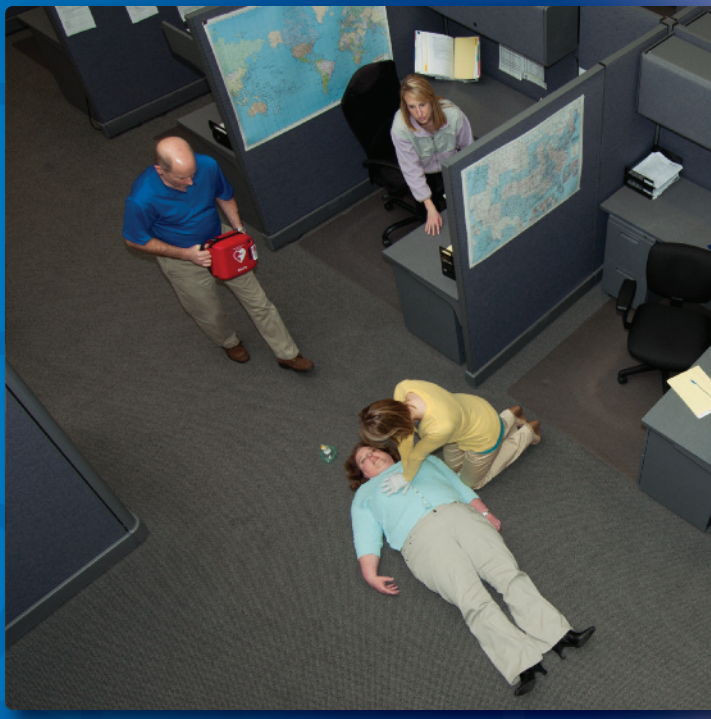
Student Guide Preview



BasicPlus

CPR, AED, and First Aid For Adults

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MEDIC First Aid

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Student Guide

Version 7.0

Purpose of this Guide

This MEDIC First Aid *BasicPlus Version 7.0 Student Guide* is solely intended to facilitate certification in a MEDIC First Aid BasicPlus CPR, AED, and First Aid training class. The information in this guide is furnished for that purpose and is subject to change without notice.

MEDIC First Aid certification may only be issued when a MEDIC First Aid-authorized Instructor verifies a student has successfully completed the required core knowledge and skill objectives of the program.

Notice of Rights

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Table of Contents

Sudden Cardiac Arrest

Sudden cardiac arrest, or SCA, can occur without warning to anyone, at any time. It is one of the leading causes of death among adults in the United States.

Sudden cardiac arrest happens when the normal electrical impulses in the heart unexpectedly become disorganized. The normally coordinated mechanical contraction of the heart muscle is lost, and a chaotic, quivering condition known as ventricular fibrillation can occur.

Blood flow to the brain and body abruptly stops. The lack of blood and oxygen to the brain causes the person to quickly lose consciousness, collapse, and stop breathing.

Brain tissue is especially sensitive to a lack of oxygen. When oxygen is cut off, brain death can occur quickly, within a matter of minutes. Without early recognition and care from a bystander, the person will not survive.

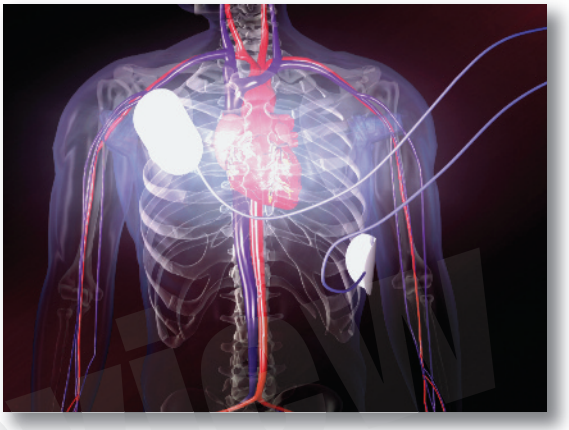
Causes of SCA

- Heart disease
- Electrical shock
- Severe blood loss
- Drug overdose
- Severe allergic reaction
- Drowning

Early Defibrillation

Cardiopulmonary resuscitation, or CPR, allows a bystander to restore some oxygen to the brain through a combination of chest compressions and rescue breaths.

By itself, CPR is only a temporary measure that can buy time until more advanced care can be provided. The most effective treatment for ventricular fibrillation is defibrillation.



To defibrillate, electrode pads are applied to the chest and an electrical shock is sent between the pads through the heart. This shock stops ventricular fibrillation, so the heart's normal electrical activity can return and restore blood flow.

Successful defibrillation is often dependent on how quickly a person is defibrillated. For each minute a person is in cardiac arrest, his/her chance of surviving decreases by about 10 percent. After as little as 10 minutes, defibrillation is rarely successful. The amount of time it takes to recognize a problem, activate EMS, and have EMS respond and defibrillate is usually longer than 10 minutes. In most cases, it's too late.

An automated external defibrillator, or AED, is a small, portable, computerized device that is simple for a minimally trained bystander like you to operate.

Turning on an AED is as simple as opening a lid or pushing a power button. Once it is on, an AED will provide voice instructions to guide you through its use.

An AED automatically analyzes the heart rhythm, determines if a shock is needed, and charges itself to be ready to defibrillate. An operator simply pushes a button to deliver the shock when told to by the AED.

In many cases of sudden cardiac arrest, if defibrillation can be delivered sooner, before EMS arrives, more people would survive. Immediate, high-quality CPR and defibrillation with an AED from a bystander can double or even triple the chance for survival.

Chest Compressions

If the heart stops, it is possible to restore at least some blood flow through the circulatory system by way of external chest compressions. The most effective chest compressions occur with the rhythmic application of downward pressure on the center of the chest.

External compressions increase pressure inside the chest and directly compress the heart, forcing blood to move from the heart to the brain and other organs.

Always compress fast and deep when performing compressions. Without losing contact, allow the chest to fully rebound at the top of each compression.

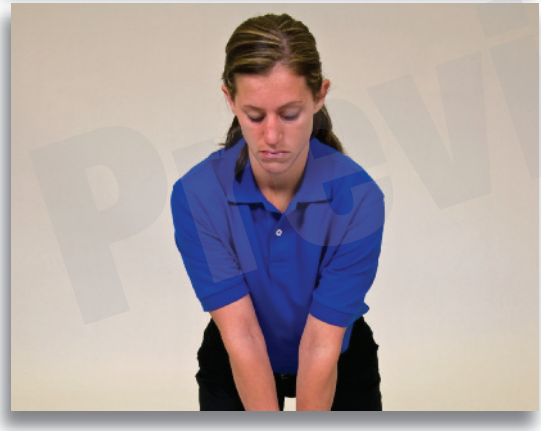
Blood pressure is created and maintained with well-performed compressions. If compressions stop, pressure is quickly lost and has to be built up again. Minimize any interruptions when doing compressions.

When compressing properly, you may hear and feel changes in the chest wall. This is normal. Forceful external chest compression is critical if the person is to survive.

Chest Compressions

Skill Sheet 2

- Position person face up on flat, firm surface. Kneel close to chest. Place heel of one hand on center of chest.
- Place heel of second hand on top of first. You can interlace your fingers to help keep off chest.



- Position your shoulders directly above your hands. Lock your elbows and use upper body weight to push.

- Push hard, straight down at least 2 inches. Lift hands and allow chest to fully rebound.
- Without interruption, push fast at a rate of at least 100 times per minute.
- Keep up the force and speed of compressions.

Unresponsive and Breathing

Even if a person is breathing normally, a lack of responsiveness is still considered to be a life-threatening condition that requires immediate care.

There are a variety of things that can result in unresponsiveness, including medical conditions such as stroke or seizures, or external factors, such as alcohol or drug overdose. Regardless of the cause, the greatest treatment concern is the ability of the person to maintain a clear and open airway.

Positioning an uninjured, unresponsive person in the recovery position can help maintain and protect the airway. This position uses gravity to drain fluids from the mouth and keep the tongue from blocking the airway.

If an unresponsive person has been seriously injured, do not move the person unless fluids are collecting in the mouth and airway, or you are alone and need to leave to get help.

Frequently assess the breathing of anyone placed in a recovery position. The condition can quickly become worse and require additional care.

HAINES Position

This version of the recovery position is also described as the High Arm in Endangered Spine, or HAINES, position and can be used when someone is injured.

Unresponsive and Breathing — Recovery Position

Skill Sheet 6

Assess Person

- If safe, tap or squeeze shoulder. Ask loudly, "Are you okay?"

  No response!

- Have someone alert EMS and get an AED.
- Look quickly at face and chest for normal breathing.

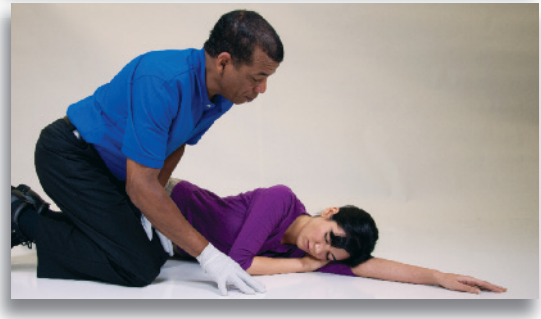
Normal breathing present!

Prepare

- Extend arm nearest to you up alongside head.
- Bring far arm across chest and place back of hand against cheek.
- Grasp far leg just above knee and pull it up so foot is flat on ground.

Roll

- Grasp shoulder and hip and roll patient toward you. Roll in a single motion, keeping head, shoulders, and torso from twisting.
- Roll far enough for face to be angled forward.
- Position elbow and knee to stabilize head and body.



Suspected Injury

- If person has been seriously injured, do not move unless fluids are collecting in airway, or you are alone and need to leave to get help.
- During roll, make sure head ends up resting on extended arm and head, neck, and torso are inline.

Pain, Severe Pressure, or Discomfort in the Chest

Acute coronary syndrome, or ACS, occurs when there is reduced blood flow to the tissues of the heart. Often described as a heart attack, ACS is a serious condition that can result in significant damage to the heart.

Someone with ACS will generally experience pain, severe pressure, or discomfort in the chest. Women often do not experience these signs and will describe indigestion, weakness, or fatigue. Shortness of breath, nausea, and lightheadedness can also occur. The person's skin may be pale, cool, and sweaty.

A person who has had previous heart problems is at risk for recurrence. Ask the person or any bystanders about prior problems or medications being taken.

Activate EMS immediately, even if the person does not want you to. If an AED is available, have someone get it and keep it nearby. Do not try to transport the person to a hospital yourself.

Allow the person to find the most comfortable position in which to breathe.

Loosen tight clothing. Calm, comfort, and reassure the person.

A person who is having a heart attack may deny it. This is a common occurrence in ACS. Accept it, but never let this alter your approach to care.

Someone with a heart condition may carry a prescribed medication known as nitroglycerin. Assist the person in taking it.

Aspirin can be lifesaving for a person having a heart attack. While waiting for EMS providers to arrive, encourage the person to chew one non-coated adult (325 mg) or two low-dose (81 mg) "baby" aspirin. Do not encourage aspirin use if the person has an allergy to aspirin, evidence of a stroke, or a recent bleeding problem.

Whenever a heart attack is suspected, be prepared for the possibility of sudden cardiac arrest, and the need for CPR and the use of an AED. Continue to reassure the person until another provider or EMS personnel take over.

Heart Disease

Heart disease, through heart attacks and strokes, is the leading cause of death for men and women in the United States. Statistics indicate more than one in four deaths was related to heart disease; half of the deaths were women.

A healthy lifestyle can lower the risk of heart disease:

- Follow a healthy diet to prevent or reduce high blood pressure and high blood cholesterol
- Maintain a healthy weight
- Control alcohol intake
- Don't smoke
- Exercise regularly

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