



PATIENT EDUCATION

# *Heart Failure*

A Guide for Managing Symptoms and Living Well

learning **EDUCATION** EXCELLENCE  
**HEALTHY** CARING INTERACTION  
**LIVING**

BARBARA WOODWARD LIPS  
PATIENT EDUCATION CENTER



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# Understanding Heart Failure

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The information in this section helps you:

- Learn how the heart works and how heart failure affects your heart.
- Know the symptoms of heart failure and when you need help.
- Understand the causes of heart failure and how it is diagnosed.

You may have been given this resource because you received a diagnosis of heart failure. You may have questions about heart failure. You may wonder how the condition may affect your health and quality of life.

This resource is meant to answer your questions. It explains heart failure. It gives you details about treatments. It explains changes you can make in daily life to manage your symptoms.

The goals of treatment are to do the following:

- Manage your symptoms.
- Slow down the progress of heart failure.
- Help you have the best quality of life possible.

You do not have to manage heart failure alone. Your health care team is here to help. Just by reading this information, you have taken an important step. If you have questions, talk with a member of your care team.

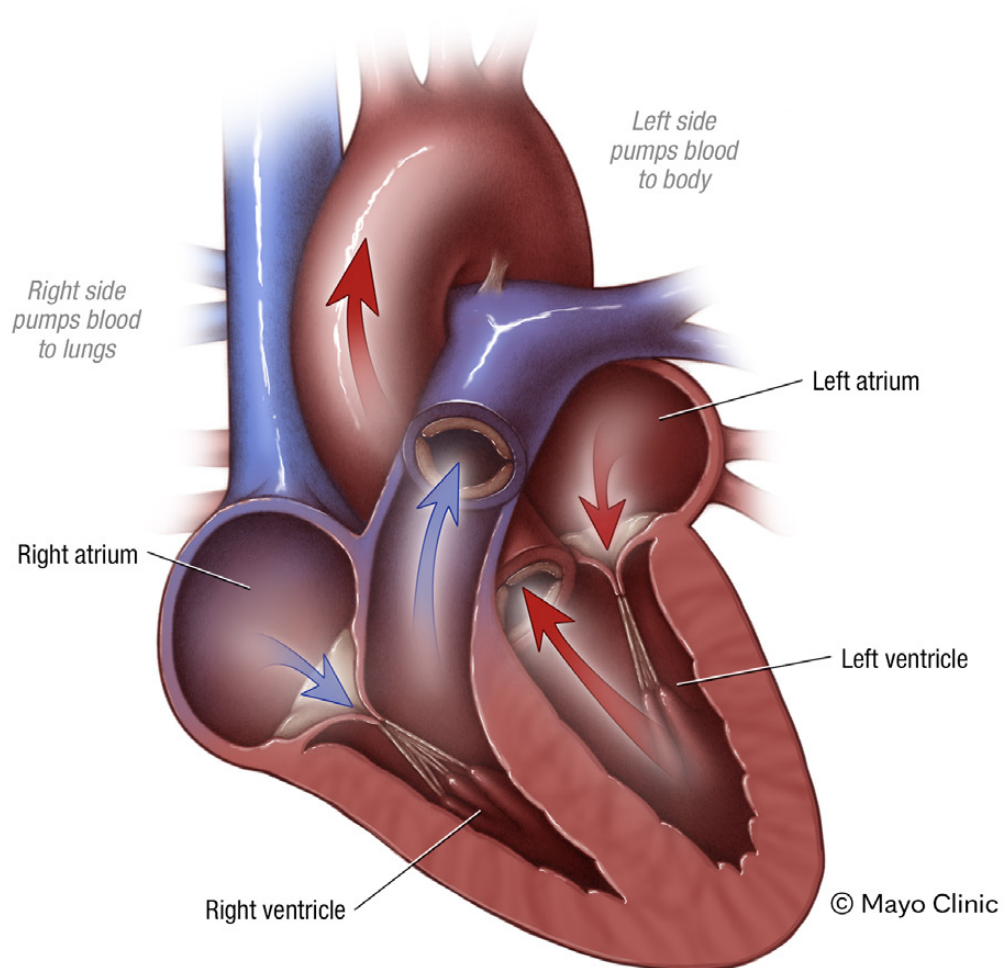
# How the Heart Works

To understand heart failure, it helps you to know how a heart typically works.

The heart is a muscle about the size of your fist. It acts as a pump. Blood passes through four areas in the heart called chambers. They are located on the right and left sides of your heart. The upper chambers are called atria. A single upper chamber is called an atrium. The lower chambers are called ventricles. See Figure 1.

Usually, the heart beats 60 to 100 times each minute in adults. It pumps blood through the body with each beat.

Blood enters the heart through veins from the body and the lungs. The blood enters the right and left atria. The muscles of the atria contract to squeeze blood into the right and left ventricles. When the left ventricle contracts, blood with oxygen moves through the arteries to the entire body. When the right ventricle contracts, blood moves to the lungs to get oxygen.



**Figure 1.** Healthy heart showing the four chambers

# What Happens in Heart Failure

Heart failure does not mean your heart has failed. Instead, it means your heart does not pump as well as it should.

If you have heart failure, your heart can become weak. It also may become stiff. See Figure 2. This condition makes it hard for your heart to pump enough blood with each beat. Blood is what carries oxygen throughout the body. As a result, heart failure means some parts of your body may not get enough oxygen.

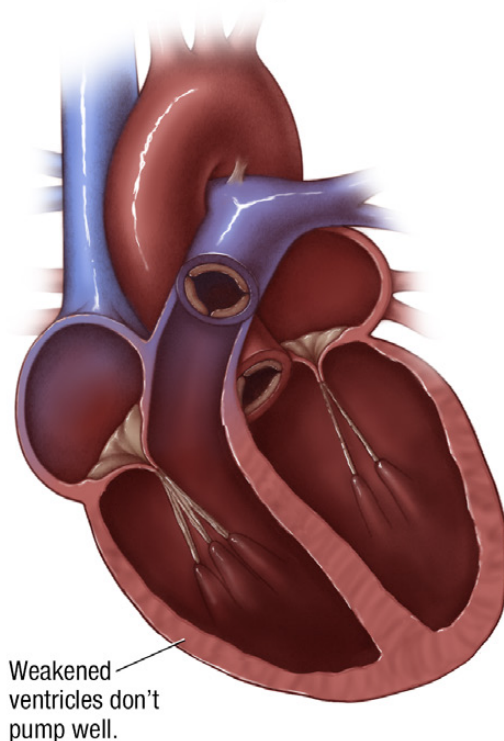
To help your heart pump blood, the body sends chemicals called hormones to the heart. But some hormones make the heart grow bigger while others make the heart pump faster. Over time the heart cannot keep up with what the body needs. Gradually scar tissue replaces some of the heart cells. Tissue that once was flexible is not anymore. It becomes stiff. It does not stretch and contract like it should.

Heart failure can involve the left side, right side or both sides of the heart. It is more common on the left side. The left ventricle is the heart's main pumping chamber.

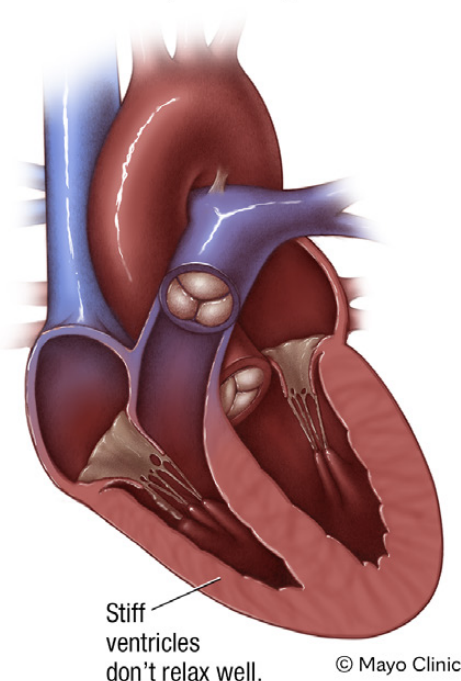
Two types of heart failure include:

- Heart failure with **reduced ejection fraction**. In this type, the heart pumps less blood from the ventricles.
- Heart failure with **preserved ejection fraction**. In this type, less blood fills the ventricles.

Heart failure with reduced ejection fraction



Heart failure with preserved ejection fraction



© Mayo Clinic

**Figure 2.** Heart with weakened ventricle walls and stiff ventricle walls

In **heart failure with reduced ejection fraction**, the ventricles become weak and enlarged. When the ventricles contract, they cannot pump enough blood. The result is your heart pumps less blood. This causes fluid to back up into your lungs. It causes the symptoms of heart failure. Your ejection fraction is lower.

In **heart failure with preserved ejection fraction**, the ventricles become too stiff to relax. They cannot expand to fill with enough blood. This means there may be less blood in the ventricles for the heart to pump. People with preserved ejection fraction have a normal ejection fraction. But their heart may be stiff.

The result is the same in both types of heart failure: the heart pumps less blood.

### **What is ejection fraction?**

An ejection fraction is the percentage of blood that leaves your heart each time it contracts. Ejection fraction usually is measured only in the left ventricle. This is because the left ventricle is the heart's main pumping chamber.

During each heartbeat cycle, the heart contracts and relaxes. When your heart contracts, it ejects blood from the two ventricles. When your heart relaxes, the ventricles refill with blood. No matter how forceful the contraction, all the blood does not empty out of a ventricle. The normal ejection fraction in the left ventricle is 50% to 70%.

Your health care team uses the ejection fraction to determine how your heart failure is progressing. The team also uses other information to monitor your heart failure. How often your care team measures your ejection fraction depends on factors such as your stage of heart failure and your symptoms.

# Stages of Heart Failure

Heart failure moves through four stages. It can get worse over time. The symptoms you have and the treatments you need depend on your stage of heart failure. Your care team works to help you find the treatments that are best for you.

STAGES	WHAT THE STAGE MEANS	TREATMENT
Stage A	<p><b>Stage A means you are at risk for heart failure.</b></p> <p>You have no symptoms, but you may have:</p> <ul style="list-style-type: none"> <li>• Diabetes.</li> <li>• High blood pressure.</li> <li>• Coronary artery disease.</li> <li>• Certain heart valve diseases.</li> </ul>	<p><b>Treatment includes self-care.</b></p> <p>Do what you can to:</p> <ul style="list-style-type: none"> <li>• Stay active.</li> <li>• Eat healthy.</li> <li>• Do not smoke.</li> </ul> <p>Get treatment for diseases that may lead to heart failure, such as high blood pressure and diabetes.</p>
Stage B	<p><b>Stage B means your heart does not function as it should.</b></p> <p>You have no symptoms, but your heart muscle is weak or stiff.</p>	<p><b>Treatment includes Stage A treatments AND</b></p> <p>Starting medicines to help the heart pump effectively and to slow down the progression of heart failure.</p>
Stage C	<p><b>Stage C means your heart does not function as it should.</b></p> <p>You have symptoms and your heart muscle is weak or stiff.</p>	<p><b>Treatment includes Stage A and B treatments AND</b></p> <ul style="list-style-type: none"> <li>• Restricting salt in your diet.</li> <li>• Monitoring your daily weight.</li> <li>• Adding medicines, such as diuretics.</li> <li>• Receiving a defibrillator or cardiac resynchronization therapy.</li> </ul>
Stage D	<p><b>Stage D means you have advanced heart failure.</b></p> <p>You have symptoms and</p> <ul style="list-style-type: none"> <li>• They affect your daily life.</li> <li>• You are in the hospital more.</li> <li>• You no longer respond to medicines.</li> </ul>	<p><b>Treatment includes some stage A, B, and C treatments AND</b> possibly one or more of these:</p> <ul style="list-style-type: none"> <li>• Heart transplant.</li> <li>• Ventricular assist device.</li> <li>• Continuous IV drug therapy.</li> <li>• Experimental and investigational therapies.</li> <li>• Palliative care.</li> <li>• End-of-life care, such as hospice.</li> </ul>

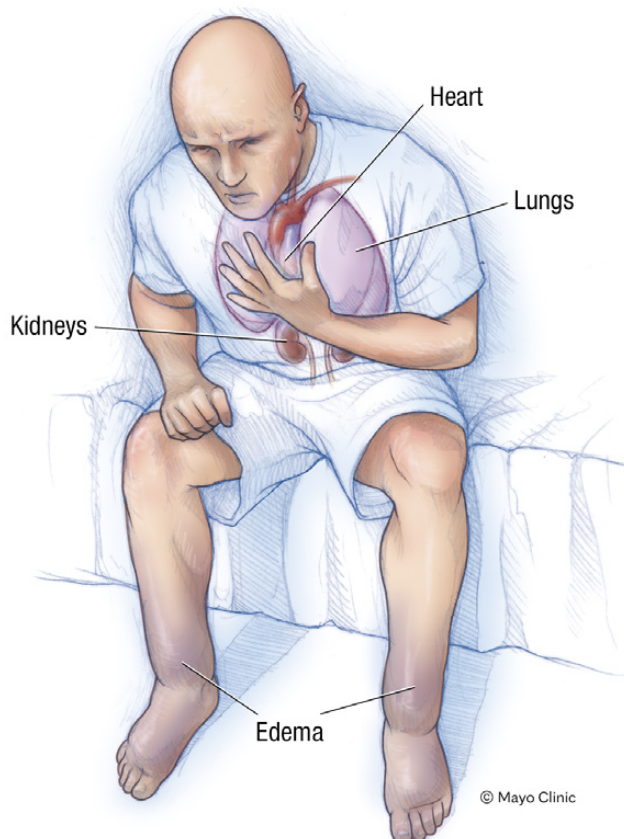
# Symptoms

You may have many symptoms of heart failure or only a few. Symptoms can happen when your heart pumps less blood to your lungs and the rest of your body. Your body's organs need blood that is rich in oxygen to work as they should.

For example, if your kidneys do not get the oxygen-rich blood they need, fluid can back up into your lungs. Fluid also can back up into other parts of your body, such as your abdomen, ankles and feet.

Symptoms of heart failure include:

- Feeling short of breath, wheezing and coughing when you do activities.
- Having a hard time breathing when you lie flat. This is called orthopnea.
- Waking up during the night feeling short of breath and coughing. This is called paroxysmal nocturnal dyspnea. See Figure 3.
- Feeling weak or tired after you do a simple activity.
- Quickly gaining weight.
- Swelling in your abdomen, ankles or feet. You may have increased swelling in these areas, or you may swell more often. Swelling is called edema.



**Figure 3.** Paroxysmal nocturnal dyspnea and edema

## How to know whether heart failure is getting worse

- You gain 2 to 3 pounds in 1 day.
- You are 5 pounds over the weight at which your symptoms were best controlled. Weight gain can mean fluid is backing up.
- You notice you are more short of breath than usual. Or you get short of breath more often. Fluid backing up into your lungs can cause this.
- You have to sit up to breathe more easily.
- You get winded after you do an activity you easily used to do.
- You tire more quickly and more often. This happens when your body does not get enough oxygen from your blood.
- Your abdomen, ankles and feet swell more. And they can swell more often. Some people only swell in certain places. Others swell all over.

Once your treatment for heart failure helps your symptoms improve, the goal is to keep it that way. If symptoms get worse, see your health care team right away.

## When to get help

### Contact a member of your health care team if you:

- Have a change in symptoms, have new symptoms or have worse symptoms.
- Are short of breath when you sleep. Or wake up short of breath.
- Have trouble breathing when you lie down.
- Need to sleep upright to breathe. You may use extra pillows to do this.
- Feel dizzy.
- Gain weight quickly.
- Have trouble doing your usual daily activities.

### Call 911 or have someone drive you to get emergency care right away for any of the following:

- Chest pain or pressure that is severe or has gotten worse.
- Shortness of breath that is severe or has gotten worse.
- Breathing problems that do not get better with rest.
- Unexplained sweating, nausea or vomiting.
- Fainting.

**Note:** Heart failure that gets worse may not always cause weight gain or the other symptoms listed in this section. To monitor heart failure, be sure to keep all your regular appointments. You need to have medical checkups.

# Diagnosis

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To diagnose heart failure, you typically have a thorough physical exam and a review of your medical history. Your care team also checks to see whether you have risk factors. Risk factors include high blood pressure, diabetes and other conditions.

Common tests used to diagnose heart failure include:

- Blood tests.
- Chest X-ray.
- Electrocardiogram, called an ECG.
- Echocardiogram, called an echo.
- Stress test.
- Cardiac computed tomography, called a cardiac CT scan.
- Magnetic resonance imaging, called an MRI.
- Cardiac catheterization.

An echocardiogram gives some information about your heart. But you may need cardiac catheterization to help make a diagnosis. Your ejection fraction often is measured during one of the diagnostic tests.

# Causes

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The following conditions can lead to heart failure.

**Coronary artery disease and heart attack.** Coronary artery disease is the most common form of heart disease and heart failure. Coronary arteries supply blood to the heart. When the coronary arteries become blocked, the heart can become too weak or too stiff to work as it should.

**High blood pressure, called hypertension.** When blood pressure is high, the heart works harder than it should to move blood through the body. Over time, the heart muscle may become damaged. Blood vessels may not function as well as they should.

**Faulty heart valves.** The heart valves help blood flow in the proper direction through the heart. A damaged valve forces your heart to work harder to do this.

**Genetic mutations.** Sometimes genetic problems can cause damage to the heart muscle.

**Exposure to toxins.** Being exposed to toxic substances can cause heart failure. Alcohol and certain drugs such as cocaine and methamphetamines can be toxic to the heart. Medicines used for chemotherapy also can damage the heart.

**Severe infections.** Certain viral and bacterial infections may damage the heart and lead to heart failure.

**Myocarditis.** Inflammation of the heart is called myocarditis. It usually is caused by a virus.

**Heart problems you are born with, called congenital heart defects.** If your heart did not form as it should before birth, the healthy parts of your heart must work harder to pump blood.

**Heart arrhythmias.** When your heart does not beat in a regular pattern, you have an arrhythmia. Some arrhythmias may cause your heart to beat too fast. This creates extra work for your heart.

**Other conditions and diseases that may lead to heart failure include:**

- Diabetes.
- Severe anemia.
- Hyperthyroidism.
- Hypothyroidism.
  
- Emphysema.
- Lupus.
- Hemochromatosis, a condition that causes iron to build up in the body.
- Amyloidosis, a condition that causes protein to build up in the body.
- Sarcoidosis, a condition that causes the growth of inflammatory cells in the body.

# Managing Heart Failure Through Self-Care

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## **The information in this section helps you:**

- Learn how making healthy choices can help you manage heart failure.
- Know how to monitor your weight, check your blood pressure and add activity.
- Understand how sodium and fluid affect your body.

Take an active role in managing your heart failure. You can boost your self-confidence and move toward a healthier life.

When you are physically active, eat well and monitor your heart failure, you can make a difference in your health. To have a better quality of life, you may need to use several of these approaches.

During treatment, your health care team works with you to set up a plan. Your care team wants to find what is best for you. It all begins when you commit to lifelong changes.

The following information explains what you can do to manage heart failure. Remember, you are not alone. You are part of a team that manages your care. Ask questions at any time.

# Steps For Healthy Living

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Making certain changes in your life can help ease the symptoms of heart failure. These changes may prevent the condition from getting worse. **They may be among the most important and beneficial changes you can make.**

## **If you smoke, stop**

Smoking damages your blood vessels, raises blood pressure and lessens the amount of oxygen in your blood. It makes your heart beat faster. If you need help to quit, ask your care team about resources to help you do that.

## **Know your baselines**

How you feel when your heart failure is managed well is called your baseline. Know your baselines so you know right away when your symptoms change. Examples of baselines include your weight, blood pressure and your ability to be active.

## **Limit sodium in your diet**

Too much sodium can cause your body to hold on to water. This is called water retention. You also may hear it called fluid retention. The extra fluid makes your heart work harder. It causes shortness of breath, swollen legs, ankles and feet.

## **Get regular physical activity**

Moderate aerobic activity helps keep the rest of your body healthy and in condition. This causes less demand on your heart.

## **Benefits of regular, moderate exercise**

- Fewer symptoms of fatigue and shortness of breath.
- Weight loss.
- Decreased stress and anxiety.
- Less risk factors for conditions such as high blood pressure.
- Improved sense of well-being and quality of life.
- More strength to handle illness.

Before you start regular physical activity, talk to your care team about a program that is right for you. They may suggest a walking program or a cardiac rehab program. Both programs can help you maintain or increase the strength and endurance of your heart and other muscles.

## Guidelines for adding activity

- Do your activities before you eat or about 1 hour after you eat.
- Pace yourself when you are walking so you can walk and talk without being short of breath. You should be able to speak a full sentence.
- Pay attention to how you feel. If you feel an increase in fatigue, you may be doing too much. If you feel short of breath or lightheaded, you may be doing too much.

## Simple ways to add activity throughout your day

- Do household tasks. For example, prepare meals, fold laundry and do light dusting.
- Park a little farther from a store than you usually do.
- Carry your groceries in 1 bag at a time.
- Walk the family pet a couple times a day.

When you follow a schedule of walking or cycling, you may better condition your heart and improve blood flow in your body.



## Weigh yourself every day

Sudden weight gain is a sign your body is storing extra fluid. You may gain weight slowly over a week. Or you may gain it quickly over just a few days.

Follow these instructions to weigh yourself.

- Weigh yourself every day at the same time. Ideally this should happen:
  - After you get out of bed in the morning.
  - After you use the restroom.
  - Before you eat.
- Weigh yourself with no clothes on or in similar clothes every day.
- Weigh yourself using the same scale.

## Record your weight each day

Weigh yourself each day even when your weight has been stable or you do not have swelling. You need to record your weight over time. Keep a notebook and a pen near your scale. Write your weight in the notebook.

**If you were told when to call about weight gain,** follow those instructions. If you cannot give a record of your weight over time, you may have to come in for an appointment. You may not be able to manage the issue over the phone.

**If you have not been given instructions about when to call about weight gain,** call your care team within 24 hours if you:

- Gain more than 2 to 3 pounds in 1 day or you are more than 5 pounds over your baseline weight.
- You are more than 3 pounds below your baseline weight and you have new or worsened light-headedness or dizziness.

Try to maintain a healthy weight. Being overweight increases the workload for your heart. Ask your dietitian to help you work toward your ideal weight. Even losing 5 to 10 pounds can help.



Weigh every day



Record your weight

## Take your blood pressure and monitor your heart rate

Blood pressure measures the pressure in the arteries as the heart pumps. The more blood your heart pumps and the narrower your arteries, the higher your blood pressure. High blood pressure means that pressure in your arteries is above the typical range.

**Your treatment for heart failure often depends on your blood pressure.** For this reason, you should take your blood pressure as you are told. Ask what your blood pressure should be and what to do if it changes.

To take your blood pressure, follow the directions that come with your blood pressure monitor. Most monitors also tell you what your heart rate is. If told to do so, write down your blood pressure and heart rate. You can use the same notebook you use to record your weight.



# Limit Sodium

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Sodium is a mineral that can raise your blood pressure. It can cause your body to store fluid. Both higher blood pressure and excess fluid in your body can cause your heart to work harder. The excess fluid can make you feel full most of the time. This may cause you to eat less. Be sure you eat enough healthy foods to help you maintain good nutrition.

Following a low-sodium diet is the most important thing you can do when it comes to nutrition. But foods high in cholesterol and fat also can be bad for your heart. Talk to a dietitian about how you can cut back on these kinds of foods.

## Sodium in foods

You get sodium in your diet from salt you add to foods and from foods and beverages that have sodium in them. **But most of the sodium in your diet comes from the food you eat, not from the salt you add to it at mealtime.**

Know what foods contain a high amount of sodium. Know what foods contain hidden sodium. These are foods you may not think have a lot of sodium, such as certain vegetable drinks, milk and bread.

Sodium can be found in:

- Canned, processed and convenience foods, such as soup and TV dinners.
- Seasonings and mixes, such as taco seasoning, cake mixes and instant mashed potatoes.
- Condiments, such as ketchup and barbeque sauce.
- Sea salt and other salt forms.
- Fizzy liquids, such as soda.
- Some medicines you buy at a drug store.

## How much sodium you need

For most people with heart failure, the limit of sodium is 2,000 milligrams each day. To keep from eating too much sodium, do the following:

- Keep a record of how much sodium you eat each day.
- Choose foods that have 200 mg or less of sodium in each serving.
- Choose fluids that have less than 100 mg of sodium in each serving.
- When you prepare meals, limit the combined amount of sodium in everything you eat and drink to 600 milligrams or less.

Find out from your care team how much sodium you should eat at each meal and each day.

Make a lifelong commitment to eat a lower amount of sodium in your diet.  
Permanently change how you eat, shop, cook and dine out.

## How to read a food label

Food labels are on most packaged foods in the United States. Nutrition information on food labels can help you decide whether to eat a certain food. Some of the sections on a food label include:

- **Serving size.** Serving size is the key to the rest of the information on the Nutrition Facts label. Nutrient information is based on 1 serving of that food. If you eat 2 servings of the food, you are eating double the sodium.
- **Sodium.** The amount of sodium in 1 serving is shown in milligrams written as mg.
- **Ingredients list.** Read the ingredients list for sodium and items that contain sodium. Watch for items listed by names such as sodium phosphate, monosodium glutamate, called MSG, and baking soda.

Note the sodium content in the following example food labels. Be sure to check both sodium and serving size. Remember: the sodium amount on the label is for just one serving.

### Potato Chips - Lightly Salted

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving Size</b>	<b>1oz (28g/About 15 chips)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>160</b>
<b>% Daily Value*</b>	
<b>Total Fat</b> 10g	<b>13%</b>
Saturated Fat 1.5g	<b>7%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 70mg	<b>3%</b>
<b>Total Carbohydrate</b> 15g	<b>6%</b>
Dietary Fiber 1g	<b>5%</b>
Total Sugars less than 1g	
<b>Protein</b> 2g	
<b>Vitamin D</b> 0mcg <b>0%</b>	
<b>Calcium</b> 10mg <b>0%</b>	
<b>Iron</b> 0.6mg <b>2%</b>	
<b>Potassium</b> 350mg <b>6%</b>	
<b>Vitamin C</b> <b>6%</b>	
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
<b>INGREDIENTS:</b> POTATOES, VEGETABLE OIL (CANOLA CORN, SOYBEAN, AND/OR SUNFLOWER OIL), AND SALT.	

### Potato Chips - Regular

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving Size</b>	<b>1oz (28g/About 15 chips)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>160</b>
<b>% Daily Value*</b>	
<b>Total Fat</b> 10g	<b>13%</b>
Saturated Fat 1.5g	<b>7%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 170mg	<b>7%</b>
<b>Total Carbohydrate</b> 15g	<b>6%</b>
Dietary Fiber 1g	<b>5%</b>
Total Sugars less than 1g	
<b>Protein</b> 2g	
<b>Vitamin D</b> 0mcg <b>0%</b>	
<b>Calcium</b> 10mg <b>0%</b>	
<b>Iron</b> 0.6mg <b>2%</b>	
<b>Potassium</b> 350mg <b>6%</b>	
<b>Vitamin C</b> <b>6%</b>	
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
<b>INGREDIENTS:</b> POTATOES, VEGETABLE OIL (CANOLA CORN, SOYBEAN, AND/OR SUNFLOWER OIL), AND SALT.	

## Canned Green Beans No Salt Added

<b>Nutrition Facts</b>	
3 1/2 servings per container	
<b>Serving Size</b>	1/2 cup (121g)
<b>Amount per serving</b>	
<b>Calories</b>	<b>20</b>
	<b>% Daily Value*</b>
<b>Total Fat</b> 0g	<b>0%</b>
Saturated Fat 0g	<b>0%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 10mg	<b>0%</b>
<b>Total Carbohydrate</b> 4g	<b>1%</b>
Dietary Fiber 2g	<b>8%</b>
Total Sugars 2g	
<b>Protein</b> 1g	
Vitamin D	<b>0%</b>
Calcium	<b>2%</b>
Iron	<b>4%</b>
Potassium	<b>0%</b>
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
<b>INGREDIENTS:</b> GREEN BEANS, WATER.	

## Canned Green Beans With Salt Added

<b>Nutrition Facts</b>	
3 1/2 servings per container	
<b>Serving Size</b>	1/2 cup (121g)
<b>Amount per serving</b>	
<b>Calories</b>	<b>20</b>
	<b>% Daily Value*</b>
<b>Total Fat</b> 0g	<b>0%</b>
Saturated Fat 0g	<b>0%</b>
<i>Trans</i> Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 390mg	<b>16%</b>
<b>Total Carbohydrate</b> 4g	<b>1%</b>
Dietary Fiber 2g	<b>8%</b>
Total Sugars 2g	
<b>Protein</b> 1g	
Vitamin D	<b>0%</b>
Calcium	<b>2%</b>
Iron	<b>4%</b>
Potassium	<b>0%</b>
*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	
<b>INGREDIENTS:</b> GREEN BEANS, WATER, SALT.	

### Shopping for foods with no sodium or low sodium

When you shop for low-sodium foods, be sure to plan, read labels and choose carefully. Over time, you start to learn which products are best for you.

- Choose fresh fruits and vegetables. Most of these have little or no sodium.
- Choose fresh meat, poultry and fish. Avoid meat that is processed or smoked.
- Avoid meats injected with sodium or saline.
- Read the labels on snacks. Choose ones that are low in sodium.
- If you buy frozen vegetables, choose ones not covered in a sauce. Some may be frozen in a salt solution or include seasoning packets high in sodium.
- Make sure frozen meals and prepackaged meals have less than 600 mg of sodium.

When you shop, notice the terms used to describe the product. The following terms each mean something different:

Term	What it means
Sodium-free	Less than 5 mg of sodium in a serving
Reduced sodium	25% less sodium than the regular product
Very low sodium	Less than 35 mg of sodium in a serving
Low sodium	Less than 140 mg of sodium in a serving
Light sodium	50% less sodium than the regular product

## Tips for preparing food without sodium

Try these tips for lowering sodium in your diet. Over time, your tastes should adjust so you get used to less sodium.

- Replace salt with seasonings such as garlic, onion, lemon, pepper, fresh herbs and vinegar.
- When you cook pasta, do not add salt to the water. Add herbs or olive oil instead.
- Eat fresh or frozen vegetables instead of canned vegetables. If you must use canned vegetables, rinse them well with water. This removes a small amount of the sodium. But most of the sodium is already absorbed in the vegetables.
- Make your own low-sodium condiments. Combine vinegar, lemon juice, olive oil and herbs and spices. Add herbs and spices to plain yogurt to make salad dressing or potato topper.
- Dip your fork into condiments rather than pouring the condiment over your food.

## Eating out

When you eat out, do not add salt to foods. Consider the portion sizes. Share meals when you can. Avoid foods described these ways:

- Au jus. This means the food is in broth. Many restaurants use broth high in sodium.
- In cocktail sauce.
- In tomato base.
- Pickled.
- Smoked.
- Teriyaki.
- Marinated.

## Suggested menu for restaurant dining

When you dine out, the following choices can help you limit sodium and fat.

- Fresh fruit cup or fruit juice.
- Meat, fish or poultry with no added salt, breading or sauces.
- Roll or baked potato.
- Margarine.
- Salad with vinegar and oil dressing.
- Sherbet or gelatin.
- Low-fat milk.
- Coffee or tea.

### **Salt substitutes**

Ask about safe salt substitutes. Some salt substitutes contain potassium which can interfere with some heart medicines. Check nutrition labels for **potassium chloride** in foods that are marked low-sodium or no-sodium.

# Control Fluid Intake

You may need to limit the fluid you take in. This can help you avoid fluid buildup and keep the chemicals in your blood at the right levels. Plan to have a portion of your daily fluids with your meals and some between meals.

Most people need at least 64 ounces of fluid each day to keep up the right level of fluid in their body. But it may be different for you. Find out how much fluid you need each day.

## Examples of fluids

Beverages you have with meals or between meals are fluids. Examples include water, coffee, tea, soda, juice and other liquids. But some foods become fluids. These are foods that melt at room temperature or turn into liquid when you eat them. Examples include Jell-O, ice cream, sherbet, frozen yogurt, Popsicles and fruit ices. Count these foods in your fluid levels.



## Guidelines for counting fluid

If you have been told to limit your fluids, you need to track how much fluid you get in a day. These guidelines explain the best way to count the amount of fluid you get.

- **Count all fluids in your daily fluid intake.** Fluids include those that melt at room temperature.
- **Do not guess at your fluid intake.** Accurate measurement is important. Even 1 extra cup of fluid can add a half pound to your body weight.
- **Use standard measuring tablespoons, teaspoons and cups.** Do not use tableware and beverage cups. Cups, glasses and spoons other than standard measuring utensils can result in wrong measurements.
- **Separate the liquid from the solid part of foods you eat.** This includes foods such as soup and canned fruits. If you drink the liquid, measure it. Count this toward your total daily fluid intake.

The following charts provide common measurements you may use to count the fluids you eat and drink.

### Common measurements

Measurement	Fluid ounces	Milliliters
1/4 cup	2 fl. ounces	60 mL
1/3 cup	2.6 fl. ounces	80 mL
1 cup	8 fl. ounces	240 mL
1 quart	32 fl. ounces	960 mL
1 liter	33.3 fl. ounces	1,000 mL

### Foods that melt at room temperature

Food	Serving size	Fluid measurement
Ice cream, sherbet, frozen yogurt	1/2 cup	1/3 cup or 80 mL
Gelatin	1/2 cup	110 mL
Popsicle	2 ounces	1/4 cup or 60 mL
Ice, crushed	1/2 cup	1/4 to 1/3 cup or 60 mL
Ice cubes	1/2 cup	1/3 cup or 60 mL

### About alcohol

Avoid drinking alcohol. If you do drink alcohol, limit it. Have no more than 1 to 1½ fluid ounces of liquor, 4 to 5 ounces of wine or 12 fluid ounces of beer a day. Be sure to count the amount you drink in your daily fluid intake.

# Living Well With Heart Failure

## The information in this section helps you:

- Learn about emotions and relationships and how family and friends can help.
- Know about sleep and how heart failure can affect it.
- Understand why you should have regular appointments and plan for the future.

Having heart failure does not need to rule your life. Many people with heart failure live fulfilling lives. This section describes various aspects of living with heart failure. Finding support to help you live well with heart failure is the key to success. Take time for yourself. Reach out to your friends, family and care team for strength and support.

Attend all health care appointments. Carefully follow your team's advice. Your care team wants to help you live your best life. They can guide you in planning for the future.



# Your Emotions and Relationships

## Stress and depression

Having heart failure can affect your emotional well-being. Treatment is long-term. At times, the symptoms and side effects from the medicine you take can be a struggle. If you start to feel overwhelmed, you can take certain steps to help. Remember you are not alone. Reach out for help when you feel down or need encouragement.

### Ways to deal with stress

- **Make time each day to relax.** You may find it helps to pray, do yoga or meditate. Make a list of necessary tasks and let the rest go. Ask your care team for information about relaxation techniques you can do, such as deep breathing and visualization.
- **Find time to have fun and do things you enjoy.** Read, listen to music or watch your favorite TV program. Call a family member or friend and visit by phone or go out together.
- **Stay active.** Find an exercise you enjoy. Exercise can improve your sleep, energy level and mood.
- **Join a support group.** You may find a support group for people with heart failure or a chronic disease. A credible support group can provide information and advice. You also will be around others who understand what you are going through.

## Depression

Symptoms of depression include loss of interest in routine daily activities. They include feelings of sadness. You may feel helpless or hopeless. You may have crying spells. And you may have trouble sleeping. Effective treatments can help with depression. Contact a member of your health care team for resources that can help you.

Talk with your doctor or mental health professional if you have:

- Symptoms of depression that last longer than 2 weeks.
- Symptoms of depression that interfere with your daily life.

## Sexuality

Sexuality can be an important part of life. People with heart failure may have a decrease in sexual desire. Concern over your illness, fatigue and medicine side effects all can lead to this.

The ability to feel pleasure from touch stays the same, even with heart failure. Keep an open mind about ways to feel pleasure. Share your questions and concerns with your partner and your care team.

## Help from family and friends

Ask your family and friends to support you as you deal with this chronic health condition. Do not try to manage heart failure alone. Your family and friends can help in some of the following ways.

**Attend health care appointments with you.** Sometimes, you may not feel well. Or you may have other things on your mind. You may miss some of the explanations or directions shared at the appointment. Have someone there with you to take notes.

**Learn about heart failure and how to manage it.** The more you and your family and friends know about heart failure, the easier it is to manage it. It is good for you to have someone to talk to who understands your condition.

**Support you in your goals to stay active.** Ask family members to help you be more active. Go together on day trips or schedule regular activities. Ask them to join you on short walks or take a yoga class with you.

**Be patient and understanding.** You may not feel well and may not be able to do all the things you used to do. Your family and friends need to understand this. They may need to help you a little more or allow you more time to get things done.

**Support your efforts to eat a low-sodium diet.** Eating less sodium is a change that affects you, your family and friends. Share the information you learn about how to use less sodium in your diet. Have your family members and friends join you in your healthy eating efforts.

# Sleep

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Sleep restores you physically, mentally and emotionally. Physically, it helps your muscles rest, which enables them to work more effectively the next day. Sleep may help strengthen the immune system so it can fight illnesses.

With heart failure, sometimes you may not be able to sleep well. Be sure to let your team know if you have trouble sleeping. It may be because of sleep apnea.

## Sleep apnea

Sleep apnea is a condition where you stop breathing several times while you sleep. Two types of sleep apnea are central sleep apnea and obstructive sleep apnea. Both are common in people with heart failure.

In **central sleep apnea**, your brain has trouble controlling your breathing. In **obstructive sleep apnea**, your airways become blocked during sleep.

When you stop breathing, the oxygen in your blood drops. This can cause harmful stress hormones to activate. These changes can hurt your heart. Sleep apnea can:

- Worsen heart function.
- Make blood pressure hard to control.
- Cause heart rhythm problems.
- Increase fatigue.

To diagnose sleep apnea, you may be given a monitor to wear. It checks the oxygen level in your blood overnight. You also may benefit from a sleep study. A sleep study is the best way to diagnose sleep apnea. During a sleep study, you spend the night in a special lab. A health care professional monitors your breathing.

Treatments for sleep apnea include:

- Medicine.
- Devices to maintain a better position during sleep.
- Breathing devices with masks that help you breathe regularly during the night. These devices include CPAPs, BiPAPs, ASV machines and others.

# Keep Regular Appointments

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Heart failure is a chronic illness. Even if your symptoms improve, you should closely monitor your health over time. Keep all appointments with your health care team. Your care team can check whether your heart failure progresses. The team can watch for complications.

As part of your ongoing care, you may have appointments that include stress tests and blood tests. Appointments also may include CT scans, MRIs and an angiogram. You may continue to see specialists as well. How often you come for these appointments depends on your stage of heart failure. It also depends on how controlled your heart failure is and your other medical conditions.

Stay in regular contact with your health care team. If your heart failure symptoms become unstable, your team can act quickly. This may help you avoid having to go to the hospital. Your team can keep you informed about new therapies that may benefit you.

## **Heart failure clinics**

Some people choose to manage their heart failure through their primary care doctor or another medical professional. Others may benefit from one or more visits to a clinic that specializes in heart failure.

If the cause of your heart failure is not known, you may benefit from a consult at a heart failure clinic. Others who may benefit include those who:

- Are not able to take heart failure medicines.
- Have had one or more hospital stays for heart failure.
- Have had their symptoms become worse despite medicines.

To help you find a heart failure clinic in your area, ask a member of your health care team.

# Advanced Directive

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An advance directive is a formal, written statement from you. It usually gives guidance about what you want for health care in case you are not able to care for yourself or make decisions. You may hear this document called a health care directive, a living will or a durable power of attorney for health care. Ask a member of your health care team about the laws that govern advanced directives in your state.

## Decisions about medical treatments

You complete an advanced directive when you feel well and can make decisions about your own medical care. The statement you make lets you choose which medical treatments you would or would not want. You also may name a person to carry out your wishes. This person is called a proxy or agent.

You may give guidance about lifesaving and life-sustaining choices.

- A **lifesaving treatment** is used for a limited time to help your body gain back function.
- A **life-sustaining** treatment provides a vital function your body has lost and is not likely to get back. Stopping life-sustaining treatment usually results in death.

A treatment may begin as a way to save your life but then become a way to sustain life. Treatments to sustain life include dialysis, tube feedings and a breathing machine called a ventilator.

For example, a person's heart may stop pumping blood because of an irregular heart rhythm. This is called a cardiac arrest. When that happens, breathing stops and the person will die unless they are placed on a ventilator. In this example, a ventilator is **lifesaving**. It may help keep the person alive until the care team can correct the heart rhythm.

But if the damage to the brain, heart and lungs is too great, breathing without help may never start again. The person needs the ventilator to stay alive. Now the ventilator is **life-sustaining**.

If you would like more information about an advanced directive, ask your health care team.

# Treating Heart Failure

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**The information in this section helps you:**

- Learn about heart failure medicines and how they help.
- Know about treatments, devices and therapies for heart failure.
- Understand advanced heart failure and its treatment and care.

The information in this section explains some of the medicines used to treat heart failure. It describes other treatments and therapies you may have. If your health care team recommends one of these treatments, a member of the team gives you more information at that time.

New methods become possible as research continues. Your team works with you to decide what is best for you.

# Heart Failure Medicines

When you have heart failure, you need to take certain medicines every day for the rest of your life. Heart failure medicines are important tools to help you manage heart failure. Your health care team decides what medicines you need based on your symptoms, blood pressure and heart rate. The team also considers the results of tests and lab work.

The medicine you take and the dose you need may change over time. You may start at a lower dose and then increase it. The dose depends on how the medicine works for you. The goal is to get you to the target dose.

The **target dose** is the dose that showed the most benefit in clinical trials. How quickly you reach the target dose depends on how the medicine affects you. It can take weeks or months to reach the target dose. Some people may not reach it.

While your care team adjusts your medicine doses, they check for side effects and improvements in your symptoms. Be sure to take your medicines as you are told.

## How to remember to take your medicine

- Use a pill box for your daily medicines.
- Set an alarm on your cell phone or other electronic device.
- Use visual reminders. A good visual reminder should relate to something you see every day. For example, put a sticky note on the mirror you use to get ready. Or tie a ribbon to the handle of a door you use every day.
- If possible, take the medicine at the same time every day. Or take it at the same time as another activity. For example, take your medicine with breakfast or before you brush your teeth in the morning. Find what works best for you.

## A schedule just for you

Having a medicine schedule that works for you means finding just the right time for you to take each medicine. For example, a diuretic causes you to use the bathroom often. Because of that, you probably should take the diuretic at a time when you have easy access to a bathroom.

## Before you start a new medicine

People with heart failure may need to avoid certain medicines. This includes medicines you buy from a drug store or pharmacy. It includes some medicines your doctor or health care professional may prescribe.

Talk with the doctor or health professional who treats your heart failure. You can talk to your pharmacist as well. Ask about which medicines to avoid and which ones are OK for you to take.

## Medicines used to treat heart failure

Medicines commonly used for heart failure are part of four classes of medicines. They are part of guideline-directed medical therapy for heart failure.

This therapy combines medicines for people who have heart failure with reduced ejection fraction. The guidelines use the latest research to create and update medical therapy for heart failure.

The following list includes examples of medicines that may be prescribed. The list does not include all medicines you may take. It does not list all the possible side effects of the medicines.

**Note: You take only one medicine from the medicine classes listed in group 1.**

<b>1.</b>	
<b>ACE inhibitors</b>	
Examples: lisinopril (Prinivil, Zestril) and enalapril (Vasotec)	
<b>What the medicine does</b> <ul style="list-style-type: none"> <li>• Blocks harmful hormones that damage the heart</li> <li>• Decreases strain on the heart</li> </ul>	<b>Possible side effects</b> <ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Change in kidney function</li> <li>• Dry cough</li> <li>• Elevated potassium levels</li> </ul>
<b>OR</b>	
<b>Angiotensin receptor blockers, called ARB</b>	
Examples: losartan (Cozaar) and valsartan (Diovan)	
<b>What the medicine does</b> <ul style="list-style-type: none"> <li>• Blocks hormones that damage your heart</li> <li>• Decreases strain on the heart</li> </ul>	<b>Possible side effects</b> <ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Change in kidney function</li> <li>• Dry cough</li> <li>• Elevated potassium levels</li> </ul>
<b>OR</b>	
<b>Angiotensin receptor-neprilysin inhibitors, called ARNI</b>	
Example: sacubitril-valsartan (Entresto)	
<b>What the medicine does</b> <ul style="list-style-type: none"> <li>• Blocks hormones that damage the heart</li> <li>• Activates hormones that benefit the heart</li> <li>• Decreases strain on the heart</li> </ul>	<b>Possible side effects</b> <ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Change in kidney function</li> <li>• Dry cough</li> <li>• Elevated potassium levels</li> </ul>

You may be prescribed one or more of the following medicines based on your condition. Your heart failure team works with you to decide what medicines are best for your specific needs. Sometimes you may need to take a combination of medicines.

<b>2.</b>	
<b>Beta blockers</b>	
Examples: metoprolol succinate (Toprol XL) and carvedilol (Coreg)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Changes hormones that damage the heart</li> <li>• Slows heart rate</li> <li>• Can strengthen the heart's ability to pump</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure and heart rate</li> <li>• Depression</li> <li>• Fatigue</li> <li>• Sexual dysfunction</li> </ul>

<b>3.</b>	
<b>Aldosterone antagonists</b>	
Examples: spironolactone (Aldactone) and eplerenone (Inspra)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Blocks hormones that damage the heart</li> <li>• Helps remove extra fluid from the body</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Change in kidney function</li> <li>• Dry cough</li> <li>• Elevated potassium levels</li> <li>• Breast swelling or tenderness</li> </ul>

<b>4.</b>	
<b>SGLT2 inhibitors</b>	
Examples: dapagliflozin (Farxiga) and empagliflozin (Jardiance)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Improves kidney function</li> <li>• Helps remove extra fluid from the body</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness caused by dehydration</li> <li>• Urinary tract infections</li> <li>• Genital fungal infections</li> </ul>

You may or may not be prescribed one of these medicines. It depends on your stage of heart failure and your other medical conditions.

<b>Digoxin</b> Examples: digoxin (Digitek, Lanoxin)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Helps the heart pump stronger</li> <li>• Slows heart rate if in AFib</li> </ul>	<ul style="list-style-type: none"> <li>• Slowed heart rate</li> <li>• Yellow-tinted vision</li> <li>• Loss of appetite</li> <li>• Stomach pain, nausea</li> <li>• Diarrhea</li> <li>• Fatigue</li> <li>• Heart rhythm problems</li> </ul>
<b>Diuretics</b> Examples: furosemide (Lasix), bumetanide (Bumex) and torsemide	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Helps remove extra fluid from the body</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Frequent urination</li> <li>• Loss of potassium, magnesium and sodium</li> <li>• Change in kidney function</li> </ul>
<b>Hydralazine and nitrate</b> Examples: isosorbide mononitrate (Imdur), isosorbide dinitrate (Isordil) and hydralazine (Apresoline)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>• Lowers blood pressure which decreases how hard the heart works.</li> </ul>	<ul style="list-style-type: none"> <li>• Dizziness caused by low blood pressure</li> <li>• Fast heart rate</li> <li>• Headache</li> <li>• Swelling in the legs</li> <li>• Nausea and vomiting</li> </ul>

<b>SGC stimulators</b> Example: vericiguat (Verquvo)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>Helps the heart and blood vessel cells relax</li> </ul>	<ul style="list-style-type: none"> <li>Low blood pressure</li> <li>Anemia</li> </ul>

<b>Cyclic nucleotide-gated blocker</b> Example: ivabradine (Corlanor)	
<b>What the medicine does</b>	<b>Possible side effects</b>
<ul style="list-style-type: none"> <li>Reduces heart rate</li> </ul>	<ul style="list-style-type: none"> <li>Change in vision</li> <li>Slowed heart rate</li> </ul>

## **Blood pressure**

Many heart failure medicines can lower your blood pressure. Lower blood pressures ease the workload of the heart. If you have symptoms and your blood pressure is low, contact your heart failure care team. Do not stop or change your medicine until you talk with a member of your care team.

## **General guidelines about taking medicines**

- Fill your prescriptions in advance so you do not run out. Ask your insurance company how far in advance you can refill your prescriptions.
- Store medicine in the original container. Keep it away from heat, moisture and direct light. Store it out of reach from anyone who should not take it. This includes children and pets. Never share your medicine with anyone.
- Store medicine at room temperature unless you are told to store it differently. You may need to store some liquid medicines in the refrigerator.
- Do not keep medicine that expired or that you no longer need. Ask your care team or pharmacist about how to dispose of medicine you no longer use.
- Make a list of each medicine you take. Include the dose and when you take it. Keep this list with you and bring it to all your health care appointments.
- Take your medicines even when you feel well and have no symptoms.
- Tell your care team if you have trouble paying for your medicine. There may be ways to help pay for medicines or to find ones that cost less.

### **If you have side effects from your medicine**

Ask your doctor, health care professional or pharmacist what you can do to lessen or prevent side effects. Don't change the dose or stop the medicine until you talk with your heart failure care team.

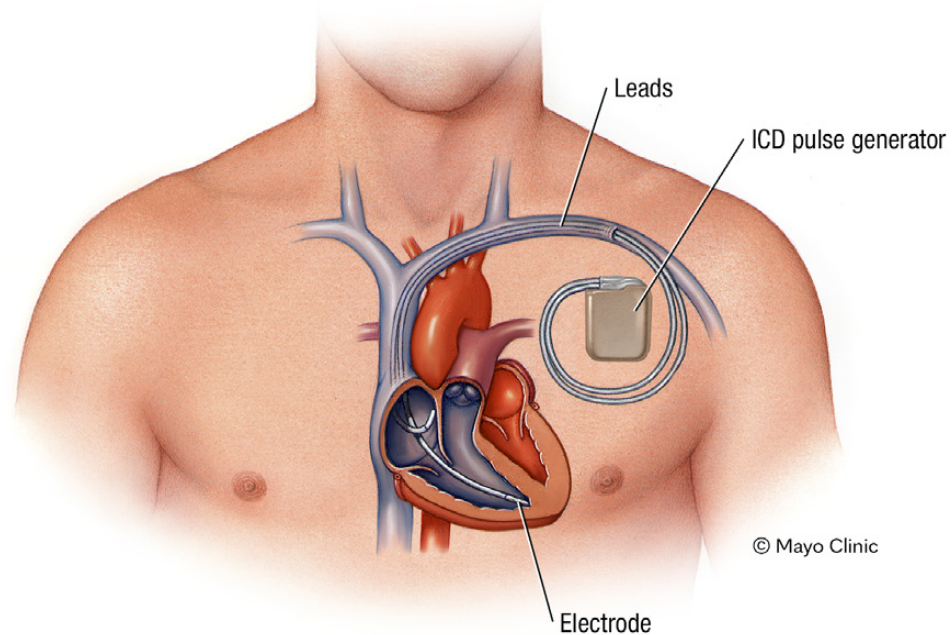
# Other Treatments For Heart Failure

## Implantable cardioverter defibrillators

Implantable cardioverter defibrillators are called ICDs. They are devices that sense life-threatening rhythms. They send electrical therapy directly to the heart to restore its rhythm. This device includes wires placed in your heart. The wires are called leads. They attach to a small device implanted under the skin in your chest wall.

The ICD monitors your heart rhythm at all times. It works as a pacemaker for slow heart rates. When fast rhythms occur, the ICD treats the rhythm with a specific type of electrical therapy. This therapy includes a special pacing or a shock or a combination of the two.

The ICD does not improve heart function or heart failure symptoms. But it protects you from dying suddenly due to a heart rhythm that is not regular.



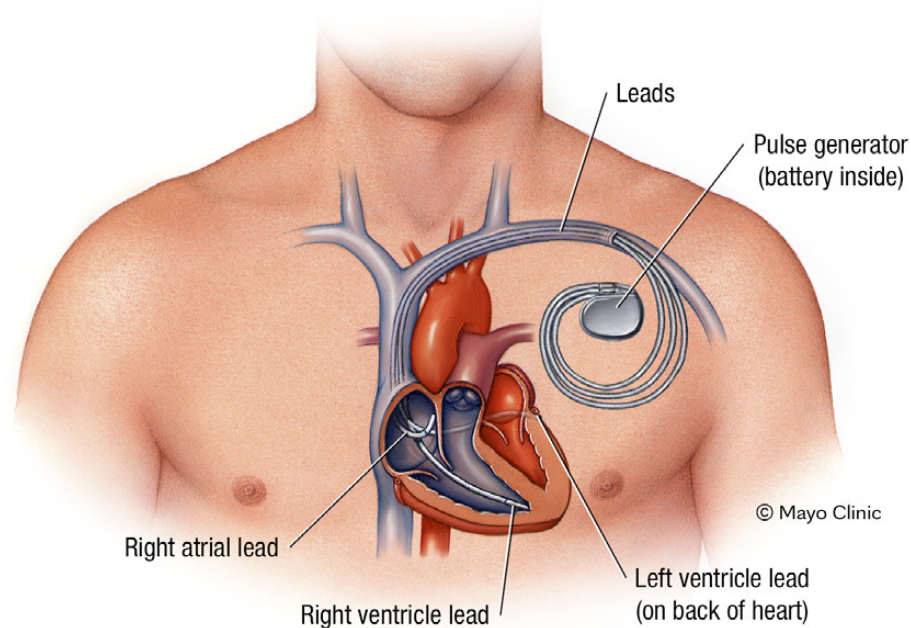
**Figure 4.** ICD in an adult

## Cardiac resynchronization therapy

Cardiac resynchronization therapy is called CRT. It helps your heart muscle contract in a more organized way. Damage to your heart from heart failure may interfere with your heart walls moving together in a coordinated manner. If this is the cause of your heart failure, CRT may help. CRT also is called biventricular pacing. This is because the device uses leads in both ventricles.

For CRT, you have wires called leads placed into your heart. One wire goes to your right atria. The other two go to your ventricles. These wires connect to a pacemaker implanted in your chest. The pacemaker helps your heart pump more efficiently. Sometimes you may have an implantable cardioverter defibrillator as well.

These devices are best for people with certain types of electrical heart dysfunction. The device can improve heart function and heart failure symptoms for those with electricity conduction problems in the heart. Some of these devices can monitor fluid status as well.



**Figure 5.** Cardiac resynchronization therapy device

## **Treatments for blocked heart arteries**

Blocked arteries can cause heart failure or make it worse. Certain procedures can treat blocked arteries in the heart. These procedures are explained here.

### **Cardiac catheterization with balloon dilatation and stent placement**

Also called angioplasty, this procedure opens clogged heart arteries. A heart specialist inserts a tiny balloon into the clogged area of your artery. The specialist blows up the balloon to widen the artery and then removes the balloon.

Stents are small mesh tubes placed in the artery to keep it open. Medicine coats some stents to help keep the artery open. These are called drug-eluting stents. Stents with no medicine coating are called bare-metal stents. The stent stays in the artery.

### **Coronary bypass surgery**

If your arteries are severely blocked, you may need coronary artery bypass surgery. In this procedure, a surgeon uses blood vessels from your leg, arm or chest to bypass a blocked artery in your heart.

### **Heart valve repair or replacement**

If a faulty heart valve causes your heart failure or makes it worse, you may need the valve replaced or repaired. This may be done during open heart surgery or during a heart catheterization.

## **Procedures and treatments for heart rhythm problems**

People with heart failure can develop heart rhythm problems. These rhythms may be treated with medicines or with procedures such as ablation or sympathectomy. An ablation uses catheters placed in the heart that deliver special energy to help the heart rhythm. Sympathectomy uses minor surgery and special devices to lessen the release of adrenalin to the heart. This can improve the heart's rhythm.

### **Cardiac rehabilitation**

Cardiac rehabilitation is an exercise and education program. It also is called cardiac rehab. Its goal is to help people with heart conditions become more physically fit. The cardiac rehab team designs a treatment plan to meet each person's needs.

To enroll in most cardiac rehab programs, you need a doctor or health care professional to evaluate and refer you. Most major insurance companies and Medicare cover these programs. Ask your care team for more information about cardiac rehab.

### **Investigational therapies**

You may be asked to take part in a research study about new treatments. These treatments may include a medicine, an implantable device or a surgical procedure. The treatments may include cell or gene therapy or a catheter-based technique. Some studies compare proven treatments to other therapies. This is to see which treatment works better. These therapies treat early or advanced heart failure. If you have questions about a research study or would like to take part, talk to your care team.

# Advanced Heart Failure

If your heart failure continues to progress, you may need other types of treatment. Your health care team can talk with you about therapies and other treatments to manage advanced heart failure.

## **Inotropes**

Inotropes are medicines that help make the heart beat stronger and contract more effectively. They help your heart pump oxygen-rich blood through your body. This does not make you live longer. But it can help you feel better. You may be given inotropes while you wait for a heart transplant. Even if you are not going to have a transplant, you may receive these medicines to help you feel better.

Inotropes are given by continuous infusion. In an infusion, you get the medicine through an intravenous line called an IV. Milrinone and dobutamine are examples of inotropes. These medicines are expensive. They may make heart rhythm problems worse.

## **Remote monitoring device**

For people who qualify, a remote monitoring device may help. A heart specialist inserts the device into the pulmonary artery. It monitors fluid status. The sensor can send daily readings to your care team. This often allows your team to detect problems before you have symptoms. Because of this, the team can make changes earlier in your care to prevent your symptoms from getting worse.

## **Ventricular assist devices or total artificial heart**

Ventricular assist devices can extend and improve the lives of some people with severe heart failure. They do not replace hearts. But they can help your own heart pump stronger. This helps oxygen-rich blood move better through your body.

A heart specialist implants these mechanical devices into the abdomen or chest. They help people with left ventricular heart failure. But they are not as helpful for those with right-sided heart failure. People waiting for a heart transplant may need one of these devices. They also can be an alternative to a transplant for those who are not able to have a transplant.

The total artificial heart replaces both sides of the heart. But it is only used for short periods before a transplant.

## **Heart transplant**

Sometimes surgery or medicines do not help people with severe heart failure. They may need a heart from a healthy donor. Heart transplants can improve the quality of life and survival of some people with severe heart failure. But candidates for a transplant often wait months or years before a suitable donor heart is found. Some people improve during this waiting period through drug treatment or device therapy. If that happens, they may be removed from the transplant waiting list.

## **Palliative care**

The goal of palliative care is to improve the quality of life for people with advanced illness. Palliative care respects and considers the emotional, physical and spiritual needs of the person needing care. It considers the needs of family members as well.

You can benefit from palliative care. It can treat your heart failure symptoms and help provide pain and symptom relief.

## **How palliative care works**

Palliative care combines with all other medical care. It does not replace primary medical treatment. You can receive palliative care whether you receive treatment at home, in a hospital or in a nursing home.

## **The palliative care team**

A palliative care specialist works with a team of other professionals. This includes the team that provides your primary care. Together they create a treatment plan to ease your symptoms and pain. The plan also addresses any spiritual and psychological concerns. The team works to help maintain your dignity and comfort.

Your palliative care team helps you and your family better understand your condition and how to coordinate medical care. The team may include various specialists, such as:

- Physicians
- Nurses
- Social workers
- Psychologists
- Counselors
- Chaplains
- Registered dietitians
- Pharmacists
- Rehabilitation specialists

## Ongoing care

Palliative care specialists can help you talk with other health care professionals and family members about your goals and ongoing care needs. For example, you may need to decide what kinds of treatments you do or do not want. You may need to know how to deal with an illness that may limit the time you have left. The care team also can help coordinate financial and legal assistance when needed.

## Hospice care

Hospice care is for people who are nearing the end of life. A team of health care professionals provide the hospice care. They are specially trained to give comfort to a terminally ill person.

A hospice team can help to lessen your pain. The team considers your physical, psychological, social and spiritual needs. Unlike other medical care, the focus of hospice care is to give the highest quality of life possible for whatever time remains. It is not meant to cure disease.

You get most hospice care at home. A family member usually serves as the primary caregiver. But hospice care also is available at hospitals, nursing homes and dedicated hospice facilities. If you are not receiving hospice care at a dedicated facility, members of the hospice team come to you. They make regular visits to your home or other settings to provide care and other services.

To find out about hospice programs, talk to a member of your health care team. This includes doctors, nurses, social workers and counselors. You also can contact your local or state office on aging. Ask friends or neighbors for advice. The National Hospice and Palliative Care Organization offers an online directory.

Consider starting hospice care sooner rather than later. This may lead to improvement in your quality of life.

# Hospital Stays

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You may need to stay in the hospital at times to get your heart failure symptoms under control. You may need treatment in the hospital for several reasons.

Sometimes your stay in the hospital may mean you need only a minor change to help your symptoms improve. But a hospital stay may signal that you need to make bigger changes. Sometimes you may need help so you can better manage your medicines and diet.

While in the hospital, you may need:

- More powerful diuretics to lessen fluid buildup. This may help ease shortness of breath and swelling.
- A change in some of your heart failure medicines to help your heart work better.
- Treatments for arrhythmias, blocked arteries or kidney problems.

Within 1 to 2 weeks after you leave the hospital, you need careful follow-up care to make sure you are doing well. This can help you avoid a repeat hospital stay.

Be alert after a hospital stay. Your medicines may have changed. Be sure you, your caregivers at home and your regular health care team understand any medicine changes. And make sure you have all the support you need to take good care of yourself.

## **When hospital stays increase**

Sometimes a hospital stay is a sign your heart failure no longer responds to your medicines. If that is true, you may need more advanced therapies. This may include a transplant or a ventricular assist device. If you are not a candidate for those advanced therapies, you may need even more care.

Repeated hospital stays may be a sign it is time to consider palliative or hospice care to improve the quality of your life.

# Final Thoughts

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Finding out that you have a chronic condition such as heart failure can be a challenge. You may wonder what to expect in the future. But even with heart failure, you can still enjoy many of the things you did before.

You are an important member of your care team. You and your care team can work together to help manage heart failure. The following are important steps you can take to help.

- Make healthy choices about what you eat. Be physically active as you are able. Ask your health care team for ways to do this.
- Follow treatment advice from your heart failure team and other health professionals who give you care. Treatment may improve symptoms and help you live longer. You and your health care team work together to find treatments that help make your life more comfortable.
- Pay attention to your body and how you feel. Tell your health care team when you feel better and when you do not feel well. This way, your team can follow your progress. They can know what treatment works best for you.
- Keep open communication between you and your health care team. Do not be afraid to ask questions about living with heart failure. Be honest about whether you follow their guidance. Your team can suggest ways to help you get on a good path and stay there.

Remember, you are not alone with your condition. If you have questions about heart failure or the information in this resource, contact a member of your health care team. Your care team is here to support you.

# Notes



This information is for your education only. It does not replace medical advice, diagnosis, or treatment. New medical research or practices may change this information. If you have questions about a medical condition, talk with a member of your health care team.

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#### BARBARA WOODWARD LIPS PATIENT EDUCATION CENTER

Mrs. Lips, a resident of San Antonio, Texas, was a loyal Mayo Clinic patient of more than 40 years and a self-made business leader who significantly expanded her family's activities in oil, gas and ranching. Upon her death in 1995, Mrs. Lips paid the ultimate compliment by leaving her entire estate to Mayo Clinic. By naming the Barbara Woodward Lips Patient Education Center, Mayo honors her generosity, her love of learning, her belief in patient empowerment and her dedication to high-quality care.

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