

# Heart Failure

## What is heart failure?

Your heart pumps blood around your body through your arteries and veins. The blood contains oxygen and nutrients that keep your body working. In a normal healthy heart, during each heartbeat, a set amount of blood enters the heart and is pumped out again. When there's something wrong with your heart or blood vessels, it's known as heart (cardiovascular) disease.

Heart failure is a common type of heart disease affecting around 80,000 New Zealanders. It can occur at any age but is most common in older people.

Heart failure occurs when your heart cannot cope with pumping the full amount of blood in each heartbeat, meaning that the blood can't get around the body as well as it should.

## Causes of heart failure

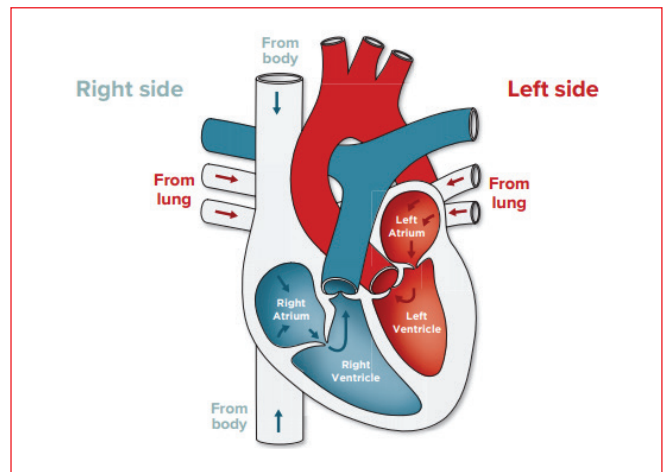
There are many different causes and risk factors for heart failure. Often it develops after other conditions have damaged or weakened your heart, including:

- heart attack or angina
  - high blood pressure
  - damage to the heart muscle (cardiomyopathy)
  - an abnormal heart rhythm (arrhythmia)
  - diseases affecting the valves of the heart
  - drinking too much alcohol
  - viral infection in the heart
  - thyroid disease.
- } **The 3 most common causes**

## What are the symptoms of heart failure?

Heart failure symptoms mainly happen because fluid builds up in your body. Listed below are the most common signs and symptoms and a brief explanation as to why they occur:

- **Shortness of breath** when you are being active or at rest. This is due to a build-up of fluid that backs up into the lungs, which can also cause a **persistent cough**.
- **Swollen** feet, ankles, stomach and around the lower back area. As blood flow out of the heart reduces, blood returning to the heart through the veins backs up. This back-pressure causes fluid to build up in the tissues.
- Feeling unusually **tired** or weak. This is because your heart is not able to deliver enough blood and oxygen to the muscles in your body.
- **Reduced appetite** or nausea due to the digestive system receiving less blood and possibly being congested.
- **Increased heart rate** (palpitations). Your heart compensates for the decreased volume it is pumping out by beating faster.



**It is important to seek emergency treatment (call 111) if you experience new chest pain/tightness/heaviness, fainting, sweating or severe weakness, or sudden and severe shortness of breath.**

## Diagnosing heart failure

To diagnose heart failure, your consultation will include checking your heart rate and rhythm, taking your blood pressure, and checking if you have fluid in your lungs, legs and other parts of your body. In most cases, you will also have some of the following tests, to confirm the diagnosis and guide how your symptoms are controlled:

- **blood test** for electrolytes, renal function, full blood count, thyroid function and brain natriuretic peptide (BNP)
- **chest X-ray** to look for fluid in the lungs
- **electrocardiogram** (ECG) – this can show if you have an abnormal heartbeat or had a heart attack recently
- **echocardiogram** (cardiac ultrasound) – this shows the size of the heart chambers and can measure how well the heart is pumping and the valves are working
- **angiogram** – this can show if any arteries in your heart are narrowed or blocked.

You may hear your doctor talk about the “ejection fraction” of your heart. This refers to the amount of blood that is pumped out of your left ventricle to the rest of your body every time your heart beats. It's usually expressed as a percentage – over 50% is considered normal.

Some people with heart failure have a normal ejection fraction, so ejection fraction is used alongside other tests to help diagnose heart failure.

## Treatment

Although heart failure is a serious, long-term (chronic) condition that you cannot cure, you can still live a full and active life with the right treatment and lifestyle.

The treatment of chronic heart failure aims to relieve symptoms, improve your ability to exercise, reduce the chance of a symptom flare-up and increase your quality of life.

### Daily checks

Keeping a daily log where you record your weight and evaluate key symptoms – breathlessness, fatigue, and swelling on a one-to-five scale – can help you identify changes in your health and when you have extra fluid in your body.

### Medicines

Heart failure is usually treated with a combination of medications. It is important to remember to take your medicines as directed, every day, even if you don't have any symptoms of heart failure. Depending on your symptoms, you might take one or more medications, including:

- **Angiotensin-converting enzyme (ACE) inhibitors.** ACE inhibitors are a type of vasodilator – a drug that widens blood vessels to lower blood pressure, improve blood flow and decrease the workload on the heart. They also help to improve the pumping function and ejection fraction. Examples include enalapril and lisinopril.
- **Angiotensin II receptor blockers (ARBs).** These drugs, which include losartan and candesartan, have many of the same benefits as ACE inhibitors. They are an alternative for people who can't tolerate ACE inhibitors.
- **Beta blockers.** This class of drug not only slows your heart rate and reduces blood pressure but also limits or reverses some of the damage to your heart (ie, improves heart function and ejection fraction). Examples include carvedilol, metoprolol and bisoprolol.
- **Diuretics.** Often called water pills, diuretics make you urinate more frequently and stop fluid from collecting in your body, including in the legs and lungs. Diuretics, such as furosemide, help you breathe more easily by decreasing fluid in your lungs.
- **Aldosterone antagonists.** These drugs include spironolactone and eplerenone. These are potassium-sparing diuretics, which also have additional properties that may help people with heart failure live longer.
- **Sacubitril with valsartan** is an ARB (see above) combined with a neprilysin inhibitor (the combination is known as an ARNI) that provides additional benefit in

terms of improving heart pumping function, reducing heart failure symptoms, reducing hospital visits and improving survival. If appropriate, your doctor may change your ACE inhibitor or ARB to an ARNI, even if you are relatively well and stable.

You may be prescribed other heart medications, along with your heart failure medications, such as digoxin for heart rhythm problems, nitrates for chest pain, a statin to lower cholesterol or blood-thinning medications to help prevent blood clots. Your doctor may need to adjust your doses frequently.

## Improving your heart health

It is always a good idea to support and improve your heart health. Alongside your treatments, a healthy lifestyle can also help to keep your condition as stable as possible, so you can continue to do the things you enjoy:

- keep active
- stop smoking
- keep to a healthy weight
- limit the amount of alcohol you drink
- avoid excess fluid intake, but you need not overly restrict your fluids unless your doctor advises it – drink about the same amount each day
- cut down on salt in your diet
- weigh yourself – a sudden gain in weight may suggest there is too much fluid building up
- get a flu vaccination as the flu can worsen heart failure symptoms. Ask your health professional about getting this – you may be eligible for a subsidised or free flu vaccine.

## Where to get support

**Heart Help** – is the go-to place for information and support for people living with heart disease. You will also find resources and opportunities for staying connected with the Heart Help community. New Zealand Heart Foundation <https://www.heartfoundation.org.nz/your-heart/hearthelp>

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