

## HEART & LUNG CENTER

### Diagnosing Heart Failure

Diagnosing heart failure can be a challenge since many of the signs and symptoms may be caused by other diseases or conditions. For example, feeling tired and short of breath can be caused by anemia (low blood count), lung disease, being out of shape, or aging. Also, some people with heart failure may feel fine and have no symptoms. They may have trouble believing their doctor when they are told they have heart failure. Heart failure does not mean that your heart has stopped beating or is going to stop beating. It means your heart is not pumping blood (systolic heart failure) or filling with blood (diastolic heart failure) as well as it should. Once heart failure is diagnosed, there are many effective therapies that can improve your condition.

#### Symptoms of heart failure include:

- Trouble breathing (shortness of breath)
- Swelling in the feet and legs
- Weight gain from water (swelling)
- Lack of energy/trouble carrying out physical activities
- Difficulty sleeping at night due to breathing problems (you may need more pillows under your head in order to sleep comfortably)
- Swollen or tender stomach with loss of appetite
- Cough with frothy sputum (your spit may be pink due to small amounts of blood)
- Increased urination at night
- Confusion and/or memory problems



*Shortness of breath*



*Swelling of feet & legs*



*Chronic lack of energy*



*Difficulty sleeping at night due to breathing problems*



*Swollen or tender abdomen with loss of appetite*



*Cough with frothy sputum*



*Increased urination at night*



*Confusion and/or impaired memory*

**Heart failure is diagnosed by using:**

- The patient's medical history
- A physical exam
- Specific tests

**Your doctor will need to know if you have:**

- A history of high blood pressure
- A history of high cholesterol
- Blockages in the arteries of your heart, producing chest pain and/or a heart attack
- Damaged heart valves
- A history of diabetes
- A family history of any of these conditions

A complete physical exam can help diagnose heart failure. During a physical exam, your doctor or nurse will check your blood pressure and heart rate; listen to your heart and lungs; and look for swelling in your legs, ankles, and abdomen.

Other testing will provide important information about the cause, the type, and the treatment for heart failure.

One of the most important tests used to diagnose heart failure is to measure the percentage of blood that your heart pumps with each beat. This percentage is called the ejection fraction (EF for short) and indicates how well your heart is pumping. A normal EF is 50-75%. This can be measured by an echocardiogram (or "echo"), which is painless and can often be performed in your doctor's office. Sound waves are used to make pictures of all of the valves and chambers of the heart.

EF can also be measured by MUGA scan, where a very small amount of radioactive material is injected into the blood to produce images of your heart, by magnetic resonance imaging (MRI), or during a cardiac catheterization.

Other tests commonly used to diagnose heart failure include:

- Blood and urine tests – these can be used to check your red blood cells and how well your kidney, liver, and thyroid are working. A B-type natriuretic peptide (BNP) blood test can be used to tell if you have heart failure and helps in making decisions about treatments. Cholesterol and blood sugar levels may be checked as well.
- Chest X-ray – this shows the size of your heart and whether there is fluid buildup around your heart and lungs
- Electrocardiogram (ECG/EKG) – this shows your heart rate and rhythm
- Angiogram (x-ray of the inside of your heart) – this can be used to see if you have clogged arteries
- Magnetic Resonance Image (MRI) – this produces very clear pictures of your heart and arteries. These pictures can show the size of the chambers in your heart and how thick the walls of your heart are – these are signs of how hard your heart is working.

**What can be done for heart failure:**

The good news is that, these days, doctors and nurses understand more about heart failure and have better ways to manage the condition. New medicines and treatments are some of the reasons that people with heart failure may be able to get back to many of the things they once did and potentially live better lives.

Adapted by the SCA Prevention Medical Advisory Team from the IMPROVE HF registry toolkit.  
This material is intended to be educational. It is not intended to replace the information provided to you by your healthcare providers and may not be directly applicable for your individual clinical circumstance.  
Please refer to the manufacturers' prescribing information and/or instructions for use for the indications, contraindications, warnings, and precautions associated with the medications and devices referenced in these materials.

Sponsored by Medtronic, Inc.  
May 2007

UC200705507 EN