

Heart Failure: How Is It Diagnosed?



Heart failure is a complex disease. There are several types and causes of heart failure. To find out what is causing your heart failure, your doctor may need to do many different tests over a period of time. It is very important to have all the tests your doctor orders and go to all your follow-up appointments. Testing and follow-up can help your doctor give you the best treatment to manage your disease.

Tests for heart failure

To diagnose heart failure, your doctor will:

- Ask about your medical history. He or she will also review all the medicines you are taking, ask if you have heart disease in your family, and look for other risk factors, such as high blood pressure.
- Do a physical exam. Your doctor will check your blood pressure and heart rate, check your weight, listen to your lung and heart sounds, check your belly and legs for swelling, and look for swelling or bulging veins in your neck.

Your doctor may diagnose heart failure from your symptoms and the physical exam. But you will have more tests to find the cause and type of heart failure so that you can get the right treatment. Common tests include:

- **Blood tests.** Routine blood tests can help your doctor identify the cause of heart failure, find out if your kidneys and liver have been affected, and know whether you have risk factors, such as diabetes or high blood pressure.
- **Electrocardiogram (EKG or ECG).** An EKG is done to find any problems with your heart rhythm. It can also show signs of damage to the heart.
- **Stress EKG,** such as treadmill testing. A stress test can detect reduced blood flow to the heart muscle.
- **Chest X-ray.** A chest X-ray gives your doctor a picture of your heart, lungs, and major blood vessels.
- **Echocardiogram (echo).** This is an ultrasound exam of the heart. An echo is the best and simplest way to find out whether you have heart failure, what type it is, and what is causing it.

Your doctor may order more imaging tests. These tests can find areas of the heart that are not getting enough blood. They help your doctor judge how well your left lower heart chamber (left ventricle) and the valves inside your heart are working. Here are examples of these tests:

Cardiac blood pool scan shows how well your heart pumps blood to the rest of your body.

Cardiac catheterization lets your doctor see the blood vessels that supply your heart with blood. The doctor can then tell whether the blood vessels are blocked and how well your heart is working.

Understanding ejection fraction

Most people with heart failure have systolic heart failure, which means the left ventricle is not pumping well. Your doctor can measure how much blood your left ventricle pumps to your body. This measurement is called your **ejection fraction**. If your ejection fraction gets lower and you are having more symptoms, it means that your heart failure is getting worse. Your doctor will probably do an echocardiogram to find your ejection fraction. During the resting phase of your heartbeat, the left ventricle fills with blood. Then the ventricle squeezes and pumps some (but not all) of that blood out to

your body. The ejection fraction measures how much blood inside the ventricle is pumped out with each contraction. A normal ejection fraction is more than 55%. If the heart becomes enlarged, even if the amount of blood being pumped by the left ventricle remains the same, the fraction of blood being pumped decreases. For example:

- A healthy heart with a total blood volume of 100 mL that pumps 60 mL has an ejection fraction of 60%.
- A heart with an enlarged left ventricle that has a total blood volume of 140 mL and pumps 60 mL has an ejection fraction of 43%.

How heart failure is classified

Your doctor will rate, or classify, your level of heart failure. Many doctors use a system developed by the New York Heart Association. It is important to understand your classification, because it may be referred to during the course of your care.

Class I	Your physical activity is not limited. Usual physical activity does not make you feel overly tired or cause heart palpitations, trouble breathing, or chest pain.
Class II	You have some limits on physical activity. You are comfortable at rest, but ordinary physical activity makes you very tired or causes heart palpitations, trouble breathing, or chest pain.
Class III	You have severe limits on physical activity. You are comfortable at rest, but less-than-ordinary physical activity makes you very tired or causes heart palpitations, trouble breathing, or chest pain.
Class IV	You are not able to carry on any physical activity without discomfort. You may have symptoms even at rest. If you do any physical activity, your discomfort increases.

Doctors also use a stage system to rate heart failure. That system is based on your symptoms and how much the disease has progressed.