

Session 1

How the heart works

The aim of the session is to understand:

- ✓ What the heart is.
- ✓ How a normal heart works.
- ✓ What the heart does.
- ✓ What circulation is.

The information you need to get across is:



What is the heart?

The heart is a muscle that pumps blood around the body. It's about the size of your fist and is in the middle of your chest and tilted slightly to the left.

How does a normal heart work?

The **right side** of the heart:

- receives blood from the body and pumps it to the lungs. The blood picks up fresh oxygen and releases carbon dioxide, and then flows back to the heart.

The **left side** of the heart:

- receives the oxygen-rich blood from the lungs, and pumps it out through the aorta to the rest of the body.

What does the heart do?

The **right side** and the **left side** of the heart work together, to circulate blood around your body. Circulation of the blood is essential because:

- the blood takes nourishment to the body's tissues and organs
- it sends waste materials to the lungs and kidneys, which then get rid of these from the body.

Each day, your heart beats about 100,000 times and pumps the equivalent of about 23,000 litres (5,000 gallons) of blood.

What is circulation?

Circulation is the movement of blood around the body, pumped by the heart. This system is called the cardiovascular system. It contains about five litres (eight pints) of blood, which your heart is continuously recirculating. Your heart pumps blood through 97,000km (60, 273 miles) of veins, arteries and blood vessels.

Pre-session preparation

Print out *Summary sheet 1*

Activities

Key activity: Recap heart discussion (small groups/pairs)



Open the *How your heart works poster* and ensure the group can see it clearly. Using the information and illustrations on the poster, ask each small group/pair to discuss the following points:

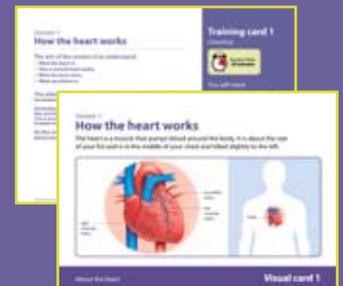
Checklist



Session time:
20 minutes

You will need

- Training card 1
- Visual card 1



- Summary sheet 1



- How your heart works poster

1. Where is your heart in your body?

- It is in the middle of your chest and tilted slightly to the left.

2. How big is it?

- Your heart is about the size of your fist.

3. What job does your heart do?

- The heart is the muscle that pumps the blood around your body through a series of blood vessels.
- Blood needs to be continuously supplied to every organ in your body.
- Blood carries essential oxygen to the tissues and carries away unwanted waste products.

4. How hard does it have to work each day?

- Each day, your heart beats about 100,000 times and pumps the equivalent of about 23,000 litres (5,000 gallons) of blood through 97,000km (60,273 miles) of veins, arteries and blood vessels.

After the discussion ask someone from each small group/pair to share one of their answers with the whole group.

At the end of the session

Hand out *Summary sheet 1* 

Background information

Although you now have all the basic information you need to deliver Session 1, here's some more detail you might find useful.

- The **superior vena cava** and **inferior vena cava** carry deoxygenated (dark red) blood, which has circulated around the body, into the right side of the heart.
- The heart muscle then pumps the blood through the **pulmonary artery** to the lungs where it picks up a fresh supply of oxygen.
- At the same time, the left side of the heart receives its newly oxygenated (bright red) blood from the lungs through the **pulmonary veins**, and pumps it to the rest of the body through the **aorta** – the body's main artery.
- There are four valves in your heart. These are situated between the upper and lower chambers of your heart, in the entrance of the pulmonary artery and the entrance of the aorta. The valves open and close to allow blood to flow in one direction only.
- Both the right and left sides of the heart each have a thin-walled, upper small chamber, called an **atrium**, which helps to pump blood into the thicker walled chambers called **ventricles**.
- The heart muscle receives its own blood supply through the left and right **coronary arteries**, which arise from the aorta above the **aortic valve**, and the **circumflex artery** which branches off the left coronary artery, and spread out over the surface of the heart. After supplying the heart muscle, the blood drains back into the right side of the heart via the coronary veins.

For more information

bhf.org.uk

BHF Heart Helpline: 0300 330 3311 for information and support on anything related to heart health.

This service is available in English only.