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## Patient education: Heart failure with preserved ejection fraction (The Basics)

Written by the doctors and editors at UpToDate

**What is heart failure with preserved ejection fraction?** — This is a type of heart failure. Heart failure is a condition in which the heart does not pump or fill with blood well. This causes the heart to lag 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 **heart failure with preserved ejection fraction**, the heart is too stiff. When the heart pumps, it doesn't relax and fill with blood normally. This type of heart failure is also known as "diastolic heart failure."
- In **heart failure with reduced ejection fraction**, the heart is too weak. When the heart pumps, it doesn't squeeze normally. This type of heart failure is also known as "systolic heart failure."

The "ejection fraction" (or "EF") is the amount of blood that the heart pumps out with each heartbeat. People with "heart failure with preserved ejection fraction" have a **normal** (or almost normal) EF.

People with the other type of heart failure, "heart failure with reduced ejection fraction," have an EF that is **lower** than normal.

**What are the symptoms of heart failure with preserved ejection fraction?** — Symptoms can include:

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

**Is there a test for heart failure?** — Yes. If your doctor or nurse thinks you might have any type of heart failure, he or she will ask about your symptoms, do an exam, and order some of the following tests:

- Blood 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.
- 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 heart failure with preserved ejection fraction treated?** — Treatment usually includes:

- Taking medicines – Doctors can use different types of medicines to treat your heart failure. The right medicines for you will depend on your symptoms and other medical conditions. Some medicines will reduce your symptoms, such as swelling or trouble breathing. This will help you feel better and be more able to do everyday tasks.

If you have high blood pressure, your doctor might prescribe medicines to control it. If you have a heart rhythm problem called "atrial fibrillation," your doctor might prescribe medicine to control your heart rate. If you have fluid in your lungs or swelling in your legs, your doctor might prescribe medicine called a "diuretic" (water pill) to help with these symptoms.

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.

- Treating your coronary heart disease (if you have it) – In coronary heart disease, the arteries that bring blood to the heart get clogged. Treatment can include medicines, a procedure to unblock a clogged artery, or surgery.

**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 you eat breakfast. Try to wear about the same amount of clothing every time.
- 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.
- Cut down on alcohol if you have more than 1 drink a day (for women) or 2 drinks a day (for men).

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[Patient education: Swelling \(The Basics\)](#)

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[Patient education: Heart attack \(The Basics\)](#)

[Patient education: Heart failure with reduced ejection fraction \(The Basics\)](#)

[Patient education: Edema \(swelling\) \(Beyond the Basics\)](#)

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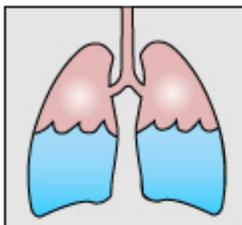
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## GRAPHICS

### Heart failure action plan - page 1

Every morning, when you get up, check how you are doing. Look for:



#### Changes in breathing

Ask yourself:

- Can I breathe as well as I usually can?
- Am I getting out of breath doing things I can normally do without a problem?
- Am I coughing more than usual?
- Did I use more pillows than usual to sleep last night?

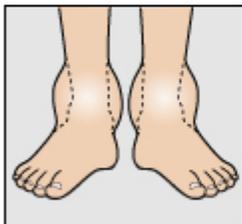


#### Changes in weight

Weigh yourself every morning after urinating but before eating.

Write down your weight on a calendar. Then ask yourself:

- Has my weight gone up or gone down compared to yesterday?  
If so, by how many pounds?
- Has my weight gone up or gone down compared to a week ago?  
If so, by how many pounds?



#### New or worse swelling

Ask yourself:

- Are my ankles more swollen than usual?
- Do my socks or shoes feel tighter?
- Do my clothes feel tighter at the waist?
- Do my rings fit more snugly?



#### Changes in your ability to do everyday things

Ask yourself:

- Can I do all the things I normally do, such as get dressed on my own, make meals, or go for walks?
- Do I feel dizzy or more tired than usual?
- Do I have any new symptoms, like pressure or pain in my chest?
- Does my heartbeat feel strange or irregular?
- Do I feel like I might pass out?

See the next page to find out what you should do if any of these changes occur.

## Heart failure action plan - page 2

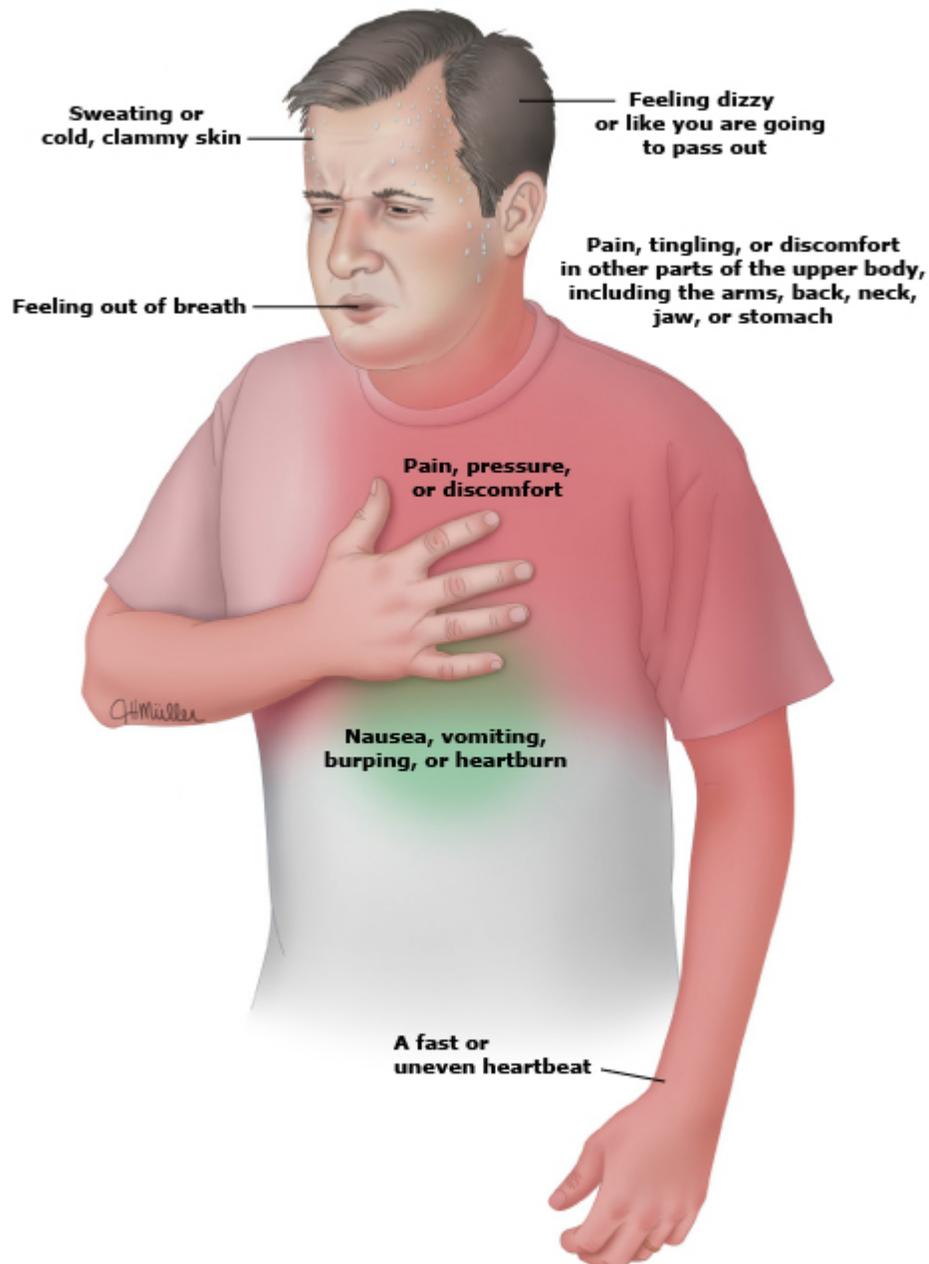
Symptom	Action
<p style="text-align: right;">Best weight: <input style="width: 60px; height: 20px;" type="text"/></p> <p>If you have:</p> <ul style="list-style-type: none"> <li>▪ No trouble breathing</li> <li>▪ No chest pain</li> <li>▪ No weight change overnight or over the last week</li> <li>▪ The usual amount of ankle swelling</li> <li>▪ No change in ability to be active</li> </ul>	<p>Your symptoms are under control.</p> <ul style="list-style-type: none"> <li>▪ Keep taking your medications every day, as ordered</li> <li>▪ Keep weighing yourself every day and writing down your weight</li> <li>▪ Keep all your medical appointments</li> </ul>
<p>If you:</p> <ul style="list-style-type: none"> <li>▪ Need more pillows than usual to sleep</li> <li>▪ Have more trouble breathing when you are active</li> <li>▪ Have more coughing than usual</li> <li>▪ Increased shortness of breath with activity</li> <li>▪ Gain 2 to 3 pounds overnight, or 5 pounds in one week</li> <li>▪ Have more swelling than usual</li> </ul>	<p>You might need to take extra medicine.</p> <p><b>Call your doctor's office to find out what you should do.</b></p> <p>Doctor name: _____</p> <p>Phone #: _____</p>
<p>If you:</p> <ul style="list-style-type: none"> <li>▪ Have trouble breathing when you are resting, or you can't stop coughing</li> <li>▪ Wheeze or feel chest tightness when you are resting</li> <li>▪ Wake up at night because you can't breathe well</li> <li>▪ Feel dizzy, very tired, or like you might fall</li> <li>▪ Gain or lose more than 5 pounds compared to your normal weight</li> </ul>	<p>You probably need to <b>see</b> a doctor right away.</p> <p><b>Call your doctor now.</b></p> <p>Doctor name: _____</p> <p>Phone #: _____</p>
<p>If you:</p> <ul style="list-style-type: none"> <li>▪ Have trouble breathing that does not get better no matter what you do</li> <li>▪ Feel like you can't breathe, or start to turn blue</li> <li>▪ Cough up frothy or pink saliva</li> <li>▪ Have pain or pressure in your chest, or you have other signs of a heart attack</li> <li>▪ Have a fast or uneven heartbeat that will not go away or makes you feel dizzy or lightheaded</li> <li>▪ Feel very confused</li> <li>▪ Faint</li> </ul>	<div style="text-align: center;">  </div> <p><b>Call 9-1-1 for an ambulance right away</b></p>

Based on the Heart Failure Action Plan provided by Access III of the Lower Cape Fear, Inc.

Graphic 75501 Version 4.0

## Heart attack symptoms

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This picture shows the main symptoms of a heart attack. People who are having a heart attack often have only some of these symptoms. The pain, pressure, and discomfort caused by a heart attack mostly affect the left side of the body (shown in darker red) but can also affect the right. If you think you are having a heart attack, call 9-1-1 for an ambulance. Do not try to get yourself to the hospital.

Graphic 52579 Version 1.0