

Patient information: Systolic heart failure (The Basics)

Written by the doctors and editors at UpToDate

What is systolic heart failure? — Systolic heart failure is a type of heart failure. Heart failure is a condition in which the heart does not pump well. As a result, the heart lags behind in its job of moving blood throughout the body. This can lead to symptoms such as swelling, trouble breathing, and feeling tired.

There are 2 main types of heart failure:

- In **systolic heart failure**, the heart is too weak. When the heart pumps, it doesn't squeeze normally.
- In **diastolic heart failure**, the heart is too stiff. When the heart pumps, it doesn't relax and fill with blood normally.

These differences affect how much the heart squeezes with each heartbeat. With each squeeze, the heart pumps blood forward out of the heart. The amount of the blood in the heart that is pumped out of the heart with each heartbeat is called the "ejection fraction" (also called the "EF"). People with systolic heart failure have an ejection fraction that is lower than normal. People with diastolic heart failure have a normal ejection fraction.

What are the symptoms of systolic heart failure? — Symptoms can include:

- Trouble breathing – At first, people might have trouble breathing only with activity. Over time, they can also have trouble breathing when resting or lying down.
- Swelling in the feet, ankles, legs, or belly
- Feeling tired

Is there a test for systolic heart failure? — Yes. If your doctor or nurse thinks you might have this condition, he or she will do an exam and order some of the following tests:

- Chest X-ray – This test can show if there is fluid in the lungs. It also shows the general shape of the heart and large blood vessels in the chest.
- Electrocardiogram (also called "ECG" or "EKG") – This test measures the electrical activity in the heart.
- BNP or NT-proBNP – Brain natriuretic peptide (also called BNP) and N-terminal pro-BNP (also called NT-proBNP) are blood tests that help show if heart failure is present.
- Echocardiogram (also called an "echo") – This test uses sound waves to create a picture of the heart as it beats.
- Stress test – During this test, a doctor records your ECG while you exercise on a treadmill or bike, or get medicine to make your heart pump faster.
- Cardiac catheterization (also called "cardiac cath") – During this test, the doctor puts a thin tube into a blood vessel in your leg or arm. Then he or she moves the tube up to your heart. When the tube is in your heart or blood vessels, he or she will take measurements. The doctor might also put a dye that shows up on an X-ray into the tube. This can show if any arteries in your heart are narrowed or blocked. This part of the test is called "coronary angiography."

How is systolic heart failure treated? — Treatment usually includes:

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Taking medicines – Medicines can help reduce symptoms and help you live longer. They might also lower the chance that you will need to go to the hospital. Many people need to take 3 or more medicines every day. It's important to take your medicines every day, even if you feel well. Tell your doctor or nurse if you can't afford your medicines or if they cause side effects. There are often ways to help with these issues. The right medicines for you will depend on your symptoms and other medical conditions, and can include:

- An angiotensin-converting enzyme inhibitor (called an "ACE inhibitor") – This medicine can relax blood vessels and make it easier for the heart to pump. It sometimes lowers blood pressure. If you can't take an ACE inhibitor, your doctor might prescribe an angiotensin receptor blocker (called an "ARB") or other medicines.
- A beta-blocker – This medicine can slow the heart rate down and sometimes lowers blood pressure. It can reduce the amount of work the heart has to do. When you start taking a beta-blocker, you might feel a little worse. But after your body gets used to the medicine, you might start to feel better.
- A diuretic (water pill) – This medicine helps the body get rid of extra salt and fluid. It can reduce the fluid in your lungs or swelling in your legs or belly.
- An aldosterone receptor antagonist – This helps the body get rid of extra salt and fluid. But it also helps the body hold onto a mineral called potassium. That's important, because the body needs potassium to work normally. Other diuretics sometimes make the body lose potassium. An aldosterone receptor antagonist might also block harmful effects of aldosterone on the heart.
- Treating your coronary heart disease (if you have it) – In coronary heart disease, the arteries that supply blood to the heart get clogged. Treatment can include medicines, a procedure to unblock a clogged artery, or surgery.

Other treatment for systolic heart failure sometimes includes:

- A device to help the heart pump with more force or beat at the right rhythm
- A pump attached to the heart to increase blood flow to the body and reduce the work the heart needs to do
- Heart transplant surgery – This is surgery to replace your diseased heart with a healthy heart. It is done only when all other treatments do not work.

What else can I do on my own to protect my heart? — To help feel better and reduce the chances that you will need to go to the hospital, you can do the following:

- Call your doctor or nurse if you are dizzy or weak, or if you lose or gain weight suddenly. Weigh yourself every morning after you urinate but before breakfast. Call your doctor or nurse if your weight goes up by 2 or more pounds (1 kilogram) in 1 day, or 4 or more pounds (2 kilograms) in 1 week.
- Follow the action plan your doctor gives you. An action plan is a list of instructions that tells you what to do if your symptoms change. To use an action plan, watch your symptoms closely and weigh yourself every day. If you do not feel well or if you lose or gain weight suddenly, look at your action plan to see what to do ([figure 1](#) and [figure 2](#)).
- Call for an ambulance (in the US and Canada, dial 9-1-1) if you have chest pain or other signs of a heart attack ([figure 3](#)).
- Lose weight, if you are overweight.

- Stop smoking.
 - Limit the amount of alcohol you drink. If you are a woman, do not have more than 1 drink a day. If you are a man, do not have more than 2 drinks in a day.
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