

# What is cardiomyopathy?

An introduction to the disease of the heart muscle

- Cardiomyopathy is a disease of the heart muscle.
- It affects around 1 in 500 people in the UK.
- Although a diagnosis of cardiomyopathy can be life-changing, with the right treatment and support most people can live full and active lives.

## What is cardiomyopathy?

Cardiomyopathy is a disease of the heart muscle. ('Cardio' means heart, 'myo' means muscle and 'pathy' means disease.) It isn't a single condition, but a group of conditions that affect the structure of the heart and reduce its ability to pump blood around the body.

## Who gets cardiomyopathy?

Cardiomyopathy can affect anyone, at any age. It is thought to affect around 160,000 people in the UK, which is around 1 in 500 people.

## How cardiomyopathy affects the heart

Cardiomyopathy affects the muscle of the heart. It can affect the shape of the heart, or the size and thickness of the muscle walls. This then affects how the heart works. The way the heart is affected depends on the type of cardiomyopathy the person has.

## What does the heart do and how does it work?

The heart's role is to pump blood around the body. Blood contains oxygen and nutrients to help the body's cells and organs work. Without this blood supply the body simply wouldn't be able to work.

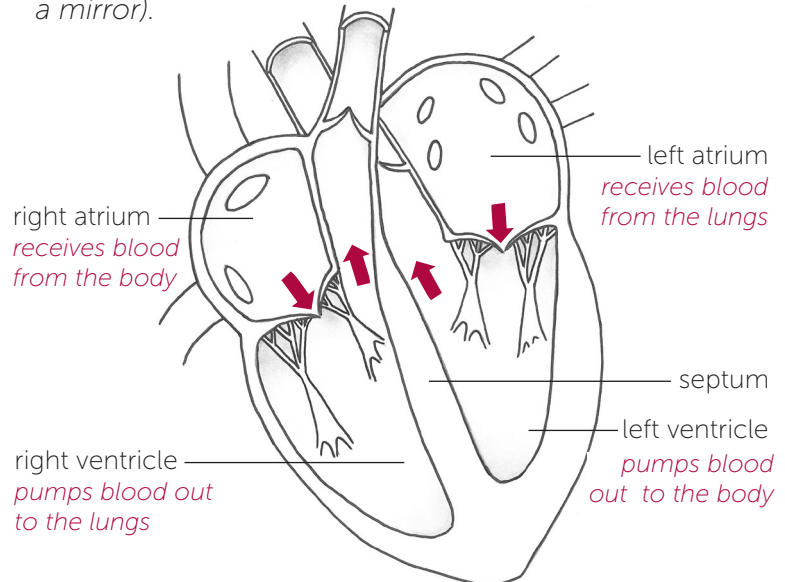
The heart is the strong muscular pump at the centre of the system that circulates blood around the body. It is made up of special muscle cells (called myocytes). These muscle cells are unique as they constantly work, never get tired and never need to rest.

The heart has four chambers: two on the right and two on the left, separated by an area of connective tissue called the septum. The upper chambers are the **atria**, which have thin, elastic muscle walls. The lower chambers are the **ventricles**, which have thicker, stronger muscle walls.

The two chambers on the right side of the heart receive blood from the body and pump it to the lungs, where it picks up oxygen. The two on the left receive the blood from the lungs, containing oxygen, and pump it out to the body, where the oxygen is used up.

♥ For more information see our factsheet 'About the heart'.

The structure of the heart (as if you were looking in a mirror).



➡ arrows show direction of blood flow

## Types of cardiomyopathy

There are different types of cardiomyopathy, which vary depending on how they affect the heart muscle.

### Dilated cardiomyopathy (DCM)

This is when the muscle of the left ventricle becomes enlarged (dilated) and stretched. This makes the wall of the ventricle bigger but thinner, and so the muscle is weaker and less able to pump blood out of the heart. Although DCM can affect anyone, it can develop when a woman is pregnant, when it may be referred to as **peripartum cardiomyopathy**.

### Hypertrophic cardiomyopathy (HCM)

This is when the muscle of the ventricle thickens (called 'hypertrophy') and makes the ventricle smaller. The thickening means that the heart has to work harder to fill with blood, and pump blood around the body. It can also block the blood flow out of the heart.

### Arrhythmogenic right ventricular cardiomyopathy (ARVC), also called arrhythmic cardiomyopathy

This is when heart muscle cells are not joined together properly, and so they die and get replaced by scar tissue or fat. This makes the heart muscle stretched, thinner and weaker, making it less able to pump blood out of the heart as well as it should.



## Restrictive cardiomyopathy

This is when the heart muscle becomes stiff and cannot relax properly, which makes it harder for the top chambers to fill with blood. The chambers then become enlarged and blood cannot flow properly.

## Left ventricular non-compaction (LVNC)

This is when there is a problem with how the heart muscle develops in an unborn baby. The muscle cells do not compact (tightly pack) together as normal, which causes small indentations in the muscle and it appears spongy. This affects how the heart works.

## Takotsubo or 'broken heart' syndrome

This usually happens during a time of extreme stress (which gives it the name 'broken heart'). The left ventricle becomes enlarged and weakened. It is often only temporary, and usually gets better with time.

## What causes cardiomyopathy?

There are many possible causes of cardiomyopathy. Some types are genetic: caused by a mutation in the person's DNA (genetic material) which affects how their heart develops. Genetic conditions may be inherited (passed from parent to child) so cardiomyopathy sometimes runs in families. Often if one person is diagnosed with cardiomyopathy it is recommended that their close family members such as parents, siblings and children (known as first-degree relatives) are tested for the condition too.

Other causes include viral infections, autoimmune diseases (which affect the immune system), and some medications (such as some used to treat cancer).

## What are the symptoms of cardiomyopathy?

The function of the heart is to pump blood around the body, carrying oxygen and nutrients to 'feed' the cells and organs. So when the heart doesn't work properly or as efficiently as it should, the cells and organs don't get enough oxygen and nutrients.

Although some people have cardiomyopathy without having any symptoms, other people might experience symptoms such as:

- tiredness (due to low oxygen levels);
- breathlessness (due to fluid on the lungs);
- swelling in the abdomen and ankles;
- palpitations (feeling your heartbeat);
- pain in the chest; and
- dizziness or fainting.

## How is cardiomyopathy diagnosed?

To diagnose cardiomyopathy, there are various tests that a cardiologist (heart specialist) might suggest. These include taking a family history, a physical exam, an ECG (electrocardiogram) during exercise to look at the electrical activity of the heart, and an echo (echocardiogram) or MRI (magnetic resonance imaging) scan to look at the structure of the heart.

## How is cardiomyopathy treated?

Although it can't be cured, the following treatment options aim to reduce and control the symptoms.

- Some people take **medication** to control their heart rate (beta-blockers), to reduce the chance of blood clots forming (anti-coagulants), or to reduce the build-up of the fluid in the body that causes swelling (diuretics or 'water tablets').
- Some people have a **device** implanted (put into their body during surgery) to control the rhythm of their heart (called 'pacemakers'), or to control the rhythm and shock the heart if it goes out of normal rhythm (called implantable cardioverter defibrillators or ICDs).
- Some people have **surgery** to remove areas of heart muscle if it affects blood flow from the heart.
- A very small number of people may need a heart **transplant** (a heart from a donor).

## What next?

You may be reading this factsheet because you, or someone you know, have been told that you may have cardiomyopathy. Or perhaps you have been recently diagnosed. It can be a difficult time and you may feel overwhelmed. You may have read information about the condition that has really worried you. It is natural to have lots of questions, and you may want to talk to someone who understands. Although the possibility of a diagnosis of cardiomyopathy may feel devastating, with the right information and support most people can live full and active lives.

## We're here for you

At Cardiomyopathy UK we offer help and support for you and your family. We have information about each type of cardiomyopathy as well as diagnosis, treatment and lifestyle issues. Look on our website or call us for more information. Call our helpline to talk to our cardiomyopathy support nurses. We can put you in contact with other people affected by cardiomyopathy through our support groups, peer support volunteers and social media. Contact us for more about our services, or look online.

# Cardiomyopathy<sup>UK</sup>

the heart muscle charity

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