

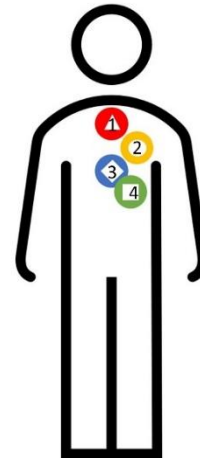
Can you die from a broken heart?

Quiz I Answer Sheet

Where is the heart located?

- 1
- 2
- 3
- 4

The heart is located in between both lungs slightly on the left side. It is orientated so the very bottom part is pointing down and to the left.



How big is the heart?

- As big as a fist
- As big as a tennis ball
- As big as a melon
- As big as a marble

The heart is the size of a fist, however, it may increase in size when completely filled during contraction, or permanently in athletes (Can be twice as big in elite rowers).

How many chambers does the heart have?

- 1
- 4
- 2
- 6

These chambers are called the Left Atrium, Right Atrium, Left Ventricle and Right Ventricle. The Atria are positioned on the top, and the ventricles make up the bottom part.

What chamber pumps blood to the body?

- Right Atrium
- Left Atrium
- Right Ventricle
- Left Ventricle

The left ventricle pumps blood at the end of the contraction of the heart into the aorta, the major artery of the body. From here, the blood travels to the entire body.

How much blood does the heart pump out per minute at rest?

- 5 litres
- 1 litre
- 3 litres
- 7 litres

The amount of blood pumped out in a minute can increase during exercise as the heart beats faster. This may reach up to 30 litres/minute during extreme exercise. The average heart will eject around 70ml of blood with each beat.

How many times does the heart-beat in a lifetime?

- 1 billion times
- 2.5 billion times
- 1.7 billion times
- 3.2 billion times

Interestingly, this is the case for many other animals. Animals with a faster heart rate tend to be smaller and live shorter lives. Larger animals with a slower heart rate tend to live for longer. Therefore, on average, all animals have 2.5 billion heartbeats in their lifetime.

What is a heart attack?

- Arteries supplying the heart gets blocked
- The heart stops beating
- The heart muscle wall tears allowing blood to leak out
- The blood supply to the body gets blocked

When these arteries get blocked, the heart muscle gets starved of oxygen and will slowly undergo the process of irreversible cell death. This is what happens in a heart attack. If left untreated, this portion of the muscle will no longer be able to contract.

What can cause a heart attack?

- Eating a large meal
- The cold
- Vomiting
- Sweating

The cold will cause arteries to constrict (vasoconstriction) and therefore less blood can flow through them. As a result, if not enough blood can get to the heart muscle, this will cause a heart attack.

Which of these are NOT symptoms of a heart attack?

- Pain in the shoulder
- Pain around the stomach
- Feeling weak or lightheaded
- Heart pain

The heart has no pain fibres originating from itself. As a result, the pain from a heart attack is described as "referred pain". This pain is felt in the shoulder, around the stomach among other areas. Patients might feel weak or lightheaded as blood supply to organs (ie muscles and the brain) gets reduced as the heart is no longer able to properly contract.

Can you die from a "broken heart"?

- True
- False

This will be the topic of the talk! In brief, a "broken heart" occurs due to stress (ie an emotional trauma) that causes a reduction in the blood supply to the heart resulting in ineffective beating. If this is left untreated, this can be fatal. This condition is also called "Takotsubo Cardiomyopathy"