



FIRST AID

Fourth Edition

THE AMERICAN NATIONAL RED CROSS

AMERICAN RED CROSS

FIRST AID TEXTBOOK

Prepared by The American National
Red Cross for the Instruction of
First Aid Classes

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WITH 269 ILLUSTRATIONS

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THE MISSION OF THE RED CROSS

The American Red Cross is the instrument chosen by the Congress to help carry out the obligations assumed by the United States under certain international treaties known as the Geneva or Red Cross Conventions. Specifically, its Congressional charter imposes on the American Red Cross the duties to act as the medium of voluntary relief and communication between the American people and their armed forces, and to carry on a system of national and international relief to prevent and mitigate suffering caused by disasters.

All the activities of the American Red Cross and its chapters support these duties.

Nationally and locally the American Red Cross is governed by volunteers, most of its duties are performed by volunteers and it is financed by voluntary contributions.

The First Aid program of the American National Red Cross, for which this book is a teaching text, stems from the Congressional charter provision that the organization shall devise and carry on measures for relieving and preventing suffering.

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ILLUSTRATIVE CHARTS ON ANATOMY AND
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PREFACE TO THE 4th EDITION 1957

Constant medical research brings with it changes that affect first aid advice given to the general public by the American Red Cross. Therefore, the need to revise the first aid textbook at regular intervals is readily apparent. Since accident prevention is an important part of first aid education, there is a need to review preventive measures recommended as well as remedial advice. This book has been prepared so that the reader can easily obtain the desired information, both preventive and remedial, for safer living.

The American Red Cross wishes again to express deep appreciation to the committees on Medicine and Surgery and to appropriate subcommittees of the Division of Medical Sciences, National Academy of Sciences, National Research Council, for reviewing the remedial advice contained in this book.

The basic manuscript was prepared by Carl J. Potthoff, M.D., M.P.H., University of Nebraska College of Medicine. Administrative, medical, and technical staffs of the Red Cross helped prepare this edition as they have previous editions since the inception of the program in 1909.

First aid instruction continues to exert positive influence, as a separate subject or as an integrated part of on-going safety programs in industries, schools and colleges, youth organizations, and city, state, and federal government. It is a "portable" safety program.

The Federal Civil Defense Administration urges the public to take first aid training as a basic step for personal survival.



The Federal Civil Defense Administration is cooperating with the American National Red Cross and other volunteer organizations throughout the country to extend first aid training to every household. First aid training is a valuable home and community resource at all times. Such training helps the individual to prevent accidents and to care for himself and his immediate family when accidents do occur. It is invaluable in any kind of disaster. The training equips you to know what to do and what not to do for the injured until medical help can be obtained.

In the event of nuclear attack on this country, survival may very well depend on what everyone does for himself, one's family or neighbor during the first critical hours following such an attack.

The advent of the thermonuclear age has not changed the responsibility imposed on the American National Red Cross by Congress granted charter. A major portion of ANRC responsibility is to train people in first aid and each Red Cross chapter has the volunteer organization to carry on such a volunteer training program.

I urge every family member to accept this basic civil defense responsibility, to support his vital requirement toward home security and be ready when needed in time of a national emergency.

ADMINISTRATOR
FEDERAL CIVIL DEFENSE ADMINISTRATION

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SECTION ONE

**STANDARD
FIRST AID
THEORY AND SKILLS**

CHAPTER I

THE WHY AND HOW OF FIRST AID

Definition of First Aid

First aid is defined as the immediate and temporary care given the victim of an accident or sudden illness until the services of a physician can be obtained.

First aid commences with the steadying effect upon the stricken person when he realizes that competent hands will help him. The victim suddenly has new problems and needs. Often he cannot think well temporarily. Events may seem unreal and remote. His mind may be dull. The emotional reaction associated with a serious accident subsides only gradually. Therefore first aid is more than a dressing or a splint. It relates to the victim's mind and spirit as well as to his physical injuries. Its contributions include the well selected word of encouragement, the expression of willing-

ness to help, and the uplifting effect of the first aider's evident capability. The thoughtful suggestions made to solve the immediate problems, the information given concerning nearby physicians and hospitals, the telephone call to summon medical help or an ambulance or to notify a relative—these too are first aid.

The good first aider deals with the whole situation, the person, and the injury. He knows what not to do as well as what to do. Thus he avoids the errors so commonly made through well-meant but misguided efforts. He confines his procedures to what is necessary, recalling that the handling of injured parts should be kept to a minimum.

The Value of First Aid Training

Value to self

Although many people study first aid in order to help others, the training primarily helps the student himself. It enables him to give proper immediate care to his own injuries. If he is too seriously injured to help himself, he may be able to direct others toward proper care. He need not entrust his injured body to the first aid knowledge of random passers-by.

First aid training also helps the student by developing his safety consciousness. Most people recognize the gravity of our accident problem. Their efforts toward safety, however, may be occasional and hit-or-miss rather than a part of a carefully organized plan developed by them for safe living. The first aid course sharpens the desire for safety, shows how accidents occur, and focuses attention upon



Fig. 1 Typical highway accident scene with "on the spot" first aid being given.

many specific ways to avoid accidents. A good way to guide anyone toward safety is to have him take a first aid course.

Value to others

Having studied first aid, one is more likely to assist family members wisely if they are stricken, to give them some instruction in first aid, and to promote among them a reasonable safety attitude. While the principal benefits are to the student and his family, they extend farther, usually, to co-workers, acquaintances, and strangers. There is always an obligation on a humanitarian basis to assist the stricken, the helpless.

Value in civil defense

First aid training is recognized as an important aspect of civil defense. In case of catastrophe, with medical and hospital service curtailed, citizens must rely largely upon themselves for a time, caring for their own injuries and for those of others. Possession of first aid knowledge is a civic responsibility.

Value in fostering safety consciousness

Disabling accidents, severe enough to cause loss of time from the usual duties for at least one day after the day of injury, occur annually in from one-fifth to one-fourth of our family units. After the first year of life, all through childhood and early adulthood, accidents are the commonest cause of death; thereafter they are *one* of the leading causes. The rate is about twice as high among males as females, with many wage-earners affected. The annual costs for medical and hospital service and direct property

damage alone total slightly less than one percent of national personal income. When all wage losses and insurance costs are added, the total is about three percent. Such costs, year after year, greatly affect welfare expenses, and rehabilitation needs. They reflect the fact that many daily serious accidents represent an enormous expense and a large number of personal tragedies.

How can first aid help us avoid accidents? Some reasons have already been given. When we spend some hours studying fractures, head injuries, and burns, we appreciate with more force what it means to suffer injury. Thereafter safety programs seem more important and we personalize their message better. Thus first aid training fosters forcefully the safety consciousness that we all need.

General Directions for First Aid

Most accidents are minor and the first aid needed is obvious to a trained person. In case of serious injury, the following sequence of action is usually applicable: give the urgently necessary first aid, have the victim lie down, check for injuries, plan what to do, and carry out the indicated procedures.

Give urgently necessary first aid

Act quickly for injuries where each second of delay is important: (a) severe bleeding, (b) stoppage of breathing where artificial respiration helps, and (c) poisoning. The proper first aid will be described later. While the first aider's time and attention are devoted to the patient, someone else should go or call for a physician.

Certain other injuries require prompt help—severe burns, for example—but the *immediate* danger to life is not so great. The urgent cases are seldom encountered; they can usually be recognized and the first aid requirements are relatively simple. With most serious accidents, the first aider commences with the next step.

Keep the victim lying down

Protect him from unnecessary manipulation and disturbance. Do not heat the patient but keep the body temperature from falling. Blankets beneath are usually more important than above, but there is hazard in placing them before you know where the injuries are.

Check for injuries

Your clues are the story of what happened, the victim's reactions after the accident, his own ideas about his injuries, and your findings upon examination. The direction and extent of examination should be guided by the kind of accident and the needs of the situation. *Have a reason for what you do.* If the urgent first aid has been given and the patient is properly protected pending early arrival of a physician, a detailed examination is unnecessary. If you must move the victim even a short distance before the physician comes, you should first learn what body parts are injured so that you can support them adequately during the transfer.

Suppose, however, you must carry through with first aid and perhaps transport the victim. Here you must check carefully for injuries. Sometimes the task is simple because it clearly involves a single exposed part, or because, by the

nature of the accident, there is no possibility of fractures, lacerations, and the like. An example is poisoning. In other cases you recognize that any body part may be injured and require attention. These cases are the accidents caused by force: for example, traffic accidents, falls, gunshot wounds, blows. With them, you should assure yourself, through consideration of the above-mentioned clues, about every body part—the head, neck, trunk, each extremity in turn. Remember always to consider head injury and back injury. With each part, think of surface injury, of fractures, and of internal organ injury. In addition, note the patient's general condition and state of consciousness.

Surface injuries are readily evident. Fractures and internal organ injuries present greater difficulties. Visual evidence may be lacking with the former and almost always is with the latter. Therefore your objective in checkup for them is simple: find what body parts are, or possibly may be, injured. Your first aid should aim to keep these parts immobile.

Checkup for injuries is far more accurate when the body part is exposed. Such exposure may be possible in the home. Utmost caution should be used when clothing is removed, lest added injury result. In public places, with strangers as victims, exposure of body parts that possibly may be injured is not generally advisable. In such case you must act in the light of such knowledge as you can obtain from the story of the accident, the victim's ideas and reactions, and whatever checkup you can make. When in doubt about a body part, keep it from twisting, bending, and shaking, and do not jackknife the patient. Do not pick him up by head and heels.

Plan what to do

Get a physician or ambulance or obtain medical advice by telephone. This should be one of the first moves. Discuss the problem with responsible relatives or friends of the victim who are at hand or briefly with the victim. If helpers are needed, instruct them carefully in their duties.

Carry out the indicated first aid

Knowing what to do presents few difficulties, once the nature and location of the injuries are learned. Do not attempt to save time and effort by using second-best methods of first aid for this person entrusted temporarily to you in his distress. First, stop profuse bleeding and determine whether artificial respiration is necessary. After that, one may take time for a more general examination.

Selected additional pointers

Find all the injuries. The checkup is often incomplete or sketchy after the first injury is found—especially if it is a major injury.

Give first aid to minor as well as major injuries. For example, a common error upon finding a fracture of a large bone and one of a small bone is to splint only the large bone.

Do not give fluids to an unconscious or partly conscious person, because they may enter the windpipe. *Do not attempt to rouse an unconscious person by shaking him, talking, or shouting.*

Following injury, do not lift a gasping person by the belt. This is done very often and may aggravate injuries of the back or internal organs. Gasping is not always caused by

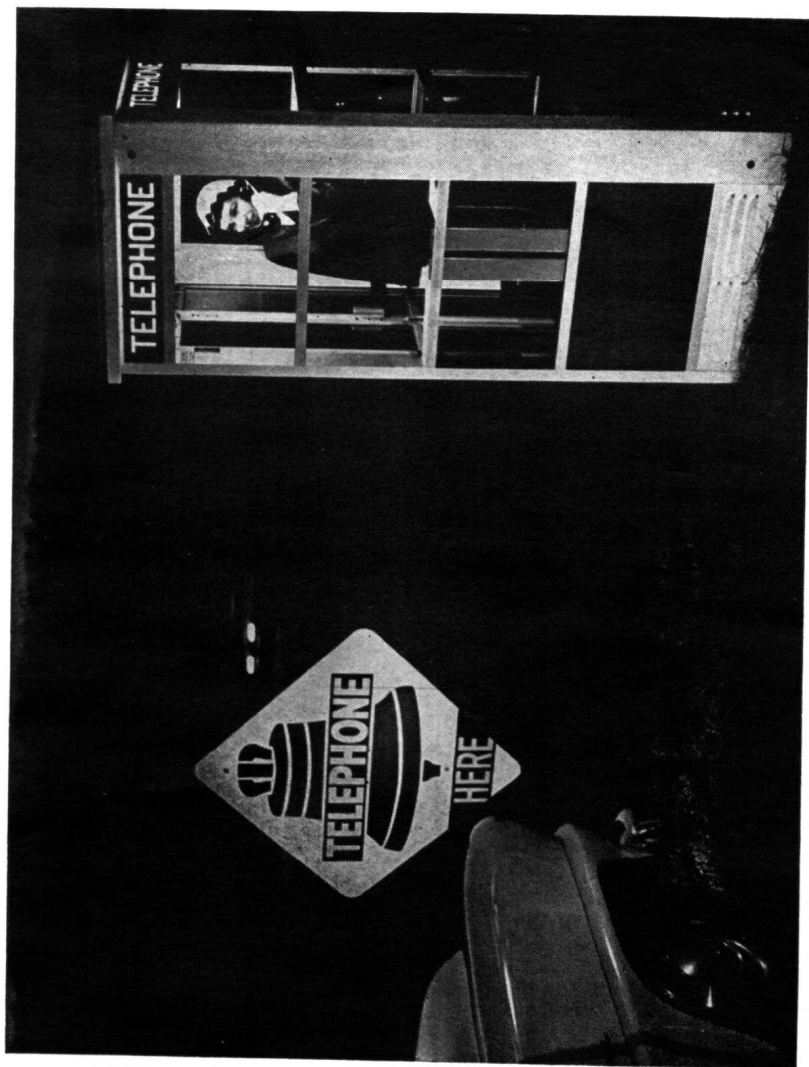


Fig. 2 Telephones are available along main highways to summon medical assistance.

insufficient oxygen but may be due to injury of back or chest.

With indoor accidents, use judgment about opening windows when weather is cold except when noxious gases are present and may have caused the accident. Indoors or out, the victim has enough air, and cold air may be too chilling.

Be reluctant to make statements to the victim and bystanders about the injuries. It is not the first aider's province to diagnose, evaluate, and predict. Upon questioning from the victim, you can answer that you would rather have the physician give information. Helpers must be given necessary information, however.

Obtain the victim's name and address. When calling for a physician or ambulance, be sure to give the exact location of the injured person, and such information as you have concerning the nature of the injuries. Be sure that the physician or ambulance driver knows where to go. Take advantage of the telephone call to obtain good advice concerning first aid. To avoid missing questions or advice, wait until the physician or driver hangs up.

Reassure the victim by telling him what first aid steps you are going to take and how they will help him.

If the victim is unconscious, loosen clothing about his neck. If there is no fracture turn the patient on his side, maintaining this position by flexing the leg or legs, and place a pillow under the head so that secretions may drool from the corner of the mouth. This will usually allow good respiration.