Chapter Seven

CPR and AED

CPR and AED

1-Apply CPR and AED for Adults

- **CPR for Adult**

Definition of CPR: CPR is the abbreviation for Cardio Pulmonary Resuscitation. CPR is the process of delivering chest compressions and breaths to someone who is not breathing. If someone is not breathing, you can assume that they are in cardiac arrest, which means that their heart is not pumping blood around their body and therefore not delivering oxygen to the cells within their body. CPR is a technique that is used to manually pump blood around a person's body by performing chest compressions and increasing the amount of oxygen within their body by performing breaths. CPR is vitally important as it can increase someone's chances of survival once the ambulance service arrives.

Important: To determine if an unconscious adult needs CPR, follow the emergency action steps **(CHECK—CALL—CARE).**

- ✓ CHECK the scene and the injured or ill person.
- ✓ CALL 123 or the local emergency number.
- ✓ CHECK for breathing for no more than 10 seconds.
- ✓ Quickly CHECK for severe bleeding.
- ✓ If the person is not breathing, give CARE by beginning CPR.

Action:

- **To perform CPR on an adult:**

 # perform CPR 1

 # perform CPR 2

If Two Responders Are Available

If two responders trained in CPR are at the scene, both should identify them as being trained. One should call 123 or the local emergency number for help while the other performs CPR. If the first responder is tired and needs help:

- ✓ The first responder should tell the second responder to take over.
- ✓ The second responder should immediately take over CPR, beginning with chest compressions.

When to Stop CPR

Once you begin CPR, do not stop except in one of these situations:

- ✓ You notice an obvious sign of life, such as breathing.
- ✓ An AED is available and ready to use.
- ✓ Another trained responder or EMS personnel take over.
- ✓ You are too exhausted to continue.
- ✓ The scene becomes unsafe.

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• Using an AED

Definition: AEDs are portable electronic devices that analyze the heart's rhythm and deliver an electrical shock, known as defibrillation, which helps the heart to reestablish an effective rhythm (Fig. 39). For each minute that CPR and defibrillation are delayed, the person's chance for survival is reduced by about 10 percent. However, by learning how to perform CPR and use an AED, you can make a difference before EMS personnel take over.

• AED Precautions

When operating an AED, follow these general precautions:

- ✓ Do not use alcohol to wipe the person's chest dry. Alcohol is flammable.
- ✓ Do not use an AED and/or pads designed for adults on a child younger than 8 years or weighing less than 55 pounds unless pediatric AED pads specific to the device are not available.

- ✓ Do not use pediatric AED pads on an adult or on a child older than 8 years, or on a person weighing more than 55 pounds. AEDs equipped with pediatric AED pads deliver lower levels of energy that are considered appropriate only for children and infants up to 8 years old or weighing less than 55 pounds.
- ✓ Do not touch the person while the AED is analyzing. Touching or moving the person may affect analysis.
- ✓ Before shocking a person with an AED, make sure that no one is touching or is in contact with the person or any resuscitation equipment.
- ✓ Do not touch the person while the device is defibrillating. You or someone else could be shocked.
- ✓ Do not defibrillate someone when around flammable or combustible materials, such as gasoline or free-fl owing oxygen.
- ✓ Do not use an AED in a moving vehicle. Movement may affect the analysis.
- ✓ The person should not be in a pool or puddle of water when the responder is operating an AED.
- ✓ Do not use an AED on a person wearing a nitroglycerin patch or other medical patch on the chest. With a gloved hand, remove any patches from the chest before attaching the device.
- ✓ Do not use a mobile phone or radio within 6 feet of the AED. Radiofrequency interference (RFI) and electromagnetic interference (EMI), as well as infrared interference, generated by radio signals can disrupt analysis.

Actions of How to use AED for Adults:

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Actions 1

#

Actions 2

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2-Apply CPR and AED for Children

• CPR for a Child

Actions If during the unconscious check you find that the child is not breathing, place the child face-up on a firm, flat surface. Begin CPR by following these steps1:

step 1

step 2

step 3

• When to Stop CPR

Continue cycles of 30 chest compressions and 2 rescue breaths. Do not stop CPR except in one of these situations:

- ✓ You find an obvious sign of life, such as breathing.
- ✓ An AED is ready to use.
- ✓ Another trained responder or EMS personnel take over.
- ✓ You are too exhausted to continue.
- ✓ The scene becomes unsafe.

Important: If at any time you notice the child begin to breathe, stop CPR, keep the airway open and monitor breathing and for any changes in the child's condition until EMS personnel take over.

• AED for Child

AEDs equipped with pediatric AED pads can deliver lower levels of energy considered appropriate for children and infants up to 8 years of age or weighing less than 55 pounds. Use pediatric AED pads and/or equipment if available. If pediatric specific equipment is not available, use an AED designed for adults on children and infants. Always follow local protocols (i.e., guidelines provided by the facility's medical director or EMS) and the manufacturer's

instructions. Follow the same general steps and precautions that you would when using an AED on an adult in cardiac arrest.

Actions of How to use AED for Adults:

 # Actions 3

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3-Apply CPR for Infant

- **CPR for a Child**

Actions If during your check you find that the infant is not breathing, begin CPR by following these :

steps 1

steps 2

steps 3

- **When to Stop CPR**

Continue cycles of 30 chest compressions and 2 rescue breaths. Do not stop CPR except in one of these situations:

- ✓ You find an obvious sign of life, such as breathing.
- ✓ An AED is ready to use.
- ✓ Another trained responder or EMS personnel take over.
- ✓ You are too exhausted to continue.
- ✓ The scene becomes unsafe.

Important: If at any time you notice the infant begin to breathe, stop CPR, keep the airway open and monitor breathing and for any changes in the infant's condition until EMS personnel take over.

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- **CPR SKILL COMPARISON1**

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- **CPR SKILL COMPARISON2**