



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

Written by the doctors and editors at UpToDate

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## 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. As a result, the heart cannot move blood throughout the body as well as usual. This can lead to symptoms.

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 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 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 "heart failure with reduced ejection fraction" have an EF that is **lower** than normal.

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## 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, they will ask about your symptoms, do an exam, and order some of these tests:

- Blood tests
- Chest X-ray – This 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 ("ECG") – This measures the electrical activity in the heart.
- Echocardiogram (also called an "echo") – This uses sound waves to create pictures of the heart as it beats.
- Stress test – The 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") – The doctor puts a thin tube into a blood vessel in your leg or arm. Then, they move the tube up to your heart. When the tube is in your heart or blood vessels, they take blood pressure 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."

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## How is heart failure with preserved ejection fraction treated?

Treatment usually includes:

- **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 2 or more medicines every day. It's important to take your medicines every day, even if you feel well. The right medicines for you depend on your symptoms and other medical conditions, and can include:
  - SGLT2 inhibitor – This is used to treat people with diabetes. It can also treat heart failure with preserved EF even if you do not have diabetes.
  - Diuretic (water pill) – This 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.
  - GLP-1 agonist – This helps people with obesity improve their weight and heart function.

- Mineralocorticoid receptor antagonist – This helps the body get rid of extra salt and fluid. It also protects the heart from harmful hormone effects that happen in heart failure.

[Sacubitril-valsartan](#) (brand name: Entresto) is another medicine that helps with extra salt and fluid. Your doctor might prescribe this if they think it will work better for you, or if you cannot take a mineralocorticoid receptor antagonist.

- Medicines to treat other conditions – Your doctor might prescribe medicines to control your blood pressure or heart rate.
- **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.

Exercise training is sometimes another treatment for heart failure with preserved ejection fraction. Talk to your doctor or nurse about how to exercise safely.

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## What can I do on my own to protect my heart?

To help feel better and reduce the chances you will need to go to the hospital, you should:

- Follow the action plan your doctor gives you ( [figure 1](#) and [figure 2](#)). This 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.
- Lose weight, if you have excess body weight.
- Quit smoking, if you smoke. Your doctor or nurse can help.
- Limit alcohol. Talk to your doctor about how much alcohol is too much.

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## More on this topic

[Patient education: Heart failure in adults – Discharge instructions \(The Basics\)](#)

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

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

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

[Patient education: Shortness of breath \(The Basics\)](#)

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

[Patient education: ECG and stress test \(The Basics\)](#)

[Patient education: Cardiac catheterization \(The Basics\)](#)

[Patient education: Coronary artery disease \(The Basics\)](#)

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

[Patient education: B-type natriuretic peptide test \(The Basics\)](#)

[Patient education: Choosing surgical treatment for heart failure \(The Basics\)](#)

[Patient education: Heart failure \(Beyond the Basics\)](#)

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

[Patient education: Shortness of breath \(dyspnea\) \(Beyond the Basics\)](#)

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

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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 that I can normally do without a problem?
- Am I coughing more than usual?
- Did I use more pillows than usual to sleep last night?

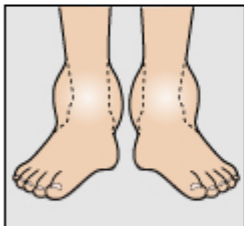


#### Changes in weight

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 with yesterday?  
If so, by how many pounds?
- Has my weight gone up or gone down compared with 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 of the things that 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.

Graphic 72459 Version 4.0

## Heart failure action plan – Page 2

Symptoms to watch for	Actions to take
<p><b>If you:</b></p> <ul style="list-style-type: none"> <li>▪ Have no trouble breathing or chest pain</li> <li>▪ Can do your normal activities</li> <li>▪ Have no new ankle swelling</li> <li>▪ Are sleeping normally</li> <li>▪ Have no changes in your weight (<i>weight: _____</i>)</li> <li>▪ Have a normal appetite</li> <li>▪ Feel good emotionally</li> </ul>	<p><b>Your symptoms are under control.</b></p> <p>You should:</p> <ul style="list-style-type: none"> <li>▪ Keep taking your medicines every day as instructed</li> <li>▪ Keep weighing yourself every day and writing down your weight</li> <li>▪ Go to all of your medical appointments</li> </ul>
<p><b>If you:</b></p> <ul style="list-style-type: none"> <li>▪ Have more trouble breathing with activity</li> <li>▪ Are coughing</li> <li>▪ Have new ankle swelling or discomfort or swelling in the belly</li> <li>▪ Have gained 2 to 3 pounds in 1 week</li> <li>▪ Have trouble sleeping</li> <li>▪ Have less of an appetite than usual</li> <li>▪ Have mild sadness or depression</li> </ul>	<p><b>You might need a change in your medicine.</b></p> <p>You should:</p> <ul style="list-style-type: none"> <li>▪ Call your doctor, and ask them what to do</li> </ul> <p><i>Doctor's name:</i> _____</p> <p><i>Phone number:</i> _____</p>
<p><b>If you:</b></p> <ul style="list-style-type: none"> <li>▪ Have trouble breathing, even at rest</li> <li>▪ Are coughing a lot</li> <li>▪ Have worsening ankle swelling or discomfort or swelling in the belly</li> <li>▪ Have gained more than 2 to 3 pounds overnight, or 5 pounds in 1 week</li> <li>▪ Cannot lie flat</li> <li>▪ Have nausea or no appetite</li> <li>▪ Have sadness or depression and are having trouble coping</li> <li>▪ Feel very confused, dizzy, or lightheaded</li> <li>▪ Have chest pain or other signs of a heart attack</li> </ul>	<p><b>You need medical attention right away!</b></p> <p>You should:</p> <ul style="list-style-type: none"> <li>▪ Call your doctor, and ask them what to do</li> </ul> <p><i>Doctor's name:</i> _____</p> <p><i>Phone number:</i> _____</p> <p style="text-align: center;"><b>If you can't reach your doctor right away, call for an ambulance (in the US and Canada, call 9-1-1).</b></p> <div style="text-align: center;">  </div>

Adapted from: *Heart Failure Signs and Symptoms: Self-Check Plan for HF Management*. American Heart Association 2022. Available at: <https://www.heart.org/en/health-topics/heart-failure/warning-signs-of-heart-failure> (Accessed on July 11, 2024).

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