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4-H 206 4-H First Aid and Personal Safety

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4-H
First Aid and Personal Safety

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4-H First Aid & Personal Safety

By Rollin D. Schnieder
Extension Safety Specialist

INTRODUCTION TO FIRST AID

First aid is the immediate care given to a person who has been injured or suddenly taken ill. It includes self-help and home care if medical assistance is not available or is delayed. It includes well-selected words of encouragement, evidence of willingness to help, and promotion of confidence by demonstration of confidence.

Through the study of first aid, a person is prepared to help others wisely if they are stricken, to give them instruction in first aid, and to promote among them a reasonable safety attitude. On a humanitarian basis, there is always an obligation to help the stricken and the helpless. There is no greater satisfaction than that of relieving suffering or saving the life of a member of your family, a co-worker, an acquaintance, or a stranger.

The first aid skills you master might mean the difference between life and death for some person. In addition, proper treatment on your part might mean the difference between temporary and permanent disability, or between rapid recovery or long hospitalization.

Keep in mind that first aid is only temporary. Dressings should be simple and rapid; a doctor should not have to waste time removing elaborate bandages. Many accidents happen at places far from the source of first aid supplies. The amount of equipment you will have to work with is limited.

If a person does need first aid, there are certain procedures to follow:

1. Prompt rescue is important. Do not move the victim unless it is necessary for safety reasons. If you suspect that the surrounding air will not support life or if the person is located where the victim and the rescuer are subject to more injury, move the person to a safe place where first aid can be continued.

2. The first aid project presents many possibilities for demonstrations. A leader might discuss the lesson material planned for each meeting and then have students demonstrate the procedures. This is one project where the members must practice the techniques. Many of the first aid situations require skilled hands. The leader might want to suggest individual or team demonstrations for the next meeting. In this way, members have a chance to practice and participate.

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3. The items listed under the headings "Things to Do" are suggested as an aid to the leader. Other topics could be selected if the leader so desires.

4. The items listed under the heading "Show How To" are suggested demonstrations or skills or techniques to be used by members in making the meeting more interesting.

SUGGESTIONS FOR LEADERS

1. The American National Red Cross Standard First Aid and Personal Safety text, 2nd Edition, should be used for reference. This text is well illustrated and shows techniques of first aid.

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PLANNING IS NECESSARY

The first thing a person trained in first aid must learn is to avoid accidents. We know from experience that people trained in first aid have a lower accident rate than those not trained in first aid.

The ultimate goal is to have every Nebraska 4-H member take the first aid project. Next, we would hope that each member includes safety as a part of other 4-H projects.

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2. Make sure that the person has an open airway. If the victim is not breathing, give mouth-to-mouth or mouth-to-nose resuscitation. If there is no pulse, cardio-pulmonary resuscitation should begin.
3. Control bleeding.
4. Give first aid for poisoning, or intake of harmful chemicals.

Once emergency measures have been taken to ensure the victim’s safety:
1. Protect the victim from unnecessary manipulation and disturbance.
2. Cover the victim to avoid chilling. Do not overheat the victim.
3. Determine the injuries or cause of illness. The victim or others who saw the accident may be able to tell you. Some people wear medical identification tags around their wrists or neck to show that they have some type of disorder.
4. Examine the victim. Be guided by the type of accident situation. Some things you might do:
   a. Loosen restrictive clothing.
   b. Open or remove clothing if necessary. This will help in checking for injuries.
   c. Take note of victim’s general appearance.
   d. Check victim’s pulse. Normal adult pulse is usually 72 to 80 beats per minute.
   e. Is victim awake? Does he or she respond to questions?
   f. If victim is unconscious, look for evidence of head injury.
   g. Check victim’s eyes and size of pupils. Dilated pupils or pupils unequal in size may indicate type of injury. Glazed eyes may be an indication of heart attack or shock.
   h. Examine the person for open wounds and im­paired objects.
   i. If poisoning is suspected, check for chemical burns around victim’s mouth.
5. Carry out first aid:
   a. Plan action according to nature of the injury. If first aid is needed, give it.
   b. Remain in charge until the victim can be turned over to a qualified person. This might be res­cue personnel, emergency room staff, or a physi­cian.
   c. Know the limits of your capabilities as a first aid worker.
   d. Above all, keep calm. Do not hurry except for situations involving trouble in breathing, severe bleeding and poisoning.
   e. Write down any information about the patient’s health and treatment you have given. For example, you may know that a person has allergies. Note time of treatment if possible so that the doctor will know what has been done.

**THINGS TO DO**

1. Open with roll call of members. Have each one relate an instance where first aid should have been applied.
2. Discuss the reasons for learning first aid prac­tices.
3. Discuss the history of first aid and the general rules that first aiders should follow.
4. Look at accidents listed in news articles. Dis­cuss the first aid that might have been required at the scene.

**SHOW HOW TO**

1. Dial for emergency medical services if there is an emergency. You might do this as role playing or you might actually pre-arrange this with the doctor or the rescue squad.
2. Make an examination for injury. You might set up a mock situation and have members determine what they think the injuries are. You might also have one person prepared as the victim. You can do this by writing or drawing injuries on the body with water colors or a felt tip pen. The other members can tend to the victim according to the injury.
3. Go through the procedure for checking the vic­tim.

**Second meeting**

**Reducing Shock**

Shock results in a depressed state of many of the vital body functions. Since shock is a disturbance of the blood flow, in early stages the body tries to com­pensate for a decreased blood flow to the tissues by constricting the blood vessels in the skin, soft tis­sues, and skeletal muscles. If untreated, the victim may lose consciousness and die. Signs of shock are:
1. Skin is pale and cold to the touch.
2. Skin may be moist and clammy if perspiration has occurred.
3. The victim is weak.
4. Pulse is usually quite rapid and weak, 100 or more beats per minute.
5. Rate of breathing is increased, and may be irregular.
6. In late stages, pupils may be dilated (wide open), eyes sunken, vacant expression.
7. Victim may be unresponsive.

**First Aid for Shock**

1. Keep the victim lying down.
2. Cover only enough to keep victim from losing body heat.

3. Get medical help as soon as possible.
4. Position of victim will depend on location and extent of injuries.
5. Keep airway open by tilting head backward. Care must be used if you suspect any neck injuries.
6. Victims in shock may improve if feet are prop­ped up. This will move the blood toward the head. The exception would be if the person had head or internal injuries. In this case, keep the victim flat or the head slightly elevated. If in doubt on posi­tion—keep person lying flat.

7. Give fluids by mouth only when medical help is not available within 1 hour. Do not give fluids when the victim is unconscious, vomiting, or likely to vomit. Do not give fluids when person may need sur­gery, anesthesia, or has possible brain or abdominal injury.
8. If fluids are to be given by mouth, use warm water containing 1 level teaspoonful of salt and 1/2 level teaspoonful of baking soda to each quart of water. Dosage should be:
   A. Adults—4 ounces (1/2 glass) every 15 minutes.
   B. Children 1 1/2—2 ounces every 15 minutes.
   C. Infants—1 ounce every 15 minutes.
   D. Discontinue the fluids if nausea occurs.

**THINGS TO DO**

1. Discuss the different types of shock and the symptoms associated with them.
2. Demonstrate the position or positions in which you would put a victim while treating for shock.
3. Discuss other types of shock such as electric shock, diabetic or insulin shock, drug shock and other special types of shocks.


**Third meeting**

**Cardio-Pulmonary Resuscitation**

The first step to cardio-pulmonary resuscitation is to shake and shout to see if the person is uncon­scious or in a deep sleep. If the person does not awaken, the rescuer should shout for help. Hopefully someone might be nearby to go for help. Next, open the airway by lifting on the chin and pushing back on the forehead. This will lift the chin and help open the airway. Wait a few seconds to see if the person will...
start breathing from the maneuver. While you are waiting, place your cheek close to the mouth of the victim and turn your head so you can see the chest. See if it is rising and falling. This would be a clue that the person was breathing or trying to breathe. By having your cheek close to the victim's mouth, you can listen for a breath and possibly feel the breath on your cheek.

If there is no response, give two full breaths by placing your mouth over the victim's mouth, pinch off the nose so no air can escape. If you've done a good job, you should see the chest rise and have very little resistance to your own breathing. In an adult, breathe from the lungs. While you are waiting to see if the breaths help, place your fingers against the carotid pulse in the neck to see if there is a pulse. If there is a pulse but no breathing, breathe at a rate of 12 breaths per minute or 1 breath every 5 seconds. Babies would require a breath every 9 seconds and the breath would be from mouth to mouth and nose. These are two breaths from the cheeks other than full breaths from the lungs.

If there is no response from the two breaths of air and no pulse, then activate the emergency medical services system. This means that you should have someone call for help if someone is nearby. You, as the rescuer, would not want to leave the victim. Next you would landmark — placing two fingers of the hand that is toward the feet on the xiphoid process. This is a prominence at the lower part of the sternum. Place the heel of the hand which is toward the head next to the two fingers. This is the place where you will have your hands for the compression. Lift the hand which you used to find the xiphoid process and place it on the back of the hand that you use for landmarking. Start your compressions by pushing down on the sternum. Make sure the total hand does not rest on the chest, but only on the sternum. This may mean pulling back on the fingers of the lower hand with the upper hand.

On an adult, compress the sternum 1 1/2 to 2 inches. Compression should go at the rate of 80 to 100 compressions per minute. This means that you will give approximately 15 compressions in 11 seconds after which you will stop and give 2 full breaths. This should take about 4 seconds. After doing this for 1 minute or 4 sets, you should stop and check to see if a pulse has returned. If the pulse has not returned, the rescuer should continue the procedure. If a pulse and breathing have returned, monitor the victim until emergency medical services arrive for transportation to a medical facility.

The procedure for babies is much the same. You would go through all the basic steps, but with babies, the brachial pulse is used. This can be found midway between the elbow and shoulder on the inside of the arm. Two fingers rather than the full hand should be used for compressions. The rescuer should assume an imaginary line from across the nipples and measure 1 finger width below this line. The compressions will be from 1/2 to 1 in. Five compressions should be given every 3 seconds after which a breath should be given. This figures out to 20 breaths per minute.

There is always a question relating to the definition of a child. It fits somewhere between a baby and teenager. The rescuer has to make this determination. A child is treated somewhere between a baby and teenager. The rescuer has to make this determination.

THINGS TO DO

1. Discuss material related to cardio-pulmonary resuscitation (CPR).
2. Get charts on CPR that members may keep handy for review. The Red Cross or American Heart Association may have them. A number of organizations have wallet-sized cards or cards that can be kept in the medicine cabinet or first aid kit.
3. See if some local organization has a Resusci-Annie you can use. Fire departments, the State Health Department or rescue units may have them.
4. The American Heart Association and American Red Cross signed an agreement for procedures on giving cardio-pulmonary resuscitation. Nebraska has a statewide program aimed at training 1 of every 3 Nebraskans in CPR. If you are interested in taking a CPR course, contact the American Heart Association or American Red Cross.

CONTROLLING BLEEDING

Loss of a quart of blood by an adult or less by a child is serious. It is for this reason that stopping bleeding is so important. If the proper blood vessel is cut, a person can lose this amount of blood in a short period of time. This then, is another first aid procedure. Always remember that a great loss of blood can cause the victim to go into shock. If this occurs, follow procedures you learned in Lesson 2. There are three main methods for stopping bleeding in order of preference, they are:

1. Direct Pressure
2. Pressure Points
3. Tourniquet

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2. Pressure Points
3. Tourniquet

Remember, the tourniquet is to be used only as a last resort. In addition, the tourniquet cannot be used on all parts of the body.
Direct Pressure

Direct pressure is the preferred method of stopping bleeding. This method does not restrict any part of the body. If there is a wound, pressure is placed over the wound to keep the blood from being pumped out. It is much the same as putting a patch over the wound to replace the skin that has been cut or punctured.

If some type of dressing is available, place the dressing over the wound and then exert pressure on the dressing. A sterile dressing is preferred. If none is available, use some other type of cloth dressing. If no dressings are available, use the open palm of the hand.

Hopefully, the blood will start to clot within a few minutes. Do not remove the bandage since you would break the clot. If the bandage soaks with blood, place another bandage on top of the blood-soaked bandage.

Elevation of the injured body part can also help control bleeding. This helps reduce the blood pressure to the wound which helps to cut the flow of blood.

Pressure Points

The pressure point method of stopping bleeding is used after direct pressure fails and is used in conjunction with direct pressure and elevation. This method requires a body surface against which an artery can be pushed. It follows much the same procedure that you would use in bending a water hose to cut off the flow of water.

There are a number of pressure points. The two major ones are the brachial and femoral. The brachial artery supplies blood to the arm. You compress the brachial artery against the arm bone while at the same time elevating the arm.

The brachial pressure point is on the inside of the arm midway between the armpit and the elbow. Use the flat inside surface of your fingers to press the artery against the bone.

The femoral artery supplies blood to the legs. At this pressure point, you push the artery against the pelvic bone. To do this, place the victim flat on his or her back. Then place your hand directly over the pressure point. Lean forward and apply pressure to the artery with the heel of the hand. If this does not stop the bleeding, you may have to put the fingertips of one hand directly on the wound and press with the other hand.

Tourniquet

The tourniquet is dangerous. Use it only as a last resort. Use it only on arms or legs. Use it only in critical emergencies when direct pressure or pressure points fail to stop the bleeding. Remember, the limb you place the tourniquet on may have to be sacrificed to save the life of a victim.

When selecting material for a tourniquet, make sure it is wide enough. Do not use a string or wire. The tourniquet should be at least two inches wide. A cravat bandage, belts, stockings are items that could be used.

Place the tourniquet above the wound. If the wound is in a joint area or just below, place the tourniquet above the joint. Wrap the tourniquet around the limb twice and tie a half knot. Place a strong stick or similar object into the overhand knot and tie two or more overhand knots. Twist the stick to tighten the tourniquet until the bleeding stops. Secure the end of the stick.

Make a written note of the location of a tourniquet and the time it was applied. Attach this to the victim’s clothing. Once you have made the decision...
to apply the tourniquet, never loosen it unless a physician so advises.

Treat the victim for shock, and give other necessary first aid.

**THINGS TO DO**

1. Discuss different ways to stop bleeding.
2. Use one club member and demonstrate the methods of stopping bleeding by use of direct pressure. Also place a pressure bandage on the forearm to show how this can relieve the first aider to work on someone else.
3. Find the pressure points. The book lists only the femoral and brachial. The sub-clavian can be found under the collar bone, the carotid can be found in the throat, the temporal can be found on the temple and the facial on the jaw. The temporal and facial are minor pressure point areas.
4. Demonstrate the technique of applying a tourniquet to an arm or leg.

**SHOW HOW TO**

You might want to set up a victim on which the 4-H'ers could work. Paint wounds on some victim and have other members give first aid to this person.


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**sixth meeting**

**FIRST AID KIT**

One interesting activity of the first aid project is the preparation of a first aid kit. This kit will be useful to you for many years. It can be used when you travel, and is handy to have around home. By preparing this kit, you will be ready if an emergency occurs.

You can buy the materials required in the kit from a drug store, or you can prepare some of the bandages for your kit by following the recommendations in the American Red Cross Standard First Aid and Personal Safety Manual, 2nd edition. (Chapter 13). Preparing your own bandages and sterilizing them properly will give you more satisfaction in the preparation of your kit.

There are two general types of kits. One is the unit size where a certain number of items are arranged in multiple numbers depending on the size of the kit. The other type is more general in that there is not uniformity in the contents. You will be working with the latter type.

Observe the following points in selecting and preparing the kit:

1. Obtain or build a first aid kit container. Metal or plastic tackle boxes are ideal. If you use a plastic box, make sure it has good hinges and latch so that it will stand up under rough handling. If you build a container, make sure it is strong. Light plastic or cardboard containers are not desirable since they usually have poor latches and hinges and do not take rough use.
2. Arrange the contents so they can be readily seen by the person using the materials. If the materials are placed in the kit haphazardly, they may be hard to find when needed.
3. Sterilize homemade materials and wrap in some type of clear plastic so the materials can be easily identified. Follow suggestions on page 178 of Standard First Aid and Personal Safety Manual. If the material is unwrapped for use, make sure it is re-wrapped. Bandage packages that have become dirty from rough handling are unsightly and are probably not sterile.
4. Pack the materials tightly so that they cannot shift within the container.
5. A first aid kit does not need a large amount of items. Many of the kits being sold have 10 items and some of these items are duplicating which brings the total items to 16 or 24. Items listed below should be included:
   a. 6 one-inch compresses on adhesive (band aids)
   b. 2 three-inch square bandage compresses
   c. 1 square yard of sterile gauze (to be used for large scrape or burn areas). If this is not available at your drug store, make one from a 36" x 36" piece of linen.
   d. 1 triangular bandage
   e. 1 roll of one-half inch adhesive
   f. Antiseptic
   g. Scissors (blunt tip, for cutting clothing and bandages)
   h. One-inch and two-inch roller gauze
   i. 2-inch splinter forceps
   j. Ointment (this can be of the petroleum jelly-
There is an argument on the use of creams on burns. For simple camp burns and injuries such as chafing, this material might relieve some of the discomfort. For second and third degree burns, do not apply salves or ointments.

Other articles may be needed occasionally. Items such as aspirin are more of a home aid item and are more apt to be found in the medicine chest. Some of you or your families may be in areas where there are poisonous plants, insects, etc. In this case, you might want to add materials to treat these problems. This might include poison ivy soap, calamine lotion, insect bite swabs, etc. This is your kit. Include the items listed. If you want added items related to problems which might be encountered for your family, use them. If you include any medication or ointment, check to make sure it is not out of date.


Soyenth meeting

POISONING

A poison is any substance, solid, liquid, or gas, that tends to impair health, or cause death, when introduced into the body or onto the skin surface. Poisoning may occur by mouth, by absorption through the skin, by inhalation, or by injection.

Aspirin is one of the common household poisons for children. A few of the many other poisons in the home include cosmetics, hair preparations, paint and turpentine, detergents, bleach, cleaning solutions, lye, glue, ammonia, acids, and toilet bowl cleaners. It is difficult to diagnose poisoning. Aids in determining poisoning include information from a victim or observer, presence of a container known to contain poison, condition of the victim, burns around the lips or mouth, breath odor and sometimes the pupils of the eyes (will be dilated from an overdose of some drugs).

A poisoning case requires quick first aid. If you do not know what poison the person has ingested:

1. Dilute with water.
2. Have the person vomit. You would not have the person vomit if a strong acid, alkali, or petroleum product was swallowed.
3. Get medical help immediately.

As soon as possible, get the person to medical help. Take along the poison container. Treat for shock, give CPR if needed. Do not give water to an unconscious patient.

If an antidote is listed and if you have the antidote, administer it according to directions. A universal antidote such as medicinal charcoal can be given if the person is conscious.

If a person has taken tranquilizers, barbiturates, paraldehyde, opium-containing drugs, or alcohol, try to keep him or her awake.

If a person is having convulsions, do not give medication.

In most cases of oral poisoning, induce vomiting as soon as you give the victim water. The idea is to get the material out of the stomach. You may have to give some nauseating materials such as syrup of ipecac.

Make sure that the poisoning victim does not choke on his or her own vomit. Keep the head lower than the hips so that vomit cannot reenter the breathing passages.

Persons who have taken strong alkalas (lye), strong acids (sulfuric), or petroleum products such as kerosene, should not be made to vomit. The person can be burned in the air and food passages by vomiting the acids and alkalis. Petroleum products can cause chemical pneumonia if taken into the lungs. Signs which tell you not to promote vomiting are burns around the lips, breath odor of gasoline or kerosene, unconsciousness, convulsions, exhalation or pollution of the container.

Demulcents may also be used. A demulcent coats the stomach which helps the passage of the poison into the bloodstream. The demulcent protects the stomach lining with the coating action. Demulcents include but are not limited to olive oil, egg white or milk.

One of the common poison gases is carbon monoxide. Symptoms for this include unconsciousness, dizziness, weakness and headache. Death can occur in a short time. Another symptom is a cherry red skin color.

If a person is in a closed room, or a garage and you must rescue, ventilate the area before you enter. Call the rescue squad for help. They will usually have self-contained breathing apparatus for safely entering the enclosure.

Once the victim is out, maintain the airway of the victim, give CPR if needed, loosen tight clothing and look for other injuries. Even though the victim regains consciousness with no other symptoms, it is still important to have the person see a doctor.

There are many other types of poisonings. Harsh chemicals or corrosive poisons can produce chemical burns, poisonous plants can cause skin allergies or reactions, poisonous insects such as spiders, scorpions, or ticks can inject poison into the body. Insect stings from bees, wasps, etc., can also cause allergies or poisonous reactions. More Americans lose their lives from this cause than from snake bites.

In Nebraska, insect bites and stings are common while snake bites are uncommon. The allergic reaction from an insect bite or sting can have a deadly effect (in just minutes) on some people.

We will not cover these poisonings in this lesson. However, you should learn how to treat them in case they do occur.

THINGS TO DO

1. Have each member answer roll call by naming a poison found in the home.
2. Obtain containers of poisons. Discuss the poison label on products such as pesticides, etc.
3. Obtain samples of syrup of ipecac and medicinal charcoal.


Summary

The things you have learned in this lesson are just a start. You should now set your goals a step higher. Sometime soon, think about going through the entire first aid and CPR course. There is much more than we learned in our few short lessons.

You might even want to take the advanced first aid and instructor’s course. In this way, you would be qualified to teach first aid or CPR to others. You really learn first aid techniques when you are confronted by questions from other students.

There are even more advanced courses that you might consider in the future. Rescue squads and ambulance attendants are asked to take courses that go into more detail on immediate care of injured persons. These courses require at least 81-120 hours of training. In the future, this time limit may be extended. There is even a possibility that some people may want to make it their life profession. More detailed courses will be available to them. It’s also possible that first aid training will be required at some future time before a driver’s license can be obtained.

Within a few short years, you will become a leader in your community. You might be asked to be on the local volunteer fire department or rescue squad. This definitely would require first aid or emergency medical training. The material you have learned in this project could be the stepping stone for greater lifesaving experience. It’s a very good feeling when you can save the life of a person. Knowing what to do in an emergency situation is a very worthwhile achievement.
There is some argument on the use of 


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