

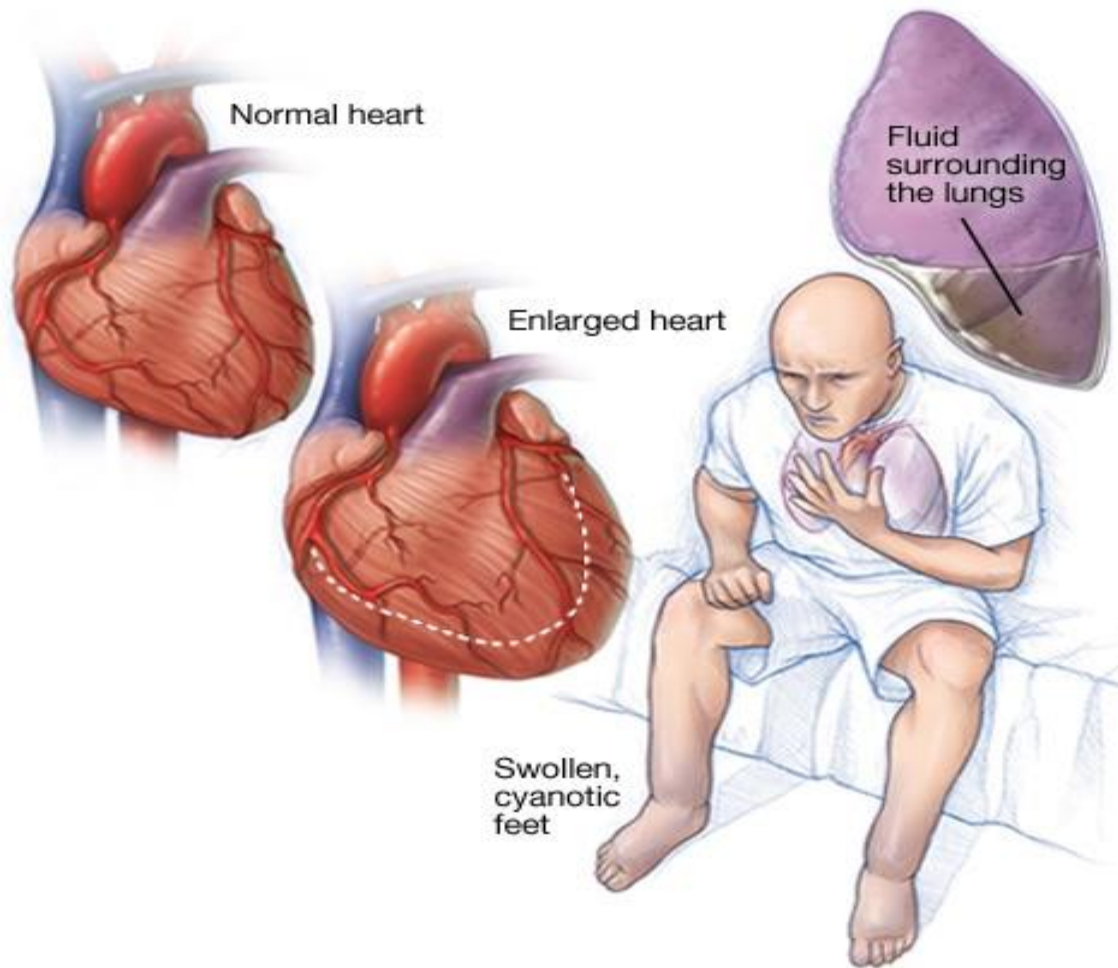
CARDIAC FAILURE (CCF)

Heart failure, sometimes known as congestive heart failure, occurs when your heart muscle doesn't pump blood as well as it should. Certain conditions, such as narrowed arteries in your heart (coronary artery disease) or high blood pressure, gradually leave your heart too weak or stiff to fill and pump efficiently.

Not all conditions that lead to heart failure can be reversed, but treatments can improve the signs and symptoms of heart failure and help you live longer. Lifestyle changes — such as exercising, reducing sodium in your diet, managing stress and losing weight — can improve your quality of life.

One way to prevent heart failure is to prevent and control conditions that cause heart failure, such as coronary artery disease, high blood pressure, diabetes or obesity.

Symptoms



© MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.

Heart failure

Heart failure can be ongoing (chronic), or your condition may start suddenly (acute).

Heart failure signs and symptoms may include:

- Shortness of breath (dyspnea) when you exert yourself or when you lie down
- Fatigue and weakness
- Swelling (edema) in your legs, ankles and feet
- Rapid or irregular heartbeat
- Reduced ability to exercise
- Persistent cough or wheezing with white or pink blood-tinged phlegm

- Increased need to urinate at night
- Swelling of your abdomen (ascites)
- Very rapid weight gain from fluid retention
- Lack of appetite and nausea
- Difficulty concentrating or decreased alertness
- Sudden, severe shortness of breath and coughing up pink, foamy mucus
- Chest pain if your heart failure is caused by a heart attack

When to see a doctor

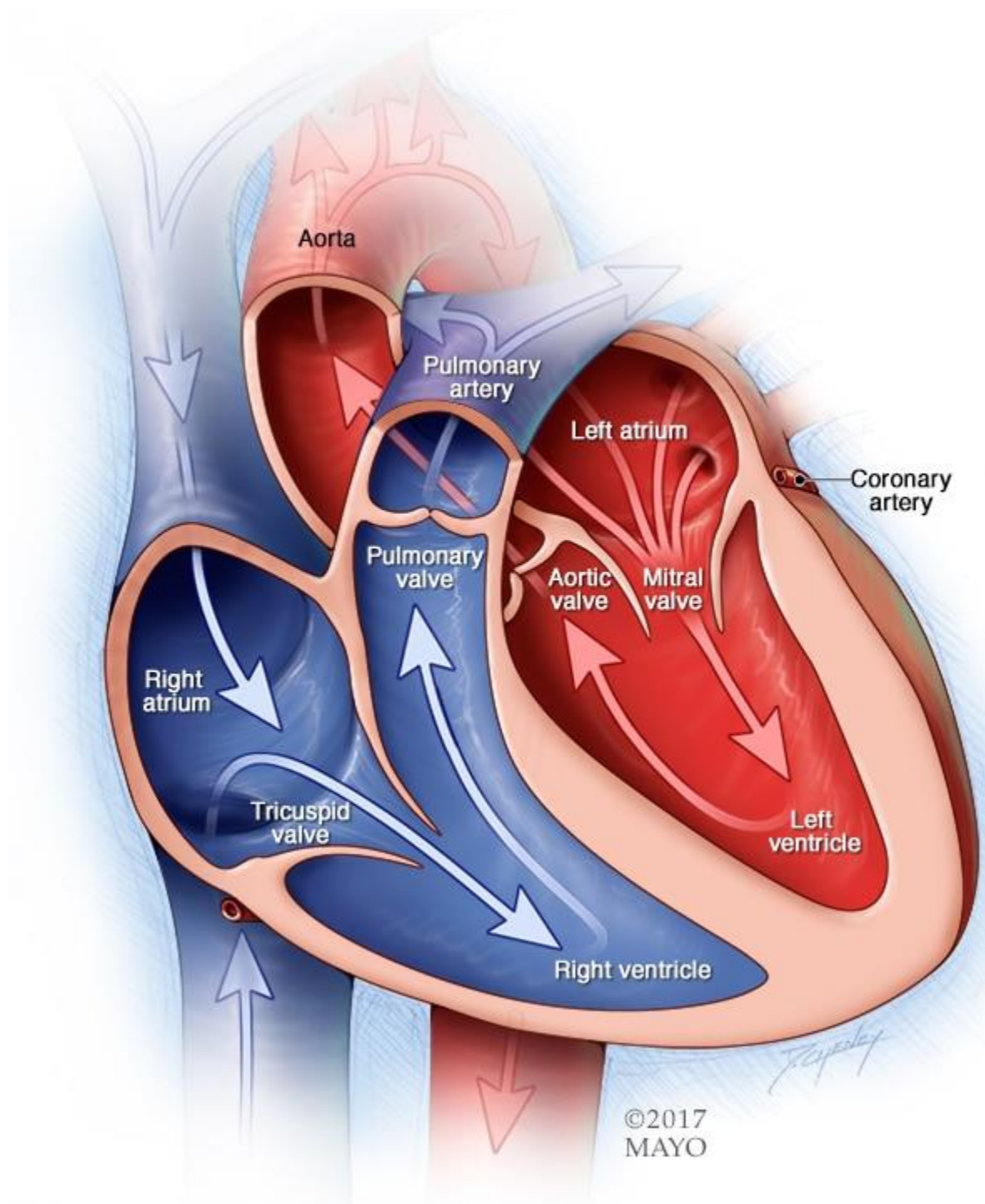
If you experience any of the following:

- Chest pain
- Fainting or severe weakness
- Rapid or irregular heartbeat associated with shortness of breath, chest pain or fainting
- Sudden, severe shortness of breath and coughing up pink, foamy mucus

Although these signs and symptoms may be due to heart failure, there are many other possible causes, including other life-threatening heart and lung conditions. Don't try to diagnose yourself. Call 911 or your local emergency number for immediate help. Emergency room doctors will try to stabilize your condition and determine if your symptoms are due to heart failure or something else.

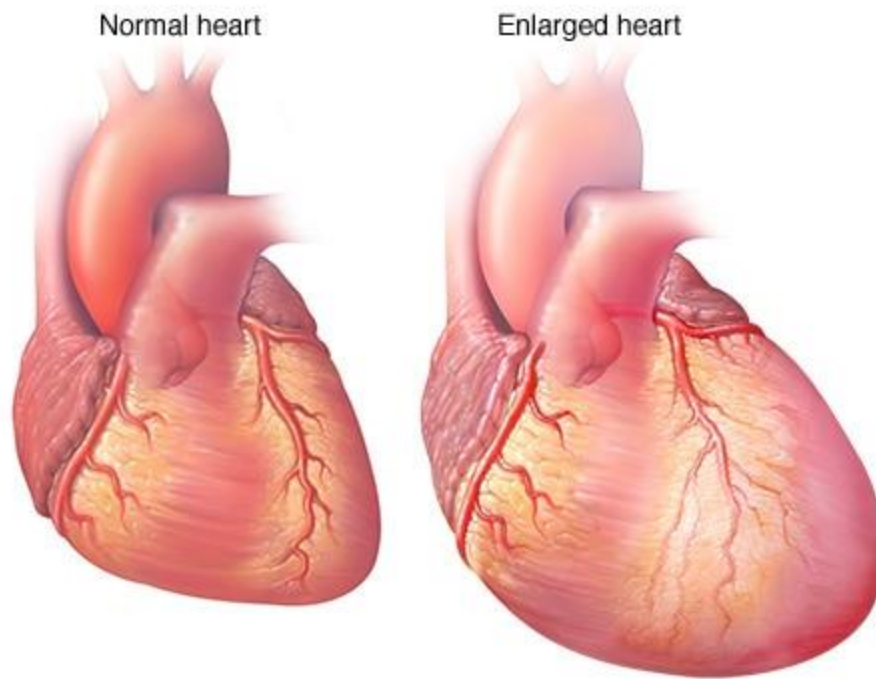
If you have a diagnosis of heart failure and if any of the symptoms suddenly become worse or you develop a new sign or symptom, it may mean that existing heart failure is getting worse or not responding to treatment. This may be also the case if you gain 5 pounds (2.3 kg) or more within a few days. Contact your doctor promptly.

Causes



• © MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.

Chambers and valves of the heart



© MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.

Enlarged heart, in heart failure

Heart failure often develops after other conditions have damaged or weakened your heart. However, the heart doesn't need to be weakened to cause heart failure. It can also occur if the heart becomes too stiff.

In heart failure, the main pumping chambers of your heart (the ventricles) may become stiff and not fill properly between beats. In some cases of heart failure, your heart muscle may become damaged and weakened, and the ventricles stretch (dilate) to the point that the heart can't pump blood efficiently throughout your body.

Over time, the heart can no longer keep up with the normal demands placed on it to pump blood to the rest of your body.

An ejection fraction is an important measurement of how well your heart is pumping and is used to help classify heart failure and guide treatment. In a healthy heart, the ejection fraction is 50 percent or higher — meaning that more than half of the blood that fills the ventricle is pumped out with each beat.

But heart failure can occur even with a normal ejection fraction. This happens if the heart muscle becomes stiff from conditions such as high blood pressure.

Heart failure can involve the left side (left ventricle), right side (right ventricle) or both sides of your heart. Generally, heart failure begins with the left side, specifically the left ventricle — your heart's main pumping chamber.

Type of heart failure	Description
Left-sided heart failure	Fluid may back up in your lungs, causing shortness of breath.
Right-sided heart failure	Fluid may back up into your abdomen, legs and feet, causing swelling.
Systolic heart failure	The left ventricle can't contract vigorously, indicating a pumping problem.
Diastolic heart failure (also called heart failure with preserved ejection fraction)	The left ventricle can't relax or fill fully, indicating a filling problem.

Any of the following conditions can damage or weaken your heart and can cause heart failure. Some of these can be present without your knowing it:

- **Coronary artery disease and heart attack.** Coronary artery disease is the most common form of heart disease and the most common cause of heart failure. The disease results from the buildup of fatty deposits (plaque) in your arteries, which reduce blood flow and can lead to heart attack.
- **High blood pressure (hypertension).** If your blood pressure is high, your heart has to work harder than it should to circulate blood throughout your body. Over time, this extra exertion can make your heart muscle too stiff or too weak to effectively pump blood.

- **Faulty heart valves.** The valves of your heart keep blood flowing in the proper direction through the heart. A damaged valve — due to a heart defect, coronary artery disease or heart infection — forces your heart to work harder, which can weaken it over time.
- **Damage to the heart muscle (cardiomyopathy).** Heart muscle damage (cardiomyopathy) can have many causes, including several diseases, infections, alcohol abuse and the toxic effect of drugs, such as cocaine or some drugs used for chemotherapy. Genetic factors also can play a role.
- **Myocarditis.** Myocarditis is an inflammation of the heart muscle. It's most commonly caused by a virus and can lead to left-sided heart failure.
- **Heart defects you're born with (congenital heart defects).** If your heart and its chambers or valves haven't formed correctly, the healthy parts of your heart have to work harder to pump blood through your heart, which, in turn, may lead to heart failure.
- **Abnormal heart rhythms (heart arrhythmias).** Abnormal heart rhythms may cause your heart to beat too fast, creating extra work for your heart. A slow heartbeat also may lead to heart failure.
- **Other diseases.** Chronic diseases — such as diabetes, HIV, hyperthyroidism, hypothyroidism, or a buildup of iron (hemochromatosis) or protein (amyloidosis) — also may contribute to heart failure.

Causes of acute heart failure include viruses that attack the heart muscle, severe infections, allergic reactions, blood clots in the lungs, the use of certain medications or any illness that affects the whole body.

Risk factors

A single risk factor may be enough to cause heart failure, but a combination of factors also increases your risk.

Risk factors include:

- **High blood pressure.** Your heart works harder than it has to if your blood pressure is high.
- **Coronary artery disease.** Narrowed arteries may limit your heart's supply of oxygen-rich blood, resulting in weakened heart muscle.

- **Heart attack.** A heart attack is a form of coronary disease that occurs suddenly. Damage to your heart muscle from a heart attack may mean your heart can no longer pump as well as it should.
- **Diabetes.** Having diabetes increases your risk of high blood pressure and coronary artery disease.
- **Some diabetes medications.** The diabetes drugs rosiglitazone (Avandia) and pioglitazone (Actos) have been found to increase the risk of heart failure in some people. Don't stop taking these medications on your own, though. If you're taking them, discuss with your doctor whether you need to make any changes.

- **Certain medications.** Some medications may lead to heart failure or heart problems. Medications that may increase the risk of heart problems include nonsteroidal anti-inflammatory drugs (NSAIDs); certain anesthesia medications; some anti-arrhythmic medications; certain medications used to treat high blood pressure, cancer, blood conditions, neurological conditions, psychiatric conditions, lung conditions, urological conditions, inflammatory conditions and infections; and other prescription and over-the-counter medications.

Don't stop taking any medications on your own. If you have questions about medications you're taking, discuss with your doctor whether he or she recommends any changes.

- **Sleep apnea.** The inability to breathe properly while you sleep at night results in low blood oxygen levels and increased risk of abnormal heart rhythms. Both of these problems can weaken the heart.
- **Congenital heart defects.** Some people who develop heart failure were born with structural heart defects.
- **Valvular heart disease.** People with valvular heart disease have a higher risk of heart failure.
- **Viruses.** A viral infection may have damaged your heart muscle.
- **Alcohol use.** Drinking too much alcohol can weaken heart muscle and lead to heart failure.
- **Tobacco use.** Using tobacco can increase your risk of heart failure.
- **Obesity.** People who are obese have a higher risk of developing heart failure.

- **Irregular heartbeats.** These abnormal rhythms, especially if they are very frequent and fast, can weaken the heart muscle and cause heart failure.

Complications

If you have heart failure, your outlook depends on the cause and the severity, your overall health, and other factors such as your age. Complications can include:

- **Kidney damage or failure.** Heart failure can reduce the blood flow to your kidneys, which can eventually cause kidney failure if left untreated. Kidney damage from heart failure can require dialysis for treatment.
- **Heart valve problems.** The valves of your heart, which keep blood flowing in the proper direction through your heart, may not function properly if your heart is enlarged or if the pressure in your heart is very high due to heart failure.
- **Heart rhythm problems.** Heart rhythm problems (arrhythmias) can be a potential complication of heart failure.
- **Liver damage.** Heart failure can lead to a buildup of fluid that puts too much pressure on the liver. This fluid backup can lead to scarring, which makes it more difficult for your liver to function properly.

Some people's symptoms and heart function will improve with proper treatment. However, heart failure can be life-threatening. People with heart failure may have severe symptoms, and some may require heart transplantation or support with a ventricular assist device.

Prevention

The key to preventing heart failure is to reduce your risk factors. You can control or eliminate many of the risk factors for heart disease — high blood pressure and coronary artery disease, for example — by making lifestyle changes along with the help of any needed medications.

Lifestyle changes you can make to help prevent heart failure include:

- Not smoking
- Controlling certain conditions, such as high blood pressure and diabetes
- Staying physically active

- Eating healthy foods
- Maintaining a healthy weight
- Reducing and managing stress

Diagnosis

To diagnose heart failure, your doctor will take a careful medical history, review your symptoms and perform a physical examination. Your doctor will also check for the presence of risk factors, such as high blood pressure, coronary artery disease or diabetes.

Using a stethoscope, your doctor can listen to your lungs for signs of congestion. The stethoscope also picks up abnormal heart sounds that may suggest heart failure. The doctor may examine the veins in your neck and check for fluid buildup in your abdomen and legs.

After the physical exam, your doctor may also order some of these tests:

- **Blood tests.** Your doctor may take a blood sample to look for signs of diseases that can affect the heart. He or she may also check for a chemical called N-terminal pro-B-type natriuretic peptide (NT-proBNP) if your diagnosis isn't certain after other tests.
- **Chest X-ray.** X-ray images help your doctor see the condition of your lungs and heart. Your doctor can also use an X-ray to diagnose conditions other than heart failure that may explain your signs and symptoms.
- **Electrocardiogram (ECG).** This test records the electrical activity of your heart through electrodes attached to your skin. It helps your doctor diagnose heart rhythm problems and damage to your heart.
- **Echocardiogram.** An echocardiogram uses sound waves to produce a video image of your heart. This test can help doctors see the size and shape of your heart along with any abnormalities. An echocardiogram measures your ejection fraction, an important measurement of how well your heart is pumping, and which is used to help classify heart failure and guide treatment.
- **Stress test.** Stress tests measure the health of your heart by how it responds to exertion. You may be asked to walk on a treadmill while attached to an ECG machine, or you may receive a drug intravenously that stimulates your heart similar to exercise.

Sometimes the stress test can be done while wearing a mask that measures the ability of your heart and lungs to take in oxygen and breathe out carbon dioxide. If your doctor also wants to see images of your heart while you're exercising, he or she may use imaging techniques to visualize your heart during the test.

- **Cardiac computerized tomography (CT) scan.** In a cardiac CT scan, you lie on a table inside a doughnut-shaped machine. An X-ray tube inside the machine rotates around your body and collects images of your heart and chest.
- **Magnetic resonance imaging (MRI).** In a cardiac MRI, you lie on a table inside a long tubelike machine that produces a magnetic field, which aligns atomic particles in some of your cells. Radio waves are broadcast toward these aligned particles, producing signals that create images of your heart.
- **Coronary angiogram.** In this test, a thin, flexible tube (catheter) is inserted into a blood vessel at your groin or in your arm and guided through the aorta into your coronary arteries. A dye injected through the catheter makes the arteries supplying your heart visible on an X-ray, helping doctors spot blockages.
- **Myocardial biopsy.** In this test, your doctor inserts a small, flexible biopsy cord into a vein in your neck or groin, and small pieces of the heart muscle are taken. This test may be performed to diagnose certain types of heart muscle diseases that cause heart failure.

Classifying heart failure

Results of these tests help doctors determine the cause of your signs and symptoms and develop a program to treat your heart. To determine the most appropriate treatment for your condition, doctors may classify heart failure using two systems:

- **New York Heart Association classification.** This symptom-based scale classifies heart failure in four categories.
 1. In Class I heart failure, you don't have any symptoms.
 2. In Class II heart failure, you can perform everyday activities without difficulty but become winded or fatigued when you exert yourself.
 3. With Class III, you'll have trouble completing everyday activities, and
 4. Class IV is the most severe, and you're short of breath even at rest.

- **American College of Cardiology/American Heart Association guidelines.** This stage-based classification system uses letters A to D. The system includes a category for people who are at risk of developing heart failure.

For example, a person who has several risk factors for heart failure but no signs or symptoms of heart failure is Stage A.

A person who has heart disease but no signs or symptoms of heart failure is Stage B. Someone who has heart disease and is experiencing or has experienced signs or symptoms of heart failure is Stage C.

A person with advanced heart failure requiring specialized treatments is Stage D.

Doctors use this classification system to identify your risk factors and begin early, more aggressive treatment to help prevent or delay heart failure.

These scoring systems are not independent of each other. Your doctor often will use them together to help decide your most appropriate treatment options. Ask your doctor about your score if you're interested in determining the severity of your heart failure. Your doctor can help you interpret your score and plan your treatment based on your condition.

Treatment

Heart failure is a chronic disease needing lifelong management. However, with treatment, signs and symptoms of heart failure can improve, and the heart sometimes becomes stronger. Treatment may help you live longer and reduce your chance of dying suddenly.

Doctors sometimes can correct heart failure by treating the underlying cause. For example, repairing a heart valve or controlling a fast heart rhythm may reverse heart failure. But for most people, the treatment of heart failure involves a balance of the right medications and, in some cases, use of devices that help the heart beat and contract properly.

Medications

Doctors usually treat heart failure with a combination of medications. Depending on the symptoms, patient might take one or more medications, including:

- **Angiotensin-converting enzyme (ACE) inhibitors.** These drugs help people with systolic heart failure live longer and feel better. ACE inhibitors are a type of vasodilator, a drug that widens blood vessels to lower blood pressure, improve blood flow and decrease the workload on the heart. Examples include enalapril (Vasotec), lisinopril (Zestril) and captopril (Capoten).
- **Angiotensin II receptor blockers.** These drugs, which include losartan (Cozaar) and valsartan (Diovan), have many of the same benefits as ACE inhibitors. They may be an alternative for people who can't tolerate ACE inhibitors.
- **Beta blockers.** This class of drugs not only slows your heart rate and reduces blood pressure but also limits or reverses some of the damage to your heart if you have systolic heart failure. Examples include carvedilol (Coreg), metoprolol (Lopressor) and bisoprolol (Zebeta).

These medicines reduce the risk of some abnormal heart rhythms and lessen your chance of dying unexpectedly. Beta blockers may reduce signs and symptoms of heart failure, improve heart function, and help you live longer.

- **Diuretics.** Often called water pills, diuretics make you urinate more frequently and keep fluid from collecting in your body. Diuretics, such as furosemide (Lasix), also decrease fluid in your lungs so you can breathe more easily.

Because diuretics make the body lose potassium and magnesium, the doctor may also prescribe supplements of these minerals. If patient is taking a diuretic, the doctors will likely monitor levels of potassium and magnesium in the blood through regular blood tests.

- **Aldosterone antagonists.** These drugs include spironolactone (Aldactone) and eplerenone (Inspra). These are potassium-sparing diuretics, which also have additional properties that may help people with severe systolic heart failure live longer.

Unlike some other diuretics, spironolactone and eplerenone can raise the level of potassium in the blood to dangerous levels, so talk to the doctor if increased potassium is a concern, and learn if patient need to modify the intake of food that's high in potassium.

- **Inotropes.** These are intravenous medications used in people with severe heart failure in the hospital to improve heart pumping function and maintain blood pressure.
- **Digoxin (Lanoxin).** This drug, also referred to as digitalis, increases the strength of the heart muscle contractions. It also tends to slow the heartbeat. Digoxin reduces heart failure

symptoms in systolic heart failure. It may be more likely to be given to someone with a heart rhythm problem, such as atrial fibrillation.

Patient may need to take two or more medications to treat heart failure. The doctor may prescribe other heart medications as well — such as nitrates for chest pain, a statin to lower cholesterol or blood-thinning medications to help prevent blood clots — along with heart failure medications.

Surgery and medical devices

In some cases, doctors recommend surgery to treat the underlying problem that led to heart failure. Some treatments being studied and used in certain people include:

- **Coronary bypass surgery.** If severely blocked arteries are contributing to the heart failure, the doctor may recommend coronary artery bypass surgery. In this procedure, blood vessels from the leg, arm or chest bypass a blocked artery in the heart to allow blood to flow through the heart more freely.
- **Heart valve repair or replacement.** If a faulty heart valve causes the heart failure, your doctor may recommend repairing or replacing the valve. The surgeon can modify the original valve to eliminate backward blood flow. Surgeons can also repair the valve by reconnecting valve leaflets or by removing excess valve tissue so that the leaflets can close tightly. Sometimes repairing the valve includes tightening or replacing the ring around the valve (annuloplasty).

Valve replacement is done when valve repair isn't possible. In valve replacement surgery, the damaged valve is replaced by an artificial (prosthetic) valve.

Certain types of heart valve repair or replacement can now be done without open heart surgery, using either minimally invasive surgery or cardiac catheterization techniques.

- **Implantable cardioverter-defibrillators (ICDs).** An ICD is a device similar to a pacemaker. It's implanted under the skin in your chest with wires leading through your veins and into your heart.

The ICD monitors the heart rhythm. If the heart starts beating at a dangerous rhythm, or if your heart stops, the ICD tries to pace your heart or shock it back into normal rhythm. An ICD can also function as a pacemaker and speed your heart up if it is going too slow.

- **Cardiac resynchronization therapy (CRT), or biventricular pacing.** A biventricular pacemaker sends timed electrical impulses to both of the heart's lower chambers (the left and right ventricles) so that they pump in a more efficient, coordinated manner.

Many people with heart failure have problems with their heart's electrical system that cause their already-weak heart muscle to beat in an uncoordinated fashion. This inefficient muscle contraction may cause heart failure to worsen. Often a biventricular pacemaker is combined with an ICD for people with heart failure.

- **Ventricular assist devices (VADs).** A VAD, also known as a mechanical circulatory support device, is an implantable mechanical pump that helps pump blood from the lower chambers of your heart (the ventricles) to the rest of your body. A VAD is implanted into the abdomen or chest and attached to a weakened heart to help it pump blood to the rest of your body.

Doctors first used heart pumps to help keep heart transplant candidates alive while they waited for a donor heart. VADs may also be used as an alternative to transplantation. Implanted heart pumps can enhance the quality of life of some people with severe heart failure who aren't eligible for or able to undergo heart transplantation or are waiting for a new heart.

- **Heart transplant.** Some people have such severe heart failure that surgery or medications don't help. They may need to have their diseased heart replaced with a healthy donor heart.

Heart transplants can improve the survival and quality of life of some people with severe heart failure. However, candidates for transplantation often have to wait a long time before a suitable donor heart is found. Some transplant candidates improve during this waiting period through drug treatment or device therapy and can be removed from the transplant waiting list.

A heart transplant isn't the right treatment for everyone. A team of doctors at a transplant center will evaluate you to determine whether the procedure may be safe and beneficial for you.

Palliative care and end-of-life care

Your doctor may recommend including palliative care in your treatment plan. Palliative care is specialized medical care that focuses on easing your symptoms and improving your quality of

life. Anyone who has a serious or life-threatening illness can benefit from palliative care, either to treat symptoms of the disease, such as pain or shortness of breath, or to ease the side effects of treatment, such as fatigue or nausea.

It's possible that your heart failure may worsen to the point where medications are no longer working and a heart transplant or device isn't an option. If this occurs, you may need to enter hospice care. Hospice care provides a special course of treatment to terminally ill people.

Hospice care allows family and friends — with the aid of nurses, social workers and trained volunteers — to care for and comfort a loved one at home or in hospice residences. Hospice care provides emotional, psychological, social and spiritual support for people who are ill and those closest to them.

Although most people under hospice care remain in their own homes, the program is available anywhere — including nursing homes and assisted living centers. For people who stay in a hospital, specialists in end-of-life care can provide comfort, compassionate care and dignity.

Although it can be difficult, discuss end-of-life issues with your family and medical team. Part of this discussion will likely involve advance directives — a general term for oral and written instructions you give concerning your medical care should you become unable to speak for yourself.

If you have an implantable cardioverter-defibrillator (ICD), one important consideration to discuss with your family and doctors is turning off the defibrillator so that it can't deliver shocks to make your heart continue beating.

Lifestyle and home remedies

Making lifestyle changes can often help relieve signs and symptoms of heart failure and prevent the disease from worsening. These changes may be among the most important and beneficial you can make. Lifestyle changes your doctor may recommend include:

- **Stop smoking.** Smoking damages your blood vessels, raises blood pressure, reduces the amount of oxygen in your blood and makes your heart beat faster.

If you smoke, ask your doctor to recommend a program to help you quit. You can't be considered for a heart transplant if you continue to smoke. Avoid secondhand smoke, too.

- **Discuss weight monitoring with your doctor.** Discuss with your doctor how often you should weigh yourself. Ask your doctor how much weight gain you should notify him or her about. Weight gain may mean that you're retaining fluids and need a change in your treatment plan.
- **Check your legs, ankles and feet for swelling daily.** Check for any changes in swelling in your legs, ankles or feet daily. Check with your doctor if the swelling worsens.
- **Eat a healthy diet.** Aim to eat a diet that includes fruits and vegetables, whole grains, fat-free or low-fat dairy products, and lean proteins.
- **Restrict sodium in your diet.** Too much sodium contributes to water retention, which makes your heart work harder and causes shortness of breath and swollen legs, ankles and feet.

Check with your doctor for the sodium restriction recommended for you. Keep in mind that salt is already added to prepared foods, and be careful when using salt substitutes.

- **Maintain a healthy weight.** If you're overweight, your dietitian will help you work toward your ideal weight. Even losing a small amount of weight can help.
- **Consider getting vaccinations.** If you have heart failure, you may want to get influenza and pneumonia vaccinations. Ask your doctor about these vaccinations.
- **Limit saturated or 'trans' fats in your diet.** In addition to avoiding high-sodium foods, limit the amount of saturated fat and trans fat — also called trans-fatty acids — in your diet. These potentially harmful dietary fats increase your risk of heart disease.
- **Limit alcohol and fluids.** Your doctor may recommend that you don't drink alcohol if you have heart failure, since it can interact with your medication, weaken your heart muscle and increase your risk of abnormal heart rhythms.

If you have severe heart failure, your doctor may also suggest you limit the amount of fluids you drink.

- **Be active.** Moderate aerobic activity helps keep the rest of your body healthy and conditioned, reducing the demands on your heart muscle. Before you start exercising

though, talk to your doctor about an exercise program that's right for you. Your doctor may suggest a walking program.

Check with your local hospital to see if it offers a cardiac rehabilitation program; if it does, talk to your doctor about enrolling in the program.

- **Reduce stress.** When you're anxious or upset your heart beats faster, you breathe more heavily and your blood pressure often goes up. This can make heart failure worse, since your heart is already having trouble meeting the body's demands.

Find ways to reduce stress in life. To give the heart a rest, try napping, or putting the feet up when possible. Spend time with friends and family to be social and help keep stress at bay.

- **Sleep easy.** If the patient is having shortness of breath, especially at night, sleep with the head propped up using a pillow or a wedge. If patient snore or have had other sleep problems, make sure he gets tested for sleep apnoea.

Coping and support

Although many cases of heart failure can't be reversed, treatment can sometimes improve symptoms and help you live longer. You and your doctor can work together to help make your life more comfortable. Pay attention to your body and how you feel, and tell your doctor when you're feeling better or worse. This way, your doctor will know what treatment works best for you. Don't be afraid to ask your doctor questions about living with heart failure.

Steps that may help you manage your condition include:

- **Keep track of the medications you take.** Make a list and share it with any new doctors treating you. Carry the list with you all the time. Don't stop taking any medications without talking to your doctor. If you experience side effects to medications, discuss them with your doctor.
- **Avoid certain over-the-counter medications.** Some over-the-counter medications, such as ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve) and diet pills, may worsen heart failure and lead to fluid buildup.
- **Be careful about supplements.** Some dietary supplements may interfere with heart failure medications or could worsen your condition. Talk to your doctor about any supplements you are taking.

- **Keep track of your weight and bring the record to visits with your doctor.** An increase in weight can be a sign you're building up fluids. Your doctor may tell you to take extra diuretics if your weight has increased by a certain amount in a day.
- **Keep track of your blood pressure.** Consider purchasing a home blood pressure monitor. Keep track of your blood pressure between doctor appointments and bring the record with you to visits.
- **Write down your questions for your doctor.** Before a doctor appointment, prepare a list of any questions or concerns. For example, is it safe for you and your partner to have sex? Most people with heart failure can continue sexual activity once symptoms are under control. Ask for clarification, if necessary. Be sure you understand everything your doctor wants you to do.
- **Know your doctor's contact information.** Keep your doctor's phone number, the hospital's phone number, and directions to the hospital or clinic on hand. You'll want to have these available in case you have questions for your doctor or you need to go to the hospital

References

Allen L. (2017). Palliative care for patients with advanced heart failure: Decision support, symptom management, and psychosocial assistance. <https://www.uptodate.com/contents/search>. Accessed Oct. 26, 2017.

Borlaug BA, et al. (2017). Treatment and prognosis of heart failure with preserved ejection fraction. <https://www.uptodate.com/contents/search>. Accessed Oct. 26, 2017.

Colucci WS. (2017). Determining the etiology and severity of heart failure or cardiomyopathy. <https://www.uptodate.com/contents/search>. Accessed Oct. 26, 2017.

Colucci WS. (2017). Evaluation of the patient with suspected heart failure. <https://www.uptodate.com/contents/search>. Accessed Oct. 26, 2017.

Goldman L, et al., eds. (2017). Heart failure: Management and prognosis. In: Goldman-Cecil Medicine. 25th ed. Philadelphia, Pa.: Saunders Elsevier; 2016. <https://www.clinicalkey.com>. Accessed Oct. 26, 2017.

Goldman L, et al., eds. (2017). Heart failure: Pathophysiology and diagnosis. In: Goldman-Cecil Medicine. 25th ed. Philadelphia, Pa.: Saunders Elsevier; 2016. <https://www.clinicalkey.com>. Accessed Oct. 26, 2017.

Heart failure (HF). Merck Manual Professional Version.
http://www.merckmanuals.com/professional/cardiovascular_disorders/heart_failure/heart_failure_hf.html?qt=heart%20failure&alt=sh. Accessed Oct. 26, 2017.

Lopez-Jimenez F (expert opinion). Mayo Clinic, Rochester, Minn. Nov. 7, 2017.

Mancini D. (2017). Indications and contraindications for cardiac transplantation in adults.
<https://www.uptodate.com/contents/search>. Accessed Nov. 26, 2017.

Page RL, et al. (2016). Drugs that may cause or exacerbate heart failure: A scientific statement from the American Heart Association. *Circulation*. 2016;134: e32.

Rakel D, ed. (2017). Heart failure. In: Integrative Medicine. 4th ed. Philadelphia, Pa.: Elsevier; 2018. <https://www.clinicalkey.com>. Accessed Oct. 26, 2017.

What is heart failure? National Heart, Lung, and Blood Institute.
<http://www.nhlbi.nih.gov/health/health-topics/topics/hf/>. Accessed Oct. 26, 2017.