DOCUMENT RESUME

ED 076 531 SP 006 427

TITLE	Strand V: Education for Survival. First Aid and Survival Education. Health Curriculum Materials Grades 10-12.
INSTITUTION	New York State Education Dept., Albany. Bureau of Secondary Curriculum Development.
PUB DATE	70
NOTE	33p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*First Aid; *Health Education; High School Students; *Injuries; *Medical Treatment; Radiation Effects; Rescue; *Safety Education; Traffic Accidents

ABSTRACT

GRADES OR AGES: Grades 10-12. SUBJECT MATTER: First aid and survival education. ORGANIZATION AND PHYSICAL APPEARANCE: The guide is divided into six sections: transportation of the injured, automobile accidents, conditions resulting from nuclear explosion, chemical warfare, natural catastrophes, and psychological first aid. The publication format of four columns gives the outline of content, the major understandings and fundamental concepts, suggested teaching aids and learning activities, and supplementary information for teachers. The course objectives are presented in the introduction. The guide is soft covered. OBJECTIVES AND ACTIVITIES: Each subsection contains questions and topics for discussion. The supplementary information provides teachers with further discussion material. INSTRUCTIONAL MATERIALS: Lists of multimedia resources are presented for teachers and students. Information is also given on the procurement of teaching kits, mannequins, and injury simulations. STUDENT ASSESSMENT: No provision is made. OPTIONS: The guide is suggestive only. (BRB)

HEALTH CURRICULUM MATERIALS
Grades 10, 11, 12

STRAND V - EDUCATION FOR SURVIVAL
FIRST AID AND SURVIVAL EDUCATION

The University of the State of New York/The State Education Department
Bureau of Secondary Curriculum Development/Albany 12224
1970

THE UNIVERSITY OF THE STATE OF NEW YORK
Regents of the University (with years when terms expire)

1984	Joseph W. McGovern, A.B., LL.B., L.H.D., LL.D., D.C.L., Chancellor	New York
1985	Everett J. Penny, B.C.S., D.C.S., Vice Chancellor	White Plains
1978	Alexander J. Allan, Jr., LL.D., Litt.D.	Troy
1973	Charles W. Millard, Jr., A.B., LL.D., L.H.D.	Buffalo
1972	Carl H. Pforzheimer, Jr., A.B., M.B.A., D.C.S., H.H.D.	Purchase
1975	Edward M. M. Warburg, B.S., L.H.D.	New York
1977	Joseph T. King, LL.B.	Queens
1974	Joseph C. Indelicato, M.D.	Brooklyn
1976	Mrs. Helen B. Power, A.B., Litt.D., L.H.D.	Rochester
1979	Francis W. McGinley, B.S., LL.B., LL.D.	Glens Falls
1980	Max J. Rubin, LL.B., L.H.D.	New York
1971	Kenneth B. Clark, A.B., M.S., Ph.D., Litt.D.	Hastings on Hudson
1982	Stephen K. Bailey, A.B., B.A., M.A., Ph.D., LL.D.	Syracuse
1983	Harold E. Newcomb, B.A.	Owego
1981	Theodore M. Black, A.B.	Sands Point

President of the University and Commissioner of Education
Ewald B. Nyquist

Executive Deputy Commissioner of Education
Gordon M. Ambach

Deputy Commissioner of Education
Herbert F. Johnson

Associate Commissioner for Instructional Services
Philip B. Langworthy

Assistant Commissioner for Instructional Services (General Education)
Bernard F. Haake

Director, Curriculum Development Center
William E. Young

Chief, Bureau of Secondary Curriculum Development
Gordon E. Van Hooft

Director, Division of General Education
Ted T. Grenda

Chief, Bureau of School Health Education
John S. Sinacore

FOREWORD

This publication contains curriculum suggestions for teaching Strand V - Education For Survival, First Aid, for grades 10, 11, and 12.

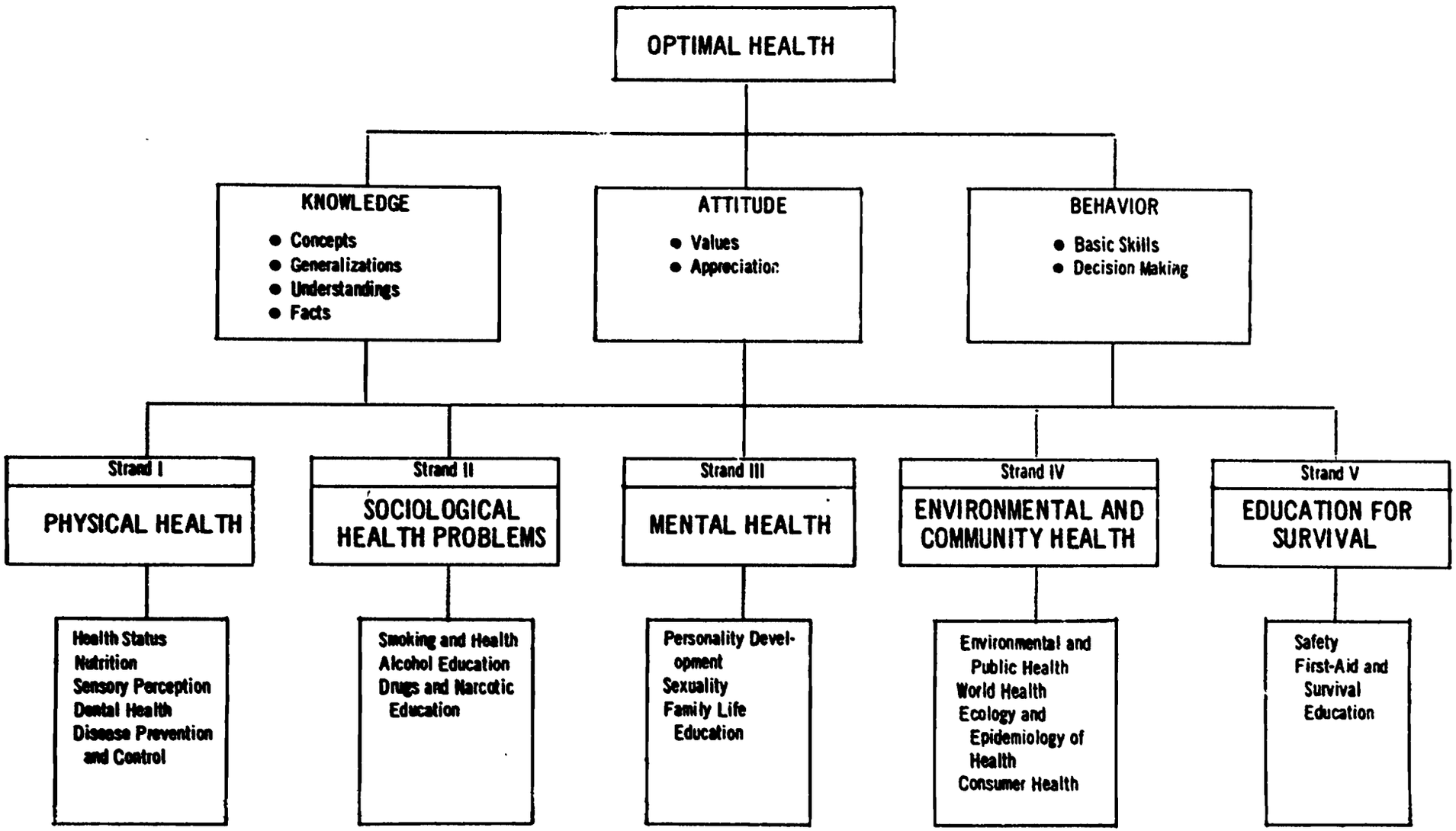
The publication format of four columns is intended to provide teachers with a basic content outline in the first column; a listing of the major understandings and fundamental concepts which children may achieve, in the second column; and information specifically designed for classroom teaching which should provide them with resource materials, teaching aids, and supplementary information, in the third and fourth columns. The comprehensive nature of the health program makes it imperative that teachers gain familiarity with all of the strands presently in print. In this way, important teaching-learning experiences may be developed by cross referring from one strand to another.

It is recommended that the health coordinator in each school system review these materials carefully and consult with teachers, administrators, and leaders of interested parent groups in order to determine the most appropriate manner in which to utilize this strand as an integral part of a locally adapted, broad and comprehensive program in health education.

The curriculum materials presented here are in tentative form and are subject to modification in content and sequence. Critiques of the format, content, and sequence are welcomed.

Gordon E. Van Hooft
Chief, Bureau of Secondary Curriculum Development

William E. Young
Director, Curriculum Development Center


OPTIMAL HEALTH
KNOWLEDGE
Concepts
Generalizations
Understandings
Facts
ATTITUDE
Values
Appreciation
BEHAVIOR
Basic Skills
Decision Making
Strand I
PHYSICAL HEALTH
Strand II
SOCIOLOGICAL HEALTH PROBLEMS
Strand III
MENTAL HEALTH
Strand IV
ENVIRONMENTAL AND COMMUNITY HEALTH
Strand V
EDUCATION FOR SURVIVAL
Health Status
Nutrition
Sensory Perception
Dental Health
Disease Prevention and Control
Smoking and Health
Alcohol Education
Drugs and Narcotic Education
Personality Development
Sexuality
Family Life Education
Environmental and Public Health
World Health
Ecology and Epidemiology of Health
Consumer Health
Safety
First-Aid and Survival Education

CONTENTS

FIRST AID

GRADES 10, 11, 12

Overview

Many factors in modern American life continue to contribute to increasing problems of injury and possible death. For example, increases in population and the number of cars on our highways are two obvious factors, among many others, which play a part in increasing the possibility of the mass type injuries.

This Strand, therefore, places emphasis on the need for each high school student to develop a sense of responsibility for his welfare and for the welfare of others. Attention is given to:

- Preventing accidents which may result in injury
- Recognizing, appraising, and making accurate decisions in emergency situations
- Preparing for natural and manmade catastrophes, such as hurricanes and war
- Transporting the injured
- Recognizing and treating multiple injuries, as well as simple injuries

Before teaching this Strand, the teacher should have completed at least one of the first-aid programs offered by many colleges, universities, the American Red Cross, or Civil Defense Department

Outcomes

Students in grades 10, 11, and 12 should:

- develop an awareness of the kinds of injuries which may occur during emergencies.
- become proficient in first aid procedures.
- learn how to prevent accidents, prepare for disasters, and provide first aid when necessary.
- develop a sense of responsibility for the welfare of others, as well as for themselves.
- learn how and when to move and transport the injured.
- understand the need for cooperation of individuals and agencies in the event of catastrophe.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	REFER TO STRAND V, FIRST AID, GRADES 4, 5, 6, FOR INTRODUCTION		
	REFER TO STRAND V, FIRST AID, GRADES 7, 8, 9 FOR DETAILED CONTENT AND PROCEDURES FOR BANDAGING AND FIRST AID FOR SPECIFIC KINDS OF INJURIES, e.g., WOUNDS, BURNS, ETC.		
I. Transportation of the Injured	An injured person should be moved only to: . remove him from immediate danger . make him more comfortable (to reduce pain) . make it possible to perform adequate first aid	Discuss first aid emergencies where it would be necessary to transport an injured person.	It would be necessary to transport a victim in the following situations: the injured person is in a location that is dangerous to his life such as on a heavily traveled highway, in a burning car or building, or in a building that may collapse; the victim is in a location where an explosion might occur; when the source of medical aid is far from the site of the accident.
A. General precautions	Improper methods of transportation frequently make the injury worse and may even cause death.	Discuss proper handling of the injured so that students understand the dangers involved in improper handling. Discuss: . Why is jackknifing the body so dangerous? . What kinds of injuries would be most severely aggravated by this kind of treatment? . Could jackknifing ever be used as a carry? Explain.	Improper transportation may result in increasing the severity of the injury, increasing shock, increasing pain, or prolonging the hospital and disability time. It may even cause death. When a person is being transported he should not be jackknifed (lifted by the head and heels only). An attempt should be made to give adequate support to

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			each extremity, the head and the back, keeping the entire body in a straight line and keeping it immobilized.
	In an emergency situation, one of the most important decisions to be made is whether or not the victim should be moved. All life-saving measures should be taken before an attempt is made to move an injured person.	Discuss the general factors that should be considered before transporting an injured person.	If it becomes necessary to move the injured: . bleeding should be stopped . breathing established . fractures splinted . the injured treated for shock. Further, the proper kind of transportation must be selected, and each person assisting the first aider should be given specific instructions.
B. Types of carries	The carry to be used will depend on: . the kind or extent of injury . the materials available . the ability of the first aider and additional help available.	Discuss the general method of moving and carrying the injured. . Which methods are most useful for moving only short distances? . Which methods are most useful for moving long distances?	Methods of transfer include: the walking assist, manual carriers, transfer by stretcher or cot, and transfer by vehicles. In carrying a victim one should guard against losing one's balance. By lifting gradually and using proper techniques, back injury to the carriers can also be avoided.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			SEE APPENDIX A FOR ADDITIONAL INFORMATION ON CARRIES.
			American National Red Cross *First Aid Textbook For Juniors*. 2nd Edition. Garden City, New York: Doubleday and Company, 1966. pp. 91-92.

Many of the lifts and carries mentioned on the previous page can be used for transporting the injured only short distances. Occasionally, it is necessary to transport the injured long distances. The following information involves transportation in such an event.

C. Vehicular carries

1. Cars and other motor vehicles	Except in an extreme emergency, it is best to wait until an ambulance is available. Cars, trucks, and buses frequently give very bumpy rides which may aggravate the victim's conditions. The size of the car may not accommodate the position in which the victim should be placed.	Discuss situations in which motor vehicles would be used to transport the injured. What are the limitations of a car? How can a car or station wagon be made into an emergency ambulance? List: . The precautions which should always be taken in transporting victims by these means. . Advantages of a station wagon over a truck or car.	A regular ambulance is the best means of transportation, since it has all the necessary equipment for handling injured persons. A station-wagon is an excellent substitute for an ambulance. A mattress placed on the floor of the back of a truck provides a better means of transportation than a car. A bus is frequently large enough to transport many victims in either a lying or sitting position.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			The drive should be at moderate speeds with gentle stops and starts, and with the observation of all safety rules. The person should not be rushed to the hospital. The factor of haste has been studied by a group of clinical investigators who found that in a series of some 2,500 consecutive ambulance runs, haste in transporting the injured was actually unnecessary in 98.2% of the cases.
2. Boats	Many boating accidents occur during the summer months.	Discuss situations in which boats would be used to transport the injured. Discuss some of the disadvantages of transporting an injured person in a boat. After completing the unit on transportation, skits might be developed of accidents where transportation would be needed. Example: While on a camping trip with three of your friends, one of them falls and breaks his leg. You are deep in the woods and about 3 miles from the nearest town. Describe	Boats frequently lack room which makes it impossible to place the injured victim in a lying position. The bouncing of the boat and the heat from the sun might aggravate the individual's condition. Students should be given a practical examination on the methods of transportation. They should be scored on the preparation of the victim for transportation as well as the transportation skills.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		the first aid that should be given and the methods of transportation that might be used to get your friend to a hospital.	
II. Automobile Accidents	Because of the tremendous impact forces involved in many auto accidents, there is usually more than one type of injury and these are frequently of a complex rather than simple nature.	Discuss the kinds of injuries that may result from automobile accidents. What is the first aider's responsibility to the accident victim, to others who may be indirectly involved, and to himself?	In a detailed study of 1,000 automobile accidents involving over 2,000 occupants, it was found that over 74 percent of the individuals sustained some degree of injury. In over 72 percent of these, injury to the head occurred to some degree. In almost 37 percent of the cases, the chest and spine were involved. In 29 percent of the cases the upper extremities sustained injury, and in 47 percent, the lower extremities. In over 15 percent of the cases, there were injuries to the abdomen, pelvis, and lumbar spine, and in about 7 percent the neck and cervical spine were involved. Multiple injuries were extremely common and consisted of head injuries combined with injury to another part of the body. Read: *Emergency Medical Guide*. John Henderson. 2nd ed. New York. Blakiston Division, McGraw-Hill Book Co. 1969, p. 233.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
A. First aid procedures in auto accidents	A cursory inspection of the victim may indicate superficial injuries while more serious types of injuries may go unnoticed.	Discuss the importance of evaluating the victim's injuries before removing him from the car.	In many cases, information about injuries sustained in a car accident can be obtained from the injured person. The type of first aid and medical help needed can be determined as a result of the evaluation. What first aid must be given before the victim is removed and the method of removing him from the car can also be determined as a result of the evaluation.
1. Evaluation of the injuries	Lifesaving measures may have to be taken before the victims are removed from the car.		
2. First aid principles	The most seriously injured person should be given first aid first. The most vital systems of the body must be given priority when giving first aid to automobile accident victims. Priority should be given to: 1. Bleeding 2. Breathing 3. Shock	Discuss the first aid procedures that should be followed if the victim has a stoppage of breathing or profuse bleeding. Why must serious bleeding be stopped even before giving resuscitation?	In car accidents where more than one victim is involved, the injured must be cared for according to the seriousness of their injuries. Victims should be checked to see if they are breathing. If artificial respiration is needed, the mouth-to-mouth method should be used. He[illegible]hage should be con-t[illegible]d by direct pressure ov[illegible]the bleeding area and con[illegible]n maintained by the app[illegible]ation of a pressure dressing.

See Strand V, First Aid, Grades 7, 8, 9 for specific procedures.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
a. Fractures	All fractures must be splinted before removing the victim from the car.	Discuss the first aid procedures that should be followed if the victim has one or more fractures. See Strand V, First Aid, Grades 4, 5, 6 for specific procedures.	Fractures of the neck and back must be carefully splinted before removing the victim since there is danger of severing the spinal cord resulting in paralysis or death. Splinting requires an advanced skill. It takes a lot of time to practice this but it is rare that a first-aider will splint, rarer that he would become involved with a neck or back case.
b. Burns	Burns should be covered with a clean dressing until the victim can be gotten to a hospital.	See Strand V, First Aid, Grades 7, 8, 9 for procedures for caring for burns.	If the body is extensively burned, it should be covered with a clean sheet. If burns are extensive, fluids should be administered immediately and carried on during the person's transportation to the hospital.
c. Whiplash	Whiplash is a common type of neck injury when a car is struck from behind by another car. Whiplash is often accompanied by: unconsciousness, pain in the neck and back, and/or a dazed or stunned feeling which may be accompanied with a frontal headache.	Why is this such a common injury? Why may it be extremely serious? What is being done to help prevent it? What is the first aid for whiplash?	The rear-end-collision type of accident may cause a forward and then backward whip-like movement of the neck which may be repeated several times within a few seconds, causing a straining and bruising of the ligaments and muscles. In many cases the lower spine is also injured from this type of accident. In 50 percent of

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Should the first aider attempt to distinguish from other neck or back injuries? Why?	cases a cerebral concussion also occurs as a result of the pressure on the forward part of the brain when the head and neck are suddenly whipped backward after the first acute forward thrust. The person's neck should be immobilized before he is extracted from the car. A cervical collar (if available) or some other improvised support should be provided.
d. Chest injuries	Chest injuries may occur from impact within the car or with the pavement.	What are the first aid procedures for a chest injury? What should the first aider do in case of a puncture in the chest wall?	Chest injuries result from severe impact forces which occur when an individual strikes an object within the car or is catapulted from a car onto a pavement. The chest may be caved in or a hole may be produced causing a sucking wound of the chest. Rupture of the esophagus may be present as well as rupture of the aorta. A sucking wound of the chest should be cared for immediately by placing sufficient dressing material firmly over the wound to stop air exchange through it.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
e. Lacerations	Deep lacerations of the face, head, and neck are common in auto accidents and often bleed profusely. These wounds should be covered with a heavy compression dressing and bandage.	What is the first aid for bleeding? What precautions should be taken?	See Strand materials for Grades 7, 8, 9 for bandaging procedures.
f. Kneecap injuries	Kneecap injuries are common in automobile accidents. Kneecap injuries usually result from striking the knee on the lower part of the dashboard. First aid involves immobilizing the leg.	Demonstrate how to immobilize the leg. What other first aid should be given? Why is it essential to immobilize the leg?	See American National Red Cross *First Aid Textbook* for splinting procedures.
3. Removing the injured from the car	Proper removal of the victim from the wreckage is of vital importance to the individual's welfare.	Discuss the methods which can be used to remove an injured person from a car. What precautions must be taken? What concerns should the first aider take for himself?	The basic principles of transporting the injured discussed previously are applicable to victims of motor vehicle accidents. In cases of spinal injury the victim should be transported on a rigid support.
III. Conditions Resulting from a Nuclear Explosion	A nuclear explosion may cause death and injury to all forms of life within the explosion radius.		
A. Intense light injuries	Many injuries will result from the light created by the explosion.	Discuss the damage to the eyes that can result from the light released by the explosion. See Strand I, Sensory Perception	The light created by the blast is so intense that blindness due to the destruction of the retina and the optic nerve may occur at considerable distances.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		How may damage to the eyes be prevented?	
		See Strand V, First Aid, Grades 7, 8, 9.	
B. Shock wave injuries	There are two types of blast injuries that are produced: . Direct blast injuries result from the positive pressure phase of the shock wave. . Indirect or secondary effects of the blast	Discuss the damage to the body that results from the blast of a nuclear explosion.	The direct blast acts on the body in such a way as to cause injury to the lungs, stomach, intestines, and eardrums, as well as producing internal hemorrhage.
		Is the first aid for these injuries different from when these injuries are caused by some other kind of catastrophe? Explain.	The indirect effects of the blast cause injuries from collapsing buildings, timber, glass, and other debris flung about by the blast wave. Injuries may vary from complete crushing of the body, severe fractures, and serious lacerations to minor scratches and bruises.
		Discuss the first aid for injuries resulting from the blast and shock wave.	The first aider would have to care for shock, fractures, crushing injuries, wounds, etc.
C. Burns	Burns may result from the heat, initial radiation, and radioactive fallout.	See Strand V, First Aid, Grades 7, 8, 9, for details of treating burns.	Thermal radiation produces almost immediate redness of the skin. Flame burns result from the ball of fire created by the fire storm and secondary fires resulting from burning buildings

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			and exploding substances. Burns of this type may be of the first, second, or third degrees.
1. Thermal	Flash burns result from the brief, highly intense thermal radiation given off by the initial explosion.	Discuss the first aid for injuries that result from the heat and initial radiation of a nuclear explosion.	First aid for burns involves relieving pain, preventing and treating shock, dressing the burns, preventing infection, and maintaining body fluids.
2. Radiation	Radiation injury is caused by the damaging effects on the body tissues of penetrating radiation.	Discuss the damage to the body that results from radiation and fallout.	Examples of radiation include alpha, beta, and gamma rays, neutrons, and x-rays. Damage may also result from the radioactive materials that are formed as products of the nuclear explosion. The initial radiation caused by the blast can produce radiation burns. Exposure to high concentrations of radiation destroys living tissues, especially the bone marrow which forms blood.
	The effects of radiation on the body depend on: . The amount of radiation absorbed . The rate of absorption . The time interval over which the radiation is applied		
	Hospitalization for radiation illness is usually essential.	Discuss the symptoms of radiation sickness.	
	First aid treatment for radiation effects consists mainly of rest.	Discuss the first aid for radiation sickness.	Radiation sickness is a term used to describe the effects of exposure to radiation. Symptoms of mild radiation sickness include nausea, lack

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Factors which affect radiation intensity are: . Shielding which absorbs the radiation . Distance which reduces the intensity . Time - some sources of radiation decay rapidly with time	Discuss the factors that help in the prevention of radiation sickness.	of appetite, and fatigue. Recovery is frequently rapid. Severe radiation sickness involves nausea, vomiting, prostration, sore mouth and bleeding gums, diarrhea, hair falling out, rapid emaciation develops, and death occurs. The further away a person is from fallout the less he will be affected by it. Fallout is most dangerous in the 24 hours immediately following the blast.
IV. Chemical Warfare	Chemical warfare is conducted with weapons that produce poison gas, fire, smoke, etc.	Discuss with students how chemical warfare could be waged	Biological Warfare - Refer to Strand I, Disease Prevention and Control Grades 10-12. During wartime, chemicals could be released in water supplies, sprayed into the air, or released in exploding bombs.
A. Kinds of chemicals used	Gases are the primary chemicals used in warfare. They include: . tear gas . gases which affect the gastro-intestinal tract . gases which may cause blistering of the skin	Discuss the kinds of chemicals used in warfare. What is the major danger involved in chemical warfare?	Gases are used because of their toxic, irritating, blinding, or blistering properties. They are classified on the basis of physiological properties into the following groups: tear gases (lacrimators),

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	. choking gases . nerve gases . systemic poisons	How can each person protect himself from chemicals in the event of war?	vomiting gases (sternutators), blistering gases (vesicants), choking gases (lung irritants), nerve gases and blood gases (systemic poisons).
B. First aid procedures	First aid for most gases involves getting the victim to fresh air. If breathing has stopped, resuscitation should be given immediately. For blistering gases, the affected areas should be washed with soap and water.	Study news clippings and reports of how tear gas and mace are used in this country for squelching riots, etc. See New York State Health Department pamphlet on "Rescue Breathing." Discuss first aid for burns.	Tear gas produces a burning and stinging of the eyes with an excessive flow of tears. These gases are frequently used in riots. They are not lethal. Sternutators are solids that are burned as smoke and produce severe irritation of the upper respiratory tract causing coughing, sneezing, nausea, vomiting, and a general feeling of malaise. Blistering gases cause severe blistering, burning, and actual destruction of the skin. They act on the eyes and skin, damage the respiratory tract when inhaled, and cause vomiting and diarrhea when absorbed. Choking gases were among the first used in chemical warfare.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Nerve gases are the most toxic, insidious, and terrorizing chemical agents known at the present time. They are quick killers. Systemic poisons or blood gases produce their effects by interfering with vital oxidative processes of the body.
V. Natural Catastrophes	People will show varying degrees of personality disorganization in the event of a mass disaster.		
A. Earthquakes	Injuries frequently occur after the earthquake from the hazards left by the quake.	Discuss the kinds of injuries that may result from earthquakes. See Strand V, First Aid, Grades 7, 8, 9 for first aid procedures for specific kinds of injuries.	In earthquakes, most injuries occur as people are entering or leaving buildings. Injuries result from falling walls, fallen electric wires, and fires. Injuries would include electric shock, burns, fractures, crushing injuries, shock, and wounds.
B. Storms			
1. Hurricanes	Many kinds of injuries would result from rising waters, fallen electrical wires, and flying debris. Injuries would involve wounds, fractures, electrical burns, drownings, shock, and crushing injuries.	Discuss the kinds of injuries that would result from floods and hurricanes and the first aid that would be administered.	P. E. Lehr, R. W. Burnett and H. S. Zim, *Weather. A Guide to Phenomena and Forecasts*. N.Y. Simon and Schuster, Inc. c 1957.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Tornadoes	Injuries occurring from tornadoes would include almost every type.	Discuss the kinds of injuries that result from tornadoes and the first aid that would be administered.	Department of Defense, Office of Civil Defense. *In Time of Emergency: A Citizen's Handbook on Nuclear Attack and Natural Disasters.* Publication NO. H-14. U.S. Government Printing Office. Washington, D.C. March 1968.
3. Winter storms	Extreme winds and cold produce cases of frostbite, frozen limbs, and death.	Discuss the first aid emergencies that result from winter storms.	See Strand V, First Aid, Grades 7, 8, 9 for first aid procedures for frostbite.
VI. Psychological First Aid	A person who is emotionally upset may present a danger to himself as well as to those around him. A few sincere, well-spoken words of assurance can do much to help calm a person who is emotionally upset.	Discuss the signs which might be present and indicate that the person is upset emotionally.	The victim may be in a panic state or a depressed state; be confused, or stuporous; show memory loss; be indifferent to events around him; or have hallucinations or delusions. Handle the victim with respect and patience. Try to calm, comfort, and reassure him. Only when his actions may further injure himself or others, or when a life is at stake, might one be justified in physically restraining the victim. An extremely emotionally upset individual should be placed in the hands of a physician, ambulance crew, or law enforcement officer.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS

At this time the teacher may wish to consider a unit on "How To Deliver a Baby in an Emergency."

Recommended resources are:

- New York State Department of Health and the Civil Defense Commission. *Assisting at the Birth of a Baby After Enemy Attack If No Doctor Is Available.* N.Y. The Department. 1966.

- "Survival Begins at Home: Part 13 Emergency Childbirth." *Todays' Health.* Vol. XLI No. 1 January 1963. pp. 6-7, 83-88.

- John Henderson. *Emergency Medical Guide.* 2nd ed. New York. Blakiston Division. McGraw Hill Book Co. 1969.

- R. Lee Clark and Russell W. Curley (eds) *The Book of Health.* 2nd ed. Princeton, New Jersey. D. Van Nostrand Co. 1962.

- Elise Fitzpatrick and Nicholson J. Eastman. *Obstetrics for Nurses.* 10th ed. Philadelphia, Penn. J. B. Lippincott. 1960.

APPENDIX A

CARRIES

Although in most instances it is best not to move an accident victim, there may be some circumstances in which he must be transported. If this is necessary extreme care must be used so as not to aggravate his injuries. It would be advisable for the first aider to know a few of the many types of carries, from one-man drag, carry, or assist to eight-man lifts.

Good descriptions can be found in the American Red Cross First Aid Manual and in Warren Cole and Charles Puestow's *First Aid: Diagnosis and Management*, 1965.

Some techniques to practice include fireman's drag, walking assist, back carry, two-man arms carry, chair litter, hammock carry, and the traction blanket lift.

The first aider should also know how to use a stretcher. These may usually be obtained from the nurse-teacher's office. The steps that lead to proper use include planning and rehearsing; having a leader; and lifting, walking, and setting down in unison.

MULTIMEDIA RESOURCES

STRAND V

EDUCATION FOR SURVIVAL

FIRST AID

Grades 10, 11, 12

These supplementary aids have not been evaluated. The list is appended for teacher convenience only and teachers in the field are requested to critically evaluate the materials and to forward their comments to the Curriculum Development Center.

TEACHER REFERENCES

Books

American College of Surgeons, Committee on Trauma. ed. by R. H. Kennedy. *Emergency care of the sick and injured.* Philadelphia. W. B. Saunders Co. 1966.

American Medical Association. *First aid manual.* rev. ed. Chicago. The Association. 1967.

____ ed. by W. W. Bauer. *Today's health guide.* Chicago. The Association. 1965.

American National Red Cross. *First aid textbook.* 4th ed. rev. New York. Doubleday & Co., Inc. 1957.

____ *First aid textbook for juniors.* 2d ed. rev. New York. Doubleday & Co., Inc. 1966.

____ *Standard and advanced courses first aid instructor's manual.* ARC 1090. Washington, D.C. American National Red Cross. January 1966.

American Psychiatric Association. *Psychological first aid in community disasters.* Committee on Civil Defense. Washington, D.C. The Association. 1961.

Belilios, A.D., & others. *Handbook of first aid and bandaging.* 5th ed. Baltimore. Williams & Wilkins Co., Inc. 1963.

Board of Education of the City of New York. *Health teaching in secondary schools.* Curriculum Bulletin 1960-61 Series, No. 6. New York. The Board. 1961. pp. 81-85.

Bolton, W.W. *What to do until the doctor comes.* Chicago. Reilley & Lee Co. 1960.

Brennan, W.T. & Ludwig, D.T. *Guide to problems and practices in first aid and civil defense.* Dubuque, Iowa. W.C. Brown & Co. 1962.

Byrd, O.E., & others. *Health today and tomorrow.* Teacher's ed. Summit, New Jersey. Laidlaw Brothers Publishers. c 1966. pp. 357-383.

Clark, R.L. & Cumley, R.W. eds. *The book of health.* 2d ed. Princeton, New Jersey. D. Van Nostrand Co. c 1962.

Cole, W.H. & Puestow, C.B. *First aid: diagnosis and management.* 6th ed. New York. Appleton-Century Crofts Co., Inc. c 1965.

Cramer Chemical Company. *First aid digest.* Charlotte, North Carolina. Gardner Publishers. 1967.

Encyclopedia Brittannica. Chicago. William Benton Publishers. c 1957. 24 vols.

Equitable Life Assurance Society of the United States. *Home health emergencies.* New York. The Society. c 1956.

Fishbein, M. & Irwin, L.W. *First aid training.* Chicago. Lyons and Carnahan Co., Inc. 1961.

Fisher, Robert. *How to know and predict the weather.* A Mentor Book. New York. The New American Library of World Literature, Inc. c 1951.

Fowler, J.M. ed. *Fallout: a study of superbombs, strontium 90, and survival.* New York. Basic Books Inc. 1960.

Frobisher, Martin Jr. *Fundamentals of bacteriology.* 7th ed. Philadelphia. W.B. Saunders Co. 1962.

Gamow, George. *Biography of the earth, its past, present, and future.* A Pelican Mentor Book. New York. The New American Library of World Literature. c 1948.

Gorham, A.P. *First aid to the injured and sick.* London, England. John Wright & Sons, Ltd. 1952.

Henderson, John. *Emergency medical guide.* 2d ed. New York. Blakiston Division. McGraw-Hill Book Co. c 1969.

Igel, B.H. *First aid.* A Programmed Text Teacher's Manual. New York. Instructional Materials Laboratories., Inc. c 1965.

Irving, Robert. *Hurricanes and twisters.* New York. Alfred A. Knopf, Inc. 1960.

John Hancock Life Insurance Company. *When the unexpected happens.* Boston, Mass. The Company. 1964.

Knox, W.A., & Gueritz, J. *The penguin handbook of first aid.* Baltimore. Penguin Books. 1961.

Kreider, H.R. *There is a doctor in the house.* New York. Sheridan House. 1953.

Lehr, P.E., Rurnett, R.W., & Zim, H.S. *Weather. A guide to phenomena and forecasts.* New York. Simon & Schuster, Inc. c 1957.

Metropolitan Life Insurance Company. *First aid.* New York. The Company. 1960.

Miller, L.M. *Handbook of first aid.* Pleasantville, New York. Reader's Digest. 1960.

Nassau Tuberculosis and Health Association. *Curriculum guide for health and safety kindergarten through grade twelve.* Part I: The Beginning Years, K-6, pp. 1-4; Part II: The Middle Years, 7-9, pp. 9-10; and Part III: The Senior Years, 10-12, pp. 14-15. Roslyn, New York. The Association. 1966.

National Commission on Safety Education, National Education Association. *Schools and civil defense.* Washington, D.C. Department of Defense. n.d.

National Safety Council. *Accident facts.* Chicago. The Council. 1968.

A new issue comes out every year.

Newton, Douglas ed. *Disaster, disaster, disaster.* New York. Franklin Watts, Inc. 1960.

New York State Department of Health and the Civil Defense Commission. *Guide for medical aids in aid stations.* rev. ed. New York. The Department. c 1964.

____ *Guide for self-help and neighbor help for the injured.* rev. ed. New York. The Department. 1963.

____ *Instructor's handbook for self-help and neighbor help for the injured.* rev. ed. New York. The Department. 1963.

____ *Instructor's plan book for psychological first aid.* New York. The Department. 1958.

____ *Radiation and you.* New York. The Department. 1962.

North Carolina State Department of Public Instruction. *Health education.* Publication No. 287. Raleigh, North Carolina. The Department. 1953. pp. 319-332.

Patricius, Brother & Carmel, Sister Mary. *Review text in health*. New York. Amsco School Publications, Inc. c 1962.

Saenger, E.L. ed. *Medical aspects of radiation accidents*. Washington, D.C. United States Atomic Energy Commission. 1963.

Sharpe, J.C. & Marx, F.W. eds. *Management of medical emergencies*. 2d ed. New York. McGraw-Hill Book Co. 1969.

Stephenson, H.E. *Emergency care and first aid*. Boston, Mass. Little Brown & Co. 1964.

Taber, C.W. *Taber's cyclopedic medical dictionary*. 10th ed. rev. Philadelphia. F.A. Davis Co. c 1965.

United States Department of Defense, Office of Civil Defense. *In time of emergency: a citizen's handbook on nuclear attack and natural disasters*. Publication H-14. Washington, D.C. United States Government Printing Office. March, 1968.

____ Glasstone, S. ed. *The effects of nuclear weapons*. rev. ed. Washington, D.C. United States Government Printing Office. April, 1962.

____ and the United States Department of Health, Education and Welfare. *Family guide, emergency health care*. Washington, D.C. United States Government Printing Office. 1965.

United States Department of Health, Education and Welfare, Children's Bureau. *Accidents and children*. Washington, D.C. United States Government Printing Office. 1968.

Wells, Helen. *Cherry Ames' book of first aid and home nursing*. New York. Grosset and Dunlap. 1959.

Periodicals

Artz, C.P. & Yarbrough, D.R. *Bulletin of the New York Academy of Medicine*. "Present Status of the Treatment of Burns." Vol. 43 No. 8. August, 1967. pp. 627-635.

Becker, Barbara. *Journal of Health, Physical Education and Recreation*. "Radiation and Health." Vol. XXXIII No. 2. February, 1962. pp. 20-22.

Daly, E.L. *Today's health*. "Can Your Child Handle an Emergency?" Vol. XXXIX No. 1. January, 1961. pp. 54-55, 79-81.

School safety. "First Aid Tips for Teachers." Vol. 1. January, 1966. pp. 21-23.

Gillespie, D.K. *Journal of school health.* "Psychological First Aid." Vol. XXVIII No. 10. November, 1963. pp. 391-395.

Gold, S.Y. & **Gold**, G.F. *Journal of health, physical education and recreation.* "First Aid and Legal Liability." Vol. XXXIV No. 1. January, 1963. pp. 42-43.

Higdon, Hal. *Today's health.* "How To Survive a Disaster." Vol. XL No. 5. May, 1962. pp. 42-43, 75-79.

Hoare, D.J. & **Llewelyn**, D.J. *Times education supplement.* "Schoolboys to the Rescue: Health Education and First Aid." September 18, 1964. pg. 394.

Jordan, G.C. *Today's health.* "Disaster Street." Vol. XL No. 2. February, 1962. pp. 28-31, 74-75.

Kacharian, J.C. *Today's health.* "When Lightning Strikes." Vol. XLII No. 7. July, 1964. pp. 14-17, 72.

Kilander, H.F. *Journal of health, physical education and recreation.* "How Our Schools Teach Home Nursing and First Aid." Vol. XXIII No. 3. March, 1952. pp. 30, 52.

Maxwell, G.E. *Today's health.* "New Help for the Burn-Injured Child." Vol. XLIII No. 7. July, 1965. pp. 43-45, 70, 73-76.

Journal of Health, Physical Education and Recreation. "Medical Self-Help in the Curriculum." Vol. XXXVI No. 8. October, 1965. pg. 71.

Murray, R. *New England Journal of Medicine.* "Electric Shock." Vol. 268 No. 20. May 16, 1963. pp. 1127-1128.

Orphan, Dennis. *Today's health.* "The Three Deadly Faces of Modern Warfare." Vol. XXXIX No. 3. March, 1961. pp. 21-23, 74-78.

Poole, R.D. & **Ludwig**, Donald. *Journal of school health.* "First Aid Instruction in Colleges and Universities." Vol. XXX No. 6. June, 1960. pg. 237.

Potthoff, C.J. *Today's health.* "Suddenly...You're Involved." Vol. XLII No. 6. June, 1964. pp. 26-29, 65-66.

Reed, Jim. *Today's health.* "Tornado: Nature on a Rampage." Vol. XLI No. 5. May, 1963. pp. 26-29, 80-83.

Starzl, T.E. *Consultant.* "Treatment of Frostbite Today." January, 1967. pp. 44-47.

Stromgren, George. *Journal of health, physical education and recreation.* "Colorful First Aid Teaching." Vol. XXXVI No. 4. April, 1965. pp. 31, 74.

Today's health. "Survival Begins at Home: Part I: Radioactive Fallout and Shelter." Vol. XV No. 1. January, 1962. pp. 32-36, 74-76, 81-82.

Today's health. "Survival Begins at Home: Part 2: Hygiene, Sanitation and Vermin Control." Vol. XV No. 2. February, 1962. pp. 10-13, 61-64.

Today's health. "Survival Begins at Home: Part 3: Water and Food." Vol. XV No. 3. March, 1962. pp. 14-16, 76-80.

Today's health. "Survival Begins at Home: Part 4: Artificial Respiration." Vol. XV No. 4. April, 1962. pp. 6-7, 84-87.

Today's health. "Survival Begins at Home: Part 5: Shock." Vol. XV No. 5. May, 1962. pp. 24, 27, 79-80.

Today's health. "Survival Begins at Home: Part 8: Transportation of the Injured." Vol. XV No. 8. August, 1962. pp. 6-7, 48-49.

Today's health. "Survival Begins at Home: Part 9: Burns." Vol. XV No. 9. September, 1962. pp. 6-7, [illegible] 59.

Today's health. "Survival Begins at Home: Part 12: Infant and Child Care." Vol. XV No. 12. December, 1962. pp. 48-49, 62-68.

Today's health. "Survival Begins at Home: Part 13: Emergency Childbirth." Vol. XVI No. 1. January, 1963. pp. 6-7, 83-88.

STUDENT REFERENCES

American Medical Association. *First aid manual.* rev. ed. Chicago. The Association. 1967.

American National Red Cross. *First aid textbook.* 4th ed. rev. New York. Doubleday & Co., Inc. 1957.

____ *First aid textbook for juniors.* 2d ed. rev. New York. Doubleday & Co., Inc. 1966.

Equitable Life Assurance Society of the United States. *Home health emergencies.* New York. The Society. c 1956.

Igel, B.H. *First aid.* A Programmed Text. New York. Instructional Materials Laboratories, Inc. c 1965.

John Hancock Life Insurance Company. *When the unexpected happens.* Boston, Mass. The Company. 1964.

Knox, W.A. & Gueritz, J. *The penguin handbook of first aid.* Baltimore. Penguin Books. 1961.

Metropolitan Life Insurance Company. *First aid.* New York. The Company. 1960.

Miller, L.M. *Handbook of first aid.* Pleasantville, New York. Reader's Digest. 1960.

New York State Departme..t of Health and the Civil Defense Commission. *Assisting at the birth of a baby after enemy attack if no doctor is available.* New York. The Department. 1966.

Patricius, Brother & Carmel, Sister Mary. *Review text in health.* New York. Amsco School Publications, Inc. c 1962.

United States Department of Defense, Office of Civil Defense. *In time of emergency: a citizen's handbook on nuclear attack and natural disasters.* Publication H-14. Washington, D.C. United States Government Printing Office. March, 1968.

Wells, Helen. *Cherry Ames' book of first aid and home nursing.* New York. Grosset & Dunlap. 1959.

Audio - Visual Aids

Films

A call to action. Local chapter of the American Red Cross. 13½ min. black & white. Film shows how the Red Cross was on the job during the Alaskan earthquake and the 1964 Ohio Valley floods.

A tale of two cities. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208. 12 min. black & white.

Disaster and you. Local chapter of the American Red Cross. 27 min. black & white.

Emergency childbirth. Department of Health, Education and Welfare, Health Mobilization Office, 42 Broadway, Room 636, New York, N.Y. 10004. This film can be obtained from the local civil defense unit. 30 min. color.

If disaster strikes. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208. 13½ min. color.

Midford, U.S.A. Local chapter of the American Red Cross. 20 min. black & white.

Nuclear radiation fallout. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208. 15 min. color.

One who cared. Local chapter of the American National Red Cross. 13½ min. color.

Radioactive fallout and shelter. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208. 27 min. color.

Sudden birth. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208. 23 min. color.

Unexpected moment. Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208. 17 min. color.

Water. Local chapter of the American National Red Cross. 27 min. black & white.

Filmstrips

Transportation of the injured. McGraw-Hill Films, First Aid Series, Text-Film Department, 330 W. 42nd Street, New York 36, New York.

Additional filmstrips are available in the teaching kits made available by the United States Department of Defense in conjunction with the United States Department of Health, Education and Welfare and the Instructional Materials Laboratories, Inc. of New York. These kits are described below.

Flip Charts

Flip chart for the self-help and neighbor help for the injured course. A 102 page, 18½" X 28½" chart in color which is used as a teaching aid for the Self-Help course. It is bound in covers which can be used as a stand on a desk or a table. It is available in English and Spanish. It was prepared in 1963 by the New York State Department of Health for the New York State Civil Defense Commission. For information write: New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208.

Flip chart for the training course for medical aides in aid stations. A 100 page, 18½" X 28½" chart in color which sums up all the material in the text *Guide for medical aides in aid stations.* This chart was also prepared by the New York State Department of Health for the New York State Civil Defense Commission. For information write: The New York State Department of Health, 84 Holland Avenue, Albany, New York, 12208.

Injury Simulations

Injury simulations are available from Simulaids, Woodstock, New York, 12498, and from Anderson Research Laboratories, Inc., 729 Canal Street, Stamford, Connecticut. These kits contain simulated injuries involving burns, fractures, wounds, amputations, frostbite, shock, and atomic radiation burns. For more detailed information on these visual aids write for a catalog or consult the reference section of the First Aid Unit for Grades 4, 5, 6.

Mannequins

Half-bodied and full bodied mannequins are available from the Guardian Safety Equipment Company, 37 East 21st Street, Linden, New Jersey, 07037; Laerdal Medical Corporation, 136 Marbledale Road, Tuckahoe, New York, 10707; Alderson Research Laboratories, Inc., 729 Canal Street, Stamford, Connecticut; Simulaids, Woodstock, New York, 12498; and Uni/Flex Medical Supply Company, Rockford, Illinois, 61101. For more information about these aids write for a catalog or consult the reference section of the First Aid Unit for Grades 4, 5, 6.

Teaching Kits

The United States Department of Defense in conjunction with the United States Department of Health, Education and Welfare has prepared A Medical Self-Help Instructor's Kit. This kit consists of a cardboard suitcase containing all the necessary materials in basic health survival principles. The kit contains an instructor's guide, a course introduction, eleven lesson plan books, the reference manual *Family Guide Emergency Health Care*, eleven 35 mm filmstrips, and examination booklets, and grading templates. The filmstrips and lessons that would be valuable in first aid instruction for grades 10, 11, and 12 would include those on radioactive fallout and shelter, healthful living in emergencies, transportation of the injured, burns, infant and child care, and emergency childbirth. There is also a set of eleven 16 mm color-sound films available, one for each lesson. In addition, there is a 13½ minute color film narrated by Danny Thomas, "If Disaster Strikes," which explains the program and shows the value of medical self-help training. The New York State Department of Health should be contacted for information on how to get the Medical Self-Help training Kits and student supplies which are available without charge.

The Instructional Materials Laboratories, Inc., located at 18 East 41 Street, New York, N.Y. 10017, has available a programmed instruction school first aid course that was developed by Johnson and Johnson. Each classroom unit kit contains 30 student programmed text manuals, 1 classroom demonstration kit of first aid products, 1 full color filmstrip with complete teacher script and test questions, 1 teacher's programmed text guide, 30 progress test booklets, 30 safety check lists for home preparedness, 30 course completion cards, and 2 achievement certificates. The cost for this kit is approximately $120.00. Adjunct sets (to supplement classes larger than 30) containing materials for 10 students are available for approximately $40.00.

Other Aids

The Spine and Neck Sensor is available from Simulaids, Woodstock, New York, 12498. This device teaches first aiders to apply a backboard without the serious excess movement of a patient's injured back or neck which too often occurs. The Sensor is a headpiece containing a battery, buzzer, and micro switches with appendant cords. These cords are attached to a demonstrator's upper torso, and when there is an excess motion to the "injured victim" it is immediately translated into a signal buzz, telling the first aider that he permitted too much movement. The headpiece is adjustable. The cost is approximately $49.95.