

Student Learning Plan

Unit 4: Wellness, Fitness, and First Aid The First Life-Saving Steps [U4C2L2]



What you will accomplish in this lesson:

Demonstrate life-saving skills



Why this lesson is important:

In emergency situations, the people involved may find it difficult to remain calm and think clearly. In the midst of this confusion, one simple trick you can use to remind yourself of the first and most important problems to check for and steps to take are the letters A-B-C.

A stands for airway. Is the victim's airway blocked? If so, clear the airway.

B stands for breathing. Is the victim breathing? If not, restore breathing.

C stands for circulation. Is the victim's heart beating? If not, restore the heartbeat.

In this learning plan, you will learn procedures for addressing these three situations including CPR, abdominal thrusts, and rescue breathing.



What you will learn in this lesson:

- Describe how to perform rescue breathing
- Identify the steps for performing CPR
- Explain how CPR can keep a victim's heart and brain alive
- Describe the steps for performing abdominal thrusts
- Define key words: abdominal thrusts, automatic external defibrillators (AED), cardiac arrest, rescue breathing, stroke



You will have successfully met this lesson's purpose:

- by summarizing life-saving steps in a written format
- by performing life-saving steps on a mannequin
- when you create accurate and complete How-To cards for performing abdominal thrusts, rescue breathing, and CPR
- when you correctly perform abdominal thrusts
- when you correctly perform rescue breathing
- when you correctly perform CPR



Learning Activities:

These learning activities are designed to help you learn the target skills and knowledge for this lesson. Your instructor may assign additional or alternative learning activities.

INQUIRE PHASE: What do you already know?



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1. THINK ABOUT what you know about heart attack, stroke, and choking. PREPARE for this lesson by discussing *What you will accomplish in this lesson; What you will learn in this lesson; Why this lesson is important*, and *When you will have successfully met this lesson's purpose*.
 2. COMPLETE Exercise #1: Stroke vs. Heart Attack vs. Choking. REVIEW the correct answers with your class.

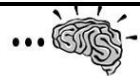
- _____3. REFLECT on the different types of emergency situations you might encounter. ANSWER the reflection questions presented by your instructor.

GATHER PHASE: So, what else do you need to know or learn?



- Part 1**
- _____1. REVIEW the emergency First Aid ABC steps. LISTEN to a briefing on heart attack, stroke, and choking.
 - _____2. VIEW a demonstration of the Heimlich maneuver (abdominal thrusts). VIEW a demonstration of rescue breathing. CREATE How-To cards for the abdominal thrusts and Rescue Breathing.
 - _____3. REFLECT on the life-saving techniques you learned. ANSWER the reflection questions presented by your instructor.
- Part 2**
- _____4. LISTEN to a briefing on CPR and AEDs. VIEW the video demonstration on the 2010 CPR Guidelines.
 - _____5. LISTEN to a briefing on Hands-Only CPR. VIEW a video demonstration of Hands-Only CPR. CREATE How-To cards for CPR. REVIEW Exercise #2: Useful Websites as needed.
 - _____6. REFLECT on what you learned about CPR. ANSWER the reflection questions presented by your instructor.

PROCESS PHASE: Now what can you do with this new information you've learned?



- Part 1**
- _____1. **Option 1:** PLAY the CERT-Alert CPR-Choking Basic game using your clickers, or **Option 2:** PRACTICE the Heimlich maneuver (abdominal thrusts) and rescue breathing on the CPR mannequin.
 - _____2. REFLECT on how well you were able to perform the life-saving steps. ANSWER the reflection questions presented by your instructor.
- Part 2**
- _____3. PRACTICE CPR on the CPR mannequin.
 - _____4. REFLECT on how well you were able to perform CPR. ANSWER the reflection questions presented by your instructor.



Assessment Activities:

APPLY PHASE: What else can you do with what you've learned today?



- _____1. COMPLETE the First Life-Saving Steps Performance Assessment Task. SUBMIT your completed performance assessment task to your instructor for feedback and a grade.
- _____2. REVIEW the key words of this lesson.
- _____3. REFLECT on what you have learned in this lesson and how you might use it in the future.



Self-Paced Learning and Assessment Activities:

Independently complete the activities outlined below:

- 1. **Inquire Phase:** Complete the Learning Activities 1 – 3 or as modified by your instructor.
- 2. **Gather Phase:** Complete the Learning Activities 1 – 6 or as modified by your instructor.
- 3. **Process Phase:** Complete the Learning Activities 1 – 4 or as modified by your instructor.
- 4. **Apply Phase:** Complete the Learning Activities 1 – 3 or as modified by your instructor.



Courtesy of Army JROTC

U4C2L2

The First Life-Saving Steps

Key Words:

Abdominal Thrusts

Automatic External
Defibrillators (AEDs)

Cardiac Arrest

Rescue Breathing

Stroke

What You Will Learn to Do

Demonstrate life-saving skills in an emergency situation

Linked Core Abilities

- Do your share as a good citizen in your school, community, country, and the world

Skills and Knowledge You Will Gain Along the Way

- Demonstrate how to perform rescue breathing
- Identify the steps for performing CPR
- Explain how CPR can keep a victim's heart and brain alive
- Demonstrate the steps for performing the abdominal thrusts

Introduction

In emergency situations, the people involved may find it difficult to remain calm and think clearly. In the midst of this confusion, think A-B-C. A-B-C refers to the steps you need to take to help a person who has been hurt or is ill.



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“A”— Airway

Clearing the Airway of a Conscious Victim

Choking occurs when a person inhales something into the airway leading to the lungs, blocking the airway and preventing breathing. In many choking cases, people inhale particles of food while eating. In an accident, injured people may choke on dirt, broken teeth, or dentures.

A person whose airway is completely blocked cannot make any sound, because no air is getting to the vocal cords. If a person can speak or cough, some air is getting through to the vocal cords and lungs, and you should let the person try to clear the airway on his or her own. If the person can make no sound and indicates choking by grabbing the throat, the best method to clear the person’s airway is the **Heimlich maneuver**.

Performing the Heimlich Maneuver on a Choking Victim

1. Stand behind the victim and wrap your arms around the victim’s waist.

2. Make a fist with one hand and place the thumb side of the fist against the victim's abdomen slightly above the navel and well below the breastbone. Grasp the fist with the other hand.
3. Give six to 10 quick backward and upward thrusts; repeat this until the airway is clear.
4. For an exceptionally overweight person or pregnant woman, use the same procedure, except place the fist in the middle of the breastbone.
5. If you are the victim of an airway obstruction and no one is around to help, lean forward over a railing, sink, or the back of a chair and thrust yourself down until you dislodge the obstruction.

Clearing the Airway of an Unconscious Victim

If a person is unconscious and you know that individual has an obstructed airway, perform the following maneuver with the victim lying on his or her back:

1. Kneel astride the victim's thighs. Place the heel of one hand against the victim's abdomen, slightly above the navel, but well below the victim's breastbone, with your fingers pointing towards the victim's head.
2. Place your other hand on top of your first hand and press into the abdomen with a quick forward and upward thrust. Repeat this six to 10 times.
3. Open the victim's mouth and sweep out any foreign matter using a hooked finger. Be careful not to push anything down the throat.

For an obese individual or a woman in the advanced stages of pregnancy, use the following procedure:

1. Kneel to the side of the victim's body. Locate the lower edge of the victim's ribs, and run the fingers up along the rib cage to the notch where the ribs meet the breast bone.
2. Place the heel of the hand two finger widths above the notch, and place the other hand over the first, interlocking the fingers.
3. Position your shoulders over your hands, and with the elbows locked, press down 1 1/2 to 2 inches, six to 10 times.
4. Open the victim's mouth and sweep out any foreign matter using a hooked finger. Be careful not to push anything down the throat.

“B” – Breathing

Restoring the Breathing

If you discover a victim who is not breathing, it is necessary to start breathing for the victim by forcing oxygen into his or her lungs as soon as possible. This process, called **rescue breathing** or mouth-to-mouth resuscitation, can prevent brain damage and death. By applying this first aid step it will most likely start the victim breathing independently; but if not, continue until a qualified person replaces you, or medical help arrives. When you are giving mouth-to-mouth resuscitation to a victim, you are a life-support system!

Mouth-to-mouth Resuscitation Steps

The following steps describe how to give mouth-to-mouth resuscitation to adults. Procedures that are different for infants and small children are underlined>.

1. Roll the victim gently over if he or she is not already facing up. Open the mouth and check to see if it is clear. Using a hooked finger, sweep out anything you find in the mouth, being careful not to push anything down the throat.
2. Tilt the victim's head back sharply by pressing down on the forehead and lifting on the jaw. This straightens out the passageway to the victim's lungs. For infants and small children, do not tilt the head back. Instead, place a finger under the chin and lift it slightly.



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3. Keeping the victim's head tilted sharply back, pinch the nose closed, cover the victim's mouth completely with your mouth, and give the victim two full breaths. For infants and small children, do not pinch the nose closed. Instead, cover both the mouth and nose with your mouth and give small, slow, gentle breaths. Each breath should last 1 to 1 1/2 seconds.

Pause between breaths to let the air come out of the victim and to breathe in yourself. If the victim's chest does not rise when you breathe into his or her lungs, reposition the head slightly farther back and repeat the breaths. If the victim's chest still does not rise, perform **abdominal thrusts** to clear the airway as described in the previous section, "Clearing the Airway of an Unconscious Victim," then repeat the breaths.



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4. After the two breaths, listen and feel for breathing by placing your cheek close to the victim's mouth. At the same time, check the victim's pulse by placing two fingers in the groove of the neck next to the Adam's apple. This is the location of the carotid artery, which normally produces a strong pulse.
5. If there is no pulse, start CPR immediately as described in the next section.
6. If there is a pulse but no breathing, continue mouth-to-mouth resuscitation at the rate of one breath every 5 seconds or 12 times a minute. For infants and small children, give one slow breath every 3 seconds.
7. If the victim starts to breathe, stop mouth-to-mouth resuscitation and let the victim breathe on his or her own. Check for other injuries, treat as required, and observe the victim closely until medical help arrives.

“C” – Circulation

Cardiopulmonary Resuscitation (CPR)

As in mouth-to-mouth resuscitation, when you perform CPR, you are a life-support system for the victim. CPR is a first aid procedure performed to restore breathing and heartbeat. It is a combination of mouth-to-mouth resuscitation and a procedure known as closed-chest heart massage or chest compressions. Mouth-to-mouth resuscitation supplies oxygen to the lungs, while chest compressions manually pump blood through the victim's body, circulating

it to the heart and brain. These actions help keep the heart and brain alive until the heartbeat is restored or medical help arrives.

In CPR, think of the letters C-A-B.

1. **C**ompression
2. **A**irway
3. **B**reathing

When someone's heart has stopped beating, chest compressions are the priority. Opening the airway and restoring breathing are the next steps.

CPR can be performed by a single rescuer or by more than one rescuer, since CPR can be tiring and is easier if two rescuers are available. The CPR procedures discussed in this lesson are for a single rescuer who has been fully trained in CPR.

CPR should be performed only if the victim is

- unresponsive
- not breathing or not breathing normally
- has no pulse in a 10 second period

Before you begin CPR, call 911 for help.

Note: The C-A-B follow the CPR steps as defined by the American Heart Association (AHA). American Red Cross (ARC) still follows the A-B-C steps if you have been trained.

Performing CPR on an Adult

1. With the middle and index fingers of the hand nearest the victim's legs, locate the lower edge of the rib cage on the side of the victim's chest closest to you.
2. Slide your fingers up the edge of the rib cage to the notch at the lower end of the breastbone. Place your middle finger in the notch and the index finger next to it on the lower end of the breastbone.
3. Place the heel of the hand nearest the victim's head on the breastbone next to the index finger of the hand used to find the notch.
4. Place the heel of the hand used to find the notch directly on top of the heel of the other hand. Only let the heel of your hand touch the victim's chest; keep your fingers lifted off of the victim's chest. If you place your hands correctly, they will be positioned slightly above the lowest part of the breastbone, known as the xiphoid process. Avoid pressing on the xiphoid process because it breaks easily.



5. Position your shoulders over your hands, with elbows locked and arms straight.
6. Press down on the breastbone at least 2 inches at a very quick, continuous rate. Push down hard and fast on the center of the chest 30 times, at a rate of 100 compressions per minute. This squeezes the victim's heart against the spine and forces blood through the body. Allow the chest to completely recoil between compressions.

If you have not been trained in CPR or are not proficient, continue to give compressions until help arrives.

7. If you are trained in CPR, open the airway with a head tilt-chin lift after 30 compressions.
8. Pinch the victim's nose closed. Take a normal breath and cover the victim's mouth with your mouth, creating an airtight seal. Give two breaths, one second each. Watch for the victim's chest to rise as you give each breath.
9. Keep giving 30 compressions and 2 breaths until help arrives.

Performing CPR on an Infant or Child

The procedure for a single rescuer to perform CPR on infants and children is almost the same as for adults. The difference is the depth of the chest compressions. For infants, the chest should only be compressed about 1 ½ inches.



Heart Attacks and How to Help

A heart attack, or **cardiac arrest**, occurs when the blood supply to part of the heart muscle is severely reduced or stopped. That happens when one of the coronary arteries (the arteries that supply blood to the heart muscle) is blocked by an obstruction or a spasm. Common signs and symptoms so of a heart attack include:

- Uncomfortable pressure, fullness, squeezing, or pain in the center of the chest that lasts more than a few minutes or that goes away and comes back.
- Pain spreading to the shoulders, neck, or arms.
- Chest discomfort with lightheadedness, fainting, sweating, nausea, or shortness of breath.

When a person's heart stops beating, the victim is said to be in **cardiac arrest**. Cardiopulmonary resuscitations (CPR) can keep the individual alive. If a person has a

heart attack, call Emergency Medical Services (EMS). Monitor the ABC's and give CPR as necessary.

Stroke and How to Help

A **stroke** occurs when blood vessels that deliver oxygen-rich blood to the brain rupture or when a blood clot forms and blocks the flow of blood in the brain. Common signs and symptoms of a stroke include:

- Paralysis on one side of the body
- Blurred or decreased vision, pupils of unequal size
- Problems speaking, slurred speech
- Difficulty breathing
- Mental confusion
- Dizziness or loss of balance
- Sudden, severe, or unexplained headache
- Loss of consciousness

If a person has a stroke, call EMS. Lay the victim down on one side and cover with blanket. Monitor the ABC's and give CPR as necessary.

Automated External Defibrillators (AED)

Recently there has been a breakthrough in how Emergency Medical Technicians (EMTs) treat victims of sudden cardiac arrest. The **Automated External Defibrillator (AED)** is a device that uses a computer chip to analyze the heart rhythm and determines whether a shock is needed. This device allows victims suffering a sudden cardiac arrest a greatly improved chance of survival. Because of the ease of operation, people can be trained in AED use in a few hours and some say the techniques are easier to learn than CPR. Many AEDs offer voice prompts, which provide operators with clear and concise instructions. Most AEDs have only three buttons: On/Off, Analyze, and Shock. Many airlines have installed AEDs on all their planes, and several cities are locating them in areas where there are large concentrations of people, such as malls, arenas, and stadiums.



Conclusion

This lesson presents the correct techniques for dealing with the most life-threatening conditions of an accident victim — loss of breathing and heartbeat. Use the letters A-B-C to remind yourself of the first problems to check for on an injured person: **A**irway blocked, loss of **B**reathing, and lack of **C**irculation. Perform the Heimlich maneuver to clear a victim's airway, mouth-to-mouth resuscitation to restore breathing, and CPR to restore circulation (heartbeat). For the best and safest results, take a class from a qualified instructor before performing mouth-to-mouth resuscitation and CPR on an injured person.



Lesson Check-up

1. What are the ABCs of life-saving steps?
2. Describe when and how to perform the Heimlich maneuver on an adult, child, infant and yourself.
3. Distinguish among the procedures for giving CPR to adults, children and infants?
4. What are the common signs of a stroke?

Exercise 1: Stroke vs. Heart Attack vs. Choking

Directions: Place the symptoms under the condition they describe.

Stroke	Heart Attack	Choking

Symptoms:
1. Loss of consciousness
2. Persistent chest pain
3. Dizziness
4. Bluish color to lips, tongue, fingernails
5. Shortness of breath
6. Mental confusion
7. Sweating
8. Paralysis on one side
9. Slurred speech
10. Grasping for breath
11. Pupils of unequal size
12. Nausea
13. Inability to speak or cough loudly
14. Difficulty in breathing

Performance Assessment Task

Unit 4: Wellness, Fitness, and First Aid

The First Life-Saving Steps [U4C2L2]

This performance assessment task gives you an opportunity to document your achievement of the lesson's competency:

Demonstrate life-saving skills



Directions

For this performance assessment task, you will summarize and demonstrate life-saving steps. For this assessment you will:

1. Use your student text to create or complete How-To cards on life-saving steps.
2. Demonstrate the Heimlich maneuver (abdominal thrusts), rescue breathing, and CPR.
3. Use the attached scoring guide criteria for what you need to do to complete this task.
4. Submit your completed performance assessment task and scoring guide to your instructor for evaluation and a grade.

RECOMMENDATION: It is recommended that you add this performance assessment task to your Cadet Portfolio.

The First Life-Saving Steps Performance Assessment Task Scoring Guide

Criteria	Ratings
1. Your How-To card for the Heimlich maneuver includes the steps to perform the procedure as described in the student text or other reference material	met not met
2. Your How-To card for the Heimlich maneuver includes the steps to perform the procedure on unconscious victims and obese/pregnant victims	met not met
3. Your How-To card for the rescue breathing includes the steps to perform the procedure as described in the student text or other reference material	met not met
4. Your How-To card for CPR includes the steps to perform the procedure on an adult, an infant, and a child as described in the student text or other reference material	met not met
5. You perform the Heimlich maneuver correctly	met not met
6. You perform rescue breathing correctly	met not met
7. You perform CPR correctly	met not met

Comments:

Name: _____ **Date:** _____

Evaluator's Signature: _____ **Date:** _____