CPR Course

Emergency medicine department

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association®

Learn and Live sm

OBJECTIVES

- At the end of this course participants should be able to demonstrate:

  - How to assess the collapsed victim.
  - How to perform chest compression and use AED.
  - How to approach to the pulseless arrest patients.

Basic Life Support

BACKGROUND

- Approximately 700,000 cardiac arrests per year in Europe

- Survival to hospital discharge presently approximately 5-10%

- Bystander CPR vital intervention before arrival of emergency services

- Early resuscitation and prompt defibrillation (within 1-2 minutes) can result in >60% survival

System-specific Chains of Survival.

Approach safely

Check response

Call 115

AED

Check pulse

30 chest compressions

Open airway

2 rescue breaths

APPROACH SAFELY!

Scene

Rescuer

Victim

Bystanders

Approach safely

Check response

Call 115

AED

Check pulse

30 chest compressions

Open airway

2 rescue breaths

CHECK RESPONSE

- Approach safely
- Check response
- Call 115
- AED
- Check pulse
- 30 chest compressions
- Open airway
- 2 rescue breaths

CHECK RESPONSE

Shake shoulders gently

Ask "Are you all right?"

If he responds:

- Leave as you find him.

- Find out what is wrong.

- Reassess regularly.

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CHECK RESPONSE

If he dose not respond:

- Check breathing quickly.

- No or agonal breathing means cardiac arrest.

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AGONAL BREATHING

- Occurs shortly after the heart stops in up to 40% of cardiac arrests

- Described as barely, heavy, noisy or gasping breathing

- Recognise as a sign of cardiac arrest

SHOUT FOR HELP – CALL 115

9-1-1
POLICE · FIRE · MEDICAL
EMERGENCY

Approach safely
Check response
Call 115
AED
Check pulse
30 chest compressions
Open airway
2 rescue breaths

AED

Approach safely

Check response

Call 115

AED

Check pulse

30 chest compressions

Open airway

2 rescue breath

CHECK PULSE

10 seconds

Approach safely

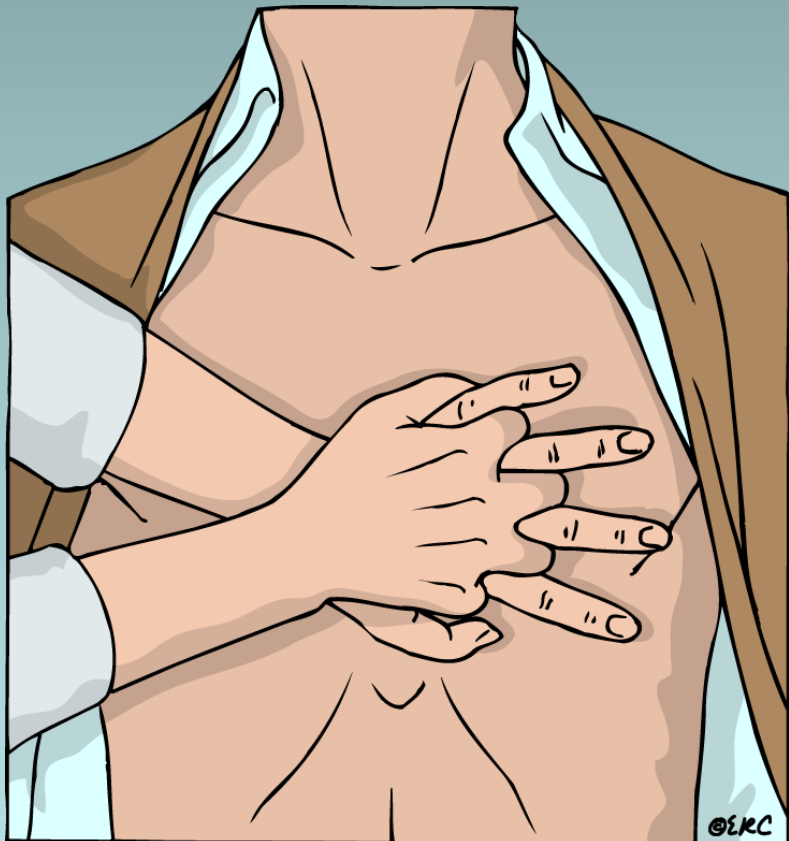**Check response**

Call 115

AED

Check pulse

30 chest compressions

Open airway

2 rescue breath

CHEST COMPRESSIONS

- Place the heel of one hand in the center of the chest

- Place other hand on top

- Interlock fingers

- Compress the chest
  - Rate 100-120 per min
  - Depth 5-6 cm
  - Equal compression : relaxation

- When possible change CPR operator every 2 min

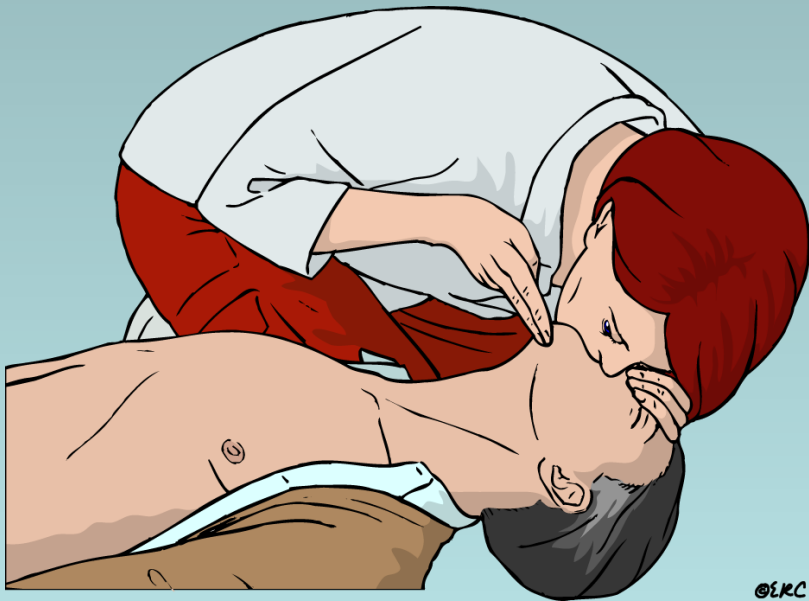# OPEN AIRWAY

Approach safely

Check response

Call 115

AED

Check pulse

30 chest compressions

Open airway

2 rescue breaths

RESCUE BREATHS

Approach safely

Check response

Call 115

AED

Check pulse
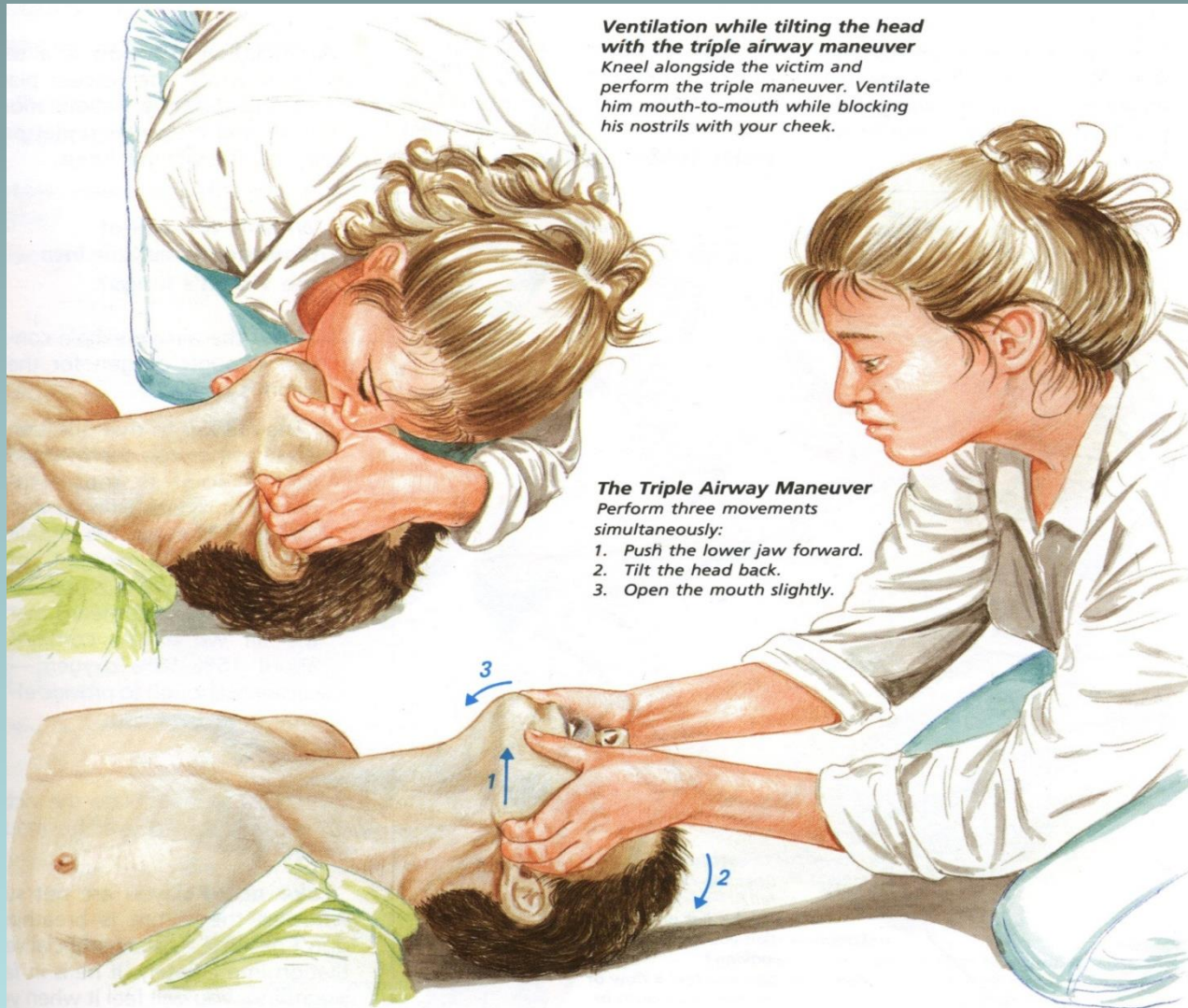
30 chest compressions

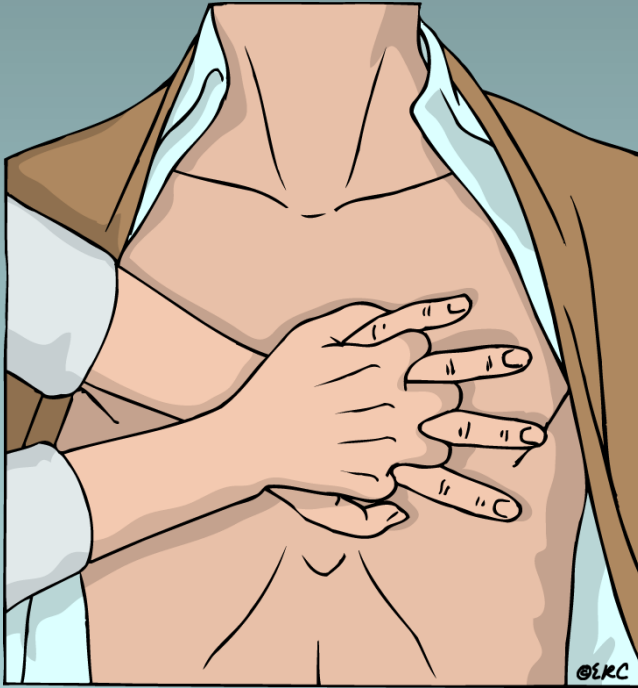**Open airway**

2 rescue breaths

RESCUE BREATHS

- Pinch the nose
- Take a normal breath
- Place lips over mouth
- Blow until the chest rises
- Avoid excessive ventilation
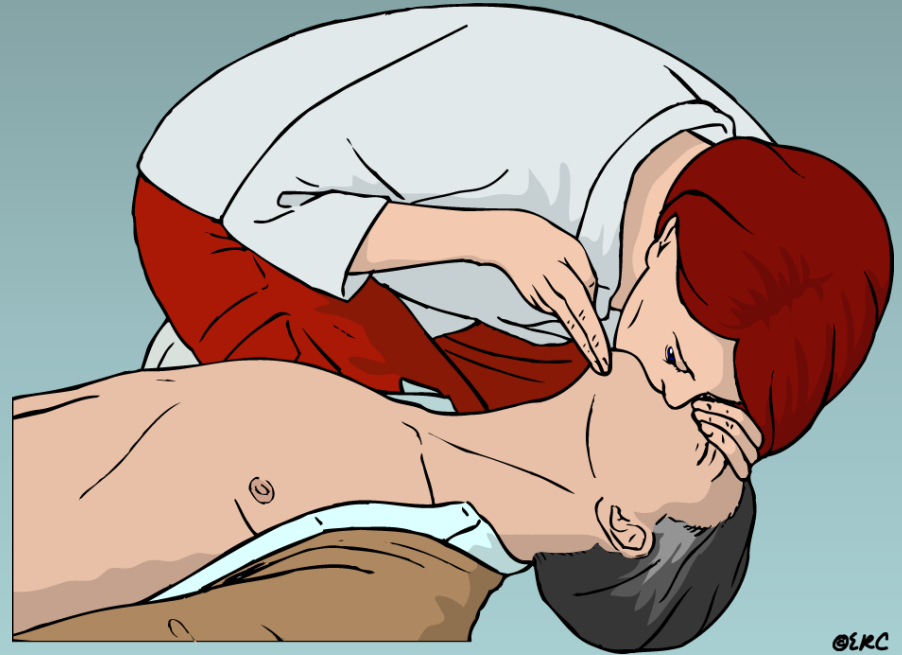- Take about 1 second
- Allow chest to fall
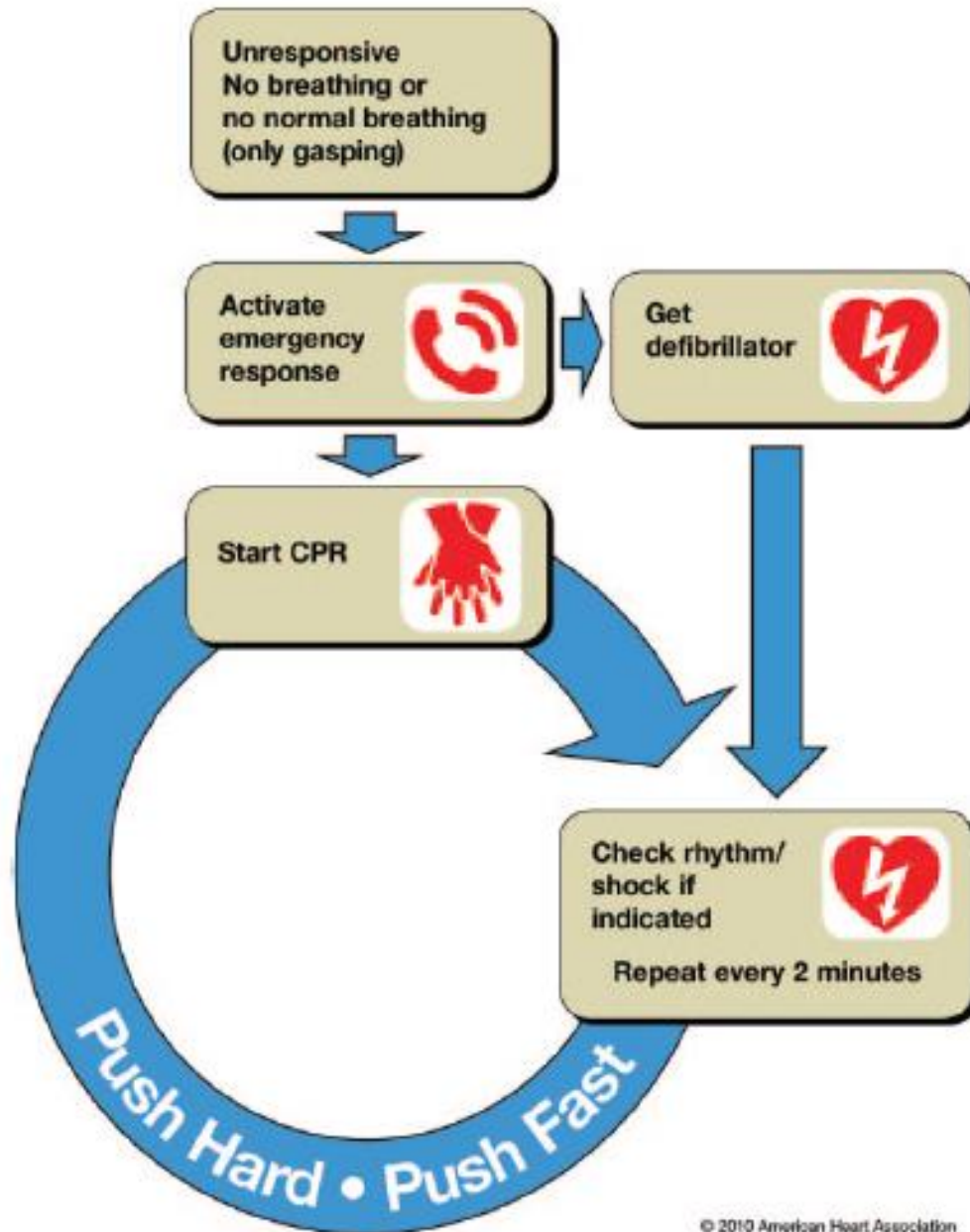- Repeat

©ERC

JAW THRUST (IN TRAUMATIC PATIENT)

Ventilation while tilting the head with the triple airway maneuver
Kneel alongside the victim and perform the triple maneuver. Ventilate him mouth-to-mouth while blocking his nostrils with your cheek.

The Triple Airway Maneuver
Perform three movements simultaneously:
1. Push the lower jaw forward.
2. Tilt the head back.
3. Open the mouth slightly.

CONTINUE CPR

30

2

IF YOU HAVE NOT TENDENCY TO BREATHE

Chest compression only

Simplified Adult BLS

Unresponsive
No breathing or
no normal breathing
(only gasping)

Activate emergency response

Get defibrillator

Start CPR

Check rhythm/ shock if indicated

Repeat every 2 minutes

Push Hard • Push Fast

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PEDIATRIC BLS

- One rescuer: 30 compressions 2 breaths

- Two rescuer: 15 compressions 2 breaths

METHODS

Child 1-8 Years
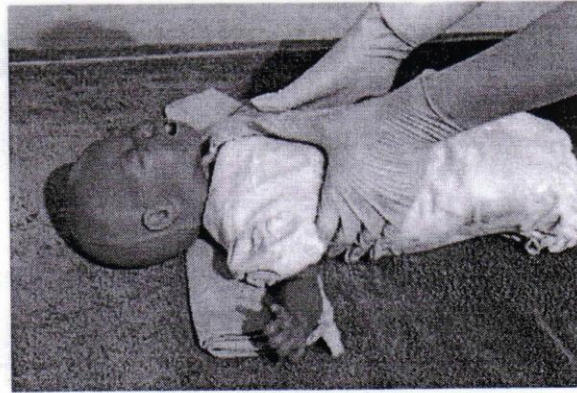
Infant < 1 Year

BREATHING

KEY CHANGES

- Recognition of cardiac arrest based on assessing unresponsiveness and absence of normal breathing.

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- Look, listen and feel removed from the algorithm.

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- High quality CPR.

KEYS

- Recognition of cardiac arrest based on assessing unresponsiveness and absence of normal breathing.

- Look, listen and feel removed from the algorithm.

- Sequences change to CAB rather than ABC.

- High quality CPR.

- Continued de-emphasis on pulse check for health care providers.

ANY QUESTIONS?

DEFIBRILLATION

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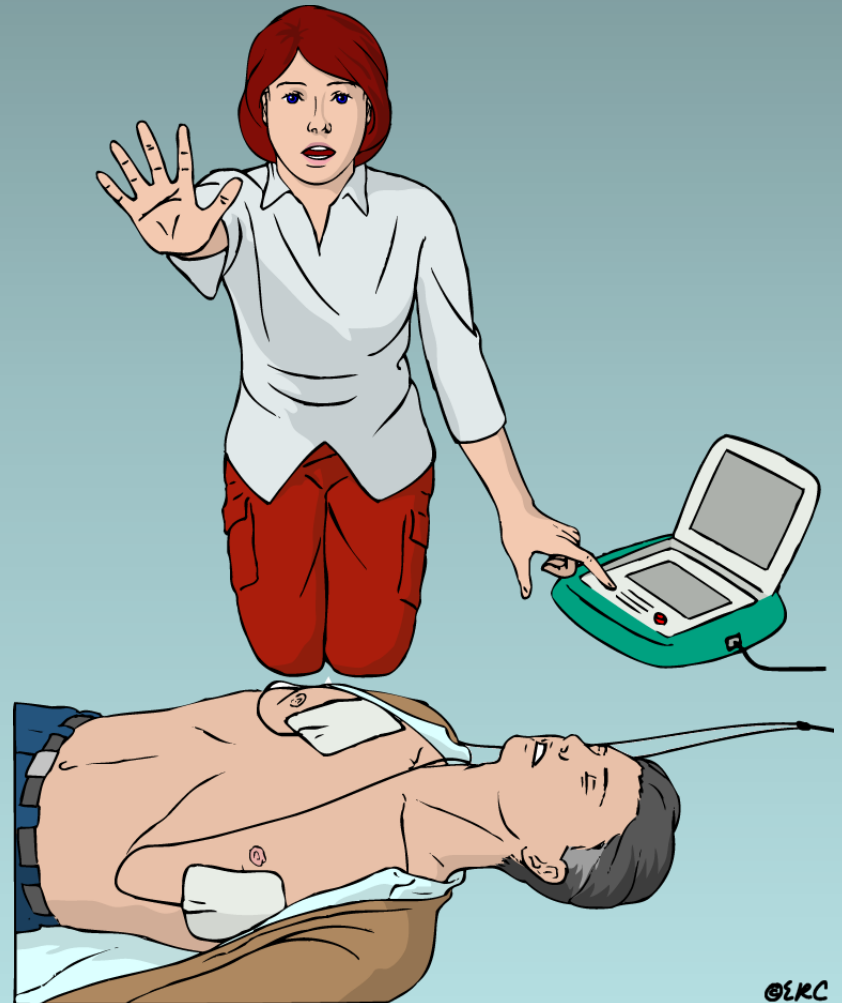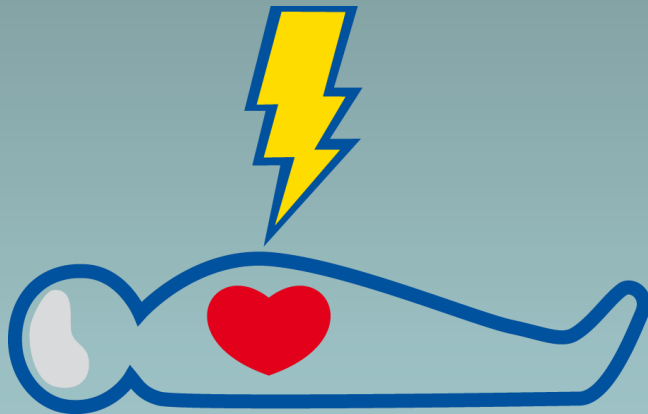
Approach safely

Check response

Shout for help

Call 115

AED

Attach AED
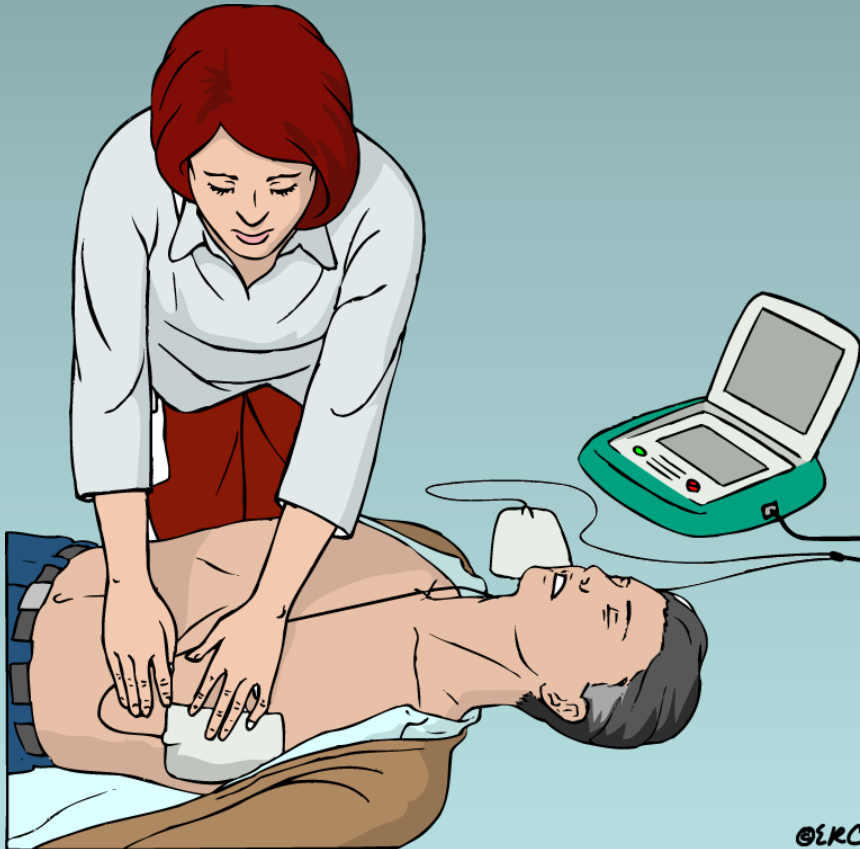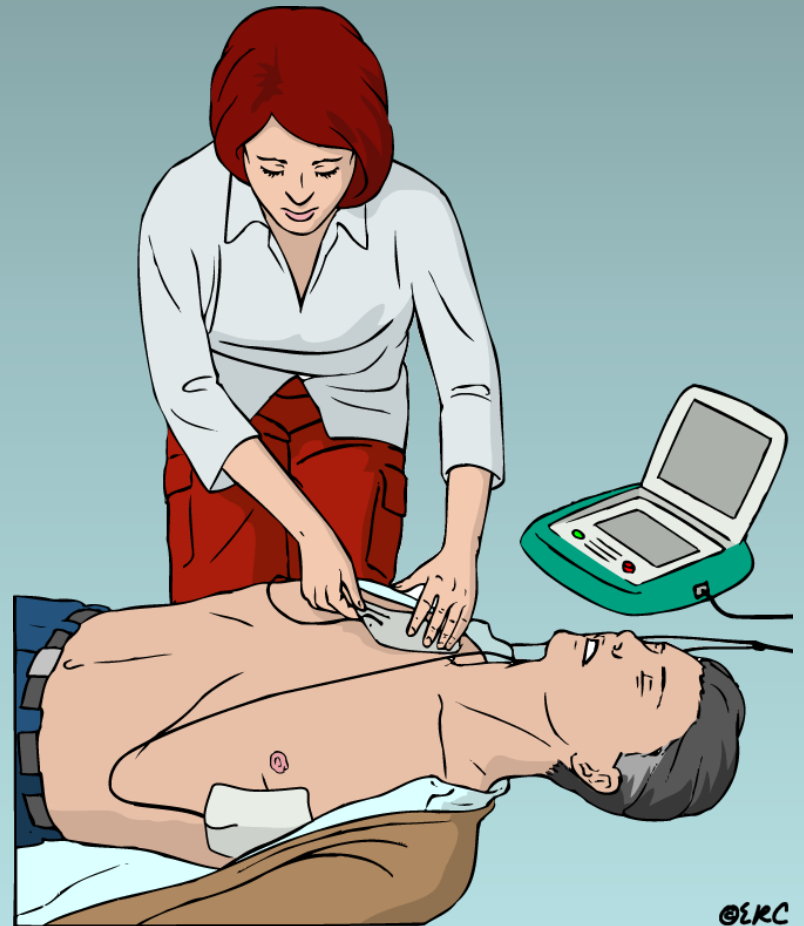
Follow voice prompts

Start CPR after shock

SWITCH ON AED

- Some AEDs will automatically switch themselves on when the lid is opened
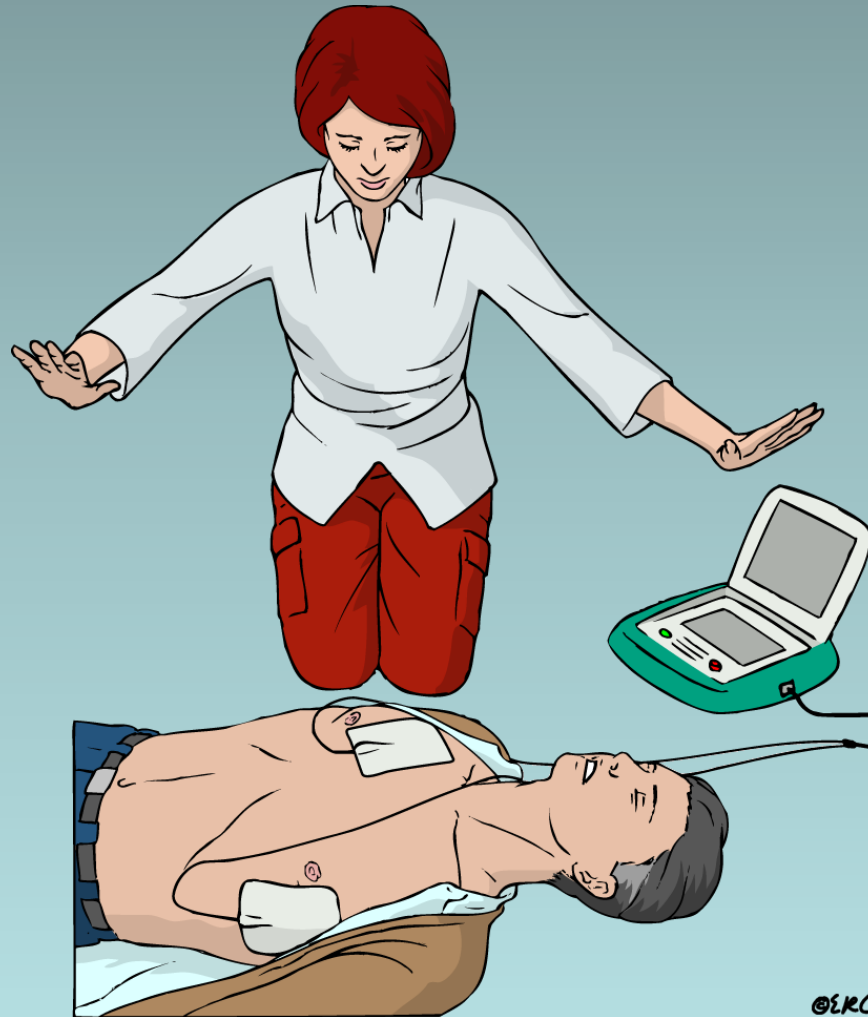
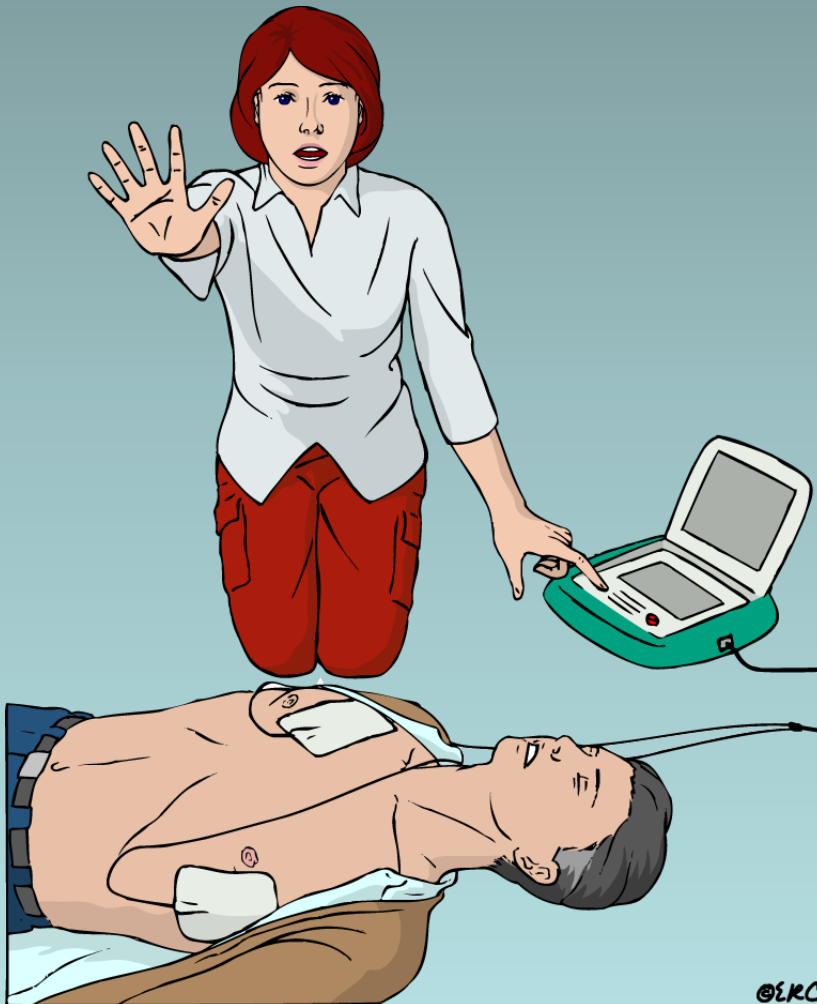# ATTACH PADS TO CASUALTY'S BARE CHEST
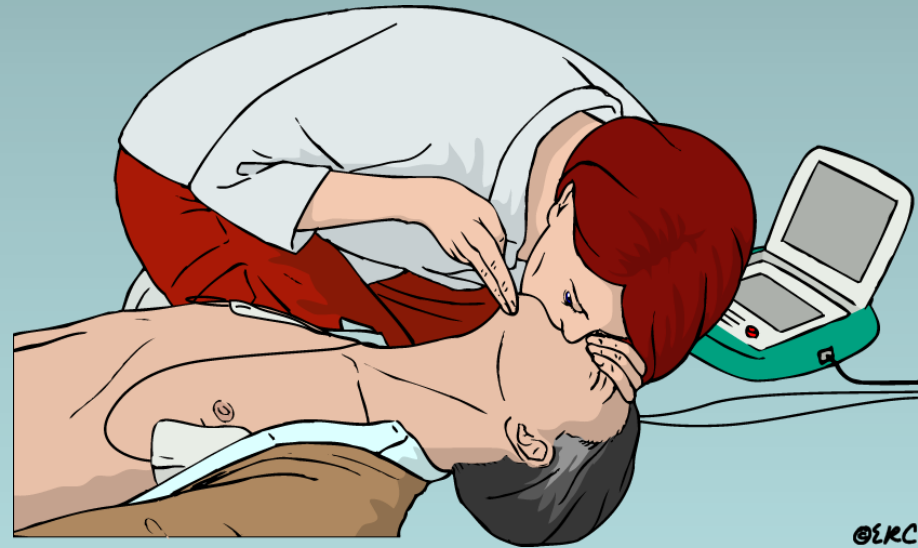
ANALYSING RHYTHM
DO NOT TOUCH VICTIM

SHOCK INDICATED

- Stand clear
- Deliver shock

SHOCK DELIVERED
FOLLOW AED INSTRUCTIONS

30   2
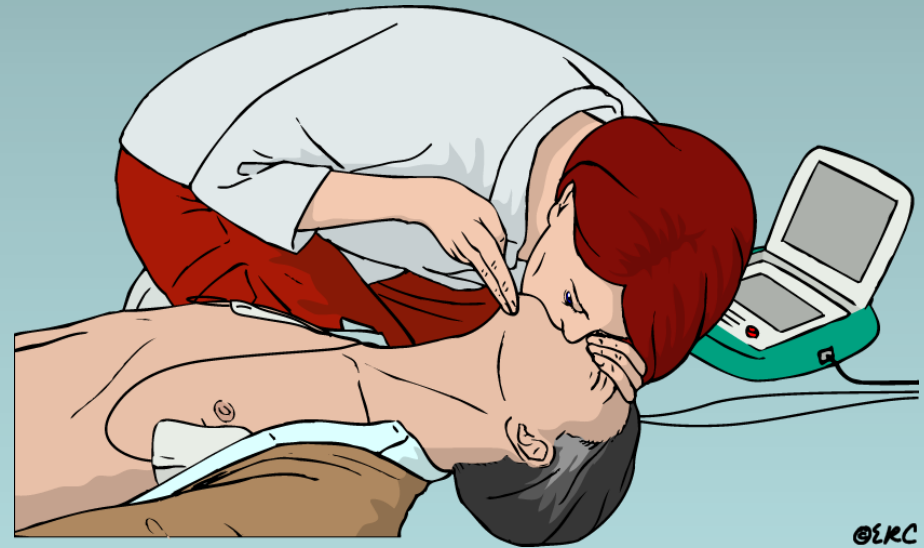
NO SHOCK ADVISED
FOLLOW AED INSTRUCTIONS
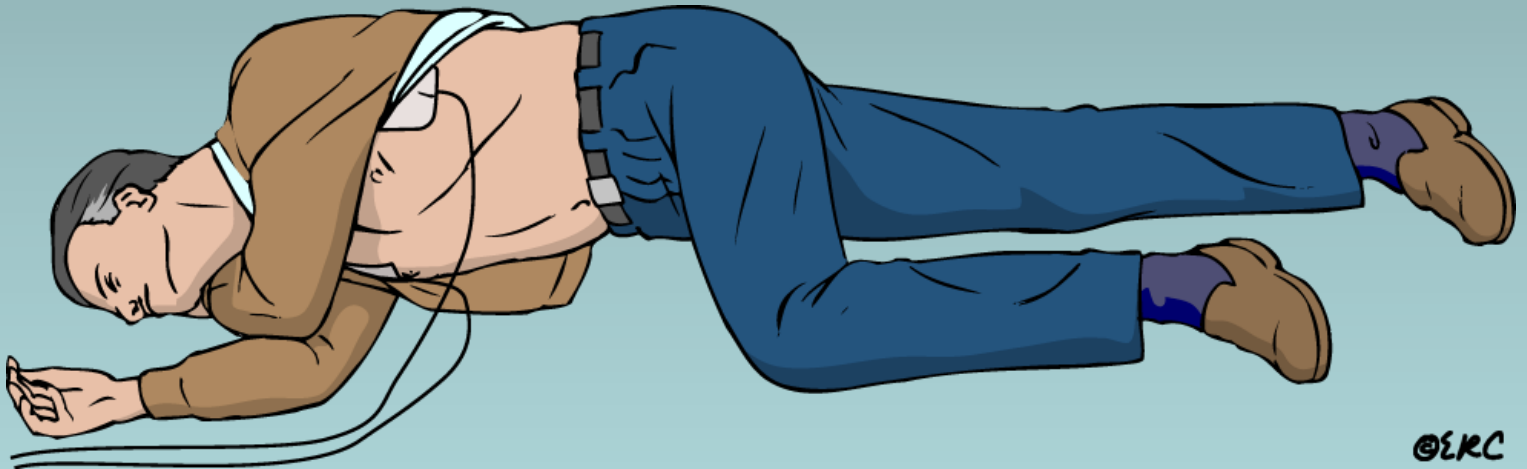
30

2

IF VICTIM STARTS TO BREATHE NORMALLY PLACE IN RECOVERY POSITION

@ERC

43

Approach safely	**Approach safely**
Check response	**Check response**
Shout for help	**Shout for help**
Call 115 - AED	**Call 115**
Check pulse	**AED**
30 chest compressions	**Attach AED**
Open airway	**Follow voice prompts**
2 rescue breaths	**Start CPR after shock**

BLS healthcare provider algorithm

Adult BLS Healthcare Providers

1

Unresponsive
No breathing or no normal breathing
(ie, only gasping)

↓

2

Activate emergency response system
Get AED/defibrillator
or send second rescuer (if available) to do this

↓

3

Check pulse:
DEFINITE pulse
within 10 seconds?

— **Definite Pulse** → **3A**
- Give 1 breath every 5 to 6 seconds
- Recheck pulse every 2 minutes

↓ **No Pulse**

4

Begin cycles of 30 **COMPRESSIONS** and 2 **BREATHS**

High-Quality CPR

- Rate at least 100/min
- Compression depth at least 2 inches (5 cm)
- Allow complete chest recoil after each compression
- Minimize interruptions in chest compressions
- Avoid excessive ventilation

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BLS healthcare provider algorithm

5 AED/defibrillator ARRIVES

6 Check rhythm
Shockable rhythm?

Shockable

7 Give 1 shock
Resume CPR immediately
for 2 minutes

Not Shockable

8 Resume CPR immediately
for 2 minutes
Check rhythm every
2 minutes; continue until
ALS providers take over or
victim starts to move

Note: The boxes bordered with dashed lines are performed
by healthcare providers and not by lay rescuers

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ANY QUESTIONS?

Thanks