



British Institute  
of Dental & Surgical  
Technologists

# CPD Article

ISSUE 31

Proud of our History, Looking Forward to the Future

# Heart attack – emergency first aid

## Learning Objectives

By reading this article you will learn:

- how to tell if someone is having a heart attack, and what to do if so
- how to give artificial aspiration
- how to perform CPR

### What should you do if someone has a heart attack?

If someone has a cardiac arrest or heart attack, there may be only a few minutes to act before it is too late. It is vital to know what to do beforehand.

To perform CPR (cardiopulmonary resuscitation) and artificial respiration (mouth to mouth resuscitation) effectively, training and frequent practice on resuscitation dummies are essential.

First aid courses are offered all over the country at night schools or by voluntary organisations such as St John Ambulance or British Red Cross.

### How can you tell if someone is having a heart attack?

If the person is unconscious:

- are they breathing? Look at the patient's chest to see if it is rising and falling
- do they have a pulse? Place two fingers on one or other side of the person's voice box in their throat to feel if they have a carotid pulse.

If the patient has a pulse but is not breathing:

- could it be because of suffocation? Feel inside the mouth with a finger to see if there is anything blocking it or the windpipe and remove any food or other objects. Provided that dentures are not broken, it is better not to remove them
- call for help immediately, stating that the casualty is not breathing, and provide resuscitation (see below) until the patient begins to breathe or the ambulance arrives.

If there is no breathing or pulse, the patient has had a cardiac arrest.

### What help is needed?

Immediately place the palm of your hand flat on the patient's chest just over the lower part of the sternum (breast bone) and press your hand in a pumping motion once or twice by using the other hand. This may make the heart beat again.

If these actions do not restore a pulse or if the subject doesn't begin to breathe again:

- call for help, stating that the casualty is having a cardiac arrest but stay with the patient
- find out if any one else present knows CPR
- provide artificial respiration immediately. if you can also begin CPR immediately.

## How to give artificial respiration

- Tilt the head back and lift up the chin.
- Pinch the nostrils shut with two fingers to prevent leakage of air.
- Take a deep breath and seal your own mouth over the person's mouth.
- Breathe slowly into the person's mouth – it should take about two seconds to adequately inflate the chest.
- Do this twice.
- Check to see if the chest rises as you breathe into the patient.
- If it does, enough air is being blown in.
- If there is resistance, try to hold the head back further and lift the chin again.
- Repeat this procedure until help arrives or the person starts breathing again.

## How do I perform CPR (cardiopulmonary resuscitation)?

See if there is breathing. If not, start artificial respiration as described above. Checking for a pulse in the neck (carotid artery) may waste valuable time if the rescuer is inexperienced in this check. The procedure is:

- place your fingers in the groove between the windpipe and the muscles of the side of the neck. Press backwards here to check for a pulse.

If there is no pulse, or if you are unsure, then proceed

without delay thus:

- look at the person's chest and find the 'upside-down V' shaped notch that is made by the lower edge of the ribcage. Place your middle finger in this notch and then place your index finger beside it, resting on the breastbone. Take the heel of your other hand and slide it down the breastbone until it is touching this index finger. The heel of your hand should now be positioned on the middle of the lower half of the breastbone.
- now place the heel of your other hand on top of the first. Keep your fingers off the chest, by locking them together. Your pressure should be applied through the heels of the hands only.
- keep your elbows straight, and bring your body weight over your hands to make it easier to press down.
- press down firmly and quickly to achieve a downwards movement of 4 to 5cm, then relax and repeat the compression.
- do this 30 times, then give artificial respiration twice, and continue this 30:2 procedure until help arrives.
- aim for a rate of compression of about 100 per minute. You can help your timing and counting by saying out loud 'one and two and three and four ...' etc.

## Artificial respiration and CPR should both be performed at the same time

- If possible, get someone else to help – one person to perform artificial respiration and the other to perform CPR. (This is not easily

done without prior practice and it is well worth attending sessions on CPR training to become familiar with the technique.)

- The ratio of chest compressions to breaths is 30:2 for both one-person and two-person CPR.
- Continue until the ambulance arrives or the patient gets a pulse and starts to breathe again.
- If the pulse returns and breathing begins but the person remains unconscious, roll them gently onto their side into the recovery position. This way mucus or vomit can get out of the mouth and will not obstruct the patient's breathing. It also prevents the tongue from falling back and blocking the air passage.

## Make sure the patient continues breathing and has a pulse until the ambulance arrives

- If you succeed in resuscitating the person who has been taken ill, he or she may be confused and alarmed by all the commotion. Keep the patient warm and calm by quietly, but clearly, telling them what has happened.

Again, it needs to be emphasised that the only way to provide proper first aid and resuscitation is through learning the technique, then regular practice and guidance.

**Important:** this is a brief guide to the emergency help that can be given in the event of a heart attack or cardiac arrest before the arrival of emergency services. It is not intended as a replacement for a first aid or resuscitation course.

"To claim your verifiable CPD you will need to answer these questions and submit them either by email to [secretary@bidst.org](mailto:secretary@bidst.org) or by post to the BIDST Membership Office 44-46 Wollaton Road, Beeston Nottingham NG9 2NR. You will also need to keep a copy of the article together with your feedback sheet and certificate for revalidation".

Q1.) How can you tell if someone is having a heart attack if they are unconscious?

Q2.) Artificial respiration and CPR should both be performed at the same time. What is the ratio of chest compressions to breaths for both one-person and two-person CPR?

Q3.) When completing CPR if the persons pulse returns but they remain unconscious what should you do to ensure that their airway is not obstructed?

Q4.) What does CPR stand for?

Q5.) When performing CPR, how many times should you repeat the compression?

Name: \_\_\_\_\_

GDC Number: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Postcode: \_\_\_\_\_

Telephone no: (in case of any queries) \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_



British Institute  
of Dental & Surgical  
Technologists

44-46 Wollaton Road,  
Beeston,  
Nottingham  
NG9 2NR

Telephone: +44(0)115 968 3181  
Fax: +44(0)115 925 4800  
Website: [www.bidst.org](http://www.bidst.org)  
Email: [secretary@bidst.org](mailto:secretary@bidst.org)