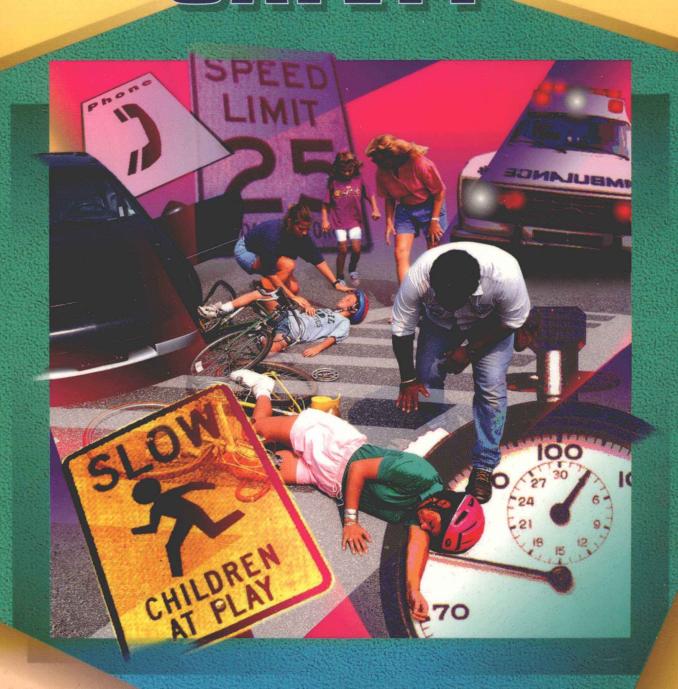
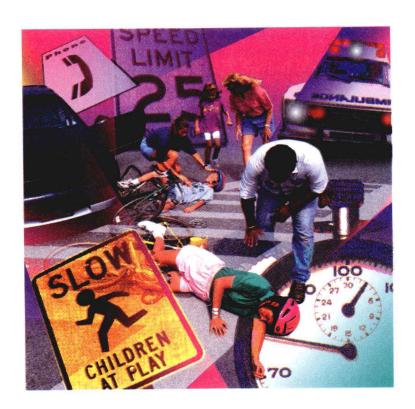


# COMMUNITY FIRSTAID & SAFETY

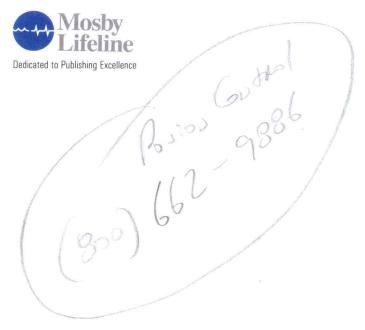




# COMMUNITY FIRSTAID & SAFETY







#### Copyright © 1993 by The American National Red Cross

A Mosby Lifeline imprint of Mosby-Year Book, Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher.

This participant's textbook is an integral part of American Red Cross training. By itself, it does not constitute complete and comprehensive training.

The emergency care procedures outlined in this book reflect the standard of knowledge and accepted emergency practices in the United States at the time this book was published. It is the reader's responsibility to stay informed of changes in the emergency care procedures.

Printed in the United States of America.

Mosby Lifeline Mosby-Year Book, Inc. 11830 Westline Industrial Drive St. Louis, MO 63146

#### Library of Congress Cataloging in Publication Data

Community first aid and safety / American Red Cross.

p. cm.

Includes index.

ISBN 0-8016-7064-0

1. First aid in illness and injury.

I. American Red Cross.

RC86.7.C644 1993

92-585

616.02'52-dc20

CIP



# FIRST AID & SAFETY

#### **Important certification information**

American Red Cross certificates may be issued upon successful completion of a training program that uses this textbook as an integral part of the course. By itself, the text material does not constitute comprehensive Red Cross training. In order to issue ARC certificates, your instructor must be authorized by the American Red Cross and must follow prescribed policies and procedures. Make certain that you have attended a course authorized by the Red Cross. Ask your instructor about receiving American Red Cross certification, or contact your local chapter for more information.

#### A C K N O W L E D G E M E N T S

This course and participant's manual were developed and produced through a joint effort of the American Red Cross and the Mosby–Year Book Publishing Company. Many individuals shared in the overall process in supportive, technical, and creative ways. This manual could not have been developed without the dedication of both paid and volunteer staff. Their commitment to excellence made this manual possible.

The Health and Safety Program Development staff at American Red Cross national headquarters responsible for the instructional design and writing of this course and manual included: Lawrence D. Newell, EdD, NREMT-P, Project Manager; Martha F. Beshers; Thomas J.S. Edwards, PhD; M. Elizabeth Buoy-Morrissey, MPH; Robert T. Ogle; and S. Elizabeth White, MAEd, ATC, Associates; Sandra D. Buesking, Lori M. Compton, Marian F.H. Kirk, and O. Paul Stearns, Analysts. Administrative support was provided by Denise Beale and Ella Holloway.

The following American Red Cross national headquarters Health and Safety volunteer and paid staff provided guidance and review: Robert F. Burnside, Director; Frank Carroll, Manager, Program Development; Richard M. Walter, Manager, Operations; and Stephen Silverman, EdD, National Volunteer Consultant for Program Development.

The Mosby Lifeline publishing team based in Hanover, Maryland, included: David Culverwell, Vice President and Publisher; Claire Merrick, Senior Editor; Richard Weimer, Executive Editor; and Dana Battaglia, Assistant Editor.

The Mosby-Year Book Editorial and Production Team based in St. Louis, Missouri, included: Virgil Mette, Executive Vice President; Carol Sullivan Wiseman, Project Manager; Diana Lyn Laulainen, Production Editor; Kay Kramer, Director of Art and Design; Jerry A. Wood, Director of Manufacturing; Patricia Stinecipher, Special Product Manager; and Kathy Grone, Manufacturing Supervisor.

Special thanks go to Rick Brady, Photographer and Kathy Barkey, Designer.

Guidance and review were also provided by the members of the American Red Cross CPR/First Aid Advisory Group including:

#### **Ray Cranston**

Chairperson Commanding Officer, Traffic Safety Unit Farmington Hills Police Department Farmington Hills, Michigan

#### **Larry Bair**

Director, Health and Safety and Tissue Services Central Iowa Chapter Des Moines, Iowa

#### John E. Hendrickson

Director, Safety and Health Mid-America Chapter Chicago, Illinois

#### **Andra Jones**

Director, Health and Safety Central Mississippi Chapter Jackson, Mississippi

#### Sherri Olson-Roberts

Director, Health and Safety Washtenaw County Chapter Ann Arbor, Michigan

#### James A. Otte

Chairman, Health and Safety Committee Glynn County Chapter Brunswick, Georgia

#### Teresita B. Ramirez

Centex County Chapter Lecturer, Department of Curriculum and Instruction The University of Texas at Austin Austin, Texas

#### W. Douglas Round

Captain, Greeley Fire Department Colorado Territory Greeley, Colorado

#### Natalie Lynne Smith, MS

Greater Hartford Chapter Farmington, Connecticut

#### Linda S. Wenger

Director, Health and Safety Lancaster County Chapter Lancaster, Pennsylvania

#### David J. Wurzer, PhD

Greater Long Beach Chapter Long Beach, California

External review was provided by the following organizations and individuals:

#### Gloria M. Blatti, RN, FNP, EdD

Adelphi University Long Island, New York

#### Nisha C. Chandra, MD

Division of Cardiology
Francis Scott Key Medical Center
Baltimore, Maryland

#### Loring S. Flint, MD

Vice President
Baystate Medical Center
Springfield, Massachusetts

#### Robert C. Luten, MD

Director, Pediatric EMS
University of Florida
Health Science Center—Jacksonville
Jacksonville, Florida

#### John A. Paraskos, MD

Associate Director of C.V. Medicine University of Massachusetts, Medical School Worcester, Massachusetts

#### James S. Seidel, MD, PhD

Associate Professor of UCLA Chief, Ambulatory Pediatrics Torrance, California

#### Jay Shaw

Associate Professor Eastern Montana College American Red Cross Midland Empire Chapter Board of Directors, Supervisory Committee Billings, Montana

#### Edward Stapleton, EMT-P

Department of Emergency Medicine Health Sciences Center State University of New York at Stony Brook Stony Brook, New York

#### ABOUT THIS COURSE

People need to know what to do in an emergency before medical help arrives. Since you may be faced with an emergency in your lifetime, it's important that you know how to recognize an emergency and how to respond. The intent of this course is to help people feel more confident of their ability to act appropriately in the event of an emergency.

After you complete this course, we believe you will be able to—

- Identify ways to prevent injury and/or illness.
- · Recognize when an emergency has occurred.
- · Follow three emergency action steps in any emergency.
- Provide basic care for injury and/or sudden illness until the victim can receive professional medical help.

To help you achieve this goal, you will read information in this manual, view a series of video segments, and participate in a number of learning activities designed to increase your knowledge and skills.

In addition, this course emphasizes the value of a safe and healthy life-style. It attempts to alert you to behavior and situations that contribute to your risk of injury and/or illness and to motivate you to take precautions and make any necessary life-style changes.

This manual contains all the material you learn in class in a form you can keep and refer to whenever you wish. Highlighted information and material condensed in lists make it easy for you to identify the critical points and to refresh your memory quickly. Photos, drawings, graphs, and tables also present information in an easy-to-find form. Skill sheets give step-by-step directions for performing the skills taught in the course. Questionnaires provide a way for you to evaluate certain risks in your life-style. Articles of varying lengths cover all the topics taught. Features contain information that enhances the information in the articles.

You may be taking this course not only because you feel a need to learn what to do if faced with an emergency but because of a job requirement specifying that you complete training and achieve a specific level of competency on both skill and written evaluations. In this case the American Red Cross provides a course completion certificate. You will be eligible to receive a certificate if you—

- Perform specific skills competently and demonstrate the ability to make appropriate decisions for care.
- · Pass a final written exam with a score of 80 percent or higher.

If you do not have a requirement to achieve a specific level of competency on both skill and written evaluations, you will not need a course completion certificate. You will also not need to take the final examination for a passing score.

# HEALTH PRECAUTIONS AND GUIDELINES DURING TRAINING

The American Red Cross has trained millions of people in first aid and CPR (cardiopulmonary resuscitation), using manikins as training aids. According to the Centers for Disease Control (CDC), there has never been a documented case of any disease caused by bacteria, a fungus, or a virus transmitted through the use of training aids, such as manikins used for CPR.

The American Red Cross follows widely accepted guidelines for cleaning and decontaminating training manikins. If these guidelines are adhered to, the risk of any kind of disease transmission during training is extremely low.

To help minimize the risk of disease transmission, you should follow some basic health precautions and guidelines while participating in training. You should take precautions if you have a condition that would increase your risk or other participants' risk of exposure to infections. Request a separate training manikin if you—

- Have an acute condition, such as a cold, a sore throat, or cuts or sores on your hands or around your mouth.
- Know you are seropositive (have had a positive blood test) for hepatitis B surface antigen (HBsAg), indicating that you are currently infected with the hepatitis B virus.\*
- Know you have a chronic infection indicated by long-term seropositivity (long-term positive blood tests) for hepatitis B surface antigen (HBsAg)\* or a positive blood test for anti-HIV (that is, a positive test for antibodies to HIV, the virus that causes many severe infections including AIDS).
- Have a type of condition that makes you unusually likely to get an infection.

\*A person with hepatitis B infection will test positive for the hepatitis B surface antigen (HBsAg). Most persons infected with hepatitis B will get better within a period of time. However, some hepatitis B infections will become chronic and linger for much longer. These persons will continue to test positive for HBsAg. Their decision to participate in CPR training should be guided by their physician.

After a person has had an acute hepatitis B infection, he or she will no longer test positive for the surface antigen but will test positive for the hepatitis B antibody (anti-HBs). Persons who have been vaccinated for hepatitis B will also test positive for the hepatitis B antibody. A positive test for the hepatitis B antibody (anti-HBs) should not be confused with a positive test for the hepatitis B surface antigen (HBsAg).

If you decide you should have your own manikin, ask your instructor if he or she can provide one for you to use. You will not be asked to explain why in your request. The manikin will not be used by anyone else until it has been cleaned according to the recommended end-of-class decontamination procedures. The number of manikins available for class use is limited. Therefore the more advance notice you give, the more likely it is that you can be provided a separate manikin.

In addition to taking the precautions regarding manikins, you can further protect yourself and other participants from infection by following these guidelines:

- Wash your hands thoroughly before participating in class activities.
- Do not eat, drink, use tobacco products, or chew gum during classes when manikins are used.
- Clean the manikin properly before use. For some manikins, this
  means vigorously wiping the manikin's face and the inside of its
  mouth with a clean gauze pad soaked with either a solution of liquid
  chlorine bleach and water (sodium hypochlorite and water) or rubbing
  alcohol. For other manikins, it means changing the rubber face. Your
  instructor will provide you with instructions for cleaning the type of
  manikin used in your class.
- Follow the guidelines provided by your instructor when practicing skills such as clearing a blocked airway with your finger.

Training in first aid and CPR requires physical activity. If you have a medical condition or disability that will prevent you from taking part in the practice sessions, please let your instructor know.

#### CONTENTS



- IF NOT YOU ... WHO?
  - **4 Recognizing Emergencies**
  - 5 Deciding to Act
  - 10 Be Prepared
  - 11 Preparing for Emergencies



3 Chain of Survival

13

### TAKING ACTION: Emergency Action Steps

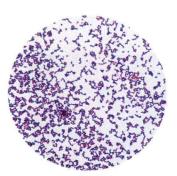
- 14 Check
- 18 Call
- 23 Care
- **26 First Aid Challenge**



#### **28** ci

#### **CHECKING THE VICTIM**

- 30 Checking an Unconscious Victim
- 31 Checking a Conscious Victim
- 35 Healthy Life-style IQ Quiz



First Aid and Disease Transmission



37

#### WHEN SECONDS COUNT: Adult Life-Threatening Emergencies

- **38 Breathing Emergencies**
- 41 If a Person Has Trouble Breathing
- 43 If a Person Is Choking
- 46 If a Person Is Not Breathing
- 51 If Air Does Not Go In



21 What Happens When You Call EMS





#### 56 THE HEART OF THE MATTER

- 58 Signals of Heart Problems
- 61 In Case of a Heart Attack
- **61** When the Heart Stops Beating
- 71 Preventing Heart Disease



62 A Matter of Choice



# WHEN SECONDS COUNT: Children and Life-Threatening Emergencies

- **80 Breathing Emergencies**
- 83 Recognizing Breathing Emergencies





90 If a Child Is Choking

93 If a Child Is Not Breathing

98 If Air Won't Go In

102 If a Child Does Not Have a Pulse



**79** Why Kids Always Get Hurt



106

# CARING FOR INFANTS WITH BREATHING EMERGENCIES

108 If an Infant Is Choking

111 If an Infant Is Not Breathing

115 If Air Won't Go In

119 If an Infant Does Not Have a Pulse



**84** Make Your Home Safe for Kids



**114** SIDS





#### **INJURIES**

124 Causes of Injury

125 Reducing Your Risk of Injury



#### 132 CUTS, SCRAPES, & BRUISES

138 Dressings and Bandages

141 Caring for Soft Tissue Injuries

146 Shock

149 Special Situations



**BURNS** 

157 Care for Burns

161 Special Kinds of Burns



**INJURY TO MUSCLES, BONES, 164 AND JOINTS** 

**184 Special Situations** 



**SUDDEN ILLNESS** 

192 Recognizing Sudden Illness

193 General Care for Sudden Illness

**194 Special Conditions** 

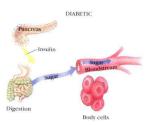


148 Shock: The Domino Effect



160 Within Striking Distance





196 Diabetes: A Silent Killer



#### POISONING

205 Bites and Stings 214 Preventing Poisoning



#### **BATTLING THE ELEMENTS**

218 Heat-Related Illness

221 Cold-Related Illness



202 Watch Your Step



#### 226 THE YOUNG AND THE ELDERLY

229 Kids Have Special Problems

232 Older Adults



207 Lyme Disease

#### SKILL SHEETS



- 32 **Check the Victim (Unconscious victim)**
- **Give Abdominal Thrusts (Conscious** 45 Adult)
- 48 **Give Rescue Breathing (Adult)**
- 54 **Give Abdominal Thrusts (Unconscious** Adult)
- 68 Give CPR (Adult)



224 The High-Tech War Against Cold

#### SKILL SHEETS



- 92 Give Abdominal Thrusts (Conscious Child)
- 96 Give Rescue Breathing (Child)
- 100 Give Abdominal Thrusts (Unconscious Child)
- 104 Give CPR (Child)
- 110 Give Back Blows and Chest Thrusts (Conscious Infant)
- 112 Give Rescue Breathing (Infant)
- 116 Give Back Blows and Chest Thrusts (Unconscious Infant)
- 120 Give CPR (Infant)
- **144** Control Bleeding
- 176 Apply an Anatomic Splint
- 178 Apply a Soft Splint
- 180 Apply a Sling
- 182 Apply a Rigid Splint



Why did you say you'd get to the party by seven o'clock? It's a good thing you stopped at the convenience

If not store now and

not later. Only a

couple of things

to buy.

Why are

all those people standing around over there? Oh no! It's the

person who works here. . . . You

leave the car and see the young

man lying on his back, looking

dazed, and holding his head.

Even though a crowd has

gathered, no one is helping

him. They are just looking at each

other. He needs help from some-

one. That someone could be you!

Lf placed in the above situation, would you step forward to help? "I hope I never have to," is what you are probably saying to yourself. However, given the number of injuries and sudden illnesses that occur in the United States each year, you might well have to deal with an emergency situation someday.

Who?

Consider the following:

 About 2 million people are hospitalized each year because of injuries, and injuries result in nearly 142,500 deaths each year.

· Infectious diseases used to cause the greatest concern about the health of children, but now, unintentional injuries cause most childhood deaths. Injuries also

cause millions of heart-stopping moments each year. In fact, injuries are the leading cause of death and disability in children and young adults.

• More than 70 million people in the United States have cardiovasdeaths that occur each year!

you haven't had any first aid training, you can still help in an emergency.

Calling your local emergency phone number is the most important thing you can do. The sooner medical help arrives, the better a person's chances of surviving a lifethreatening emergency. You play a

# Everyone Should Know What to Do in an Emergency ...

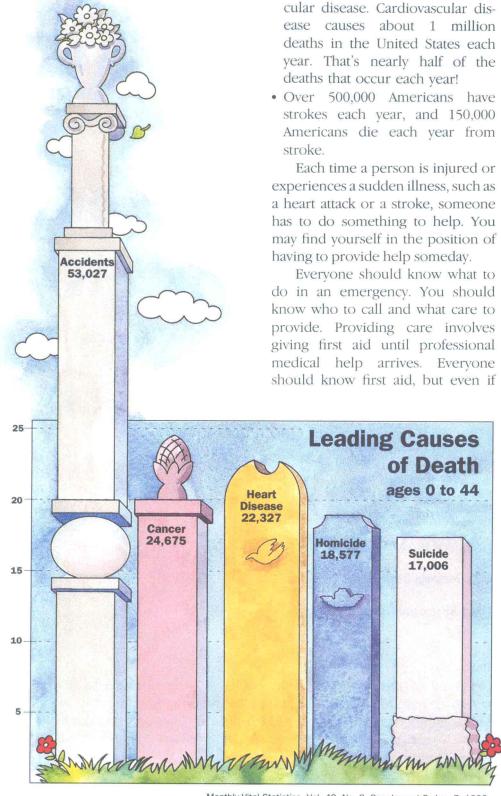
## Everyone Should Know First Aid.

major role in making the emergency medical services (EMS) system work effectively. The EMS system is a network of police, fire, and medical personnel, as well as other community resources.

Your role in the EMS system includes four basic steps:

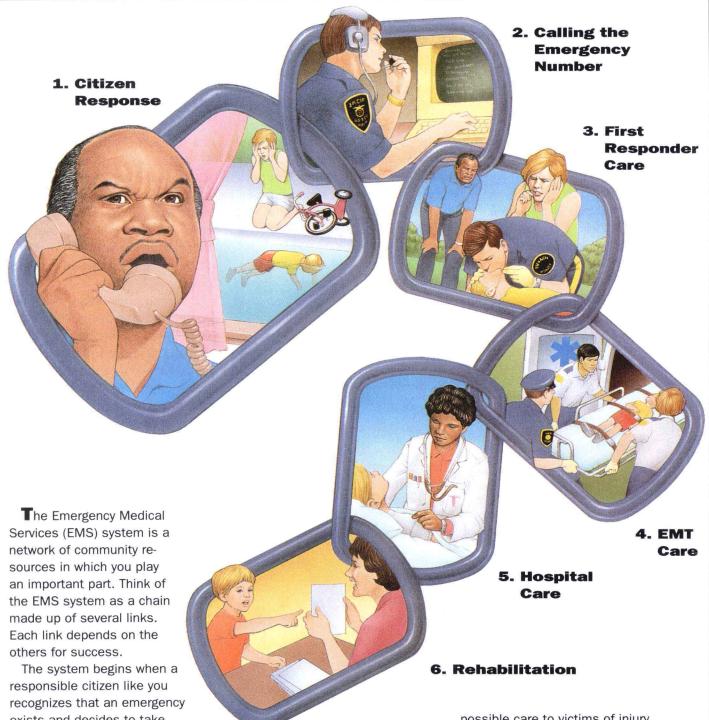
- 1. Recognize that an emergency exists.
- 2. Decide to act.
- 3. Call the local emergency telephone number for help.
- 4. Provide care until help arrives.

Of course, steps 3 and 4 won't happen if you don't take steps 1 and 2. By recognizing an emergency and taking action to help.



Monthly Vital Statistics. Vol. 40, No. 8, Supplement 2. Jan. 7, 1992.

#### **CHAIN OF SURVIVAL**



The system begins when a responsible citizen like you recognizes that an emergency exists and decides to take action. He or she calls the local emergency number for help. The EMS dispatcher answers the call and uses the information you give to determine what help is needed. A team of emergency personnel gives care at the scene and transports the victim to the

hospital where emergency department staff and a variety of other professionals take over.

Ideally, a victim will move through each link in the chain. All the links should work together to provide the best possible care to victims of injury or illness. Early arrival of emergency personnel increases the victim's chances of surviving a life-threatening emergency. Whether or not you know first aid, calling your emergency number is the most important action you can take.

3