

CHAPTER 13

FIRST AID

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LESSON TOPIC:

FIRST AID

OBJECTIVES:

- A driver will understand the basic principles of first aid and the immediate responsibilities of a school bus driver in case of an incident or sudden illness.
- A driver will know the steps to follow in administering mouth-to-mouth breathing.
- A driver will know the steps to follow in clearing the airway of a conscious or unconscious person.
- A driver will learn ways of controlling bleeding.
- A driver will be familiar with contents of a first aid kit.
- A driver will realize the seriousness of shock and the proper treatment to administer.
- A driver will learn the basic principles in splinting a suspected fracture.
- A driver will recognize the signs and symptoms of a victim who has fainted and will be able to administer the proper treatment.
- A driver will be able to administer the proper first aid to the victim with a nosebleed.
- A driver will be able to administer the proper first aid treatment to a victim having an epileptic seizure.

INTRODUCTION

First aid is the immediate and temporary care given to a victim of an incident or sudden illness until further medical services can be obtained. The primary objective of first aid is to save lives. A school bus driver must know how to administer basic first aid. In an emergency, an error could have disastrous consequences to the patient. **It is as important to know what to do as what not to do.** A person will respond more quickly to treatment if he/she recognizes that a competent person is administering the first aid.

EVALUATING THE SITUATION – SETTING PRIORITIES

To effectively deal with emergencies, the situation must be evaluated and priorities set. Three (3) evaluations, which must be made to establish priorities for treatment are:

1. the condition of the scene;
2. the type of the injury; and
3. the need for treatment.

The primary first aid procedures are:

- 1. to restore breathing;**
- 2. to control bleeding; and**
- 3. prevent shock**

The most urgent action following an incident is to remove everyone from danger. Several types of situations are of high priority; such as fires, electrocution and

drowning. Do not give aid until everyone is safe. Do not attempt to make a rescue until you are sure you will not become a victim.

SCHOOL AUTHORITIES SHOULD ALWAYS BE NOTIFIED OF ANY INCIDENT OR INJURY THAT OCCURS WHILE STUDENTS ARE BEING TRANSPORTED.

EMERGENCY MEDICAL SERVICES (EMS) SYSTEM

An EMS system is community-wide, coordinated means of reporting an incident or sudden illness.

The EMS system is activated by calling 911, 0 or the local EMS number.

When you call for help, give the following information:

1. WHERE THE EMERGENCY IS, WITH CROSS STREETS, IF POSSIBLE.
2. PHONE NUMBER YOU ARE CALLING FROM.
3. WHAT HAPPENED – BUS INCIDENT, FALL, ETC.?
4. HOW MANY PEOPLE NEED HELP?
5. WHAT IS BEING DONE FOR THE VICTIM?

MOUTH-TO-MOUTH RESUSCITATION

CONSCIOUS/UNCONSCIOUS

1. Determine consciousness by tapping the victim on shoulder and asking loudly, “Are you okay?” A person who is conscious will respond and will not have stopped breathing.

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p>POSITION</p> <ol style="list-style-type: none"> 1. If the victim is unconscious, position the victim on his/her back. 2. Roll the victim as a unit without twisting any body parts. <p style="text-align: center;">AIRWAY CHECK</p> <p>HEAD TILT WITH CHIN LIFT IF CERTAIN OF NO NECK INJURIES.</p> <p style="padding-left: 40px;">A. HEAD TILT WITH CHIN LIFT:</p> <ul style="list-style-type: none"> ❖ Place one hand on the victim’s forehead and apply firm, backward pressure with the palm. ❖ Place your fingertips under the bony part of the jaw near the chin. ❖ Support and lift the jaw with your fingertips, but avoid closing the mouth. <p>Turn your head to the side – look, listen, and feel for five (5) seconds to check for any breathing.</p> <p style="text-align: center;">THE QUICK STEP, IF NO BREATHING IS OBSERVED:</p> <ol style="list-style-type: none"> 1. Keep the head tilted. 2. Pinch the nostrils together. 3. Cover the victim’s mouth with your mouth - make a good seal. 4. Give two (2) slow breaths.

THE CHECK STEP

1. Check the pulse on the side of the neck near you (Carotid).
2. Keep the head tilted with your hand on the forehead.
3. Place the fingertips of your other hand on the Adam's Apple, then slide your fingers into the groove at the side of the neck.
4. Check for a pulse and any breathing for at least five (5) to ten (10) seconds.

If the person is not breathing, but does have a pulse, give mouth-to-mouth breathing.

If the person does not have a pulse and is not breathing, cardiopulmonary resuscitation is needed. If not trained to give CPR, make sure EMS has been called.

MOUTH-TO-MOUTH BREATHING

1. Be sure the head is still tilted.
2. Pinch the nose shut again.
3. Take a deep breath, open your mouth wide and make a tight seal over the victim's mouth.
 - Blow to fill up lungs;
 - Watch for the chest to rise,
 - Listen and feel for air, and
 - Watch the chest fall.
4. Repeat these steps once every five (5) seconds.

It may help to count "one, one-thousand, two,

one-thousand, three, one-thousand, four, one-thousand, five, one-thousand”, BREATH!

MOUTH-TO-NOSE BREATHING

If you cannot make a good mouth-to-mouth seal, give mouth-to-nose breathing:

1. Tilt the head using head tilt and chin lift.
2. Close the mouth.
3. Push on the chin, not on the throat so that you don't shut the victim's airway.
4. Blow into the nose.
5. Open the mouth and listen for air.
6. Watch the chest fall.

AIR IN THE STOMACH

When you are giving mouth-to-mouth breathing, the victim's stomach may fill up with air. Air in the stomach can push against the lungs, making it difficult or impossible to give full breaths. You can expel the air by gently but firmly pushing on the stomach. This may be dangerous to do because the victim could vomit and inhale the vomit into the lungs. When you give breaths, try to blow just hard enough to make the chest rise because you are likely to force air into the stomach if you blow too hard.

If the stomach is bulging with air and you cannot inflate the lungs, take these steps:

1. Turn the victim on one side.

2. Gently push on the stomach with your hand between the rib cage and the waist.
3. Clean out the mouth if the victim vomits.
4. Roll the victim on their back and continue mouth-to-mouth breathing.

NOTE: FOR A CHILD, AGES 1-8, BREATH INTO MOUTH ONCE EVERY THREE (3) SECONDS.

CLEARING OBSTRUCTED AIRWAY

When an object lodges in the throat or airway so that it prevents breathing, the victim has approximately four (4) minutes before brain damage may occur from a lack of oxygen. A person who has a completely blocked airway cannot speak or cough.

CONSCIOUS VICTIM

Give four (4) abdominal thrusts (Heimlich Maneuver):

1. Stand behind the victim and place your arms around him/her.
2. Place the thumb side of your fist against the midline of the abdomen just above the navel.
3. Grasp fist with other hand and press victim's abdomen with a quick inward upward thrust.
4. Repeat until either, object is dislodged, or the person becomes unconscious.
5. Encourage the victim to cough. Do not give up.

UNCONSCIOUS VICTIM

If mouth-to-mouth breathing has been attempted and the airway has been found to be blocked, retilt the head. If still blocked, it will be necessary to immediately attempt to clear the airway.

GIVE ABDOMINAL THRUSTS

1. It is acceptable to kneel astride the victim's hips or on one (1) thigh, or along the side of the victim.
2. Roll the victim on his/her back.
3. Place the heel of one hand on the victim's abdomen just above the navel and place the other hand of top of the first.
4. Point the fingers of the bottom hand toward the head.
5. With the shoulders directly over the victim's abdomen, press inward with four (4) quick thrusts. Do not press to either side because an injury may result.
6. Following the abdominal thrusts, lift jaw and tongue and check for objects. If seen, sweep it out with finger using a hooking action.
7. Mouth-to-mouth breathing should again be attempted. If unsuccessful, retilt. If continued unsuccessful, repeat thrusts.

NOTE: BACK BLOWS ARE NO LONGER RECOMMENDED BY THE AMERICAN RED

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p data-bbox="829 195 1490 415"><u>CROSS FOR ANYONE EXCEPT VERY SMALL INFANTS. CONTACT YOUR REGIONAL RED CROSS FOR CURRENT INFORMATION ON THIS MATTER.</u></p> <p data-bbox="829 447 1000 478"><u>BLEEDING</u></p> <p data-bbox="743 510 1490 856">Bleeding requires immediate attention. If a person is bleeding intensely, he/she can die in less than two (2) minutes. The loss of a pint of blood by a child and a quart by an adult may have disastrous results. Even the loss of a small amount of blood produces weakness and possibly shock. Evaluate the type of bleeding and the blood loss.</p> <p data-bbox="743 888 1190 919">EVALUATION OF BLEEDING</p> <p data-bbox="743 951 1109 982">CAPILLARY BLEEDING</p> <p data-bbox="743 1014 1490 1108">This comes from injuries to capillaries or small veins. It is indicated by steady oozing of dark-colored blood.</p> <p data-bbox="743 1140 1052 1171">VENOUS BLEEDING</p> <p data-bbox="743 1203 1490 1297">Bleeding from a vein indicated by a flow of dark colored blood at a steady rate.</p> <p data-bbox="743 1329 1092 1360">ARTERIAL BLEEDING</p> <p data-bbox="743 1392 1490 1549">Bleeding from an artery indicated by bright red blood flowing quickly in spurts or jets. Arterial bleeding may be mixed with venous bleeding.</p> <p data-bbox="743 1581 1092 1612">INTERNAL BLEEDING</p> <p data-bbox="743 1644 1490 1871">Internal bleeding often has no outward indication. Tender, swollen, bruised or hard areas of the body, such as the abdomen may indicate there is a possibility of internal bleeding. If the person collapses or has anxiety,</p>

marked paleness of the skin, rapid breathing, rapid and weak pulse, restlessness and thirst, the person could be in shock from internal bleeding.

CONTROL OF BLEEDING

DIRECT PRESSURE

The primary step to control bleeding is to exert direct pressure over the wound. As a universal precaution, use protective gloves in situations involving blood or body fluids.

1. Place the cleanest material available against the bleeding point and apply firm pressure with the hand until the wound clots and it can be properly dressed. Do not wait if a clean bandage or any material is not available. Apply direct pressure with the bare hand.
2. If a bandage is used and blood soaks through the bandage, **do not remove it**. Apply additional bandages and secure them in place. Be sure the bandage is not too tight.
3. Elevate the wound above the level of the heart, except when there is a broken bone.

ARTERIAL PRESSURE POINTS

If direct pressure on the wound does not control bleeding, direct pressure on any arterial pressure point close to the wound is necessary. The arterial pressure point must be located between the heart and the wound.

- **BRACHIAL** - located on the inner side of the

upper arm approximately three inches (3") below the armpit.

- **FEMORAL** - located midway in the groin
- **TEMPORAL** – located midway in the groin
- **CAROTID** – located deep and back of each side of the Adam's Apple.
- **SUBCLAVIAN** – located deep down in the hollow near the collarbone
- **FACIAL** – located in the small crevice one inch (1") from the angle of the jaw.

When you use a pressure point, keep using direct pressure.

TOURNIQUET

A tourniquet applied to control bleeding is mentioned principally to discourage its use. It is dangerous to apply, dangerous to leave on and dangerous to remove. It will cause tissue injury and stoppage of the entire supply of blood to the part below it. This can cause gangrene and could result in the loss of a limb. A tourniquet is rarely required and should be used only for severe, life-threatening hemorrhaging that cannot be controlled with direct or arterial pressure.

DRESSING AND BANDAGES

A dressing, also called a compress, is the immediate protective cover placed over a wound.

A bandage is a strip of woven material used to hold a

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p>dressing or compress in place. It may also be used to hold a splint in place.</p> <p style="text-align: center;">BUS DRIVER FIRST AID KIT</p> <ol style="list-style-type: none"> 1. GAUZE COMPRESS – Use as a dressing or padding for a splint. 2. BANDAGE COMPRESS – Compress and bandage attached. 3. TRIANGULAR BANDAGE – May be used as a sling for fracture or other injury of the arm or hand. May be folded and used as a circular, spiral or figure-eight bandage. 4. ADHESIVE BANDAGE –Band-aid 5. GAUZE BANDAGE – To be used around body or limb to hold compress in place. 6. SCISSORS AND TWEEZERS <p><u>SHOCK</u></p> <p>Shock is a condition in which the circulatory system fails to deliver blood to all parts of the body. Shock may be fatal even through the injury which causes it may not be enough to cause death. Shock can be made worse by extreme pain and fright.</p> <p>THREE (3) very common causes of severe shock are:</p> <ol style="list-style-type: none"> 1. inadequate breathing; 2. excessive bleeding; and 3. unsplinted fractures. <p>Treating these problems lessens the shock.</p>

SYMPTOMS OF SHOCK

1. Skin is pale, cold and clammy with small drops of sweat particularly around the lips and forehead.
2. Nausea and dizziness may be present.
3. Restlessness or irritability may occur.
4. Altered consciousness may occur.
5. Pulse may be fast and weak, or absent.
6. Breathing may be shallow and irregular.
7. Eyes may be dull with enlarged or dilated (larger) pupils.
8. Victim may be unaware of the seriousness of the injury, then suddenly collapse.

TREATMENT OBJECTIVES

1. Improve circulation of blood.
2. Ensure an adequate supply of oxygen.
3. Maintain normal body temperatures.

BODY POSITION

1. Standard position – lying on back, feet elevated six to twelve inches (6” –12”) – unless you suspect head, neck, or back injuries or possible broken bones involving the hips or legs).
2. If you are unsure of the victim’s condition, leave him/her lying flat.
3. A victim who is bleeding from the mouth or vomiting should lie on one side so that fluid will drain from the mouth.

REGULATING BODY TEMPERATURE

Keep the victim warm enough to avoid or overcome chilling. If the victim is exposed to cold or dampness, blankets or additional clothing should be placed over and under him/her to prevent chilling.

ADMINISTERING FLUIDS

Do not give the victim anything to eat or drink, even though he or she is likely to be thirsty.

Call your local emergency number immediately. Shock can't be managed effectively by first aid alone. A victim of shock requires advanced medical care as soon as possible.

FRACTURES AND SPLINTING

A closed fracture is an injury beneath the skin and may be difficult to detect. Do not move or have the victim move any body parts. The signs of a closed fracture are pain, swelling, deformity and discoloration.

An open fracture is usually much more serious than closed fractures because of the amount of tissue damage, bleeding and danger of infection. In most cases, the bone slips back inside the skin. Do not try to push a bone end back inside the skin.

SPLINTING

- Splint only if the victim must be moved or transported by someone other than emergency medical personal.
- Splint only if you can do it without causing more pain and discomfort to the victim.

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<ul style="list-style-type: none"> ➤ Splint an injury in the position you find it. ➤ Splint the injured area and the joints above and below the injury. ➤ Check for proper circulation before and after splinting. <p>It may be necessary to stop any associated bleeding and treat for shock.</p> <p><u>Fainting</u></p> <p>Fainting is partial or complete loss of consciousness due to a reduced supply of blood to the brain for a short time.</p> <p>Occasionally, a person may collapse suddenly without warning. Recovery of consciousness almost always occurs when the victim falls or is placed in a reclining position.</p> <p>Signs and symptoms are usually preceded or accompanied by:</p> <ul style="list-style-type: none"> ❖ extreme paleness; ❖ sweating ❖ coldness of the skin; ❖ dizziness; ❖ numbness and tingling of the hands and feet; ❖ nausea; and/or ❖ possible disturbance of vision. <p>NOTE: TO WARD OFF A FAINTING SPELL, HAVE PATIENT SIT WITH HEAD BETWEEN THE KNEES.</p>

FIRST AIDFirst aid for fainting should include:

1. Leave the victim lying down.
2. Loosen any tight clothing and keep crowds away.
3. If the victim vomits, roll him/her onto their side and, if necessary, wipe out his/her mouth with your fingers.
4. Maintain an open airway.
5. Do not pour water over the victim's face because of the danger of aspiration; instead, bathe the face gently with cool water.
6. Do not give any liquids unless the victim has revived.
7. Examine the victim to determine if he/she has suffered an injury from the fall.

NOSE BLEEDING

1. Place the victim in a sitting position. Have the victim lean forward.
2. Loosen the collar and anything tight around the neck.
3. Give the victim a compress to hold over their nose. (Driver should use protective gloves to do these procedures.)
4. Apply pressure directly at the site of the bleeding by pressing the bleeding nostril toward the midline.

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p data-bbox="829 191 1490 415">5. If bleeding continues, the victim should insert a small, clean pad of gauze (not absorbent cotton) into one or both nostrils and apply pressure with thumb and index finger.</p> <p data-bbox="829 447 1360 478">6. Do not allow the victim to blow nose.</p> <p data-bbox="743 510 1490 604"><u>EPILEPSY AND OTHER SOURCES OF CONVULSIONS</u></p> <p data-bbox="743 636 1490 793">The two (2) major signs of a serious epileptic attack are convulsions and loss of consciousness. A mild attack may last only a second and may not be noticed by others.</p> <p data-bbox="743 825 1490 982">First aid for epilepsy is the same as for other convulsions with the primary effort being made to prevent the victim from hurting himself/herself.</p> <ol data-bbox="837 1014 1490 1875" style="list-style-type: none"> <li data-bbox="837 1014 1224 1045">1. Push away nearby objects. <li data-bbox="837 1077 1490 1171">2. Do not force a blunt object between the victim's teeth. <li data-bbox="837 1203 1490 1297">3. When jerking is over, loosen the clothing around the neck. <li data-bbox="837 1329 1252 1360">4. Keep the victim lying down. <li data-bbox="837 1392 1219 1423">5. Keep his/her airway open. <li data-bbox="837 1455 1490 1612">6. Do not try to restrain the victim. Jerking motions and/or foaming at the mouth may often occur. <li data-bbox="837 1644 1446 1675">7. If breathing stops, give artificial respiration. <li data-bbox="837 1707 1490 1875">8. Allow the victim to sleep or rest following the seizure. Do not question, disturb or embarrass the victim.

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p data-bbox="836 189 1502 283">9. Assure all bystanders that the victim will not harm anyone.</p> <p data-bbox="738 315 1185 346"><u>BLOODBORNE PATHOGENS</u></p> <p data-bbox="738 378 1502 598">Bloodborne pathogens are micro-organisms in the bloodstream that can cause disease. The two (2) diseases that are of major concern in the work environment are Hepatitis B and HIV (AIDS).</p> <p data-bbox="738 630 1502 1113">Bloodborne pathogens are found in blood and blood products such as: semen, vaginal secretions, breast milk and other body fluids. Only blood, semen, vaginal secretions and breast milk have been proven to transmit the HIV virus. HIV is a more lethal virus, yet Hepatitis B is more contagious. HIV and Hepatitis B can only be transmitted if the exposed blood is infectious and that blood is allowed to enter directly into the body.</p> <p data-bbox="738 1144 1502 1239">Blood or other infectious material could enter the body through:</p> <ol data-bbox="828 1270 1502 1627" style="list-style-type: none"> 1. unprotected openings in the skin such as cuts, scrapes and dermatitis; 2. unprotected mucus membrane openings such as the eyes, nose and mouth; and/or 3. penetration into the skin by a sharp object such as broken glass, a needle or knife blade. <p data-bbox="738 1648 1502 1690">Drivers should report any exposure to their supervisor.</p> <p data-bbox="738 1711 1502 1879">Drivers should always use the “Body Fluid Clean-Up Kit” when dealing with blood or body fluids such as vomit. Kits usually include items such as disposable</p>

INSTRUCTOR GUIDELINES/NOTES	CONTENT
	<p>gloves, spatulas, a contaminated materials bag and germicidal antiseptic wiping cloths. Employees should consult their school district’s “Exposure Control Plan Reference Procedures and Universal Precautions” relating to Bloodborne pathogens. Each school district is required to provide training for employees with occupational exposure.</p> <p><u>SUMMARY</u></p> <p>There are obviously many other medical problems that may arise on a school bus or at the scene of an emergency. Only a few critical problems have been dealt with in this unit.</p> <p>Drivers should remember that, above all – as a first aid worker, they should know the limits of their capabilities and make every effort to avoid further injury to the victim in an attempt to provide the best possible emergency care.</p>

NAME: _____ DATE: _____

**FIRST AID
TEST******PLEASE ANSWER TRUE OR FALSE****

1. _____ First aid is the immediate and temporary care given to a victim of an accident/incident or sudden illness until medical services can be obtained.
2. _____ The three (3) primary first aid procedures are: restore breathing, control bleeding and prevent shock.
3. _____ Tourniquets should be used before trying pressure points.
4. _____ When minor first aid incidents occur, the supervisor need not be contacted.
5. _____ If an object lodges in a person's throat, give back blows immediately.
6. _____ Protective gloves should be worn when dealing with blood or blood products.
7. _____ If a bandage becomes soaked with blood, remove it and replace with a clean bandage as quickly as possible.
8. _____ The three (3) most common causes of shock are inadequate breathing, excessive bleeding and unsplinted fractures.
9. _____ The body temperature of a shock victim usually rises.
10. _____ A open fracture is usually associated with an open wound.
11. _____ Open fractures are usually more serious than closed because of tissue damage, danger of infection and bleeding.
12. _____ Abdominal thrusts and the Heimlich Maneuver are the only two (2) accepted methods of choking control for all ages.
13. _____ All drivers should know the limitations of their capabilities when giving first aid.
14. _____ Hepatitis B is more contagious than HIV.
15. _____ Drivers should report exposure to blood and blood products to their supervisor.
16. _____ Fainting is usually accompanied by a flushed face and extremely hot skin.
17. _____ Drivers should only use the body fluid clean-up kit for severe incidents.

18. _____ Drivers should be familiar with the contents of the bus first aid kit.
19. _____ The primary objective of first aid is to save lives.
20. _____ When giving first aid, the driver could cause further injury to the victim.

INSTRUCTOR'S SIGNATURE: _____

**FIRST AID
TEST
PLEASE ANSWER TRUE OR FALSE**

KEY

The answer key is only released to KDE endorsed trainers.