

CPR



**Cardio Pulmonary
Resuscitation is the
combination of rescue breaths
with chest compressions**

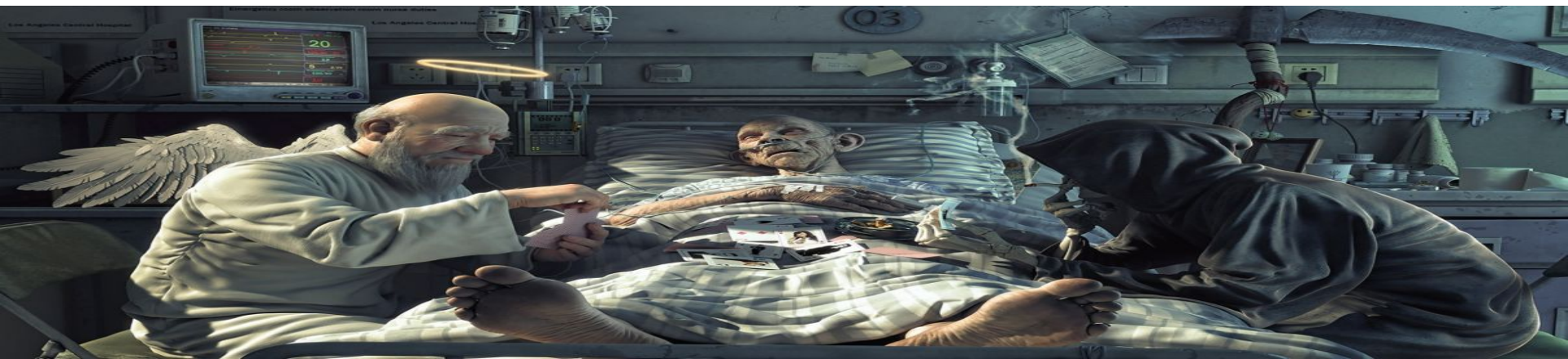
Terminal states

- **The terminal state** is a critical level of impairment of vital activity with a pronounced drop in blood pressure, a deep violation of gas exchange and metabolism
- **Clinical death** is the moment of complete arrest of blood circulation and respiration.
- **Biological death** is an irreversible cessation of physiological processes in cells and tissues.

Cardio-pulmonary resuscitation

Why It is Important ?

- ❑ The duration of clinical death is 3-5 minutes!
- ❑ After 10 minutes, irreversible changes occur (biological death).
- ❑ After 5-7 minutes after the onset of clinical death, brain destruction begins.



CPR - Cardio Pulmonary Resuscitation

procedure to support and maintain breathing and circulation for an infant, child, or adolescent who has stopped breathing (respiratory arrest) and/or whose heart has stopped (cardiac arrest).



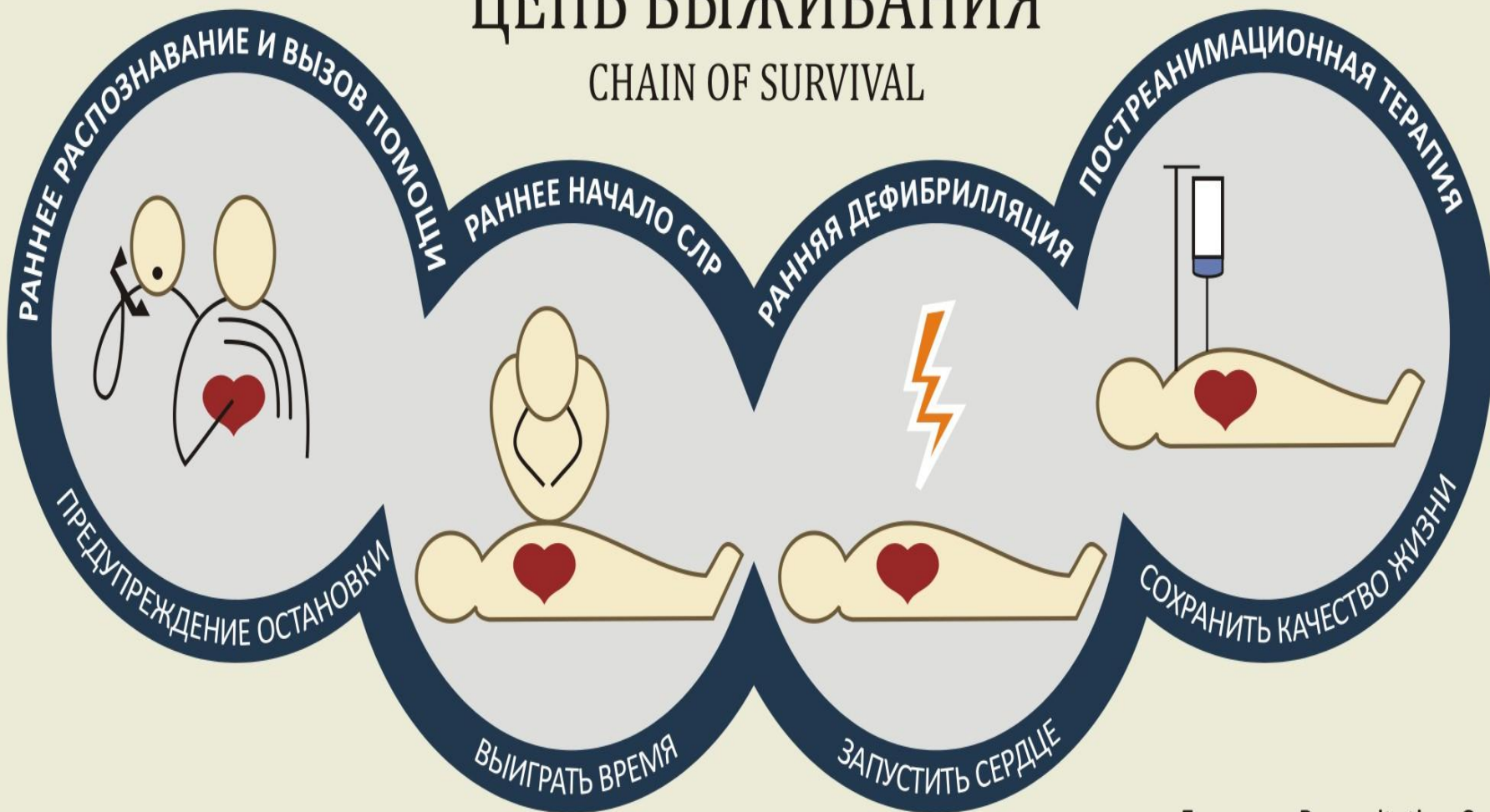
CLINICAL SIGNS OF STOPPED BLOOD CIRCULATIONS ARE:

- LACK OF CONSCIOUSNESS**
- NO NORMAL RESPIRATION OR AGONAL BREATH**
- NO PULSE**

CHAIN OF SURVIVAL

"ЦЕПЬ ВЫЖИВАНИЯ"

CHAIN OF SURVIVAL



The first important steps in the giving CPR are

The Three C's!!!

- Check
- Call
- Care



©ERC



©ERC

Check

is the scene safe ?

- Check for anything unsafe, such as spilled chemicals, traffic, fire, and other hazardous items.
- Are you putting yourself in danger by helping this person? Make sure you are also taking care of yourself.
- Is there anyone around who can also help? Ask others around the scene for as much help as they can offer
- Check for responsiveness: tap and shout

Call

- Calling for help is often the most important action you can take to help the person
- Call 112 or the local emergency number(if there are other people at the scene, ask someone else to call for you to help !
- Make sure you give the 112 operator correct information about your location, the emergency, any other information you are able to give about the emergency

Care

once you have followed the first two C', You may need to give care until EMS personnel arrive. Follow these guidelines :-

- Do not further harm.
- Monitor the person's breathing and consciousness.
- Help the person rest in the most comfortable position.
- Keep the person from getting chilled or overheated.
- Reassure the person

CPR is as easy as **C-A-B**



Compressions

Push hard and fast
on the center of
the victim's chest



Airway

Tilt the victim's head
back and lift the chin
to open the airway



Breathing

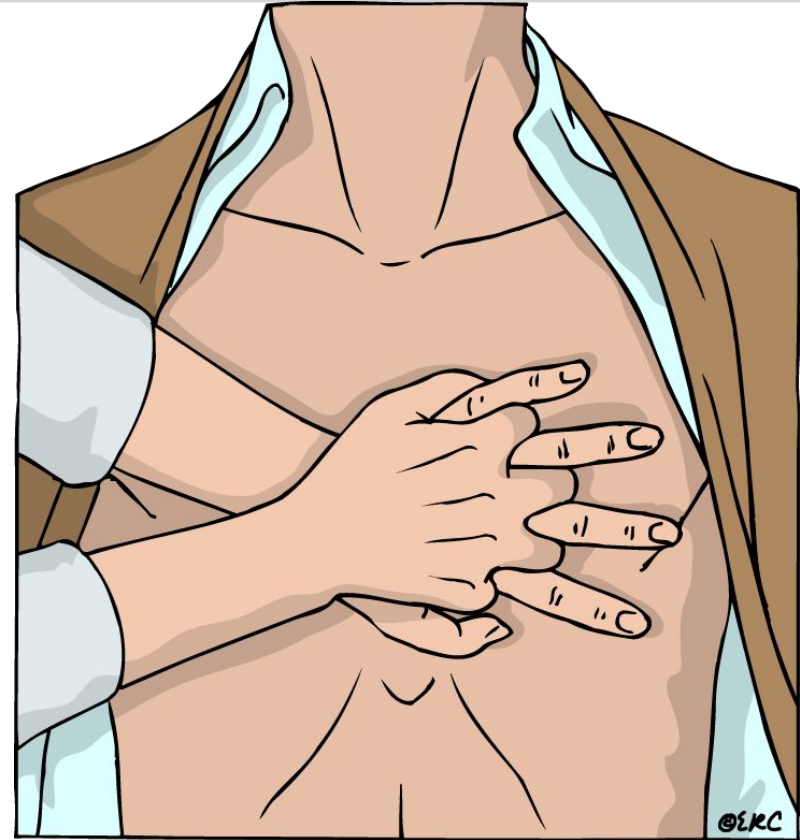
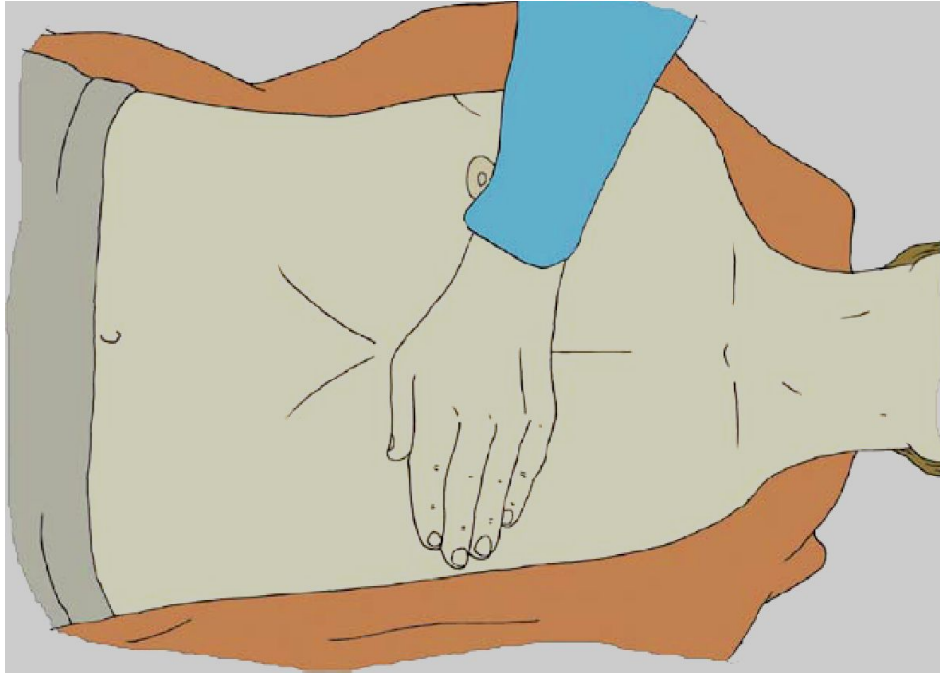
Give mouth-to-mouth
rescue breaths

American Heart
Association



Learn and Live

STEP 1: {C} Start compression (100 / min)



COMPRESSIONS (INDIRECT MASSAGE)

Without initial breaths (!) 30 compressions (then - 2 breaths)

Hands are placed on the middle of the chest, fingers are crossed.

Step	Action
1	Make sure the person is lying on his back on a firm, flat surface.
2	Move clothes out of the way.
3	Put the heel of 1 hand on the lower half of the breastbone. Put the heel of your other hand on top of the first hand.
4	Push straight down at least 2 inches at a rate of at least 100 compressions a minute.
5	After each compression, let the chest come back up to its normal position.



A



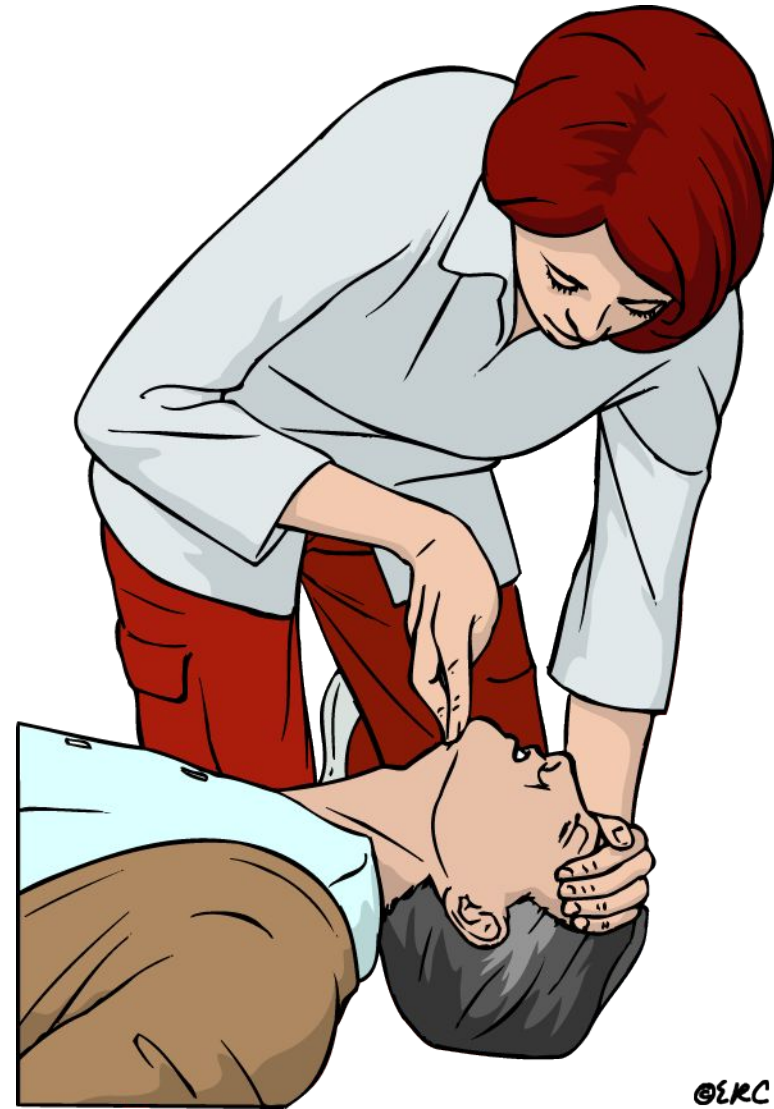
B

STEP 2: {A} OPEN THE AIRWAY

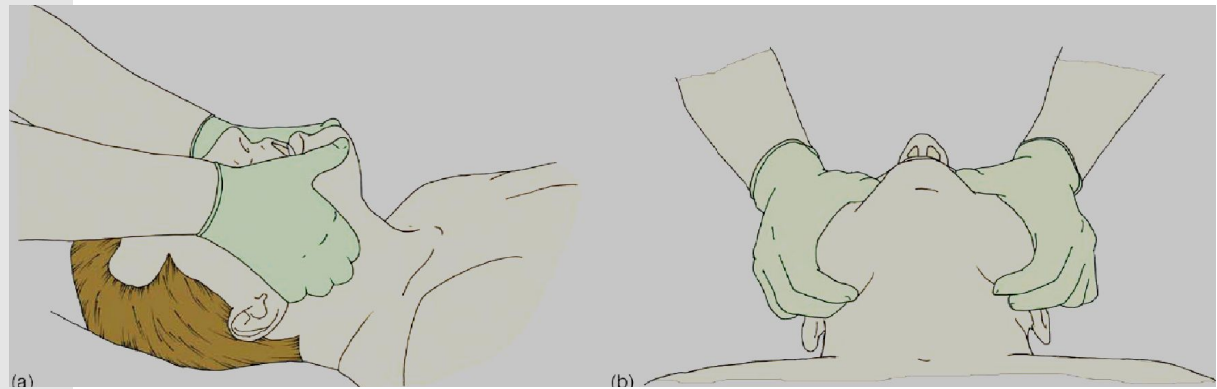
{A} AIRWAYS

Triple technique: tilt the head backward, opening the mouth, extending the lower jaw

BUT: It is impossible if you suspect a fracture of the cervical spine (car accidents, falls, sports injuries)!



STEP 2: {A} AIRWAY



{A} AIRWAYS

The extension of the mandible is one of the most effective components.

STEP 3: {B} GIVE BREATHS

Step	Action
1	While holding the airway open, pinch the nose closed.
2	Take a breath. Cover the person's mouth with your mouth.
3	Give 2 breaths (blow for 1 second each). Watch for the chest to begin to rise as you give each breath.



Signs of effectiveness of CPR.

Every 1-2 min - pulse control on the carotid artery.

- 1. The appearance of pulse waves on the carotid artery**
- 2. There is a reaction of pupils to light**
- 3. Improve skin color.**
- 4. Attempts spontaneous respiratory movements**
- 5. Spontaneous limb movements**

USE AN AED (AUTOMATED EXTERNAL DEFIBRILLATOR)



HOW AEDs WORK ?

- Automatically checks victim's heart rhythm to detect fibrillation
- Advises whether victim needs a shock
 - the shock (defibrillation) is an attempt to return heart to a normal rhythm.



Algorithm

USE AN AED (AUTOMATED EXTERNAL DEFIBRILLATOR)

- As soon as the AED is delivered to the scene:
 - enable the AED and then follow its voice and visual commands;
 - impose electrodes on the patient's bare chest.
-
- One electrode is placed on the right side of the chest (under the collarbone, to the right of the sternum, not on the sternum!).
 - The second electrode is applied to the left half of the chest.



Рис. 11. Начать компрессию грудной клетки.

Algorithm

USE AN AED (AUTOMATED EXTERNAL DEFIBRILLATOR)

- If there is a second rescuer during the imposition of the electrodes, continuous chest compressions should be continued.



Рис. 12. Продолжать компрессии грудной клетки во время наложения электродов АЭД.

Algorithm

USE AN AED (AUTOMATED EXTERNAL DEFIBRILLATOR)

- ❑ make sure that no one touches the patient, and press the button;
- ❑ immediately after the application of the discharge, continue the CPR in the ratio of 30: 2

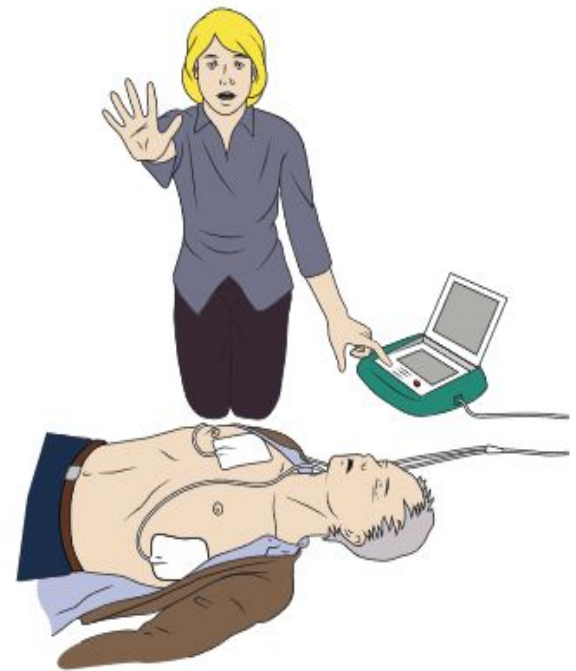


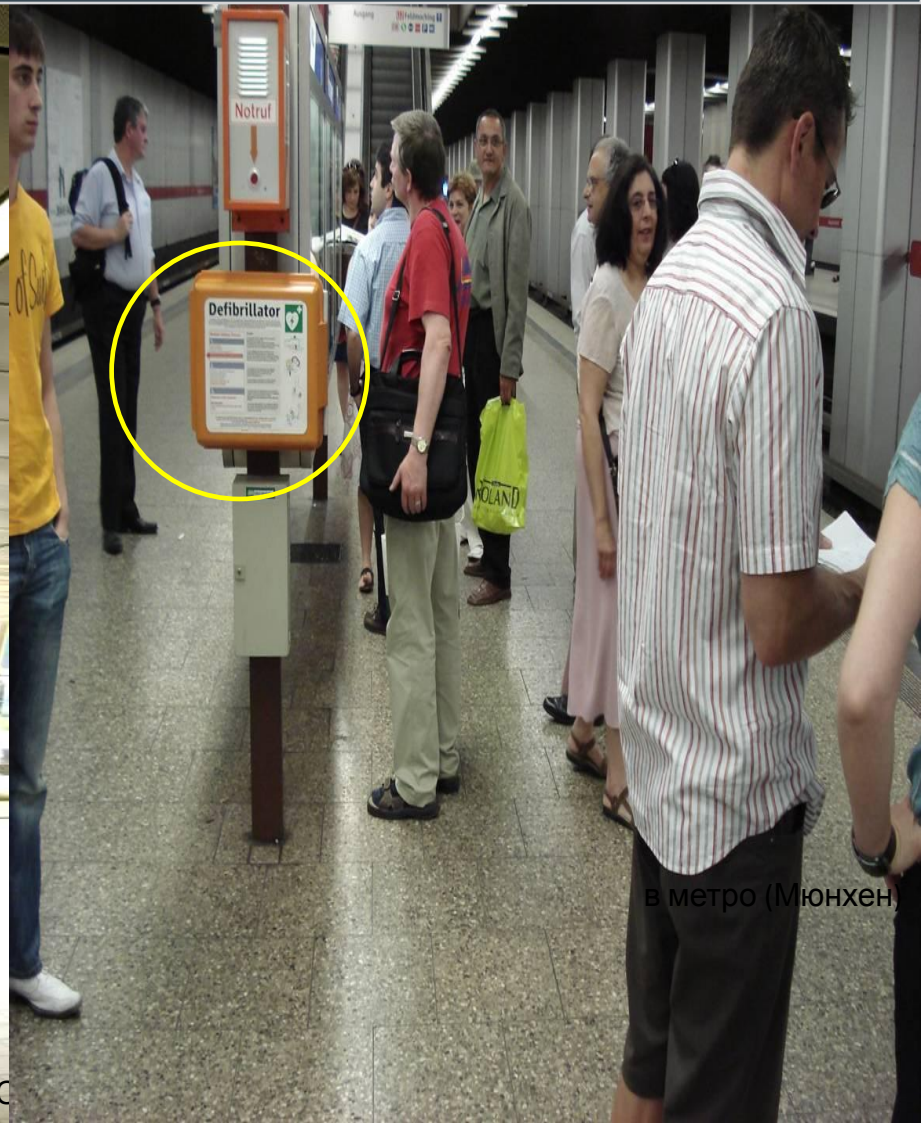
Рис. 14. Нанесение разряда АНД.
Никто не прикасается к больному!

AED

(AUTOMATED EXTERNAL DEFIBRILLATOR)



аэропорт С



в метро (Мюнхен)

CPR **TRAINING**

Get trained. Save a life. You'll be glad you did.