator (AED), if available</div></div> <div>3. Return to the ill or injured person.</div>
With others	<div>1. Stay with the ill or injured person and be prepared to give first aid or CPR if you know how.</div> <div>2. Send someone else to phone your emergency response number (or 911) and get the first aid kit and AED if available.</div>



**Figure 7.** Know the location of the nearest phone to use in an emergency.

---

### **Important**

Answering all of a dispatcher's questions is important to getting help to you as fast as possible. Do not hang up until the dispatcher tells you to. Answering the dispatcher's questions won't delay the arrival of help.

---

### **FYI: Emergency Dispatchers**

When you phone for help, the emergency dispatcher may be able to tell you how to do CPR, use an AED, or give first aid.

## **4. Finding the Problem (\*Skill You Will Demonstrate)**

### **What You Will Learn**

In this section we'll cover the steps of finding the problem.

---

### **Definitions and Key Facts**

After you check the scene to be sure it is safe, you must find out what the problem is before you give first aid. Learn to look for problems in order of importance. First look for problems that may be life threatening. Then look for other problems.

Someone who “responds” moves, speaks, blinks, or otherwise reacts to you when you tap him and ask, “Are you OK?” Someone who doesn’t “respond” does nothing when you tap him and ask if he’s OK.

A person who gasps usually appears to be drawing air in very quickly. He may open his mouth and move the jaw, head, or neck. Gasps may appear forceful or weak, and some time may pass between gasps since they usually happen at a slow rate. The gasp may sound like a snort, snore, or groan. Gasping is not regular or normal breathing. It is a sign of cardiac arrest in someone who doesn’t respond.

---

### **Action:** **Find the Problem**

The following steps will help you find out what the problem is. They are listed in order of importance, with the most important step listed first.

- 1.** When you arrive at the scene, **check the scene to be sure it is safe.** As you walk toward the ill or injured person, try to look for signs of the cause of the problem.
- 2.** Check whether the person responds. **Tap the person and shout, “Are you OK?”**
  - A person who responds and is awake may be able to answer your questions. Tell the person you’re there to help, ask permission to help, and ask what the problem is.
  - A person may only be able to move, moan, or groan when you tap him and shout. If so phone or send someone to phone your emergency response number (or 911) and get the first aid kit and AED.
- 3. Next, check if the person is breathing.** If the person isn’t breathing or is only gasping, begin CPR and use an AED if you know how.

If you don’t know CPR and you aren’t learning it today, give Hands-Only™ CPR. To learn about Hands-Only CPR, go to **handsonlycpr.org**.
- 4. Next, look for any obvious signs of injury, such as bleeding, broken bones, burns, or bites.** (You will learn about each of these problems later.)
- 5. Finally, look for medical information jewelry.** This tells you if the person has a serious medical condition.

---

### **FYI**

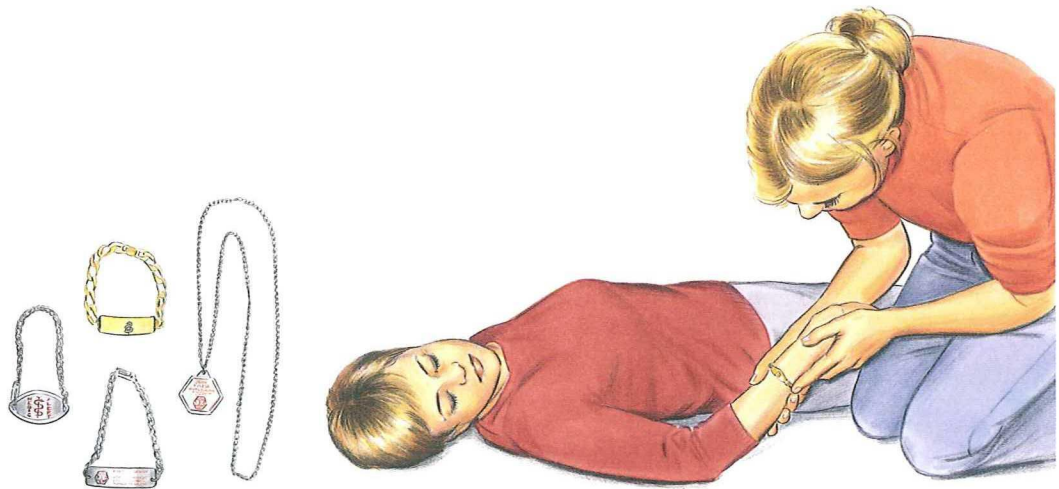
The muscles at the back of the throat relax in a person who does not respond. When the muscles relax, the tongue may fall back and block the airway. A person with a blocked airway cannot breathe.

---





**Figure 8.** Check if the person responds. Tap him and shout, “Are you OK?”



**Figure 9.** Look for medical information jewelry.

## 5. After the Emergency

**What You Will Learn** In this section we’ll cover privacy and what you should do after the emergency.

### Definitions and Key Facts

As a first aid rescuer you will learn private things about your coworkers, such as their medical condition. Give all information about an ill or injured person to EMS rescuers and your company’s emergency response program supervisor. You may also need to fill out a report for your company.

You must not share this information with other coworkers. Keep private things private.

**Actions:**  
**Privacy**

- Give all information about an ill or injured person to EMS rescuers.
- Fill out the company's report or forms.
- Protect the ill or injured person's privacy.

## Sample First Aid Kit

The following table lists sample first aid kit contents. This is a kit that follows ANSI standards. Different workplaces may have different requirements.

Item	Minimum Size or Volume	Quantity per Package	Unit Package Size
List of important local emergency telephone numbers, including police, fire department, EMS, and poison control center*			
Absorbent compress	32 sq. in.	1	1
Adhesive bandage	1 in. × 3 in.	16	1
Adhesive tape	2.5 yd. (total)	1 or 2	1 or 2
Antibiotic treatment	0.14 fl. oz.	6	1
Antiseptic swab	0.14 fl. oz.	10	1
Antiseptic wipe	1 in. × 1 in.	10	1
Antiseptic towelette	24 sq. in.	10	1
Bandage compress (2 in.)	2 in. × 36 in.	4	1
Bandage compress (3 in.)	3 in. × 60 in.	2	1
Bandage compress (4 in.)	4 in. × 72 in.	1	1
Burn dressing	4 in. × 4 in.	1	1 or 2
Burn treatment	1/32 oz.	6	1
CPR barrier		1	1 or 2
Cold pack	4 in. × 5 in.	1	2
Eye covering, with means of attachment	2.9 sq. in.	2	1
Eye/skin wash	4 fl. oz. total	1	2
Gloves		2 pairs	1 or 2
Roller bandage (4 in.)	4 in. × 4 yd.	1	1
Roller bandage (2 in.)	2 in. × 4 yd.	2	1
Sterile pad	3 in. × 3 in.	4	1
Triangular bandage	40 in. × 40 in. × 56 in.	1	1
Heartsaver First Aid Quick Reference Guide*			

\*Items meet the ANSI Z308.1-2009 standard, except those marked with an asterisk.



## Review Questions: First Aid Basics

Question	Your Notes
<p><b>1.</b> When you are providing first aid you should</p> <ul style="list-style-type: none"> <li>a. wear personal protective equipment (PPE).</li> <li>b. only wear PPE if the person is someone you do not know.</li> <li>c. not be concerned about PPE if you wash your hands.</li> <li>d. use cloth gloves to protect your hands.</li> </ul>	
<p><b>2.</b> When you phone for help, you should stay on the line with the dispatcher until</p> <ul style="list-style-type: none"> <li>a. people with more advanced training arrive.</li> <li>b. the dispatcher tells you it's OK to hang up.</li> </ul>	
<p><b>3.</b> After giving first aid, you</p> <ul style="list-style-type: none"> <li>a. can talk about what happened with anyone you want.</li> <li>b. cannot discuss anything with coworkers; you must keep private things private.</li> <li>c. can speak to a reporter about the incident.</li> <li>d. can discuss the incident with your immediate coworkers only.</li> </ul>	

(continued)

(continued)

Question	Your Notes
<b>4.</b> You should wash your hands for at least  a. 10 seconds.  b. 15 seconds.  c. 20 seconds.  d. 3 minutes.	
<b>5.</b> When assessing the scene, you should consider which of the following: (circle all that apply)  a. Danger to yourself and others  b. How many people are injured or ill  c. Where the location is  d. Where the nearest telephone is	
<b>6.</b> You should replace any supplies you use from the first aid kit.  True      False	

Answers: 1. a, 2. b, 3. b, 4. c, 5. All, 6. True

# Part 2: Medical Emergencies

## What You Will Learn

You'll learn how to provide first aid for medical emergencies.

## Definitions and Key Facts

At any time, especially during medical emergencies, someone may need CPR. See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## Topics Covered

- Breathing Problems
- Choking in an Adult
- Allergic Reactions
- Heart Attack
- Fainting
- Diabetes and Low Blood Sugar
- Stroke
- Seizure
- Shock

## 1. Breathing Problems

### What You Will Learn

In this section we'll cover

- General Breathing Problems
- Assembling and Using an Inhaler
- How to Help Someone With Breathing Problems

### General Breathing Problems

### Definitions and Key Facts

Someone may develop mild or severe blockage of the air passages. Someone having a heart attack, having a stroke, or experiencing certain injuries may also have breathing problems.

## Signs

You can tell if someone is having trouble breathing if the person

- Is breathing very fast or very slowly
- Is having trouble with every breath
- Has noisy breathing—you hear a sound or whistle as the air enters or leaves the lungs
- Can only make sounds or speak no more than a few words at a time in between breaths, although the person is trying to say more

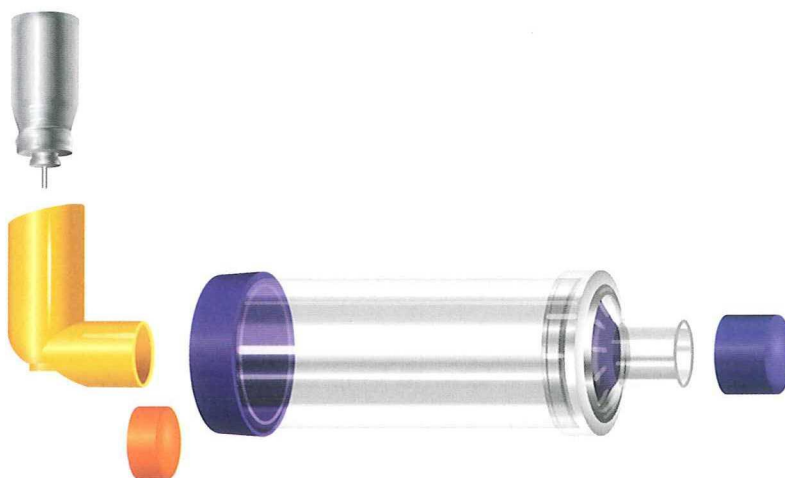
Many people with medical conditions, such as asthma, know about their conditions and carry inhaler medicine that can make them feel better within minutes of using it. Sometimes people have so much trouble breathing they need help using their inhalers. You may need to help them.

## Assembling and Using an Inhaler

### Definitions and Key Facts

Inhalers are made up of 2 parts: the medicine chamber and the mouthpiece. A spacer can be attached that makes it easier for the person with the breathing problem to inhale all the medicine.

When someone has trouble breathing, she may panic. For this reason, you should be ready to assemble the inhaler and help her use it.



**Figure 10.** The parts of an inhaler: medicine canister, mouthpiece, and spacer.

### Actions

Follow these steps to assemble and use an inhaler:

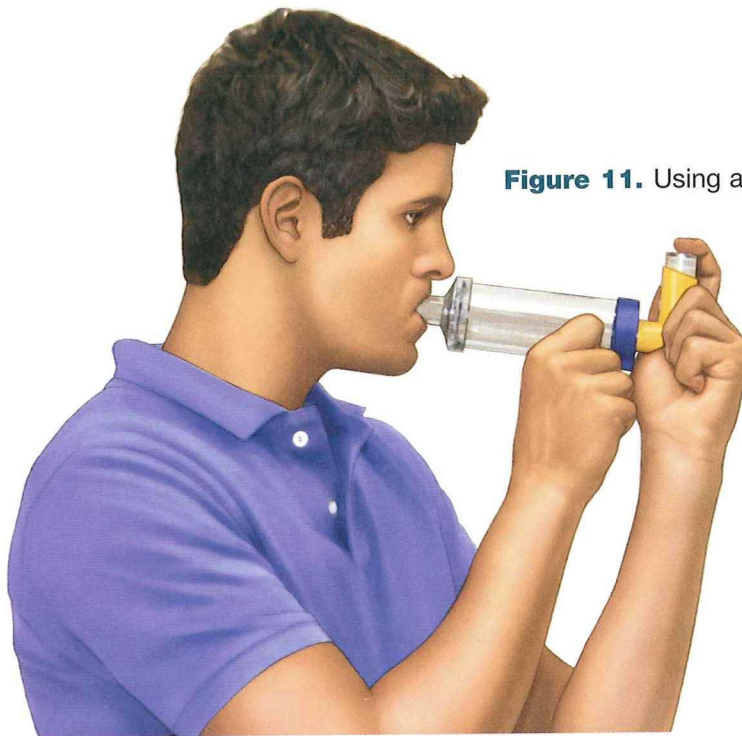
Step	Action
1	Shake the medicine.
2	Put the medicine into the medicine chamber.
3	Remove the cap from the mouthpiece.

(continued)



(continued)

Step	Action
4	Attach a spacer if there is one available and if you know how.
5	Tilt the person's head back slightly and have him breathe out slowly.
6	Put the inhaler or spacer in the person's mouth.
7	Push down on the top of the medicine canister. Have the person breathe in slowly and deeply as you push down.
8	Have the person hold his breath for 10 seconds, and then breathe out slowly.



**Figure 11.** Using an inhaler with a spacer.

---

## How to Help Someone With Breathing Problems

---

### Actions

Follow these steps for someone who is having breathing problems:

Step	Action
1	Make sure the scene is safe.
2	Ask the person if she has medicine. If she needs her medicine but is too sick to get it herself, get it for her.
3	Ask the person if you have the right medicine.
4	Assemble and use the inhaler.

(continued)



(continued)

Step	Action
5	Phone the your emergency response number (or 911) if <ul style="list-style-type: none"><li>• The person has no medicine</li><li>• The person does not get better after using her medicine</li><li>• The person's breathing gets worse, the person has trouble speaking, or the person stops responding</li></ul>
6	Stay with the person until someone with more advanced training arrives and takes over.
7	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## 2. Choking in an Adult

### What You Will Learn

In this section we'll cover

- Mild vs Severe Choking
- How to Help a Choking Adult
- How to Help a Choking Adult Who Stops Responding

### Definitions and Key Facts

Choking is when food or another object gets stuck in the airway in the throat. The object stops air from getting to the lungs.

Some choking is mild and some is severe. If it's severe, act fast. Get the object out so the person can breathe.

### Mild vs Severe Choking

Use the following table to figure out if someone has mild or severe choking and what you should do:

If someone	The block in the airway is	And you should
<ul style="list-style-type: none"><li>• Can make sounds</li><li>• Can cough loudly</li></ul>	Mild	<ul style="list-style-type: none"><li>• Stand by and let her cough</li><li>• If worried about her breathing, phone your emergency response number (or 911)</li></ul>

(continued)

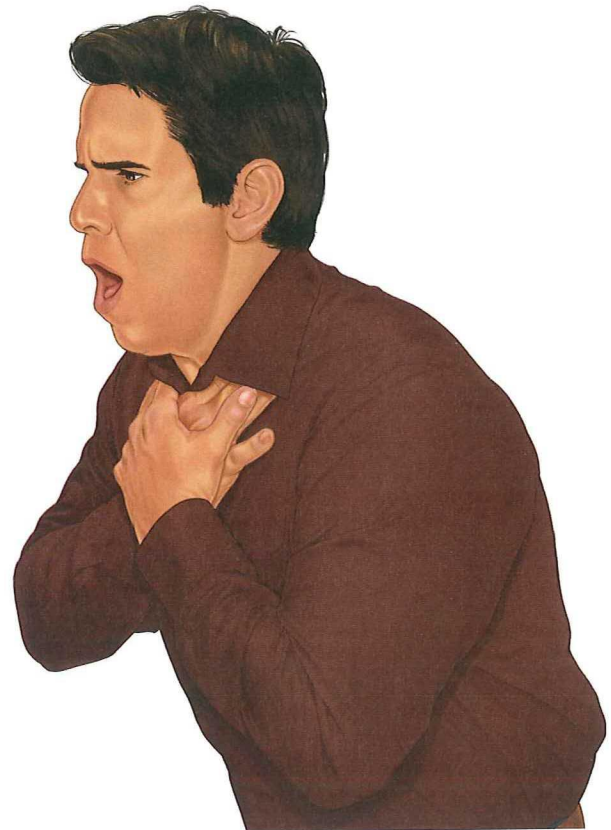
(continued)

If someone	The block in the airway is	And you should
<ul style="list-style-type: none"><li>• Cannot breathe or</li><li>• Has a cough that has no sound or</li><li>• Cannot talk or make a sound or</li><li>• Makes the choking sign</li></ul>	Severe	<ul style="list-style-type: none"><li>• Act quickly</li><li>• Follow the steps to help a choking adult</li></ul>

### **FYI:** **The Choking Sign**

If someone is choking, he might use the choking sign (holding the neck with one or both hands).

**Figure 12.** The choking sign: holding the neck with one or both hands.



### **How to Help a Choking Adult**

#### **Definitions and Key Facts**

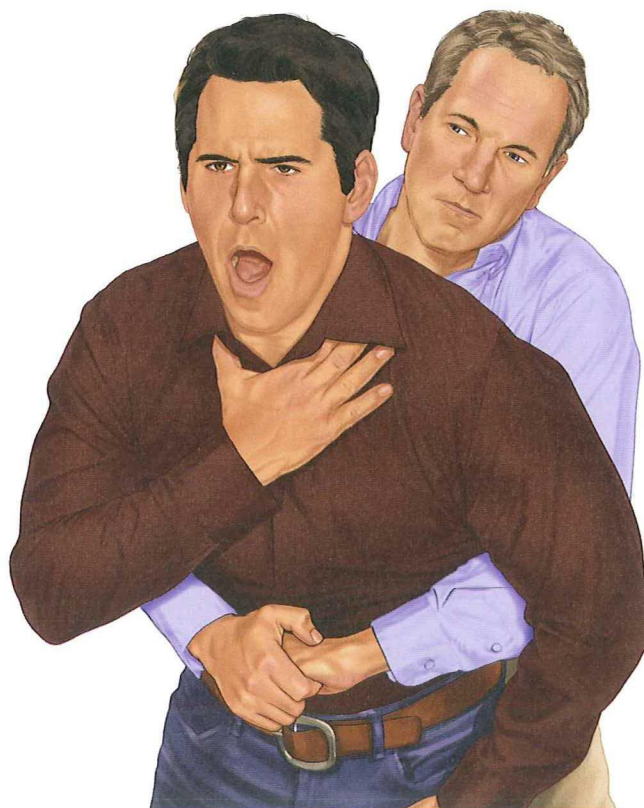
When someone has severe choking, give thrusts slightly above the belly button. These thrusts are sometimes called the Heimlich maneuver. Like a cough, each thrust pushes air from the lungs. This can help remove an object that is blocking the airway.

**Action:**  
**Help a Choking Adult**

Follow these steps to help a choking adult:

Step	Action
1	If you think someone is choking, ask, "Are you choking?" If he nods yes, tell him you are going to help.
2	<b>Get behind him.</b> Wrap your arms around him so that your hands are in front.
3	<b>Make a fist</b> with 1 hand.
4	Put the thumb side of your fist slightly above his belly button and well below the breastbone.
5	<b>Grasp the fist with your other hand</b> and give quick upward thrusts into his abdomen.
6	<b>Give thrusts</b> until the object is forced out and he can breathe, cough, or talk, or until he stops responding.

**Figure 13.** Helping someone who is choking.



**Action:**  
**Help a Choking Large Person or Pregnant Woman**

If someone is choking and is in the late stages of pregnancy or is very large and you can't wrap your arms fully around the waist, give thrusts on the chest, instead of thrusts on the abdomen.

Follow the same steps except for the location where you place your arms and hands. Put your arms under the armpits and your hands on the lower half of the breastbone. Pull straight back to give the chest thrusts.





**Figure 14.** Chest thrusts on a choking large person or pregnant woman.

---

**FYI**

Any person who has received thrusts should tell her healthcare provider.

---

***How to Help a Choking Adult Who Stops Responding***

---

**Definitions and Key Facts**

If you give someone thrusts but can't remove the object blocking the airway, the person will stop responding.

If the person stops responding, follow these steps:

---

**Action**

Step	Action
<b>1</b>	Check if he needs CPR. Give it if needed and if you know how. If you don't know how, give Hands-Only CPR.
<b>2</b>	Continue CPR until he speaks, moves, or breathes or until someone with more advanced training arrives and takes over.



### 3. Allergic Reactions

#### What You Will Learn

In this section we'll cover

- Using Epinephrine Pens (\*Skill You Will Demonstrate)
- Mild vs Severe Allergic Reactions

#### Definitions and Key Facts

Many allergic reactions are mild. Some reactions that seem mild can become severe within minutes.

People can be allergic to many things, including

- Many foods, such as eggs, nuts, chocolate
- Insect stings or bites, especially bee or wasp stings

#### FYI

Some states and organizations permit first aid rescuers to help people use their epinephrine pens. People who carry epinephrine pens usually know when and how to use them.

You may help give the injection if you are approved to do so by your state regulations and by your company.

#### Using Epinephrine Pens (\*Skill You Will Demonstrate)

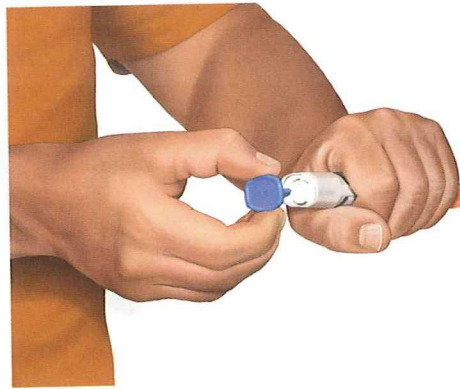
#### Definitions and Key Facts

An epinephrine pen will help someone with a severe allergic reaction breathe more easily. It contains a small amount of medicine that can be injected through clothing. It usually takes several minutes before the medicine starts to work.

The epinephrine injection is given in the side of the thigh.

#### Actions for an Epinephrine Pen

Step	Action
1	Get the prescribed epinephrine pen.
2	Take off the safety cap. Follow the instructions on the pen.
3	Hold the epinephrine pen in your fist without touching either end because the needle comes out of one end.
4	Push the end with the needle hard against the side of the person's thigh, about halfway between the hip and knee. Give the injection through clothes or on bare skin.
5	Hold the pen in place for about 10 seconds.
6	Remove the needle by pulling the pen straight out.



**A**



**B**

**Figure 15.** Using an epinephrine pen. **A**, Taking off the safety cap. **B**, A rescuer uses the pen.

## Mild vs Severe Allergic Reactions

### Definitions and Key Facts

Many allergic reactions are mild. Some reactions that seem mild can become severe within minutes.

### Signs

The following table shows signs of mild and severe allergic reactions:

Mild Allergic Reaction	Severe Allergic Reaction
<ul style="list-style-type: none"> <li>• A stuffy nose, sneezing, and itching around the eyes</li> <li>• Itching of the skin</li> <li>• Raised, red rash on the skin (hives)</li> </ul>	<ul style="list-style-type: none"> <li>• Trouble breathing</li> <li>• Swelling of the tongue and face</li> <li>• Signs of shock</li> </ul>

### Actions for Severe Allergic Reactions

A severe allergic reaction can be life threatening. Follow these steps if you see signs of a severe allergic reaction:

Step	Action
<b>1</b>	Make sure the scene is safe.
<b>2</b>	Phone or send someone to phone your emergency response number (or 911) and get the first aid kit.
<b>3</b>	If the person responds and has an epinephrine pen, help him get it. Ask him to use it.

(continued)

(continued)

Step	Action
4	If he can't use it himself, and if you're allowed, use the epinephrine pen to give him an injection.
5	Rub the injection spot for about 10 seconds.
6	After using the epinephrine pen, dispose of it properly.
7	Note the time of the injection.
8	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

---

## FYI

If possible, save a sample of what caused the reaction.

---

## Important

It's important to dispose of needles correctly so that no one gets stuck. Follow your company's sharps disposal policy. If you don't know what to do, give the needle to someone with more advanced training than you have.

# 4. Heart Attack

## What You Will Learn

In this section we'll cover how to recognize and provide first aid for heart attacks.

---

## Definitions and Key Facts

Heart disease is the single biggest cause of death in the United States.

The first minutes of a heart attack are the most important. This is when the person is likely to get worse and may die. Also many of the treatments for heart attack will be most successful if they are given quickly.

---

## Signs of a Heart Attack

Signs of a heart attack may include

**Chest discomfort.** Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness, or pain. If someone has an uncomfortable feeling in the chest, think heart attack.

**Discomfort in other areas of the upper body.** Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw, or abdomen.

**Shortness of breath.** This may occur with or without chest discomfort.

**Other signs** may include cold sweat, nausea, or light-headedness.

---



## Signs in Women, the Elderly, and Diabetics

Women, the elderly, and people with diabetes are more likely to have the less typical signs of a heart attack, such as an ache in the chest, heartburn, or indigestion. They may have an uncomfortable feeling in the back, jaw, neck, or shoulder. They may also complain of shortness of breath or have nausea or vomiting.

### Important

Many people won't admit that their discomfort may be caused by a heart attack. People often say

- "I'm too healthy,"
- "I don't want to bother the doctor,"
- "I don't want to frighten my wife," or
- "I'll feel silly if it isn't a heart attack."

If you suspect someone is having a heart attack, act quickly. Don't hesitate, even if the person is uncomfortable admitting his discomfort.

### Actions

Follow these steps if someone has any of the signs of a possible heart attack:

Step	Action
1	Make sure the person stays calm and rests.
2	Phone or have someone phone your <b>emergency response number (or 911)</b> .
3	Ask someone to get the first aid kit and AED if available.
4	If the person has no allergy to aspirin, no serious bleeding, and no signs of a stroke, <b>give him an aspirin</b> (either 2 low-dose aspirin or 1 regular).
5	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

### Important

It's best if the person doesn't drive himself to the hospital. Stay with him until someone with more advanced training arrives and takes over.

## 5. Fainting

### What You Will Learn

In this section we'll cover what fainting is and how to provide first aid for it.



## Definitions and Key Facts

Fainting is a short period when a person stops responding for less than a minute and then seems fine. This is usually caused by not enough blood going to the brain. Seconds before fainting, he may feel dizzy.

Fainting often occurs when the person

- Stands without moving for a long time, especially if the weather is hot
- Has a heart condition
- Suddenly stands after squatting or bending down
- Receives bad news

## Actions

Follow these steps if a person is dizzy but still responds:

Step	Action
1	Make sure the scene is safe.
2	Help the person lie flat on the floor.
3	If the person doesn't improve or stops responding, phone your <b>emergency response number (or 911)</b> .

If a person faints and then starts to respond:

Step	Action
1	Ask the person to continue to lie flat on the floor until he can sit up and feels normal.
2	If the person fell, look for injuries caused by the fall.
3	Phone your <b>emergency response number (or 911)</b> .

## 6. Diabetes and Low Blood Sugar

### What You Will Learn

In this section we'll cover how to recognize and provide first aid for low blood sugar in a person with diabetes.

## Definitions and Key Facts

Diabetes is a disease that affects levels of sugar in the blood. Too much or too little sugar causes problems. In this course, we're going to address low blood sugar, which can cause someone's behavior to change.

Some diabetics take insulin. Too much insulin can also cause low blood sugar.

Low blood sugar can occur if a person with diabetes has

- Not eaten or is vomiting
- Not eaten enough food for the level of activity
- Injected too much insulin

## Signs

Signs of low blood sugar can appear quickly and may include

- A change in behavior, such as confusion or irritability
- Sleepiness or not responding
- Hunger, thirst, or weakness
- Sweating, pale skin color
- A seizure (see the section on seizures)

## Actions

Follow these steps if someone is responding and shows signs of low blood sugar:

Step	Action
1	If the person can sit up and swallow, give him something that contains sugar to eat or drink.
2	Have him sit quietly or lie down.
3	Phone or have someone phone your emergency response number (or 911).

## FYI

The following list shows what to give a person with diabetes who has low blood sugar. Give foods that contain sugar, such as

- Fruit juice
- Milk
- Sugar
- Honey
- A regular soft drink

It's important to make sure that whatever you give has sugar in it. Diet foods and drinks don't have sugar; chocolate doesn't have enough sugar.

## Important

If someone with low blood sugar is unable to sit up and swallow, don't give him anything to eat or drink.

## 7. Stroke

### What You Will Learn

In this section we'll cover how to recognize and provide first aid for stroke.

### Definitions and Key Facts

Strokes occur when blood stops flowing to a part of the brain. This can happen if there is bleeding or a blocked blood vessel in the brain. The signs of a stroke are usually very sudden.

New treatments can reduce the damage from a stroke and improve recovery. However, they must be given within the first hours after the first signs of stroke appear. As a result, it's important to recognize the signs of a stroke quickly and get medical care fast.

### Signs

The warning signs of stroke are

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking, or trouble understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

### Actions

Follow these steps if you think someone is having a stroke:

Step	Action
1	Make sure the scene is safe.
2	Phone or ask someone to phone your emergency response number (or 911) and get the first aid kit and an AED if available.
3	Note the time when the signs of stroke first appeared.
4	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## 8. Seizure

### What You Will Learn

In this section we'll cover how to recognize and provide first aid for seizures.



Definitions and Key Facts

A seizure is abnormal electrical activity in the brain. Most seizures stop within a few minutes. A medical condition called epilepsy often causes seizures. Not all seizures are due to epilepsy. Some seizures happen when the heart suddenly stops beating. Seizures can also be caused by

- Head injury
- Low blood sugar
- Heat-related injury
- Poisons

The person may bite his tongue during a seizure. You can give first aid for that injury after the seizure stops. After a seizure it is not unusual for the person to be confused or get sleepy.

Signs

During some types of seizures, the person may

- Lose muscle control
- Fall to the ground
- Jerk arms, legs, or other parts of the body
- Stop responding

Actions

During a seizure you should follow these steps:

Step	Action
1	Make sure the scene is safe.
2	<b>Protect the person by</b> <ul style="list-style-type: none"><li>• Moving furniture or other objects out of the way</li><li>• Placing a small pad or towel under the person’s head if it’s easy to do so</li></ul>
3	Phone or have someone phone your company’s <b>emergency response number (or 911)</b> .

After a seizure, follow these steps:

Step	Action
1	<b>See if the person needs CPR.</b> If he does, give CPR. If you don’t know how, give Hands-Only CPR.
2	<b>Stay with the person</b> until someone with more advanced training arrives and takes over.
3	If the person is vomiting or has fluids in his mouth and you think the person doesn’t have a head, neck, or spine injury, <b>roll him to his side.</b>



**Important**

There are many myths about what to do when someone has a seizure. Some actually tell you to do things that hurt the person who’s seizing. (For example, putting a wooden spoon in the mouth can block breathing.) Follow these tables to provide the best and safest first aid.

**9. Shock**

**What You Will Learn**

In this section we’ll cover how to recognize and provide first aid for shock.

**Definitions and Key Facts**

Shock develops when there is not enough blood flowing to the cells of the body. Someone with shock may stop responding. In adults shock is most often present if someone

- Loses a lot of blood that you may or may not be able to see
- Has a severe heart attack
- Has a severe allergic reaction

**Signs**

A person in shock may

- Feel weak, faint, or dizzy
- Feel nauseous or thirsty
- Have pale or grayish skin
- Act restless, agitated, or confused
- Be cold and clammy to the touch

**Actions**

Step	Action
1	Make sure the scene is safe.
2	Phone or send someone to phone your company’s emergency response number (or 911) and get the first aid kit and AED.
3	Help the person <b>lie on her back</b> .
4	<b>Cover the person in shock</b> to keep her warm.
5	<b>See if the person needs CPR</b> . If she does, give CPR. If you don’t know how, give Hands-Only CPR.



**Figure 16.** Cover a person in shock.

## Review Questions: Medical Emergencies

Question	Your Notes
<p><b>1.</b> When giving abdominal thrusts to an adult who is choking, you should</p> <ul style="list-style-type: none"><li>a. place your hands near the throat.</li><li>b. place your hands near the left side of the lower abdomen.</li><li>c. put the thumb side of your fist slightly above her navel (belly button) and well below the breastbone.</li></ul>	

(continued)

(continued)

Question	Your Notes
<p><b>2.</b> Signs of a severe allergic reaction include trouble breathing, swelling of the face and tongue, and the person may stop responding.</p> <p>True      False</p>	
<p><b>3.</b> A person with a _____ is usually awake and can talk but may have an uncomfortable feeling, such as pain or pressure, in the chest.</p> <p>a. stroke</p> <p>b. seizure</p> <p>c. heart attack</p>	
<p><b>4.</b> The warning signs of _____ include sudden numbness or weakness of the face, arm, or leg, especially on one side of the body.</p> <p>a. fainting</p> <p>b. stroke</p> <p>c. heart attack</p> <p>d. seizure</p>	
<p><b>5.</b> If someone with low blood sugar is responding and can sit up and swallow, give her something that contains sugar to eat or drink.</p> <p>True      False</p>	

Answers: 1. c, 2. True, 3. c, 4. b, 5. True

# Part 3: Injury Emergencies

## What You Will Learn

You'll learn how to provide first aid for injury emergencies.

## Definitions and Key Facts

At any time, especially during injury emergencies, someone may need CPR. See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## Topics Covered

- Bleeding You Can See
- Wounds
- Bleeding You Can't See
- Head, Neck, and Spine Injuries
- Broken Bones and Sprains
- Burns and Electrical Injuries

## 1. Bleeding You Can See

## What You Will Learn

In this section we'll cover

- How to Stop Bleeding (\*Skill You Will Demonstrate)
- Bandaging (\*Skill You Will Demonstrate)
- Using Tourniquets

## How to Stop Bleeding (\*Skill You Will Demonstrate)

## Definitions and Key Facts

Bleeding often looks worse than it is. When a large blood vessel is cut or torn, the person can lose a lot of blood within minutes. However, you can stop most bleeding with pressure. If the injured person can help you, ask him to put direct pressure on the wound while you put on your personal protective equipment (PPE).

A dressing is wound covering used to stop bleeding. It helps prevent infection. A dressing can be a gauze pad or any other clean piece of cloth or even a gloved hand.



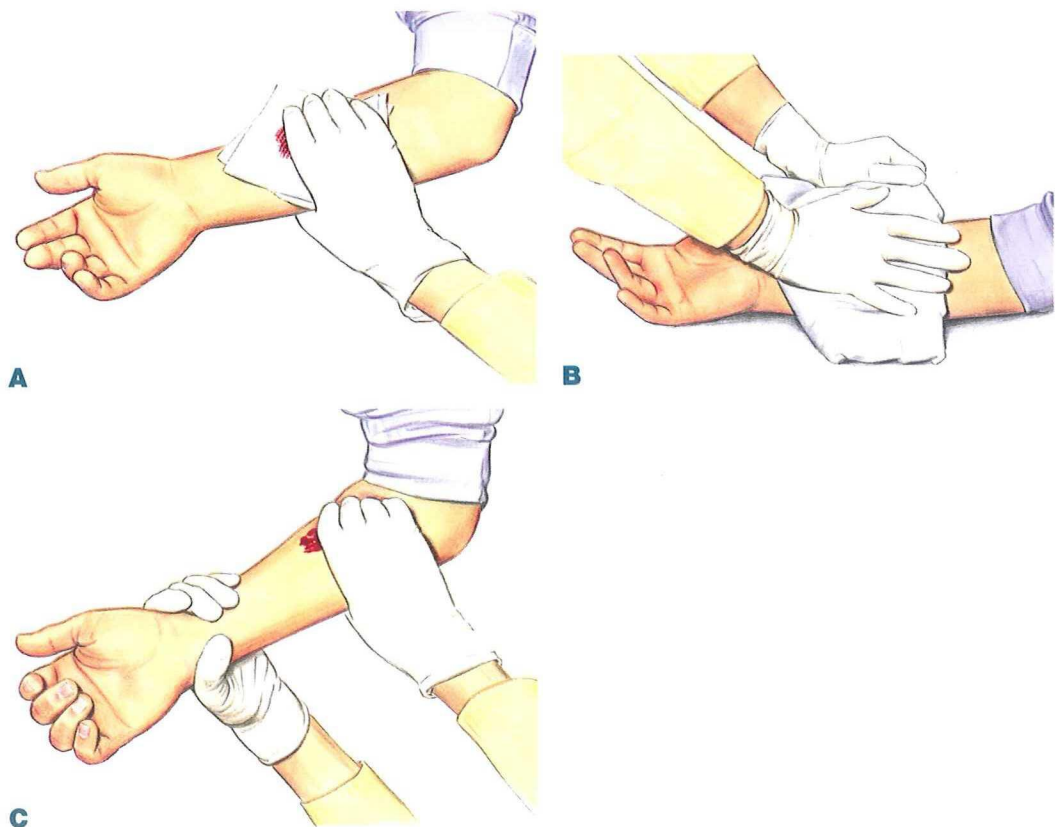
Phone or ask someone to phone your emergency response number (or 911) if

- There is a lot of bleeding
- You cannot stop the bleeding
- You see signs of shock
- You suspect a head, neck, or spine injury
- You are not sure what to do

### Actions for Bleeding You Can See

Take the following actions to stop bleeding that you can see:

Step	Action
<b>1</b>	Make sure the scene is safe. Get the first aid kit. Wear PPE.
<b>2</b>	Put a dressing on the wound. Apply <b>direct pressure on the dressing</b> . Use the flat part of your fingers or the palm of your hand.
<b>3</b>	If the bleeding does not stop, <b>add more dressings</b> on top of the first and <b>press harder</b> .
<b>4</b>	Keep <b>pressure</b> on the wound <b>until it stops bleeding</b> .
<b>5</b>	If you can't keep pressure on the wound, wrap a bandage firmly over the dressing to hold the dressing in place.



**Figure 17.** A dressing can be a gauze pad or pads (A) or any other clean piece of cloth (B). If you do not have a dressing, use your gloved hand (C).

**FYI:**  
**Multiple Dressings  
and Antibiotic  
Creams**

Small wounds heal better and with less infection if an antibiotic ointment or cream is used. Apply antibiotic ointment or cream and then a clean dressing, but only if the wound is a small scrape or surface cut and only if the person doesn't have any allergies to the antibiotic.

**Important:**  
**Minor Cuts and  
Scrapes**

If the cut or scrape is minor, wash the area with lots of clean water to get the wound clean before applying the dressings. You'll use less direct pressure to stop the bleeding for a minor cut or scrape than for a major cut or scrape.

**Bandaging (\*Skill You Will Demonstrate)**

**Definitions and  
Key Facts**

A bandage is material used to protect or cover an injured body part. A bandage may also help keep pressure on the wound.

**Action**

Step	Action
1	Make sure the scene is safe. Get the first aid kit and wear PPE.
2	Use direct pressure, with gauze pads/dressings if available, to stop any bleeding.
3	Apply the bandage over the dressings.

**Figure 18.** Placing a bandage over a dressing.



Definitions and Key Facts

If an arm or leg has severe bleeding and you can't stop the bleeding with direct pressure, you can use a tourniquet.

The best tourniquets are premade, or manufactured, ones. If you don't have one, you can make a tourniquet out of a piece of cloth and a windlass, essentially a stick-like object used to tighten the tourniquet.

If you apply the tourniquet correctly, it will cause pain as it stops the bleeding.

Action: Use a Premade Tourniquet

The following steps apply to a premade tourniquet:

Step	Action
1	Make sure the scene is safe. Phone your emergency response number (or 911). Wear PPE.
2	Place the tourniquet 2 inches above the injury, if possible.
3	Tighten the tourniquet until the bleeding stops.
4	Note what time you put the tourniquet on.
5	Get medical help as soon as possible.
6	Leave the tourniquet on until someone with more advanced training takes over.

Important

Once you have the tourniquet in place, leave it alone until someone with more advanced training arrives and takes over.

Action: Make and Use a Tourniquet

If you need to make a tourniquet, follow the steps in this table. Then apply the tourniquet the same way as you would for a premade one.

Step	Action
1	Make sure the scene is safe. Wear PPE.
2	Fold a cloth or bandage so that it's long and at least 1 inch wide.
3	Wrap the bandage 2 inches above the injury, if possible.
4	Tie the ends of the bandage around a stick (or something similar to a stick).
5	Turn the stick to tighten the tourniquet.
6	Continue tightening until the bleeding stops.

(continued)



(continued)

Step	Action
7	Secure the stick so the tourniquet stays tight.
8	Note what time the tourniquet was placed.
9	Get medical help as soon as possible.



**Figure 19.** A tourniquet applied to a leg.

## FYI

Most first aid kits have a triangular bandage. This is ideal for making a tourniquet.

## Important

Leave all dressings on as you add more.

## 2. Wounds

### What You Will Learn

In this section we'll cover

- Bleeding From the Nose
- Bleeding From the Mouth
- Tooth Injuries
- Eye Injuries
- Penetrating and Puncturing Objects
- Amputation



## Bleeding From the Nose

### Definitions and Key Facts

With nosebleeds it's sometimes hard to tell how much bleeding there is because the injured person often swallows some of the blood. This may cause the person to vomit.

### Actions

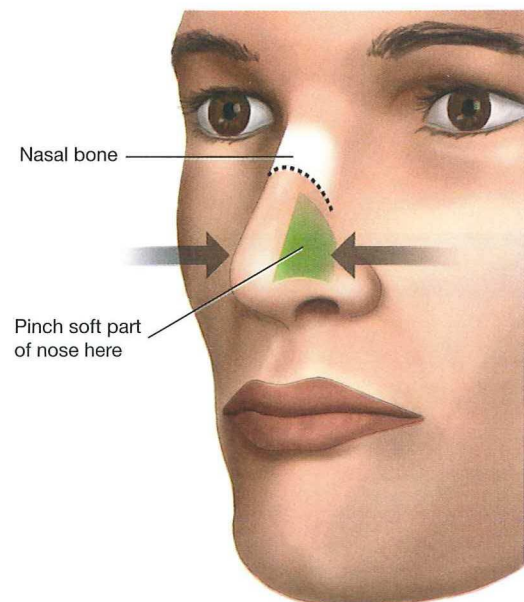
Follow these steps when giving first aid to a person with a nosebleed:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	<b>Press both sides of the nostrils</b> while the <b>person</b> sits and <b>leans forward</b> .
3	Place <b>constant pressure</b> on both sides of the nostrils for a few minutes until the bleeding stops.
4	If bleeding continues, press harder.
5	Phone your emergency response number (or 911) if <ul style="list-style-type: none"><li>• You can't stop the bleeding in about 15 minutes</li><li>• The bleeding is heavy, such as gushing blood</li><li>• The person has trouble breathing</li></ul>

### Important

People are sometimes misinformed about the best way to stop a nosebleed. The correct way to help someone with a nosebleed is to follow the steps outlined in the table.

**Figure 20.** Press on both sides of the nostrils.



## Bleeding From the Mouth

### Definitions and Key Facts

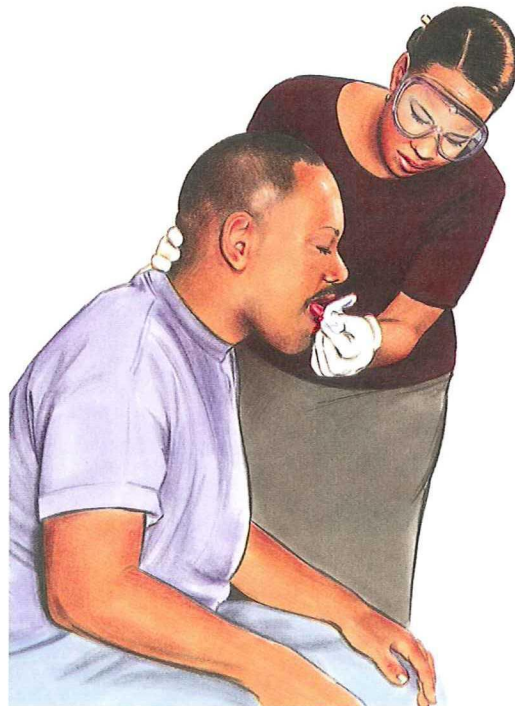
You can usually stop bleeding from the mouth with pressure.

Bleeding from the mouth can be serious if blood or broken teeth block the airway and cause breathing problems or if you can't reach the bleeding area.

### Actions

Follow these steps when giving first aid to a person with bleeding from the mouth:

Step	Action
1	Make sure that the scene is safe. Get the first aid kit. Wear PPE.
2	If you can easily reach the bleeding, <b>apply pressure to the area with dressings.</b>
3	Phone or ask someone to phone your emergency response number (or 911) if <ul style="list-style-type: none"><li>• You can't stop the bleeding</li><li>• The person has trouble breathing</li></ul>



**Figure 21.** If the bleeding is from the tongue, lip, or cheek, press the bleeding area with sterile gauze or a clean cloth.

Definitions and Key Facts

A person with a mouth injury may have broken, loose, or knocked-out teeth. This can be a choking hazard.

Actions for Tooth Injuries

Follow these steps when giving first aid to a person with a tooth injury:

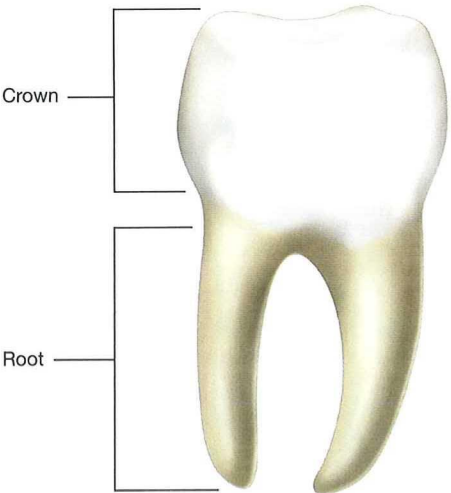
Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Check the mouth for any missing teeth, loose teeth, or parts of teeth.
3	Clean the wound with saline or clean water.
4	If a tooth is loose, have the person bite down on a piece of gauze to keep the tooth in place and call a dentist.
5	If a tooth is chipped, gently clean the injured area and call a dentist.
6	Apply pressure with gauze to stop any bleeding at the empty tooth socket.
7	If a tooth has come out, put the tooth in a cup of milk or clean water and immediately take the injured person and tooth to a dentist or emergency department.
8	Tell the person to talk with a dentist if a tooth changes color after an injury.

Important

Hold the tooth by the crown, not the root (the part that was in the gums). There may be ligaments on the tooth that will help reattach the tooth.

Keep the tooth out of the mouth.

Figure 22. Hold the tooth by the crown.





## Eye Injuries

---

### Definitions and Key Facts

Eye injuries may happen

- With a direct hit or punch to the eye or the side of the head
  - When a ball or other object directly hits the eye
  - When a high-speed object, such as a BB gun pellet, hits the eye
  - When a stick or other sharp object punctures the eye
  - When a small object, such as a piece of dirt, gets in the eye
- 

### Signs

Signs of an eye injury include

- Pain
  - Trouble seeing
  - Bruising
  - Bleeding
  - Redness, swelling
- 

### Actions

Follow these steps for eye injuries:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Phone or ask someone to phone your emergency response number (or 911) if the eye is hit hard or punctured. Tell the person to keep her eyes closed.
3	If there is an irritant, such as sand, in the eye, use water to rinse the eye.
4	If the irritant does not come out or if the person is in extreme pain, phone or ask someone to phone your emergency response number (or 911). Tell the person to keep her eyes closed.

---

## Penetrating and Puncturing Objects

---

### Definitions and Key Facts

An object such as a knife or sharp stick can wound a person by penetrating the body or puncturing the skin. Leave the object in place until a healthcare provider can treat the injury.

---



## Actions

Follow these steps when giving first aid to a person with an injury from a puncturing or penetrating object:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Phone or ask someone to phone your <b>emergency response number (or 911)</b> .
3	<b>Stop any bleeding you can see.</b>
4	Try to keep the injured person from moving.

## Important

Leave penetrating objects in.

If a person is injured and a sharp object, such as a nail or a knife, remains partly stuck in the body, leave it in the body. Taking it out may cause more damage.

## Amputation

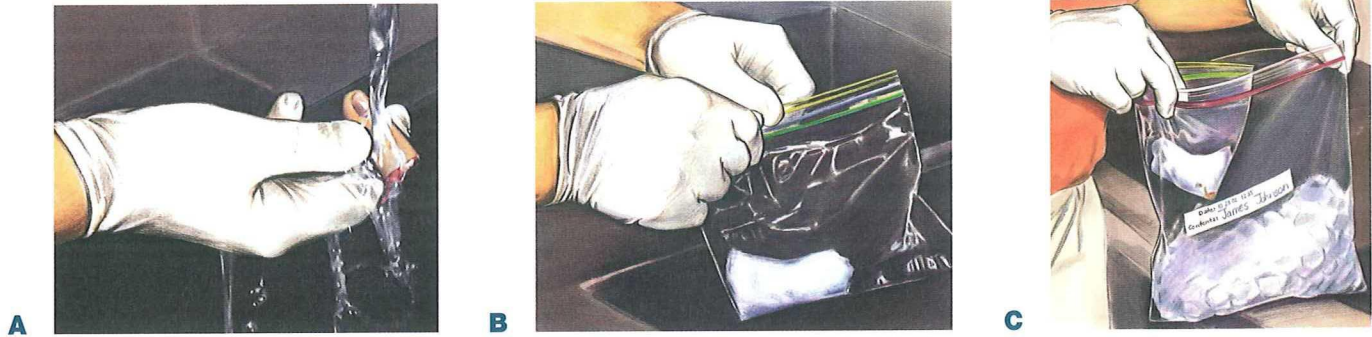
### Definitions and Key Facts

If a part of the body, such as a finger, toe, hand, or foot is cut off (amputated), save the body part because doctors may be able to reattach it. You can preserve a detached body part at room temperature, but it will be in a better condition to be reattached if you keep it cool.

## Actions

Follow these steps to protect an amputated part:

Step	Action
1	Rinse the amputated part with clean water.
2	Cover or wrap the amputated part with a clean dressing.
3	If it will fit, place the amputated part in a watertight plastic bag.
4	Place that bag in another container with ice or ice and water; label it with the injured person's name, date, and time.
5	Make sure it is sent to the hospital with the injured person.



**Figure 23.** **A**, If you can find the amputated part, rinse it with clean water. **B**, If it will fit, place the wrapped part in a watertight plastic bag. **C**, Place that bag in another labeled bag.

**Important** Never place the amputated body part directly on ice or in water because the ice or water may damage it.

**Actions for Amputation** Follow these steps when giving first aid to a person with an amputation:

Step	Action
1	Make sure the scene is safe. Get the first aid kit and AED. Wear PPE.
2	Phone or ask someone to phone your emergency response number (or 911).
3	Stop the bleeding from the injured area with pressure. <b>You will have to press for a long time with very firm pressure to stop the bleeding.</b>
4	If you find the <b>amputated part, protect it.</b>
5	Stay with the injured person until someone with more advanced training arrives and takes over.

### 3. Bleeding You Can't See

**What You Will Learn** In this section we'll cover when to suspect bleeding you can't see and how to provide first aid for bleeding you can't see.

**Definitions and Key Facts** An injury inside the body may be minor or severe. Being hit hard in the chest or abdomen or falling can cause bleeding inside the body. You may not see physical signs of this bleeding, or you may see a bruise.

## Signs

Suspect bleeding you can't see if a person has

- An injury from a car crash, from being hit by a car, or after a fall from a height
- An injury to the abdomen or chest (including bruises such as seat belt marks)
- Sports injuries such as slamming into other people or being hit with a ball
- Pain in the chest or abdomen after an injury
- Shortness of breath after an injury
- Coughed-up or vomited blood after an injury
- Signs of shock without bleeding that you can see
- A knife or gunshot wound

## Actions

Follow these steps when giving first aid to a person who may have bleeding you can't see:

Step	Action
1	Make sure that the scene is safe. Get the first kit and AED. Wear PPE.
2	Phone or ask someone to phone your emergency response number (or 911).
3	Have the person lie down and keep still.
4	Check for signs of shock.
5	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## 4. Head, Neck, and Spine Injuries

### What You Will Learn

In this section we'll cover how to recognize and provide first aid for head, neck, and spine injuries.

### Definitions and Key Facts for Head Injury

Suspect a head injury if the person

- Fell from a height
- Was hit in the head
- Was injured while diving
- Suffered an electrical injury
- Was involved in a car crash
- Was riding a bicycle or motorbike involved in a crash, and has no helmet or a broken helmet



**Signs of Head Injury**

- Suspect a head injury if an injured person
- Does not respond or only moans or moves
  - Acts sleepy or confused
  - Vomits
  - Complains of a headache
  - Has trouble seeing
  - Has trouble walking or moving any part of the body
  - Has a seizure

**Definitions and Key Facts for Spine and Neck**

The bones of the spine protect the spinal cord. The spinal cord carries messages between the brain and the body.

If the spine is damaged, the spinal cord may be injured. The person may not be able to move her legs or arms and may lose feeling in parts of the body. Some people call this a “broken back.”

**Important**

You may cause further injury to the spinal cord if you bend, twist, or turn the person’s head or neck. When you give first aid to someone with a possible spine injury, you must not bend, twist, or turn the head or neck unless it’s necessary to provide CPR or if you need to move the person out of danger.

If she is vomiting or has fluids in her mouth, wear PPE and roll her to the side.

**Signs of a Neck or Spine Injury**

- Suspect that the spine bones are broken if an injured person
- Is 65 or older
  - Was in a car or bicycle crash
  - Has fallen from a height
  - Has tingling or weakness in the extremities
  - Has pain or tenderness in the neck or back
  - Appears to be intoxicated or not fully alert
  - Has other painful injuries, especially of the head and neck

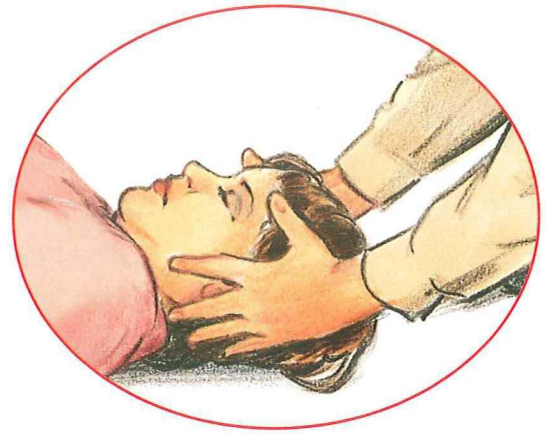
**Actions for Head, Neck, and Spine Injuries**

Follow these steps when giving first aid to a person with a possible head, neck, or spine injury:

Step	Action
1	Make sure that the scene is safe.
2	Phone or ask someone to phone your emergency response number (or 911) and get the first aid kit.
3	Minimize movement of the head and neck.



**Figure 24.** Hold the head and neck to minimize movement.



## 5. Broken Bones and Sprains

### What You Will Learn

In this section we'll cover how to recognize and provide first aid for broken bones and sprains.

### Definitions and Key Facts

Joint sprains happen when joints move in directions they're not supposed to go. Without an x-ray, it may be impossible to tell whether a bone is broken. But you will perform the same actions even if you don't know whether the bone is broken.

### Signs

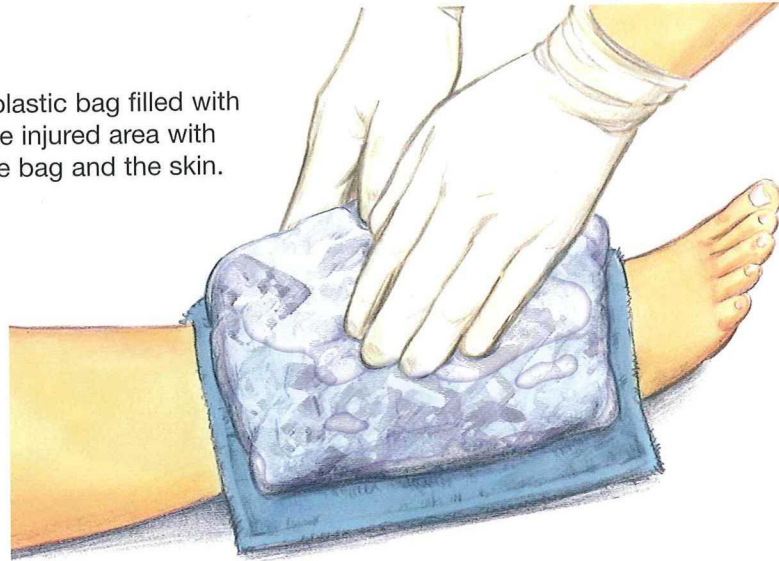
There may be swelling and the joint may turn slightly blue if it is sprained.

### Actions

Follow these steps when giving first aid for a person with a possible broken bone or sprain:

Step	Action
1	Make sure that the scene is safe. Get the first aid kit. Wear PPE.
2	Cover any open wound with a clean dressing.
3	Put a <b>plastic bag</b> filled with <b>ice and water on the injured area</b> with a towel between the ice bag and the skin for up to 20 minutes.
4	Phone or ask someone to phone your emergency response number (or 911) if <ul style="list-style-type: none"><li>• There is a large open wound</li><li>• The injured part is abnormally bent</li><li>• You're not sure what to do</li></ul>
5	If an injured body part hurts, the person should avoid using it until checked by a healthcare provider.

**Figure 25.** Put a plastic bag filled with ice and water on the injured area with a towel between the bag and the skin.



## FYI

You may use a cold pack, but it is not as cold and may not work as well as ice and water.

Don't straighten any body part that's bent or deformed. Don't move a broken bone that has come through the skin.

## Splinting (\*Skill You May Demonstrate; Optional Practice)

### Definitions and Key Facts

A splint keeps an injured body part from moving. In general, healthcare providers apply splints.

At times, you may need to splint an arm or a leg. For example, if you are hiking in the wilderness, you may need to splint an injured arm.

Rolled-up towels, magazines, and pieces of wood can be used as splints.

### Actions: Splinting

To splint, follow the actions in the table:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	To make the splint, use something (such as a magazine) that will keep the arm or leg from moving.
3	Ideally, place the splint so that it extends beyond the injured area and supports the joints above and below the injury.
4	Tie the splint to the injured body part so that it supports the injured area. Use tape, gauze, or cloth to secure it.
5	Make sure that the injured person is checked by a healthcare provider.



**Figure 26.** Use stiff material, such as a rolled-up magazine, to splint injured body parts.

### **FYI**

You should be able to put a few fingers between the splint and the injured body part. Do not tie the splint too tightly. This might cause further pain. If you use something hard for the splint, pad the inside of the splint with cloths or dressings, if possible, to keep the person comfortable.

### **Important**

If the injured part is bleeding, apply direct pressure to stop the bleeding and apply a dressing to the wound before applying the splint.

### **Actions: Self-Splinting an Arm**

If you don't have anything to use as a splint, a person can use his other arm to hold the injured one in place. Follow these steps to self-splint an arm:

Step	Action
1	Make sure the scene is safe.
2	Have the injured person place his hand across his chest and hold it in place with his other arm.

### **Important**

Leave bent and deformed body parts in their bent or deformed positions as you apply the splint. If a broken bone has come through the skin, cover the wound with a clean dressing, and splint as needed.

## **6. Burns and Electrical Injuries**

### **What You Will Learn**

In this section we'll cover how to provide first aid for burns and electrical injuries.



## Burns

### Definitions and Key Facts for Burns

Burns are injuries that can be caused by contact with heat, electricity, or chemicals. Heat burns can be caused by contact with fire, a hot surface, a hot liquid, or steam.

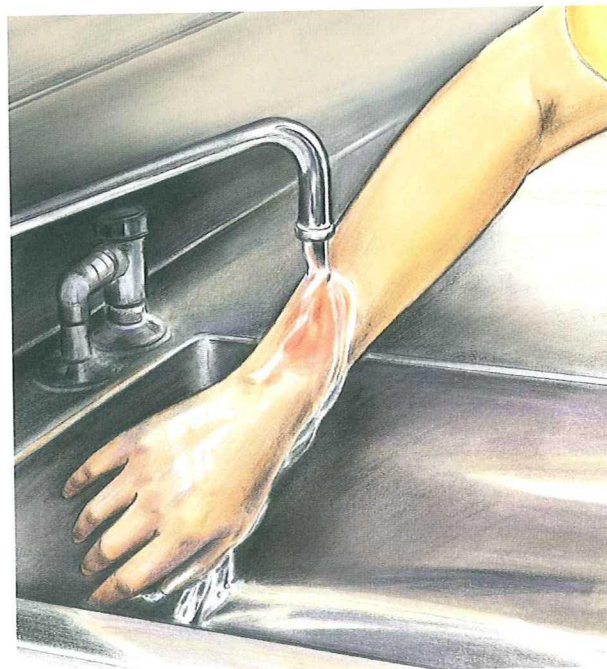
Use cool water on burns. Ice can damage burned areas. If someone with a burn gets too cold, she can get hypothermia (low body temperature).

### Actions for Small Burns

Follow these steps to give first aid to a person with a small burn:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	If the burn area is small, cool it immediately with cold, but not ice-cold, water. Run cold water on the burn until it doesn't hurt.
3	You may cover the burn with a dry, nonstick sterile or clean dressing.

**Figure 27.** If possible, hold the burned area under cold running water.



### Important

Phone or send someone to phone your emergency response number (or 911) if

- There is a fire
- The person has a large burn
- You are not sure what to do

## Important

If someone is on fire, put the fire out: Have that person stop, drop, and roll; then cover the person with a wet blanket to put the fire out. Once the fire is out, remove the wet blanket.

## Actions for Large Burns

Follow these steps to give first aid to a person with a large burn:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Phone your emergency response number (or 911).
2	If the person is on fire, put the fire out.
3	Remove jewelry and clothing that is not stuck to the skin.
4	Cover the person with a dry blanket.
5	Check for signs of shock.

## FYI

Cover the person with a dry blanket to keep the person warm because once the skin has burned, the person can no longer control body temperature well and often gets cold.

## Electrical Injuries

### Definitions and Key Facts

Electricity can burn the body on the inside and outside. Electricity can stop breathing or cause a deadly abnormal heart rhythm.

### Signs

Electricity may leave only small marks on the body. No one can tell how much damage there is inside the body based on the marks on the outside.

### Actions

Follow these steps for giving first aid for an electrical injury:

Step	Action
1	Make sure the scene is safe. Get the first aid kit and AED. Wear PPE.
2	Phone or send someone to phone your emergency response number (or 911).
3	When it is safe to touch the injured person, see if he needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.
4	A healthcare provider should check everyone who has an electrical injury.

**FYI:**  
**Touching Someone**  
**With an Electrical**  
**Injury**

Stay clear of the injured person as long as he's in contact with a power source that is on. Electricity can travel from the source through the injured person to you. Turn off the main power switch only if you know how and can safely do so. Once the power is off, you may touch the injured person.

**High Voltage**

If the electrical injury is caused by high voltage, such as a fallen power line, electricity can travel through everything that touches the power line or source (even a wooden stick). Wait until the power has been turned off to enter the area and provide help.

**Important**

Many people have heard about different ointments for burns. The only thing you should put on a burn is cool water and clean dressings unless you are given other instructions by a healthcare provider.

**Review Questions: Injury Emergencies**

Question	Your Notes
<p><b>1.</b> To help stop bleeding that you can see, put firm pressure on a dressing or bandage over the bleeding area.</p> <p>True      False</p>	
<p><b>2.</b> <i>Mark an X by the correct response.</i></p> <p>A person with a nosebleed should lean</p> <p>____ forward.</p> <p>____ backward.</p>	
<p><b>3.</b> <i>Mark an X by the correct response.</i></p> <p>If a large stick or a knife has been pushed into someone's body, you should</p> <p>____ remove it as quickly as possible.</p> <p>____ leave it in and get help.</p>	

(continued)



(continued)

Question	Your Notes
<p><b>4.</b> If someone falls down and then becomes sleepy or confused, vomits, or complains of a headache, the person may have a head injury.</p> <p>True      False</p>	
<p><b>5.</b> As soon as a person twists his ankle, apply a heating pad or heat pack over the injured area for 20 minutes to help reduce swelling.</p> <p>True      False</p>	
<p><b>6.</b> To give first aid for a small burn on the arm, cool the burn with</p> <ul style="list-style-type: none"><li>a. lukewarm water.</li><li>b. ice directly on the skin.</li><li>c. cold, but not ice-cold, water.</li></ul>	

Answers: 1. True, 2. Forward, 3. Leave it in, 4. True, 5. False, 6. c

# Part 4: Environmental Emergencies

## What You Will Learn

You'll learn how to provide first aid for environmental emergencies.

## Definitions and Key Facts

At any time, especially during environmental emergencies, someone may need CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

## Topics Covered

- Bites and Stings
- Heat-Related Emergencies
- Cold-Related Emergencies
- Poison Emergencies

## 1. Bites and Stings

### What You Will Learn

In this section we'll cover

- Animal and Human Bites
- Snakebites
- Insect, Bee, and Spider Bites and Stings
- Poisonous Spider and Scorpion Bites and Stings
- Ticks

### Animal and Human Bites

### Definitions and Key Facts

Although many bites are minor, some may break the skin. When a bite breaks the skin, the wound can bleed and may become infected from the germs in the biter's mouth. Bites that do not break the skin are not usually serious.

Be sure to stay away from an animal that is acting strangely.

### Actions

Follow these steps to give first aid to a person with an animal or human bite:

Step	Action
<b>1</b>	Make sure the scene is safe. Get the first aid kit. Wear PPE.
<b>2</b>	For animal bites, phone or send someone to phone your emergency response number (or 911).
<b>3</b>	<b>Clean the wound</b> with a lot of running water (and soap, if available).
<b>4</b>	<b>Stop any bleeding</b> with pressure and dressings.
<b>5</b>	For all bites that break the skin, call a healthcare provider.
<b>6</b>	If there is a bruise or swelling, place a bag of ice and water wrapped in a towel on the bite for up to 20 minutes.

## Important

- These animals may carry rabies: cat, dog, skunk, raccoon, fox, bat, or other wild animal.
- If a person is in a room with a bat, contact a healthcare provider.

## Snakebites

### Definitions and Key Facts

If a snake bites someone, it is helpful to be able to identify the kind of snake. Sometimes you can identify the snake from its bite mark. If you aren't sure whether a snake is poisonous, assume that it is.

### Signs of Poisonous Snakebites

- Pain in the bite area that keeps getting worse
- Swelling of the bite area
- Nausea, vomiting, sweating, and weakness

## Actions

Follow these steps to give first aid to someone who has been bitten:

Step	Action
<b>1</b>	Make sure the scene is safe. Get the first aid kit. Wear PPE.
<b>2</b>	Ask another adult to move any other people inside or away from the area and phone your emergency response number (or 911).
<b>3</b>	Ask the bitten person to be <b>still and calm</b> . Tell him to avoid moving the part of the body that was bitten.
<b>4</b>	<b>Remove any tight clothing</b> and jewelry.
<b>5</b>	<b>Gently wash</b> the bite area with running water (and soap if available).



Important

Some people have heard about other ways to treat a snakebite, such as sucking out the poison. The correct steps for treating a snakebite are in the table.

Important:  
Scene Safety and  
Snakes

- When making sure the scene is safe, be very careful around a wounded snake.
- Back away and go around the snake.
- If a snake has been killed or hurt by accident, leave it alone. A snake might bite even when severely hurt or close to death.
- If the snake needs to be moved, use a long-handled shovel. If you don't need to move it, leave it alone.

Insect, Bee, and Spider Bites and Stings

Definitions and  
Key Facts

Usually insect and spider bites and stings cause only mild pain, itching, and swelling at the bite.

Some insect bites can be serious and even fatal if

- The person bitten has a severe allergic reaction to the bite or sting
- Poison (venom) is injected into the person (for example, from a black widow spider or brown recluse spider)

Actions

Follow these steps to give first aid to someone with a bite or sting:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Phone or send someone to phone your emergency response number (or 911) and get the first aid kit if <ul style="list-style-type: none"><li>• The person has signs of a severe allergic reaction</li><li>• The person tells you that she has a severe allergic reaction to insect bites or stings. Get the person's epinephrine pen if she has one.</li></ul>
3	If a <b>bee</b> stung the person <ul style="list-style-type: none"><li>• Look for the stinger. Bees are the only insects that may leave their stingers behind.</li><li>• Scrape away the stinger and venom sac by using something with a dull edge, such as a credit card.</li></ul>

(continued)

(continued)

Step	Action
<b>4</b>	<b>Wash</b> the bite or sting area with a <b>lot of running water</b> (and soap, if possible).
<b>5</b>	Put a <b>bag of ice and water</b> wrapped in a towel or cloth over the bite or sting area for up to 20 minutes.
<b>6</b>	Watch the person for at least 30 minutes for signs of an allergic reaction.

---

### Important

Make sure you remove the stinger with something flat and dull that won't squeeze the stinger. Squeezing the venom sac can release more venom (poison).

---

### Poisonous Spider and Scorpion Bites and Stings

---

#### Signs

The following are the signs of poisonous spider and scorpion bites and stings. Some of the signs may vary depending on the type of bite or sting.

- Severe pain at the site of the bite or sting
  - Muscle cramps
  - Headache
  - Fever
  - Vomiting
  - Breathing problems
  - Seizures
  - Lack of response
- 

#### Actions

Follow these steps for a spider or scorpion bite or sting:

Step	Action
<b>1</b>	Make sure the scene is safe. Get the first aid kit. Wear PPE.
<b>2</b>	<b>Phone</b> your emergency response number (or 911).
<b>3</b>	<b>Wash</b> the bite with a lot of <b>running water (and soap, if available)</b> .
<b>4</b>	Put a <b>bag of ice and water</b> wrapped in a towel or cloth on the bite.
<b>5</b>	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

---

## Ticks

### Definitions and Key Facts

Ticks are found on animals and in wooded areas. They attach themselves to exposed body parts. Many ticks are harmless. Some carry serious diseases.

If you find a tick, remove it as soon as possible. The longer the tick stays attached to a person, the greater the person's chance of catching a disease.

### Actions for Tick Bites

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	<b>Grab the tick by its mouth or head</b> as close to the skin as possible with tweezers or a tick-removing device.
3	<b>Lift the tick straight out</b> without twisting or squeezing its body. If you lift the tick until the person's skin tents and wait for several seconds, the tick may let go.
4	<b>Wash</b> the bite with running water (and soap, if available).
5	See a healthcare provider if you are in an area where tick-borne diseases occur. If possible, place the tick in a plastic bag and give it to the healthcare provider.

### Important

Some people have heard about other ways to remove a tick. The correct way to remove a tick is to follow the actions in the table.

## 2. Heat-Related Emergencies

### What You Will Learn

In this section we'll cover

- Heat Cramps
- Heat Exhaustion
- Heat Stroke

## Heat Cramps

### Definitions and Key Facts

Most heat-related emergencies are caused by vigorous exercise.

Heat cramps are painful muscle spasms, most often in the calves, arms, stomach muscles, and back.



**Signs**

Signs of heat cramps include muscle cramps, sweating, and headache.

**Actions for Heat Cramps**

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Have the person with heat cramps rest and cool off.
3	Have the person drink something that contains sugar and electrolytes, such as juice or a sports drink, or water if the others aren't available.

**FYI**

Once heat cramp symptoms stop, the person can exercise again. Stretching, icing, and massaging painful muscles may be helpful.

A bag with ice and water and wrapped in a towel may be applied to the sore muscle for up to 20 minutes if the person can tolerate it.

**Important**

Mild heat-related signs are a warning that the person's condition may get worse unless you take action. Symptoms of heat-related emergencies often increase if left untreated.

**Heat Exhaustion**

**Definitions and Key Facts**

Heat exhaustion is a serious condition that often turns into heat stroke. It often occurs when someone exercises in the heat and sweats a lot.

**Signs**

Signs of heat exhaustion include sweating, nausea, dizziness, vomiting, muscle cramps, feeling faint, and fatigue.

**Actions**

Follow these steps for heat exhaustion:

Step	Action
1	Make sure the scene is safe. Get the first aid kit. Wear PPE.
2	Phone or ask someone to phone your emergency response number (or 911).
3	Have the person lie down in a cool place.
4	Remove as much of the person's clothing as possible.
5	Cool the person with a cool water spray.

(continued)

(continued)

Step	Action
6	If cool water spray is not available, place cool damp cloths on the neck, armpit, and groin area.
7	Have the person drink something that contains sugar and electrolytes, such as juice or a sports drink, or water if the others aren't available.

## Heat Stroke

### Definitions and Key Facts

Heat stroke is a very serious condition. It looks similar to heat exhaustion but it is life threatening. You need to act quickly.

### Signs

The key signs of heat stroke are confusion, passing out, dizziness, and seizures. Other signs of heat stroke include nausea, vomiting, muscle cramps, feeling faint, and fatigue.

### Actions for Heat Stroke

Step	Action
1	Make sure the scene is safe. Get the first aid kit and AED. Wear PPE.
2	Phone or ask someone to phone your <b>emergency response number (or 911)</b> .
3	Put the person in <b>cool water, up to her neck</b> if possible.
4	See if the person needs CPR. If he does, give CPR. If you don't know how, give Hands-Only CPR.

### Important

- Begin cooling the person immediately. Every minute counts.
- If you can't put the person in cool water up to her neck, cool her with a cool water spray.
- Stop cooling the person once her behavior is normal again. Continued cooling could lead to low body temperature (hypothermia).
- Only put water on the person's skin.
- If the person can drink, give her something to drink. Sports drinks are the best.
- If the person can't drink, wait for someone with more advanced training to arrive and take over.

### 3. Cold-Related Emergencies

#### What You Will Learn

In this section we'll cover

- Frostbite
- Low Body Temperature (Hypothermia)

#### Frostbite

#### Definitions and Key Facts

A cold injury to part of the body is called frostbite. Frostbite affects parts of the body that are exposed to the cold, such as the fingers, toes, nose, and ears. Frostbite typically occurs outside in cold weather. But it can also occur inside if workers don't have gloves on and handle cold materials, such as gases under pressure.

#### Signs

- The skin over the frostbitten area is white, waxy, or grayish-yellow.
- The frostbitten area is cold and numb.
- The frostbitten area is hard, and the skin doesn't move when you push it.

#### Actions for Frostbite

Step	Action
1	Move the person to a warm place.
2	Phone or ask someone to phone your emergency response number (or 911) and get the first aid kit.
3	Remove tight clothing and jewelry from the frostbitten part.
4	Remove wet clothing and pat the body dry. Put dry clothes on the person and cover the person with a blanket.
5	Do not try to thaw the frozen part if you think there may be a chance of refreezing.

#### Important

If you need to touch the frostbitten area, do so gently. Rubbing it may cause damage.



Low Body Temperature (Hypothermia)

Definitions and Key Facts

Hypothermia occurs when body temperature falls. Hypothermia is a serious condition that can cause death. A person can develop hypothermia even when the temperature is above freezing.

Shivering protects the body by producing heat. Shivering stops when the body becomes very cold.

Signs

- The skin is cool to the touch.
- Shivering (shivering stops when the body temperature is very low).
- The person may become confused or drowsy.
- Personality may change or the person may behave as if unconcerned about the condition.
- Muscles become stiff and rigid and the skin becomes ice cold and blue.

As the body temperature continues to drop

- The person stops responding
- The person's breathing slows
- It may be hard to tell whether the person is breathing
- The person may appear to be dead

Actions

Step	Action
1	Get the person out of the cold.
2	Remove wet clothing and pat the body dry. Put dry clothes on the person and cover the person with a blanket.
3	Phone or ask someone to phone your emergency response number (or 911) and get the first aid kit and AED, if available.
4	Wrap the person up with anything you have—clothing, towels, newspapers, etc. Cover the head but not the face.
5	See if the person needs CPR. If so, give CPR. If you don't know how, give Hands-Only CPR.

FYI: Rewarming

Place a person with low body temperature near a heat source and place containers of warm, but not hot, water in contact with the skin. It is important to get the person to medical care as soon as possible.

## 4. Poison Emergencies

### What You Will Learn

In this section we'll cover the following:

- Scene Safety for Poison Emergencies
- Removing Poisons
- Complete First Aid for Poison Emergencies

### Definitions and Key Facts

A poison is anything someone swallows, breathes, or gets in the eyes or on the skin that causes sickness or death. Many products can poison people.

This section will not deal with specific poisons. Instead it will cover general principles of first aid for a victim of poisoning. Follow your workplace guidelines about poisonous items in your workplace.

The number for the American Association of Poison Control Centers (Poison Control) is 1-800-222-1222.

### Scene Safety for Poison Emergencies

### Definitions and Key Facts

If you think someone may have been exposed to a poison, make sure the scene is safe before giving first aid. This takes a few more steps than in other first aid situations.

### Actions

Step	Action
<b>1</b>	Make sure the scene is safe before you approach.
<b>2</b>	If the scene seems unsafe, do not approach. Tell everyone to move away.
<b>3</b>	Look for signs that warn you that poisons are nearby.
<b>4</b>	Look for spilled or leaking containers.
<b>5</b>	Stay out of the area with the poison if you see more than 1 victim.
<b>6</b>	If you approach the scene, wear appropriate protective equipment.

### Removing Poisons

### Definitions and Key Facts

Get the poison off the person as quickly as you safely can. Use lots of water to rinse the poisons off.



## Actions

Step	Action
<b>1</b>	Make sure the scene is safe. Get the first aid kit. Wear PPE.
<b>2</b>	Help the person <b>take off contaminated clothing and jewelry.</b>
<b>3</b>	Quickly help the person to a <b>safety shower</b> or eyewash station if he responds and can move.
<b>4</b>	<b>Brush off</b> any dry powder or solid substances from the skin with your gloved hand.
<b>5</b>	<b>Rinse</b> the contaminated areas with a lot of water for at least 20 minutes or until someone with more training arrives and takes over.

**Figure 28.** Brush off any dry powder or solid substances from the person's skin with your gloved hand.



## Important

If only one eye is affected make sure the eye with the poison in it is the lower eye as you rinse. Make sure you do not rinse the poison into the unaffected eye.

**Figure 29.** Help the person wash his eyes and face under water flowing from a faucet or hose. Or use an eyewash station.





## Other First Aid for Poison Emergencies

### Definitions and Key Facts

Worksites should have an MSDS (Material Safety Data Sheet) for each chemical at the worksite. You should know where the MSDS is at your worksite. The MSDS provides a description of how a specific poison can be harmful.

Unfortunately the MSDS usually provides little information about first aid actions. Some of the first aid actions listed in the MSDS or on the label of the poison may be outdated.

You will probably receive additional training on the MSDS during the “Right to Know” training your workplace provides.

### Actions

Step	Action
<b>1</b>	Make sure the <b>scene is safe</b> . Get the first aid kit. Wear PPE.
<b>2</b>	Send someone to phone your <b>emergency response number (or 911)</b> .
<b>3</b>	<b>Tell the dispatcher the name of the poison</b> , if possible.
<b>4</b>	<b>Remove the poison</b> , if possible.
<b>5</b>	Move the person from the scene of the poison if you can.
<b>6</b>	Help the person move to an area with fresh air, if possible.
<b>7</b>	Send someone to get the Material Safety Data Sheet (MSDS), if available.

### Important

If you give CPR to a poisoning victim, use a mask for giving breaths if possible. This precaution is especially important if the poison is on the lips or mouth.

Some dispatchers may connect you to a poison control center. Give only those antidotes that the poison control center or dispatcher tells you to. The first aid instructions on the poison itself can be helpful but may be incomplete.

### FYI

When you call the emergency response number, try to have the following information ready:

- What is the name of the poison? Can you describe it if you cannot name it?
- How much poison did the person touch, breathe, or swallow?
- About how old is the person? What is the person’s approximate weight?
- When did the poisoning happen?
- How is the person feeling or acting now?



**Figure 30.** Look for symbols of poisons, such as these, nearby.

## Review Questions: Environmental Emergencies

Question	Your Notes
<p><b>1.</b> Someone who has been bitten by an insect or bee may have a severe allergic reaction and should be watched for at least _____ minutes.</p> <p>a. 10</p> <p>b. 20</p> <p>c. 30</p> <p>d. 60</p>	
<p><b>2.</b> When someone has a bite be sure to wash the bite area with a lot of soap and water.</p> <p>True      False</p>	
<p><b>3.</b> Heat stroke is a life-threatening condition.</p> <p>True      False</p>	

(continued)

(continued)

Question	Your Notes
<b>4.</b> Remove ticks _____. a. with a hot matchstick b. with lots of alcohol on the skin c. by using tweezers d. with your hands	
<b>5.</b> Being confused may be a symptom of heat stroke and low body temperature.  True      False	
<b>6.</b> If you give CPR to someone who has been poisoned it is important to use a mask, if possible, to give breaths.  True      False	

Answers: 1. c, 2. True, 3. True, 4. c, 5. True, 6. True



## First Aid Skills Summary

### *Taking Off Gloves*

---

- Grip 1 glove on the outside of the glove near the cuff and peel it down until it comes off inside out.
  - Cup it with your other (gloved) hand.
  - Place 2 fingers of your bare hand inside the cuff of the glove that is still on your hand.
  - Peel that glove off so that it comes off inside out, with the first glove inside it.
  - If there is blood on the gloves, dispose of the gloves properly.
  - Put them in a biohazard waste bag or as required by your workplace.
  - If you do not have a biohazard waste bag, put the gloves in a plastic bag that can be sealed before you dispose of it.
  - Wash your hands after you give first aid so that you don't spread germs.
- 

### *Finding the Problem*

---

- Make sure the scene is safe and look for the cause of the problem.
  - Tap and shout. If the person doesn't respond, phone your emergency response number (or 911) and get an AED. If the person responds, ask permission to help and ask what the problem is.
  - Check breathing. If the person doesn't respond and isn't breathing or is only gasping, start CPR if you know how. If you don't know how, give Hands-Only CPR.
  - Look for signs of injury, such as bleeding.
  - Look for medical information jewelry.
- 

### *Using Epinephrine Pens*

---

- Get the prescribed epinephrine pen.
- Take off the safety cap. Follow the instructions on the pen.
- Hold the epinephrine pen in your fist without touching either end because the needle comes out of one end.
- Push the end with the needle hard against the side of the person's thigh, about halfway between the hip and knee. Give the injection through clothes or on bare skin.
- Hold the pen in place for about 10 seconds.
- Remove the needle and pen by pulling straight out.
- Rub the injection spot for about 10 seconds.
- After using the epinephrine pen, dispose of it properly.

- Note the time of the injection.
  - Stay with the person until someone with more advanced training arrives and takes over.
- 

### ***How to Stop Bleeding You Can See***

---

- Make sure the scene is safe. Get the first aid kit. Wear PPE.
  - Place a dressing on the bleeding. Use the flat part of your fingers or the palm of your hand to apply pressure to the dressing.
  - If the bleeding does not stop, add more dressings on top of the first and press harder.
  - Keep pressure on the wound until it stops bleeding.
  - If you can't keep pressure on the wound, wrap a bandage firmly over the dressings to hold them in place.
- 

### ***Bandaging***

---

- Make sure the scene is safe. Get the first aid kit and wear PPE.
  - Use direct pressure, with dressings if available, to stop any bleeding.
  - Apply the bandage over the dressings.
- 

### ***Splinting Practice (Not Tested)***

---

- Make sure the scene is safe. Get the first aid kit. Wear PPE.
- To make the splint, use something (such as a magazine) that will keep the arm or leg from moving, and pad the splint if possible.
- Ideally, place the splint so that it extends beyond the injured area and supports the joints above and below the injury.
- Tie the splint to the injured body part so that it supports the injured area. Use tape, gauze, or cloth to secure it.
- Make sure that the injured person is checked by a healthcare provider.

# Conclusion

---

Congratulations on completing this course.

Practice your skills often. This will keep them fresh and help you prepare for an emergency. It's important to phone the emergency response number (or 911) when an emergency arises. The operator also may be able to remind you what to do.

Contact the American Heart Association if you want more information on CPR, AEDs, or first aid. You can visit **[www.heart.org/cpr](http://www.heart.org/cpr)** or call 1-877-AHA-4CPR (877-242-4277) to find a class near you.

Even if you don't remember all the steps exactly, it is important for you to try. Any help, even if it isn't perfect, is better than no help at all.

# CONCLUSION





- Abdominal injuries, internal bleeding in, 47, 48
- Abdominal thrusts in choking, 23, 24
- AED use
  - in heart attack, 29
  - and phoning for help, 12
- Airway obstruction
  - choking in, 22-25
  - in unresponsive victim, 14
- Allergic reactions, 26-28
  - in bites and stings, 26, 59, 60
  - epinephrine pen use in, 26-27, 28, 59, 71-72
  - to latex, 1, 9
  - shock in, 27, 34
- American Association of Poison Control Centers, 66
- American Heart Association
  - Chain of Survival, 10-11
  - contact information, 73
- Amputation injuries, 46-47
- Animal bites, 57-58
- Antibiotic creams and ointments, 39
- Antidotes in poison emergencies, 68
- Aspirin in heart attack, 29
- Assessment of victims
  - breathing check in, 14, 71
  - in choking, 22-23
  - problem solving in, 14, 15
- Asthma, breathing problems in, 20
- Automated external defibrillator use
  - in heart attack, 29
  - and phoning for help, 12
- Bandages in bleeding injuries, 38, 39, 72
- Bee stings, 59-60
- Behavior changes
  - in cold-related emergencies, 65
  - in diabetes and low blood sugar, 30, 31
  - in heat-related emergencies, 63
  - in seizures, 33
  - in shock, 34
  - in stroke, 32
- Biohazard waste disposal, 8, 10
  - gloves in, 8, 10, 71
  - needles and sharps in, 28, 71
- Bites and stings, 57-61
  - allergic reactions in, 26, 59, 60
  - poisonous, 58, 59, 60
  - rabies in, 58
  - snake, 58-59
  - tick, 61
- Bleeding
  - external (from sites you can see), 37-43, 72; in
    - amputation injuries, 47; bandages in, 38, 39, 72;
    - in bites and stings, 58; dressings in, 37, 38, 39, 41, 43, 72; from eye, 45; from mouth, 43, 44;
    - from nose, 42; in puncture wounds, 46; splinting in, 52; tourniquet use in, 40-41
  - internal (from sites you can't see), 47-48
  - shock in, 34, 48
- Blood sugar levels in diabetes, 30-31
- Bloodborne diseases
  - actions in potential exposure to, 9
  - rescuer protection from, 7-10
- Body fluid exposure, personal protective equipment in, 7-10
- Bone fractures, 50-52
  - of spine, 49
  - splinting in, 51-52, 72
- Breathing problems, 19-25
  - in allergic reactions, 27
  - in bites and stings, poisonous, 60
  - in bleeding injuries: from internal sites, 48; of mouth, 43; in nosebleeds, 42
  - checking victim for, 14, 71
  - choking in, 22-25
  - in cold-related emergencies, 65
  - in electrical injuries, 54
  - gasping in, 14
  - in heart attack, 19, 28, 29
  - inhaled medications in, 20-21
  - in unresponsive victim, 14
- Broken bones, 50-52
  - of back, 49
  - splinting in, 51-52, 72
- Burns, 52-55
  - in electrical injuries, 53, 54-55
- Calling for help. *See* Phoning for help
- Cardiopulmonary resuscitation
  - in allergic reactions, 28
  - in bites and stings, 60

- in bleeding, internal, 48
- in breathing problems, 22
- in choking, 25
- in cold-related injuries, 65
- in electrical injuries, 54
- Hands-Only (see Hands-Only CPR)
- in heart attack, 29
- in heat-related emergencies, 63
- initiation of, 14
- mask use in, 7; in poison emergencies, 68
- in poison emergencies, 68
- in seizures, 33
- in shock, 34
- in stroke, 32
- Centers for Disease Control and Prevention, 7
- Chain of Survival, 10-11
- Cheek, bleeding from, 43
- Chemical burns, 53
- Chest discomfort in heart attack, 28, 29
- Chest injuries, internal bleeding in, 47, 48
- Chest thrusts in choking, 24-25
- Choking, 22-25
  - in tooth injuries, 44
- Choking sign, 23
- Cold applications
  - in broken bones and sprains, 50, 51
  - in burns, 53
  - with ice (see Ice applications)
- Cold-related emergencies, 64-65
- Confidentiality issues in first aid, 15-16
- Cooling techniques
  - in burns, 53
  - in heat-related emergencies, 62, 63
- Covering of person
  - in burns, 54
  - in shock, 34, 35
- CPR. See Cardiopulmonary resuscitation
- Cramps, muscular
  - in heat-related emergencies, 61-62, 63
  - in spider and scorpion bites or stings, 60
- Cuts and scrapes, bleeding in, 39
- Dental injuries, 43, 44
- Diabetes
  - heart attack signs in, 29
  - low blood sugar in, 30-31; seizures in, 31, 33
- Diet
  - allergic reactions to foods in, 26
  - in diabetes and low blood sugar, 31
- Dispatchers in emergency response system
  - instructions provided by, 13
  - questions asked by, 5, 68
- Disposal of biohazard waste, 8, 10, 71
  - gloves in, 8, 10, 71
  - needles and sharps in, 28, 71
- Dizziness
  - and fainting, 30
  - in heat-related emergencies, 62, 63
  - in shock, 34
  - in stroke, 32
- Dressings
  - in amputation injuries, 46
  - in bleeding injuries, 37, 38, 39, 41, 72; of mouth, 43
  - in broken bones and sprains, 50, 52
  - in burns, 53, 55
- Drowning accidents, rescuer safety in, 6
- Drugs
  - antibiotic creams and ointments, 39
  - aspirin in heart attack, 29
  - epinephrine pen in allergic reactions, 26-27, 28, 59, 71-72
  - inhaled, in breathing problems, 20-21
  - insulin in diabetes, 30, 31
- Duty to provide first aid, 3-4
- Elderly
  - heart attack signs in, 29
  - spine and neck injuries in, 49
- Electrical injuries, 52, 53, 54-55
  - head injury in, 48
- Emergency response
  - duty to act in, 3-4
  - first aid kits in, 4, 16, 41
  - phoning for help in, 5, 10-13 (see also Phoning for help)
  - safety concerns in, 5-10 (see also Safety concerns)
- Environmental emergencies, 57-70
  - in bites and stings, 57-61
  - cold-related, 64-65
  - heat-related, 61-63
  - in poisonings, 66-69
  - review questions on, 69-70
- Epilepsy, 33
- Epinephrine pen in allergic reactions, 26-27, 28, 71-72
  - in bites and stings, 59
- Equipment and supplies
  - and disposal of hazardous waste, 8, 10, 28, 71
  - in first aid kit, 4, 16, 41
  - protective equipment in, 7-10 (see also Protective equipment, personal)
- Exhaustion, heat-related, 62-63
- Eye injuries, 45
  - in poison emergencies, 67
- Eye protection for rescuers, 7, 8, 9



- Fainting, 29-30
- Falls
  - bleeding in, internal, 47, 48
  - in fainting, 30
  - head injuries in, 48
  - in seizures, 33
  - spine and neck injuries in, 49
- Finding the problem, 13-15, 71
- Fires
  - burn injuries from, 53, 54
  - stop, drop, and roll instruction in, 54
- First aid
  - basic components of, 3-18
  - confidentiality issues in, 15-16
  - definition of, 3
  - finding the problem in, 13-15, 71
  - phoning for help in, 5, 10-13 (see *a/so* Phoning for help)
  - rescuer duties in, 3-4
  - safety concerns in, 5-10 (see *a/so* Safety concerns)
  - summary on, 71-72
- First aid kits, 4, 16
  - tourniquet material in, 41
- Fluid intake in heat-related emergencies, 62, 63
- Foods
  - allergic reactions to, 26
  - in diabetes and low blood sugar, 31
- Fractures, 50-52
  - of spine, 49
  - splinting in, 51-52, 72
- Frostbite, 64
- Gasping breaths, 14
- Gloves, 7, 8, 9
  - allergy to latex in, 9
  - disposal of, 8, 10, 71
  - removal of, 9-10, 71; hand washing after, 6, 8, 9, 10, 71
- Glucose blood levels in diabetes, 30-31, 33
- Hand washing, 6-7, 8
  - after glove removal, 6, 8, 9, 10, 71
  - with hand sanitizer, 7, 10
  - with soap and water, 6-7, 8, 9, 10
- Hands-Only CPR, 14
  - in allergic reactions, 28
  - in bites and stings, 60
  - in bleeding, internal, 48
  - in breathing problems, 22
  - in choking, 25
  - in cold-related emergencies, 65
  - in electrical injuries, 54
  - in heart attack, 29
  - in heat-related emergencies, 63
  - in seizures, 33
  - in shock, 34
  - in stroke, 32
- Hazardous waste disposal, 8, 10, 71
  - gloves in, 8, 10, 71
  - needles and sharps in, 28, 71
- Head injuries, 48-50
  - of eye, 45
  - of mouth and teeth, 43-44
  - of nose, 42
  - seizures in, 33, 49
- Headache
  - in bites and stings, poisonous, 60
  - in head injuries, 49
  - in heat-related emergencies, 62
  - in stroke, 32
- Heart attack, 28-29
  - breathing problems in, 19, 28, 29
  - shock in, 34
- Heat-related emergencies, 61-63
  - seizures in, 33, 63
- Heimlich maneuver, 23
- Human bites, 57-58
- Hypothermia, 65
  - from cooling techniques: in burns, 53; in heat-related emergencies, 63
- Ice applications
  - in amputation injuries, contraindication to, 47
  - in bites and stings, 58, 60
  - in broken bones and sprains, 50, 51
  - in burns, precautions in, 53
  - in heat cramps, 62
- Inhaled medications in breathing problems, 20-21
- Injury emergencies, 37-56
  - amputation, 46-47
  - bleeding, 37-43, 47-48; from mouth, 43; from nose, 42
  - broken bones and sprains, 50-52
  - burns, 52-55
  - electrical injuries, 52, 54-55
  - eye injuries, 45-46
  - head injuries, 48-50
  - neck and spine injuries, 48, 49-50
  - from penetrating and puncturing objects, 45-46
  - review questions on, 55-56
  - tooth injuries, 44
- Insect bites and stings, 59-61
  - allergic reactions in, 26, 59, 60
- Insulin in diabetes, 30, 31

Jewelry with medical information, 14, 15, 71

Joint sprains, 50-52

splinting in, 51-52, 72

Large person, choking of, 24-25

Latex allergy, 1, 9

Learning process in Heartsaver First Aid Course, 1

Legal responsibility to provide first aid, 3

Lip, bleeding from, 43

Lone rescuer phoning for help, 12

Low blood sugar in diabetes, 30-31

Low body temperature (hypothermia), 65

from cooling techniques: in burns, 53; in heat-related emergencies, 63

Mask use, 7

in poison emergencies, 68

Material Safety Data Sheets, 68

Medical emergencies, 19-36

in allergic reactions, 26-28

in breathing problems, 19-25

in choking, 22-25

in diabetes and low blood sugar, 30-31

in fainting, 29-30

in heart attack, 28-29

review questions on, 35-36

in seizures, 32-34

in shock, 34-35

in stroke, 32

Medical information jewelry, 14, 15, 71

Medications. *See* Drugs

Motor vehicle accidents

bleeding from internal injuries in, 48

head injuries in, 48

spine and neck injuries in, 49

Mouth

bleeding from, 43, 44

tooth injuries in, 43, 44

Moving of victim

in head, neck, and spine injuries, 49-50

in poison emergencies, 68

from unsafe scene, 5, 6

Muscle cramps

in heat-related emergencies, 61-62, 63

in spider and scorpion bites or stings, 60

Neck injuries, 48, 49-50

Needle and sharps disposal, 28, 71

911 calls. *See* Phoning for help

Nosebleeds, 42

Pain

in bites and stings, 58, 60

in bleeding from internal sites, 48

in broken bones and sprains, 50

in eye injuries, 45

in heart attack, 28, 29

in spine and neck injuries, 49

Penetrating injuries, 45-46

Personal protective equipment, 7-10. *See also* Protective equipment, personal

Phoning for help, 5, 10-13, 71, 73

in allergic reactions, 27

in amputation injuries, 47

in bites and stings, 58, 59, 60

in bleeding injuries, 38, 40, 48; of mouth, 43; of nose, 42

in breathing problems, 22

in broken bones and sprains, 50

in burns, 53

in Chain of Survival, 10-11

in choking, 22

in cold-related emergencies, 64, 65

in diabetes and low blood sugar, 31

dispatcher questions and instructions in, 5, 13, 68

in electrical injuries, 54

to emergency response number or 911, 11, 12

in eye injuries, 45

in fainting, 30

in head, neck, and spine injuries, 49

in heart attack, 29

in heat-related emergencies, 62, 63

by lone rescuer, 12

in poison emergencies, 68

in puncture wounds, 46

rescuer duties in, 4

and scene assessment, 5

in seizures, 33

in shock, 34

in stroke, 32

Poison control centers, 66, 68

Poison emergencies, 66-69

in bites and stings, 58, 59, 60

seizures in, 33

symbols for poisons in, 69

Positioning of victim

in head, neck, and spine injuries, 49-50

in seizures, 33

in shock, 34

Pregnancy, choking in, 24-25

Pressure application in bleeding injuries, 38, 39, 72

in amputation injuries, 47

bandaging in, 39

- of mouth, 43, 44
  - in nosebleeds, 42
  - and splinting, 52
- Privacy issues in first aid, 15-16
- Problem solving by rescuers, 13-15, 71
- Protective equipment, personal, 7-10
  - allergy to latex in, 1, 9
  - in amputation injuries, 47
  - in bleeding, 37, 38, 39, 40, 48, 72; from mouth, 43; from nose, 42
  - in broken bones and sprains, 50, 51
  - in burns, 53
  - disposal of, 8, 10, 71
  - in electrical injuries, 54
  - in eye injuries, 45
  - in poison emergencies, 66, 67, 68
  - in puncture wounds, 46
  - in spine and neck injuries, 49
  - in tooth injuries, 44
- Puncture wounds, 45-46
  - of eye, 45
- Rabies, 58
- Refusal of first aid, 4
- Renewal of course completion card, 1
- Reporting requirements, confidentiality and privacy issues in, 15-16
- Rescuers, 3-16
  - asking permission to give first aid, 4
  - deciding to provide first aid, 3-4
  - first aid kit of, 4, 16, 41
  - phoning for help, 10-13 (*see also* Phoning for help)
  - problem solving by, 13-15, 71
  - responsibilities and duties of, 3-4
  - safety of, 5-10 (*see also* Safety concerns)
- Responsibility to provide first aid, 3-4
- Responsiveness of victim
  - in airway obstruction, 14, 25
  - and asking permission to give first aid, 4
  - in bites and stings, poisonous, 60
  - in choking, 25
  - in fainting, 30
  - in head injuries, 49
  - and problem solving by rescuer, 14, 15, 71
  - in seizures, 33
- Review questions
  - on environmental emergencies, 69-70
  - on first aid basics, 17-18
  - on injury emergencies, 55-56
  - on medical emergencies, 35-36
- Rewarming of victim. *See* Warming of victim
- Safety concerns, 5-10, 13, 14
  - in allergic reactions, 27
  - in amputation injuries, 47
  - in bites and stings, 58, 59, 60, 61
  - in bleeding, 38, 39, 40, 72; in internal injuries, 48; from mouth, 43; from nose, 42
  - in breathing problems, 21
  - in broken bones and sprains, 50, 51, 52
  - in burns, 53
  - in electrical injuries, 54, 55
  - in eye injuries, 45
  - in fainting, 30
  - in head, neck, and spine injuries, 49
  - in heat-related emergencies, 62, 63
  - in poison emergencies, 66, 67, 68
  - in puncture wounds, 46
  - scene assessment in, 5-6, 13, 14, 71
  - in shock, 34
  - in stroke, 32
  - in tooth injuries, 44
- Scorpion bites or stings, 60
- Seizures, 32-34
  - in bites and stings, poisonous, 60
  - in diabetes and low blood sugar, 31, 33
  - in head injuries, 33, 49
  - in heat-related emergencies, 33, 63
- Self-splinting of arm, 52
- Sharps disposal, 28
- Shivering, 65
- Shock, 34-35
  - in allergic reactions, 27, 34
  - in bleeding, 34, 48
  - in burns, 54
  - covering of person in, 34, 35
- Snakebites, 58-59
- Spider bites, 59-60
- Spinal cord injuries, 49
- Spine injuries, 48, 49-50
- Splinting, 51-52, 72
  - self-splinting of arm, 52
- Sports injuries, internal bleeding in, 48
- Sprains, 50-52
  - splinting in, 51-52, 72
- Stings. *See* Bites and stings
- Stroke, 32
  - breathing problems in, 19
  - heat-related, 62, 63
- Tap and shout actions, responsiveness of victim to. *See* Responsiveness of victim
- Telephone calls for help. *See* Phoning for help



Temperature of body, low, 65  
from cooling techniques: in burns, 53; in heat-related emergencies, 63

Temperature-related emergencies, 61-65

Thrusts

abdominal, in choking, 23, 24  
chest, in choking, 24-25

Tick bites, 61

Tongue, bleeding from, 43

Tooth injuries, 43, 44

Tourniquet use in bleeding injuries, 40-41

Trauma, 37-56. *See also* Injury emergencies

Universal precautions, 7-9

Voltage in electrical injuries, 55

Vomiting

in bites and stings, poisonous, 60  
in diabetes, low blood sugar in, 31  
in head injuries, 49  
in heat-related emergencies, 62, 63  
in internal bleeding, 48  
in nosebleeds, 42  
in snakebites, 58

Warming of victim

covering of person for: in burns, 54; in shock, 34, 35  
in frostbite, 64  
in hypothermia, 65

Washing and rinsing with water

in amputation injuries, 46  
in bites and stings, 58, 60, 61  
in burns, 53, 55  
in cuts and scrapes, 39  
in eye injuries, 45, 67  
of hands, 6-7, 8, 9, 10 (*see also* Hand washing)  
in poison emergencies, 66, 67

Website resources, 73

on Hands-Only CPR, 14

Women, heart attack signs in, 29