

## Congestive heart failure

Congestive heart failure (also known as chronic heart failure) is present when the heart cannot pump enough blood to satisfy the needs of the body. Weakened chambers allow blood to pool inside the heart and nearby veins. This triggers fluid retention, particularly in the lungs, legs and abdomen.

The major causes of heart failure include coronary heart disease, hypertension, cardiomyopathy and other heart diseases. Of these, coronary heart disease (usually accompanied by a history of past heart attacks) is by far the most common.

The major factors that contribute to coronary heart disease include:

- Obesity
- A diet high in saturated fats and cholesterol
- High blood pressure
- Diabetes
- Smoking
- Physical inactivity.

Congestive heart failure is more common in the elderly. The survival rate for people with this disorder depends on the severity of their condition. Treatments include medication, lifestyle changes and (sometimes) surgery.

### Symptoms of congestive heart failure

Symptoms of congestive heart failure include:

- Undue breathlessness during activity
- Breathlessness at rest or during light exercise
- Muscular fatigue, tiredness
- Swelling of ankles or legs
- Swelling of abdomen
- Unexplained coughing and wheezing.

### The failing ventricles

The heart is a double pump made up of four chambers. Deoxygenated blood from the veins enters the right upper chamber (right atrium or auricle), is passed to the right lower chamber (right ventricle), and then pumped to the lungs. Oxygenated blood from the lungs enters the left upper chamber (left atrium or auricle) and then enters the left lower chamber (left ventricle). The blood is then pumped around the body, under pressure, via arteries.

In a person with congestive heart failure, the left ventricle does not empty properly. This leads to increased pressure in the atria (upper chambers) and the nearby veins. This backlog of blood triggers fluid retention (oedema) in the lungs, abdominal organs and legs. This affects the kidneys, hinders their function and leads to retention of salt and water, causing oedema.

In some people with heart failure, rather than failed pumping of the blood from the left ventricle, there is failed relaxation of the left ventricle. This also leads to blood pooling under backpressure.

### Causes for congestive heart failure

Congestive heart failure can be caused by several conditions, including:

- **Past heart attacks from coronary heart disease** – leading to scarring in the heart muscle. This is the most common cause for congestive heart failure.
- **High blood pressure (hypertension)** – the high pressure in the arteries means that the heart must keep pumping more forcefully. It may not be able to keep it up.
- **Heart valve disease** – damaged heart valves may allow the blood to flow backwards or may obstruct forward flow.
- **Congenital heart disease** – heart abnormalities may be present from birth, such as defective valves or abnormal communications between heart chambers.
- **Cardiomyopathy** – this condition is characterised by enlargement of the heart muscle, where the left ventricle enlarges to compensate for poor contraction.
- **Myocarditis** – viruses or other infections may damage the heart muscle.
- **Heart arrhythmia** – rapid heartbeat with irregularity, over a long period of time, can also lead to inefficient contraction and heart failure.
- **Thyroid disease** – the thyroid gland produces too much of its hormone, thyroxine; this increases the work of the heart and can lead to heart failure.

## Contributing factors

The symptoms of congestive heart failure can be worsened by a number of factors, including:

- Anaemia
- Too much salt or alcohol in the diet
- Pregnancy
- Some infections
- Kidney diseases
- Lung diseases.

## Diagnosis of congestive heart failure

Congestive heart failure can be confirmed with a variety of tests, including:

- X-rays
- Echocardiography
- Exercise stress test
- Electrocardiogram (ECG)
- Lung function tests
- Angiography
- Blood tests.

## Treatment for congestive heart failure

Treatment may include:

- **Medications** – such as diuretics (to remove excess fluid), ACE inhibitors (to open up blood vessels, reduce blood pressure and reduce sodium retention and water retention), digitalis (to help the heart pump more effectively), vasodilators (to open up blood vessels) and certain beta blockers (to slow the heart rate and reduce its work)
- **Addressing the underlying disorder** – for example, treatment of high blood pressure
- **Lifestyle changes** – such as regular gentle exercise, losing excess body fat, stopping smoking, adhering to a low-fat and low-salt diet, restricting alcohol and having adequate rest
- **Surgery** – to replace narrowed or leaking heart valves
- **Coronary bypass surgery** – in some cases
- **Heart transplant** – in extreme cases.

## Where to get help

- Your doctor
- Heartline Information Service Tel. 1300 362 787

## Things to remember

- Congestive heart failure refers to the heart's inability to pump enough blood to satisfy the needs of the body.
- The major cause of congestive heart failure is coronary heart disease, along with a history of past heart attacks.
- Treatment includes medications, lifestyle changes and surgery.

**This page has been produced in consultation with, and approved by:**

Heart Research Centre

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