University of Nebraska - Lincoln DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of Nebraska-Lincoln Extension

Extension

1980

EC80-553 What to Do Until the Doctor Comes....First Aid : A Guide for Emergency Medical Care

David Bacon

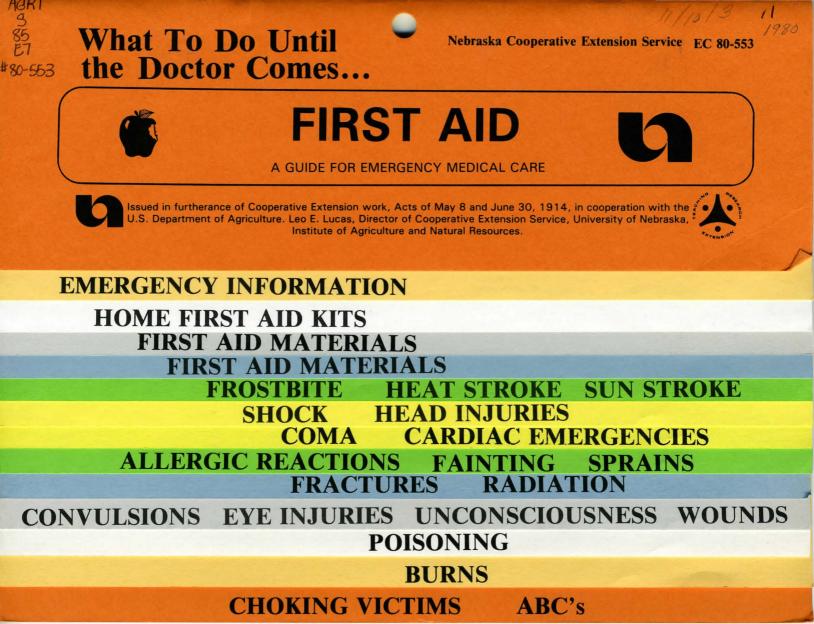
Joel T. Johnson

Kenneth F. Kimball

Follow this and additional works at: http://digitalcommons.unl.edu/extensionhist

Bacon, David; Johnson, Joel T.; and Kimball, Kenneth F., "EC80-553 What to Do Until the Doctor Comes....First Aid : A Guide for Emergency Medical Care" (1980). *Historical Materials from University of Nebraska-Lincoln Extension*. 4322. http://digitalcommons.unl.edu/extensionhist/4322

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



FOREWORD

This manual was developed as a guide for emergency medical care until professional help can be obtained. It is not intended to supplant formal causes such as the Red Cross program; but instead provides a practical guide all persons can use.

> David L. Bacon, M.D. Joel T. Johnson, M.D. Kenneth F. Kimball, M.D.

The Cooperative Extension Service is indebted to Doctors Bacon, Johnson, and Kimball of Kearney, Nebraska for their contribution of this manuscript. We offer our sincere appreciation to these three physicians for their time, effort and interest in support of the health education programs of the University of Nebraska.

> Leon H. Rottmann, Ph.D. Extension Specialist (Human Development) Cooperative Extension Service 120 Leverton Hall UNL-East Campus Lincoln, NE 68583 402/472-1665

Rescue Squad

Neighbor

To Summon Assistance— Emergency Telephone Numbers

Physician

Hospital Emergency Room

Poison Control

800-642-9999

EMERGENCY INFORMATION

| | | the second s | |
|----------|------|--|------|
| Police | | | |
| Fire | | | |
| Home | | | |
| Business | | | |
| Relative | | | |
| | | | |

HOME FIRST AID KITS FIRST AID MATERIALS FIRST AID MATERIALS SUN STROKE FROSTBITE HEAT STROKE **HEAD INJURIES** SHOCK **CARDIAC EMERGENCIES** COMA **ALLERGIC REACTIONS SPRAINS** FAINTING FRACTURES RADIATION **CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS** POISONING **BURNS**

For the home FIRST AID KIT....

The following items are recommended for your First Aid Kit. For farm folks, consider putting a Kit in the pick-up truck, or the machine shed. All of us should have a Kit in the home located in a safe but accessible place. Make sure all family members **know where** first aid supplies are located.

| 2 | 4-inch ACE bandages | 2 36"x3 bleach |
|---|---|-------------------|
| 2 | 3-inch Kling and 2 4-inch Kerlix bandages (5 yd. roll) | Bottle of |
| 6 | 4 x 4 gauze squares | soap so |
| | | Box of st |

6 2 x 2 gauze squares

2 ABD dressings

2 36"x36" squares of unbleached muslin

Bottle of Betadine (antiseptic soap solution

Box of sterile cotton tipped applicators

2 wood splints (2 ft. long)

2 oz box absorbent cotton

1 roll 2-inch adhesive tape

1 roll dermicel tape (plastic coated)

12 large safety pins

- 1 pair of scissors or Swiss Army knife
- 24 adhesive bandaids-multiple sizes
- 6 oz bottle of Ipecac

1 tubs of antibiotic ointment (Neosporin, Betadine)

ABC's

Pair of tweezers

12 tongue depressors

4 mg. Chlortrimeton (antihistamine)

1 S-type airway

Chemical cold pack

Optional equipment

Leardahl plastic collapsible face mask

Inflatable splints

HOME FIRST AID KITS FIRST AID MATERIALS FIRST AID MATERIALS HEAT STROKE SUN STROKE FROSTBITE **HEAD INJURIES** SHOCK COMA **CARDIAC EMERGENCIES ALLERGIC REACTIONS SPRAINS** FAINTING RADIATION FRACTURES **CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS** POISONING **BURNS**

CHOKING VICTIMS

Description of Materials

Ace Bandage: A brand name for an elastic wrap which gives a compression dressing. Common sizes are 2-inch, 3-inch, 4-inch and 6-inch widths.

Kling: A brand name for a semi-adhesive wrap which readily conforms to any wrapped surface. It is absorptive as well as a means of holding other dressings. It is available in 1-inch, 2-inch, 3-inch, 4-inch and 6-inch widths.

Kerlix: Commonly called a 5-yard roll. It is bulkier and more absorptive than Kling. It makes dressing a wound easier as it is semi-adherent to itself. Both Kling and Kerlix have essentially replaced roller gauze.

Gauze Squares: Commonly called 4×4 's and 2×2 's. These are readily available in individually packaged sterile containers. This type of dressing is better than those filled with an absorptive material, commonly call-

ed Toppers, however, Toppers are acceptable.

ABD'S: Large bulky absorptive dressings individually packaged in sterile containers. This type of dressing would be used for large and/or draining wounds. The plain side is absorbant and goes next to the wound.

Adhesive Tape: Two-inch standard adhesive tape is recommended for emergency procedures as it is likely to be torn and will secure dressings regardless of size with less likelihood of dressing disruption.

Dermacel Tape: Plastic coated. This is a durable tape that will cause less reaction to the skin.

Safety Pins: Twelve large pins-packaged 11 on 1.

Scissors or Swiss Army Knife: Scissors should be large enough to cut either clothing or large dressings.

Bandaids: A small package of various sized bandaids. **Unbleached muslin:** A strong cloth, readily usable for

either direct application to secure dressings, as a sling,



or other uses such as holding splints in place. It may also be used to cover large denuded areas.

Betadine Antiseptic Soap Solution: A brand name organic iodine solution that is nonirritating to wounds or skin, except in rare allergic cases. It is preferable for cleansing wounds.

Ipecac: Syrup of Ipecac promotes vomiting. Start with 2 ounces in a glass of water. REMEMBER: Caustic and petroleum products should not be vomited.

Neosporin or Betadine Antibiotic Ointment: Readily available in individually packaged tubes and preferable to other ointments. Petroleum jelly is discouraged in almost every circumstance.

Splints:

(a) Wood - thick enough so won't break and long enough to splint an entire arm.

(b) Pillow - wrap around the extremity and hold in place with adhesive tape.

(c) Magazine - apply similar to pillow.

Tweezers: Use caution in selection. Ends should approximate so a hair can be securely held.

12 Tongue Depressors: Packaged individually. Can be used for mouth examinations and as finger splints.

Chlortrimeton, 4 mg.: The brand name for chlorpheniramine maleate, an antihistamine in dosage size which can be purchased over the counter.

1 S-Type Airway: A plastic airway shaped like a lazy S. It helps hold the tongue forward in the mouth, opening the throat to allow adequate oxygen exchange. Before placing this airway, be sure the back of the throat is clear. Insert the tube end of the airway against the roof of the mouth. Then bring it to the back of the throat and rotate the airway so it conforms with the configuration of the throat.

Chemical Cold Packs: When the pack is struck, it releases a chemical reaction, providing a cold pack. This is used for sprains, bruises, etc.

Optional Equipment:

1. Leardahl plastic collapsible face mask. Excellent for use with CPR.

2. Inflatable splints — immobilizing extremities and protecting the injured member at the same time.

FIRST AID MATERIALS FROSTBITE HEAT STROKE SUN STROKE SHOCK HEAD INJURIES COMA CARDIAC EMERGENCIES ALLERGIC REACTIONS FAINTING SPRAINS FRACTURES RADIATION CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING BURNS CHOKING VICTIMS ABC'S

FROSTBITE

This is cold injury to exposed parts. It usually affects ears, nose, hands, feet. In this age of jogging, male genital organs have also been frost bitten.

Immediate treatment is to rewarm the affected member. Warm soaks or warm packs of 103° F are recommended.

Smoking should be avoided as it tends to constrict small arteries. The person should be transported to the nearest medical facility for care.

HEAT STROKE, SUN STROKE

This is caused by overheating the body. It most commonly occurs on very hot days. Hot, humid days are more likely to cause this than dry days.

Symptoms usually include: collapse, skin very flushed, dry and hot.

Immediate treatment: place in ice water or cover with ice packs. If ice is not available, strip the person, cover with wet sheets and force air over them, either with electric or hand fans.

Transport to the nearest medical facility.

FROSTBITE HEAT STROKE SUN STROKE SHOCK HEAD INJURIES COMA CARDIAC EMERGENCIES ALLERGIC REACTIONS FAINTING SPRAINS FRACTURES RADIATION CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING BURNS

SHOCK

This is the term given to the condition of collapse. Symptoms vary somewhat with the cause, but common features include a cold sweat, apprehension, rapid pulse, low blood pressure, rapid respiration, and finally unconsciousness.

The common first-aid procedures for treatment of shock are:

1. Loosen clothing. Lay victim down with feet higher than head (if shock is from a heart attack, use the reverse position).

- 2. Maintain an airway.
- 3. Control bleeding, if present.
- 4. Apply gentle heat and cover with a blanket.
- 5. Relieve pain (splint fractures).
- 6. Transport to medical facility promptly.

HEAD INJURIES

If victim is unconscious, convulsing, bleeding, or emitting fluid from ears, **do not move patient**, but control any severe bleeding.

If severe headache, nausea and/or vomiting, incoherence or dazed appearance occur, do not move patient.

Always loosen clothing and check to see that patient is breathing.

For minor blows to the head:

- Allow patient to rest.
- observe patient for symptoms noted above.
- caution patient against overactivity.

SHOCK HEAD INJURIES COMA CARDIAC EMERGENCIES ALLERGIC REACTIONS FAINTING SPRAINS FRACTURES RADIATION CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING BURNS CHOKING VICTIMS ABC'S

COMA

This condition is one of unconsciousness and should be treated as an extreme emergency. Treatment is as follows:

1. Carefully note respirations, skin conditions, and pulse.

2. Search individual for medical information—wallet cards, medic alert charms, etc.

3. If diabetic, attempt to get to eat or drink something sweet. Insulin coma can kill quickly. Diabetic coma (high sugar) is much slower, and can be corrected slowly in a medical facility.

4. If no medical information is found: support airway—use mouth-to-mouth breathing if person is not breathing well.

5. Keep warm (cover with blanket).

6. Keep lying flat.

7. Transport to nearest medical facility.

CARDIAC EMERGENCIES

1. Persons suspected of having a heart attack usually complain of crushing, burning, or pressing chest pain. The pain is typically oppressive in nature, often radiating to the neck, shoulders and down the arms. They may be weak, sweaty, apprehensive, and nauseous.

Treatment: Loosen clothes—place in sitting or semirecumbent position, allow plenty of fresh air, and transport immediately to the nearest medical facility.

2. Rhythm disturbances of the heart. The pulse is often very rapid and/or irregular. On rare occasions, it may be very slow. Immediate emergency treatment is similar to that for a suspected heart attack.

3. Cardiac standstill or heart stoppage - Begin CPR as per CPR Manual (available through the American Red Cross or the American Heart Association).

COMACARDIAC EMERGENCIESALLERGIC REACTIONSFAINTINGFRACTURESRADIATION

CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING

BURNS

ALLERGIC REACTIONS

Allergies are the result of the body building proteins which react to a specific chemical. These proteins then produce a reaction within the body whenever the offending chemical comes in contact with the body.

1. Itching, rashes, urticaria (giant hives). Give Chlortrimeton,4 to 12 mg., depending on age, and immediately transfer to professional care. Ice packs will often relieve itching.

2. Insect bites or stings-same as for rashes.

Caution: Hives or urticaria can be life-threatening if they involve the mouth, throat or breathing passages—these should be seen immediately by a professional. The administration of CPR may be necessary.

3. Wheezing or asthma. Sit upright. Avoid dust or other substances which will aggravate the situation and transport promptly to professional care. (Antihistamines usually do not help this situation.)

FAINTING

Lay patient flat or have him or her sit in a chair with the head *lower* than the knees.

A patient who has fainted, although appearing to have responded completely, *should not be sent* away without assistance.

SPRAINS

A sprain is a tear of the ligaments that support a joint. The injury usually results from the joint being over-extended and there will usually be local soreness and swelling following the injury. You should be careful about a sprain since it can also have associated fractures. The old adage that if you can walk on it means it is not broken is not necessarily true.

Management

1. Immediately apply a cold compress or ice bag to the area.

2. Wrap the area with an elastic bandage (use caution in this so that the bandage is only stretched about half way so as to not apply it too tightly).

3. If there is a question of a fracture, get an X-ray before allowing use of the area.

ALLERGIC REACTIONS FAINTING SPRAINS FRACTURES RADIATION

CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING

BURNS

Until You Get to Help FRACTURES

A fracture is a broken bone. Fractures are classified as open (where there is a connection from the fracture to the outside through the skin) and as closed (where such a connection does not exist). The open fracture is potentially very dangerous if not immediately seen by the physician because of infection in the bone and soft tissues. Fractures also are classified by their appearance: Chip fractures (where a small chip of bone is broken off), transverse fractures (where the break goes directly across the bone), green stick fractures (where the break does not go entirely across the bone), and communuted fractures (where there is shattering of the bone). All fractures should be confirmed by X-ray and so must be seen by a physician).

Management

1. Cover any open wound with a sterile dressing and Betadine solution.

2. Splint the extremity with the splint extending beyond the joint on each side of the fracture.

3. Do not attempt to push bone ends back beneath the skin.

4. Fractures of the legs may be treated by binding them to the other leg along with the splint.

RADIATION

During times of national emergency, should there be nuclear explosions, two types of radiation injury may occur.

The first would be direct exposure to a radiation source such as the bomb explosion. This type of radiation is similar to that received from an X-ray machine and nothing that you do later will serve to effectively reduce the effect. Only protection from radiation by earth or thick concrete will serve to reduce this effect.

The second, and more common exposure, would come from fall out. Here, the material sucked up into the blast cloud becomes radioactive and then settles like dust from a dust storm. This material lays on the surface and results in continued radiation. It must be (a) prevented from falling on you, (b) immediately washed off and (c) not allowed to collect in the shelter area. Remember, if you wash it off and let that water and wash cloth stay near where you are located, you will continue to be exposed to radiation. Radiation cannot be felt or seen so that you are often not aware of its presence until its effects are evident.

Similarly, contamination from accidents involving cargoes of radioactive material on trucks and trains will produce surface contamination. Stay away.

Closed containers of food and water that are so contaminated may safely be washed free of fall out and used. There will be no residual effect on the content.

FRACTURES RADIATION

CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING

BURNS

Until You Get to Help CONVULSIONS

Lay patient flat, face turned to one side. Do not restrain patient's movement any more than is necessary to prevent him from harming himself.

Do not force object between teeth.

Do not try to revive him with fluids, stimulants, fresh air, or walking.

Allow patient to rest at least 30 minutes after attack.

Check for stoppage of breathing; airway may become blocked.

EYE INJURIES

Perhaps the most important thing to do with any injury to the eye is to flush the eyes thoroughly with a non-irritating solution. Water obviously is the best solution, but since water is not always available other solutions can be used as well. Generally speaking, any solution that you can drink is safe to pour on the eyes. The most important thing is to use large volumes of fluid, so that the eye gets washed out thoroughly and removes the greatest amount of the offending agent as possible. With an eye injury, *both* eyes should have patches placed over them. If only the injured eye has a patch, the injured eye will continue to move underneath the bandage. If both eyes are patched, the eyes tend to remain still and cause less trouble to the affected eye.

UNCONSCIOUSNESS

Keep patient flat with head turned to side and keep patient warm.

Check to see that patient is breathing. Loosen tight clothing.

Do not move patient.

Do not leave patient.

Check with physician for follow-up.

WOUNDS

Treatment depends on the size of the wound. In a very large wound, such as a traumatic amputation, the most important thing is to make sure that the bleeding is controlled (almost always direct pressure is enough). The wound should then be bandaged with a large bulky type dressing, to absorb the blood, etc., and to protect the wound from further contamination. For smaller wounds, it is often desirable to cleanse the wound before it is bandaged. The agent which is used to irrigate or cleanse the wound should most always be clean water. Be sure that the agent used to clean the wound does not further contaminate it. For small wounds, Betadine ointment or Neo-Sporin ointment would be satisfactory to place on the wound after it has been cleansed and before application of the bandage. In a large wound however, bandage the wound only.

CONVULSIONS EYE INJURIES UNCONSCIOUSNESS WOUNDS POISONING BURNS CHOKING VICTIMS ABC's

Until You Get to Help POISONING



1. Petroleum based compounds.

Do not induce vomiting. Immediately transfer to a medical facility. If spontaneous vomiting occurs, keep head lower than rest of body and try to prevent sucking of vomited material into the lungs. Many of these individuals will develop chemical pneumonia from the petroleum fumes.

2. Corrosive substances

A. Alkali substances (bases) -lye, caustic soda, lime, ammonia.

Treatment: Give large amounts of citrus juice or vinegar diluted 1:1 with water. Then give milk with raw eggs beaten into it.

B. Acid substances — battery acid, carbolic acid, boric acid, etc.

Treatment: Soda in water, lime water, Milk of Magnesia diluted in water.

The goal is to neutralize the substance, not to induce vomiting.

After immediate care, transfer to medical facility.

3. Pesticides

General comment — If ingested: induce vomiting. If skin contact: quickly strip and wash. Then take the victim and the label of the compound to the nearest medical facility.

Detailed comment — Frequent symptoms and signs of poisoning of many pesticides:

Apprehension

Dizziness

Headache Disorientation Weakness Tingling, creeping sensation of skin

Muscle twitches, tremor

Convulsions

Respiratory depression caused by petroleum solvents *most pesticides* contain

4

Irritation of the skin

Induce vomiting only if the patient is conscious and the pesticide does not contain petroleum solvents. (Many pesticides have low inherent toxicities and risk of hydrocarbon pneumonitis does not warrant inducing vomiting.)

Consult the pesticide label for first aid treatment. Induce vomiting only if the label suggests this treatment.

Wash skin with detergent; flush eyes for 15 minutes with water; rinse mouth thoroughly (15 minutes).

4. Snake bite.

The only poisonous snakes in this general area are pit vipers. The poison from these reptiles attacks the blood vessels and red blood cells.

Symptoms: Immediate severe pain, growing weakness. Shortness of breath, nausea, vomiting, and later unconsciousness.

Treatment:

1. Immobilize the extremity.

2. Put a light constricting band above the bite, do not apply a tourniquet to shut off the arterial blood supply.

3. Make X cuts through the skin (at least 1/4" deep) across the bite and suck out poison, blood and tissue fluid (lymph).

4. Keep extremity at rest, transport to a medical facility immediately.

POISONING

BURNS

Until You Get to Help BURNS

The skin is a protective covering which prevents invasion of the body by bacteria and prevents loss of body heat and fluids. Once injured, it is no longer able to provide these services. Treatment consists of limiting the extent of the burn, protecting the area from further contamination, and obtaining medical help for burns that are more severe.

There are three degrees of burns.

First: This is a superficial injury. The skin will be red and perhaps a bit swollen. No blisters are present and there is no loss of sensation. These are usually not dangerous unless very extensive. Use of cool packs are helpful. This is the *only burn* where *ointments* have a place in the treatment.

Second: The second degree burn produces injury into deeper levels of the skin. Blisters form and there will be a good deal of oozing of fluids when these break. Do not open or break blisters. Improper management of this injury can result in secondary infection and the total loss of skin in the area which will later require skin grafting.

Third: This burn is extensive and dangerous. It extends all the way through the skin leaving a white, nonsensitive surface. It must be seen by a physician. Use cool packs and transport at once to medical care. Heat

Burns from heat may be the result of exposure to sunlight or arc welding. These burns are usually first degree or, occasionally, second degree. Treatment consists of cool compresses and the use of an antibiotic ointment if there is blistering. Care must be taken in the use of some of the "sunburn aids" that may be sprayed on to relieve pain since they contain a local anesthetic which may be absorbed through the injured skin and result in a toxic reaction.

More severe burns resulting from hot liquids, open flame, steam, and from material such as hot tar should be covered with a cool moist compress and the patient taken at once to a physician. Do not use any ointments, do not use burn sprays, and do not try to pick off the tar or blisters since they will simply open that injured area to infection.

Electrical

Electrical burns are often much more severe than they originally appear. The burn may extend deep into the muscle and bone and may get worse over the next few days. Use cool compresses and take the patient to the nearest physician for examination. Do not use ointments or sprays. Be sure to look for other injuries on the legs since the electricity must also exit the body and will often leave other burns at those points.

Chemical

Certain caustics and acids may produce skin burns. These are usually preventable by rapid washing of the contaminated area with large amounts of water. When a mild detergent is available this may also be used but irrigation with water should not be delayed while looking for the soap.

Such burns, if treated immediately, will seldom be more than first degree.

BURNS

CHOKING VICTIMS

ABC's

WHAT YOU CAN DO FOR A CHOKING VICTIM (The Heimlich Maneuver1)

The maneuver is manual pressure directed upward on the diaphragm, forcing the air out of the victim's lungs and popping out the obstruction causing the choking. It is like the action of a bellows.

There is no cure for choking victims; no vaccines are available. There is only one innoculation—knowledge. To perform the maneuver:



---Stand behind the victim, who is choking on food or some other object, and wrap your arms around the waist.



---Grasp your fist with your other hand and place the thumb side of your fist against the victim's abdomen, slightly above the navel and below the rib cage.



---Press your fist into the victim's abdomen with a quick upward thrust. Repeat several times if necessary until the food or object causing the blockage is expelled.

Of Special Note... The urgency of choking cannot be overemphasized. Immediate recognition and proper action are essential. If the victim has good air exchange, or only partical obstruction, and is still able to speak or cough effectively, *do not interfere with his attempts to expel a foreign body*.

When you recognize complete airway obstruction by observing the conscious victim's inability to speak, breathe or cough, the following sequence should be performed quickly on the victim in the sitting, standing, or lying position:

a. 4 back blows

b. 4 manual thrust (abdominal or chest)

c. Alternate back blows and manual thrusts until effective, or the person becomes unconscious.

If the victim becomes unconscious, shout for help. Place him on his back, face up. Open the airway and attempt to ventilate. If unsuccessful, deliver 4 back blows, 4 manual thrusts, probe the mouth with the finger and attempt to ventilate. It may be necessary to repeat these steps. **Be Persistent**.

1/ Endorsed by the American Medical Association,

Until You Get to Help ABC'S

The most important aspect of the treatment of trauma situations is to remember the proper priorities for care. First, remember the ABC's. First and most important is to establish and maintain an open *airway*. B for *breathing* is the next most important aspect of care, followed by C for *circulation*. These are the rudiments of cardiopulmonary resuscitation which are skills to be learned by everyone. The next most important thing to remember in this context, is that no matter how bloody or awful wounds appear to be, the ABC's should be remembered.

Copies of this publication can be obtained from your County Extension office.

The Cooperative Extension Service provides information and educational programs to all people without regard to race, color or national origin.