



Congestive Heart Failure-- *A Patient's Guide*

This Patient's Guide has been prepared as part of Guardian Healthcare's "Taking Charge of Your Life" series. The series is composed of a set of informational/instructional guides and fact sheets that cover a wide range of diseases, conditions, and health risk behaviors. The series has been prepared to help Guardian Healthcare members better understand ways to manage lifestyle factors that are associated with chronic disease and risk for chronic disease.

A Pledge To My Heart



To control my Congestive Heart Failure, I agree to:

- ♥ Take my medicine as prescribed
- ♥ Avoid salt and high-salt foods
- ♥ Weigh myself daily
- ♥ Rest between activities
- ♥ Pace myself when exercising
- ♥ Follow the diet my doctor recommends
- ♥ Call my Guardian Healthcare doctor **immediately** if I---
 - Gain weight suddenly
 - Have increased swelling
 - Feel side effects from my medication
 - Have shortness of breath or a cough
 - Do not feel well for any reason

(Signature)_____ (Date)_____

Important Phone Numbers

When to call for help-----

Call your doctor if:

- ♥ Your ankles and legs become more swollen
- ♥ Your shoes or socks get tight suddenly
- ♥ You have shortness of breath that does not go away with rest
- ♥ You gain two or three pounds in one day
- ♥ You gain four to five pounds in five days
- ♥ You do not have the energy for your normal activities
- ♥ You are dizzy or weak
- ♥ You have yellowish or blue-green vision
- ♥ Your heartbeat changes (feels like a butterfly in your chest)
- ♥ You have chest pain
- ♥ You have blurred vision or you pass out
- ♥ You have a cough that does not go away

Contact Telephone Numbers:

Your PCP: _____

Guardian Healthcare Member Service: _____

Guardian Healthcare Contracted Pharmacy: _____

Others Telephone: _____

Others Telephone: _____

Always keep your contact numbers in a place where you can easily retrieve them.

Guardian Healthcare Congestive Heart Failure-- *A Patient's Guide*

I. Overview of Congestive Heart Failure



What is Congestive Heart Failure?

Congestive Heart Failure means your heart muscle does not pump as much blood as your body needs. Failure does not mean that your heart has stopped. It means that your heart is not pumping as well as it should.

Because your heart cannot pump well, your body tries to make up for it. To do this:

- Your body holds on to salt and water. This increases the amount of blood in your bloodstream.
- Your heart beats faster.
- Your heart gets bigger.

Your body has an amazing ability to make up for Congestive Heart Failure. It may do such a good job that you don't know you have a disease. But at some point, your body will no longer be able to keep up. Your heart gets worn out. Then fluid starts to build up in your body, and you have symptoms like feeling weak and out of breath. This fluid buildup is called congestion. That is why Congestive Heart Failure is commonly referred to as Congestive Heart Failure.

Congestive Heart Failure usually gets worse over time. But treatment can slow the disease and help you feel better and live longer.



What causes Congestive Heart Failure?

Anything that damages your heart or affects how well it pumps can lead to Congestive Heart Failure. The most common causes of Congestive Heart Failure are:

- Coronary artery disease (CAD).
- Heart attack.
- High blood pressure.

CAD and heart attack are the most common causes of Congestive Heart Failure in men. In women, high blood pressure is the most common cause.

Other conditions that can lead to Congestive Heart Failure include:

- Diabetes.
- Diseases of the heart muscle (cardiomyopathies).
- Heart valve disease.
- Disease of the sac around the heart (pericardial disease), such as pericarditis.
- A slow, fast, or uneven heart rhythm (arrhythmia).
- A heart problem that you were born with (congenital heart defect).
- Long-term alcohol abuse, which can damage your heart.



What are the symptoms of Congestive Heart Failure?

Symptoms of Congestive Heart Failure start to happen when your heart cannot pump enough blood to the rest of your body. In the early stages, you may:

- Be short of breath when you are active.
- Feel like your heart is pounding or racing (palpitations).
- Feel weak, very tired, or dizzy.

As Congestive Heart Failure gets worse, fluid starts to build up in your lungs and other parts of your body. This may cause you to:

- Feel short of breath even at rest.
- Have swelling (edema), especially in your legs, ankles, and feet.
- Gain weight. This may happen over just a day or two, or more slowly.
- Cough or wheeze, especially when you lie down.
- Need to urinate more at night.
- Feel bloated or sick to your stomach.

If your symptoms suddenly get worse, you will need emergency care.



How is Congestive Heart Failure diagnosed?

Your Guardian Healthcare PCP (or specialist) may diagnose Congestive Heart Failure based on your symptoms and a physical exam. But you will need tests to find the cause and type of Congestive Heart Failure so that you can get the right treatment. These tests may include:

- Blood tests.
- A chest X-ray.
- An electrocardiogram (EKG or ECG) to check your heart's electrical system.
- An echocardiogram to see the size and shape of your heart and how well it is pumping.

Echocardiogram is the best and simplest way to find out if you have Congestive Heart Failure, what type it is, and what is causing it. Your Guardian Healthcare PCP (or specialist) can also use it to see if your Congestive Heart Failure is getting worse. It can measure how much blood your heart pumps to your body. This measurement is called the ejection fraction. If your ejection fraction gets lower and you are having more symptoms, it means your Congestive Heart Failure is getting worse.



How is Congestive Heart Failure treated?

Most people with Congestive Heart Failure need to take several medicines. Your Guardian Healthcare PCP (or specialist) may prescribe medicines to:

- Help keep Congestive Heart Failure from getting worse. These include ACE inhibitors, angiotensin II receptor blockers (ARBs), beta-blockers, and vasodilators like hydralazine and nitroglycerin.
- Reduce symptoms so you feel better. These include diuretics (water pills), digoxin, and potassium.
- Treat the problem that caused your Congestive Heart Failure.

It is very important to take your medicines exactly as your Guardian Healthcare PCP (or specialist) tells you to. If you don't, your Congestive Heart Failure could get worse.

Depending on the cause of your Congestive Heart Failure, you might need surgery to help your heart work better. For example, you might have bypass surgery or angioplasty to open clogged arteries or surgery to repair or replace a heart valve. If you have a problem with your heart rhythm, you might need to have a pacemaker or defibrillator placed in your chest. These help your heart keep a steady rhythm.

Lifestyle changes are an important part of treatment. They can help slow down Congestive Heart Failure. They may also help control other diseases that make Congestive Heart Failure worse, such as high blood pressure, diabetes, or coronary artery disease. The best steps you can take are to:

- **Eat less salt (sodium).** Sodium causes your body to retain water and makes it harder for your heart to pump. Your Guardian Healthcare PCP (or specialist) may also ask you to watch how much fluid you drink.
- **Get regular exercise.** Your PCP (or specialist) can tell you what level of exercise is safe for you, how to check your pulse rate, and how to know if you are doing too much.
- **Take rest breaks during the day.**
- **Lose weight if you are overweight.** Even a few pounds can make a difference.
- **Stop smoking.** Smoking damages your heart and makes it hard to exercise.
- **Limit alcohol.** Ask your PCP (or specialist) how much, if any, is safe.

To stay as healthy as possible, work closely with your PCP (or specialist). Have all your tests, and go to all your appointments. It is also important to:

- Talk to your PCP (or specialist) before you take **any** new medicine, including over-the-counter and prescription drugs, vitamins, and herbs. Some of them make your Congestive Heart Failure worse.
- Keep track of your symptoms. Weigh yourself every day, and write down your weight. Call your PCP (or specialist) if you have a sudden weight gain, a change in your ability to exercise, or any sudden change in your symptoms.



What can I expect if I have Congestive Heart Failure?

Medicines and lifestyle changes can slow or even reverse Congestive Heart Failure for some people. But Congestive Heart Failure often gets worse over time.

Early on, your symptoms may not be too bad. As Congestive Heart Failure progresses, you may feel out of breath all the time. Treatment can often help reduce symptoms, but it usually does not get rid of them.

Congestive Heart Failure can also lead to other health problems. These may include trouble with your heart rhythm (arrhythmia), stroke, heart attack, mitral valve regurgitation, or blood clots in your leg or lungs (deep vein thrombosis or pulmonary embolism). Your PCP (or specialist) may be able to give you medicine or other treatment to prevent or treat these problems.

Congestive Heart Failure can get worse suddenly. If this happens, you will need emergency care. To prevent sudden Congestive Heart Failure, you need to avoid things that can trigger it. These include eating too much salt, missing a dose of your medicine, and exercising too hard.

You may want to think about planning for the future. A living will lets your PCP (or specialist) know what type of life-support measures you want if your health gets much worse. You can also choose a health care agent to make decisions in case you are not able to. It can be comforting to know that you will get the type of care you want.

Knowing that your health may get worse can be hard. It is normal to sometimes feel sad or hopeless. But if these feelings last, talk to your PCP (or specialist). Antidepressant medicines or counseling may help you cope.

II. Causes of Congestive Heart Failure

Congestive Heart Failure is caused by diseases or other factors that affect the pumping ability of the heart, specifically the left lower chamber (left ventricle). When the heart cannot pump well, it is called systolic Congestive Heart Failure. Things that affect how the heart pumps include:

- Coronary artery disease (CAD) and heart attack (most common causes).
- Damage from poorly controlled high blood pressure or diabetes.
- Cardiomyopathy, alcoholic cardiomyopathy, or infection or inflammation of the heart muscle (such as myocarditis).
- Use of cocaine or other illegal drugs.
- Disease of the sac surrounding the heart (pericardial disease).
- Heart disease that is present from birth (congenital heart disease).
- Heart valve disease.
- Fast, slow, or irregular heart rhythms (arrhythmias).
- Aging. As you age, your heart muscle tends to stiffen, which can prevent your heart from filling properly with blood.
- A rare kind of Congestive Heart Failure called postpartum Congestive Heart Failure. This can happen late in the pregnancy or within the first 5 months after delivery.

When the left ventricle cannot fill properly, it is called diastolic Congestive Heart Failure. High blood pressure, coronary artery disease, and heart valve problems can cause diastolic Congestive Heart Failure.

Specific triggers may cause a sudden worsening of Congestive Heart Failure and sometimes life-threatening conditions such as pulmonary edema or cardiogenic shock.

III. Symptoms of Congestive Heart Failure

In the earliest stages of Congestive Heart Failure, you may not have any symptoms. Shortness of breath with exertion and fatigue often develop when the

weakened heart is not pumping enough blood to meet your body's needs for oxygen and nutrients.

The body's efforts to make up for Congestive Heart Failure eventually cause symptoms to get worse.

Classic Symptoms of Congestive Heart Failure		
Symptom	What is it?	More information
Shortness of breath from exertion (dyspnea)	<ul style="list-style-type: none"> • Not being able to catch your breath • Having tightness in the chest • Being winded • Feeling tired while walking • Needing to stop frequently when walking 	<ul style="list-style-type: none"> • Shortness of breath
Shortness of breath while lying down (orthopnea); shortness of breath while sleeping (paroxysmal nocturnal dyspnea)	<ul style="list-style-type: none"> • Shortness of breath that gets worse when you lie flat or wakes you up at night 	<ul style="list-style-type: none"> • Shortness of breath
Weight gain	<ul style="list-style-type: none"> • Weight gain from fluid build up 	<ul style="list-style-type: none"> • Weight gain
Swelling in the feet or ankles	<ul style="list-style-type: none"> • Swelling that gets worse at the end of the day or after standing for long periods • Possible pain • Pressure may leave indentations in skin. • Shoes may no longer fit. 	<ul style="list-style-type: none"> • Swelling in the feet and ankles
Fatigue or inability to exercise well	<ul style="list-style-type: none"> • Having less energy, feeling more tired 	<ul style="list-style-type: none"> • Fatigue

	<p>than usual.</p> <ul style="list-style-type: none"> • Not being able to exert yourself physically as much as you could in the past 	
Abdominal swelling	<ul style="list-style-type: none"> • Tenderness • Pain 	<ul style="list-style-type: none"> • Abdominal swelling
Decrease in appetite and decreased muscle strength	<ul style="list-style-type: none"> • Weakness 	<ul style="list-style-type: none"> • Cardiac cachexia
Increase in urination	<ul style="list-style-type: none"> • Frequent urination, often worse at night 	<ul style="list-style-type: none"> • Urination
Cough	<ul style="list-style-type: none"> • Dry, hacking cough • Worse when lying down 	<ul style="list-style-type: none"> • Cough

Congestive Heart Failure is classified as:

- Systolic Congestive Heart Failure, which means your heart does not pump well enough.
- Diastolic Congestive Heart Failure, which means your heart does not relax properly to fill up with blood.

Congestive Heart Failure may affect one or both sides of the heart. Right- and left-sided Congestive Heart Failure often are present at the same time. If mainly the left side of the heart is affected, it may not be able to pump enough blood to all of the organs in the body (left-sided Congestive Heart Failure), including the heart itself, and can lead to fluid buildup in the lungs. Blood may back up behind the right ventricle as well (right-sided Congestive Heart Failure) and cause fluid to build up in the legs.

Congestive Heart Failure is grouped according to symptoms. It is important to be familiar with these groups because they may be referred to during the course of your care.

Congestive Heart Failure Classification System

Class I	Physical activity is not limited and does not cause significant fatigue, heart palpitations, trouble breathing, or chest pain.
Class II	Physical activity is somewhat limited. You are comfortable at rest, but ordinary activity causes fatigue, heart palpitations, trouble breathing, or chest pain.
Class III	Physical activity is markedly limited. You are comfortable at rest, but less-than-ordinary activities cause fatigue, heart palpitations, trouble breathing, or chest pain.
Class IV	All physical activity causes discomfort. Symptoms also are present at rest. Minor physical activity always makes symptoms worse.

A newer classification system defines Congestive Heart Failure based on the typical progression of the disease using stages A to D.

Stages of Congestive Heart Failure		
Stage	Definition	Examples
A	High risk for developing Congestive Heart Failure but no structural heart disorders	This may include people who have high blood pressure, coronary artery disease, diabetes, a history of drug or alcohol abuse, a personal history of rheumatic fever, or a family history of cardiomyopathy.
B	Structural heart disorders but no symptoms of Congestive Heart Failure	This may include people who have structural changes to the left ventricle, have heart valve disease, or have had a heart attack.
C	Past or current symptoms of Congestive Heart Failure and underlying structural heart disease	This may include people who have shortness of breath or fatigue caused by left ventricular systolic dysfunction or who are without symptoms (asymptomatic) and are receiving treatment for prior symptoms of Congestive Heart Failure.
D	End-stage disease requiring specialized treatment strategies	This includes people who are frequently hospitalized for Congestive Heart Failure or who cannot be safely discharged from the hospital; who are in the hospital awaiting heart transplantation; who are at home

		receiving continuous intravenous support for symptom relief or are being supported with a mechanical circulatory assistive device; or who are in a hospice setting for the management of Congestive Heart Failure.
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Sudden Congestive Heart Failure

Sudden Congestive Heart Failure causes rapid fluid buildup in the lungs (congestion, pulmonary edema). Symptoms develop suddenly and may include:

- Severe shortness of breath.
- An irregular or rapid heartbeat.
- Coughing up foamy, pink mucus.

Sudden Congestive Heart Failure is a medical emergency and requires immediate care.

Complications

Long-standing Congestive Heart Failure can cause complications, such as:

- An irregular heartbeat.
- A stroke.
- A heart attack.
- A blood clot in the leg (deep vein thrombosis).
- A blood clot in the lung (pulmonary embolism).
- Anemia.
- Cognitive impairment.
- Mitral valve regurgitation.

These complications often can be prevented or treated with medicine or other treatment.

IV. Factors and Conditions That Increase Risk for Congestive Heart Failure

Congestive Heart Failure is generally the result of another disease, often coronary artery disease. Anything that increases your risk for developing that underlying disease is a risk factor for Congestive Heart Failure. This includes:

- Risk factors for coronary artery disease and heart attack.
- Risk factors for high blood pressure.
- Risk factors for heart valve disease.

- Risk factors for diabetes (because diabetes can increase the risk of coronary artery disease and also can cause a condition called diabetic cardiomyopathy).

A recent study suggests that people with rheumatoid arthritis have twice the risk of developing Congestive Heart Failure as people without the condition.

V. When to Call Your PCP (or specialist)

Call 911 or other emergency services immediately if you have:

- Chest pain that has not gone away within 5 minutes after taking one nitroglycerin and/or resting, especially if the pain is pressing or crushing and occurs with shortness of breath, sweating, and nausea.
- Symptoms of a stroke. These include:
 - Sudden onset of tingling, numbness, weakness, or inability to move (paralysis) part or all of one side of your body (face, arm, and leg).
 - Sudden dimmed or blurred vision.
 - Difficulty speaking or understanding speech.
 - Dizziness, vomiting, or seizures.
 - Clumsiness.
 - Loss of consciousness.
 - Headache (severe and in a specific area).

Seek emergency medical care for symptoms of sudden Congestive Heart Failure, such as:

- Severe shortness of breath (trouble getting a breath even when resting).
- A sudden episode of a prolonged, irregular heartbeat or a very rapid heartbeat associated with dizziness, nausea, or fainting.
- Foamy, pink mucus with a cough and shortness of breath.

Call your PCP (or specialist) soon if you have symptoms of Congestive Heart Failure, which include:

- Fatigue or weakness that prevents you from doing your usual activities.
- Difficulty breathing during routine activities or exercise that did not previously cause problems.
- Shortness of breath when you lie down.
- Waking up at night with shortness of breath or feeling as though you are suffocating.
- A dry, hacking cough, especially when you lie down.
- Rapid weight gain [2 lb (0.91 kg) to 3 lb (1.36 kg)] in less than 1 week.
- Increased fluid buildup in your body (most often in the legs).

Also call your PCP (or specialist) soon if you have a diagnosis of Congestive Heart Failure and your symptoms get worse. In general, it is a good idea to call your PCP (or specialist) anytime you have a sudden change in symptoms.

Watchful waiting

There are many less serious causes of some of the more minor symptoms that are common to Congestive Heart Failure. It is reasonable to try home treatment for symptoms such as fatigue and mild fluid buildup (edema). However, sudden shortness of breath, even if it is mild, should always be checked by your PCP (or specialist).

- If symptoms go away completely and do not return, you may not need additional treatment.
- If you need continued home treatment to keep even minor symptoms under control, make an appointment with your PCP (or specialist).

Shortness of breath caused by being out of shape does not require immediate medical attention. However, you may want to consult your PCP for advice on improving your physical condition. Being in better shape can help improve the quality of your life and possibly can lower your risk of new, serious heart problems, such as a heart attack, or sudden death.⁴

Who to See

The following health professionals can evaluate early symptoms of Congestive Heart Failure:

- Family medicine
- Internist
- Nurse practitioner (NP)
- Physician assistant (PA)
- Cardiologist

A cardiovascular surgeon may perform surgical repair of heart valves or a heart transplant.

VI. Exams and Tests

Congestive Heart Failure is a complex medical condition. There are several types of Congestive Heart Failure and a variety of causes. For these reasons, you will likely have several different tests over a period of time to help diagnose the cause of the disease and find out how severe it is. In some cases the cause of Congestive Heart Failure can be fixed (such as a heart valve defect) or is easily treatable (such as a thyroid problem), but this is usually the exception.

If you have symptoms that suggest Congestive Heart Failure, you may have the following tests:

- A review of your medical history and a physical exam.
- Lab tests.
- Electrocardiogram (EKG, ECG).
- Chest X-ray.
- Echocardiogram (echo).

An echocardiogram is the best and simplest way to find out whether you have Congestive Heart Failure and whether it is systolic or diastolic Congestive Heart Failure. An echocardiogram also can help determine the cause of Congestive Heart Failure and help guide treatment decisions.

The brain natriuretic peptide (BNP) test is a newer test that can be used to diagnose Congestive Heart Failure. This blood test measures levels of BNP, which typically rise when Congestive Heart Failure develops or gets worse.

The following tests also may be done to identify areas of the heart that are not getting enough blood (ischemic areas) and help assess how well the left ventricle is working. These tests include:

- Cardiac perfusion scan. This test can detect poor blood flow to the heart.
- Cardiac blood pool scan (radionuclide ventriculogram). This test is often used when echocardiogram results are less likely to be accurate (caused by a person's weight or breast size or the presence of severe lung disease). It checks the pumping ability of the left ventricle. However, it is less useful for finding heart valve disease and thickening of the heart muscle.
- Cardiac catheterization. This test can be used to check for blocked or narrowed heart arteries and to measure pressures inside the heart. Test results can help diagnose conditions that might cause Congestive Heart Failure symptoms or make them worse.

You will need regular appointments with your PCP (or specialist) to monitor your condition and how well your treatment is working. Depending on the severity of the disease and its progression, your PCP (or specialist) may want to see you within days to weeks after your diagnosis.

Testing will help your PCP (or specialist) determine which type of Congestive Heart Failure you have. Your Congestive Heart Failure may also be classified according to its severity or its stage.

Early Detection

The brain natriuretic peptide (BNP) test can help diagnose Congestive Heart Failure early in the disease process. Also, it can identify when symptoms are getting worse because of underlying Congestive Heart Failure.

Identifying people who are at high risk of developing Congestive Heart Failure before they show any evidence of Congestive Heart Failure on an echocardiogram is important so that they can be monitored, any underlying conditions (such as high blood pressure or high cholesterol) can be treated, and medicines such as angiotensin-converting enzyme (ACE) inhibitors can be started when needed.

Talk to your PCP (or specialist) if you are concerned that you may be at risk for Congestive Heart Failure.

VII. Treatment Overview

Treatment depends on the cause of Congestive Heart Failure, which type you have, the severity of your symptoms (classification), and how well your body is able to compensate.

Treatment of Congestive Heart Failure that is caused by a filling problem (diastolic Congestive Heart Failure) may differ from treatment of Congestive Heart Failure that is caused by a pumping problem (systolic Congestive Heart Failure). Identifying the type of Congestive Heart Failure you have will help guide proper treatment.

Sometimes, Congestive Heart Failure can be fixed if an underlying problem can be corrected, such as through heart valve replacement surgery or treatment to correct hyperthyroidism.

If Congestive Heart Failure develops shortly after a heart attack, it can sometimes be reversed with coronary artery bypass surgery or angioplasty, medicine, and cardiac rehabilitation.

Initial treatment

The goal of treatment for early stage Congestive Heart Failure is to relieve symptoms and prevent additional heart damage. You will probably take a diuretic first to reduce blood pressure and fluid buildup. Next, your PCP (or specialist) will probably prescribe one or more other medicines, including an ACE inhibitor. This medicine reduces the heart's workload, lowers blood pressure, and lessens fluid retention and swelling.

You may also take a beta-blocker medicine. These drugs can keep Congestive Heart Failure from getting worse and, in some cases, will improve your heart

function and prolong life. Some people can't take beta-blockers because of their side effects.

Lifestyle recommendations include the following:

- Watch your fluid intake
- Eat less sodium.
- Exercise under the direction of your PCP (or specialist).
- Lose weight if you are overweight.
- Stop smoking, because smoking increases your risk of heart disease and makes it more difficult to exercise.
- Avoid overuse of alcohol.
- Control your high blood pressure. Exercising, limiting alcohol intake, and controlling stress will help keep your blood pressure in a healthy range too.

Your PCP (or specialist) will also need to treat the underlying cause of your Congestive Heart Failure. You may need to take additional medicine for coronary artery disease, high blood pressure, diabetes, or an abnormal heart rhythm (arrhythmia).

Ongoing treatment

Although some causes of Congestive Heart Failure are reversible, in most cases Congestive Heart Failure cannot be cured. Most likely you will have to take medicine for the rest of your life. Ongoing treatment is aimed at decreasing the progression of the disease and preventing complications and hospital stays. Treatment should also improve symptoms and help you live longer.

ACE inhibitor medicines are the cornerstone of treatment for most people with Congestive Heart Failure. These drugs prolong life and reduce symptoms.

If you have continued swelling, you may need to take a diuretic medicine, such as furosemide (Lasix) or bumetanide (Bumex). If you have moderate to severe Congestive Heart Failure, you may need to take the diuretic spironolactone (Aldactone), which has properties that can prevent Congestive Heart Failure from getting worse in addition to improving your symptoms.

Beta-blocker medicines are often prescribed because they can keep Congestive Heart Failure from getting worse and, in some cases, will improve your heart function and prolong life. However, some people are not able to take them because of their side effects.

If your Congestive Heart Failure is getting worse or you have been hospitalized for sudden Congestive Heart Failure, your PCP (or specialist) might add digoxin (such as Lanoxin or Crystodigin) to your treatment. Digoxin has been proven to

reduce the number of times that people have to go to the hospital for Congestive Heart Failure that gets worse. If symptoms are not controlled with the other medicines, ARBs (angiotensin II receptor blockers), nitrates, and hydralazine may be added.

If you have not made diet and lifestyle changes already, these changes are important in managing your symptoms.

Activity and exercise for people with Congestive Heart Failure are very important. If you are not already active, your PCP (or specialist) will want you to begin an exercise program. Prescribed exercise is often part of a cardiac rehabilitation program.

Getting too much sodium, not taking medicines as directed, and having an illness such as pneumonia or influenza are some of the most common reasons that people with Congestive Heart Failure have to be hospitalized. Getting immunizations for pneumonia and flu infections, watching your sodium intake, and taking medicines as prescribed all are important to reduce the chance that your condition will get worse.

Your PCP (or specialist) will likely work with you to develop some guidelines for managing weight gain caused by fluid buildup. For example, if you have a sudden increase in your weight [2 lb (0.91 kg) to 3 lb (1.36 kg)], your PCP (or specialist) may recommend that you take an additional diuretic (water pill) that day.

Biventricular pacemakers, which pace the heart's upper and lower chambers, may be an option for people who have Congestive Heart Failure and problems with the heart's electrical system. Doctors call this treatment cardiac resynchronization therapy, or CRT. A recent study suggests that biventricular pacemakers improve heart function, the ability to exercise, and your quality of life beyond that seen with medicine alone.⁶

Another device called an implantable cardioverter-defibrillator (ICD) shows promise for some people who have Congestive Heart Failure. ICDs can sense when the heart starts beating dangerously fast. The device then sends an electrical shock to the heart to bring it back to a normal rhythm. (Fast heart rhythms, such as ventricular tachycardia, are a common cause of death in people with Congestive Heart Failure.) Studies show that ICDs can significantly reduce the risk of death in people with moderate to severe Congestive Heart Failure.⁷

Combining the biventricular pacemaker and the ICD into one device significantly reduced hospital stays and death rates in people with advanced Congestive Heart Failure.

Your PCP (or specialist) may also recommend oxygen therapy to reduce shortness of breath and increase your ability to exercise.

You will probably need to continue treatment to correct or control any underlying problems (such as high blood pressure, diabetes, or coronary artery disease) or sudden Congestive Heart Failure triggers (such as fever, arrhythmia, anemia, or infection).

You will have regular appointments with your PCP (or specialist) so that he or she can monitor how you are responding to treatment and manage any changes in how your body responds. Gradual adjustments and frequent monitoring are a normal part of the treatment of Congestive Heart Failure and will help you avoid sudden Congestive Heart Failure or other complications.

Treatment if the condition gets worse

In some cases when standard medical treatment does not help, other measures are considered. These include heart transplant and left ventricular assist devices (LVADs), which are mechanical pumping devices that are implanted into the chest. However, these are options only for a very small number of people.

Palliative care

As your condition gets worse, you may want to think about palliative care. Palliative care is a kind of care for people who have illnesses that do not go away and often get worse over time. It is different than care to cure your illness, called curative treatment. Palliative care focuses on improving your quality of life—not just in your body, but also in your mind and spirit. Some people combine palliative care with curative care.

Palliative care may help you manage symptoms or side effects from treatment. It could also help you cope with your feelings about living with a long-term illness, make future plans around your medical care, or help your family better understand your illness and how to support you.

If you are interested in palliative care, talk to your PCP (or specialist). He or she may be able to manage your care or refer you to a PCP (or specialist) who specializes in this type of care.

End of life

Thousands of people in the United States die from Congestive Heart Failure each year despite the best efforts of doctors and modern medicine. Since the disease can quickly progress to a more severe form, many people (and their

families) are not prepared for decisions that they must make regarding the type of care they wish to receive at the end of their lives. You will need to decide whether you want life-support measures if your condition becomes more severe. An advance directive is a legal document that instructs your PCP (or specialist) on how to care for you at the end of your life. Advance directives can include the ability to refuse treatment in specific situations.

VIII. Prevention

The best way to prevent Congestive Heart Failure is to make changes in your lifestyle that lower your risk of developing heart disease. It is also important to control certain medical conditions, such as high blood pressure or diabetes, to lessen your chances of developing Congestive Heart Failure.

Heart disease caused by narrowing and hardening of the arteries (atherosclerosis) in the blood vessels of the heart and by heart attack are leading causes of Congestive Heart Failure. To reduce your risk of atherosclerosis:

- **Do not smoke.** If you smoke, quit. Smoking greatly increases your risk for heart disease.
- **Lower your cholesterol.** If you have high cholesterol, follow your PCP's (or specialist's) advice for lowering it. Eating a low-cholesterol diet, exercising, and quitting smoking will help keep your cholesterol low.
- **Control your blood pressure.** If you have high blood pressure, your risk of developing heart disease increases. Studies have shown that lowering blood pressure to normal levels in people who have high blood pressure could reduce the cases of Congestive Heart Failure by half. Exercising, limiting alcohol intake, and controlling stress will help keep your blood pressure in a healthy range.
- **Get regular exercise.** Exercise will help control your weight, blood pressure, and stress levels, all of which will help keep your heart healthy.
- **Control diabetes.** Taking your medicines as directed and working with your PCP (or specialist) to manage your diet will help control diabetes.
- **Limit alcohol intake.** A recent study found that moderate alcohol consumption decreased the risk of Congestive Heart Failure in older people. Heavy consumption of alcohol, however, can lead to Congestive Heart Failure.

Identifying people who are at high risk of developing Congestive Heart Failure before they show any signs of structural heart disease (stage A) is important so that they can be monitored, underlying conditions (such as high blood pressure or high cholesterol) can be controlled, and medicines such as angiotensin-converting enzyme (ACE) inhibitors can be given if appropriate.

IX. Living With Congestive Heart Failure

Your attitude and level of participation in your treatment can strongly impact how you feel. Taking care of yourself will help you feel better and improve your health so that you can enjoy life. Taking your medicines as directed, controlling your diet, and getting regular exercise are lifestyle changes that are key to controlling Congestive Heart Failure symptoms and preventing sudden Congestive Heart Failure.

- Limit sodium intake. Your PCP (or specialist) also may want you to monitor your fluid intake.
- Take your medicines as directed. If you don't, your Congestive Heart Failure may get worse, or you may develop sudden Congestive Heart Failure.
- Exercise regularly. If you aren't already active, your PCP (or specialist) may want you to begin an exercise program. Exercise programs have been shown to improve quality of life and reduce the rate of adverse cardiac events in people with Congestive Heart Failure.
- Try to lose weight if you are overweight. Eating a heart-healthy diet and exercising regularly should naturally help you lose weight.
- Stop smoking, because smoking increases your risk for heart disease and makes it more difficult to exercise.
- Avoid overuse of alcohol.
- Try some tips for easier breathing, such as elevating your upper body to allow fluid to drain from your lungs.
- Monitor your body weight.
- Avoid respiratory infections. Stay up to date on vaccinations for flu and pneumonia.
- Be careful using nonprescription medicines and avoid anti-inflammatory drugs (NSAIDs), if possible.
- Avoid triggers for sudden Congestive Heart Failure.

Throughout the course of your Congestive Heart Failure, you may need to cope with both physical limitations and emotional issues that affect your ability to lead an active life.

Because Congestive Heart Failure is a lifelong condition, you will have dozens—perhaps even hundreds—of appointments with various health professionals during your experience with the disease. Learning how to work with your Guardian Healthcare PCP, and specialist, will benefit you by allowing them to better control your symptoms and tailor your treatment to your own needs.

X. Medications

You probably will need to take a combination of medicines to treat Congestive Heart Failure, even if you do not have symptoms yet. Medicines do not cure Congestive Heart Failure. However, they can help you manage your symptoms.

The goals of drug treatment are to relieve or control symptoms of Congestive Heart Failure, improve daily function and quality of life, slow the progression of the disease, and reduce the risk of complications, hospital stays, and premature death.

Medicines are used to treat the problems associated with Congestive Heart Failure, including:

- Fluid buildup, swelling, and water retention (edema).
- The reduced pumping ability of the heart.
- The effects of the body's attempt to compensate for Congestive Heart Failure.
- Underlying conditions that can lead to Congestive Heart Failure, such as coronary artery disease, high blood pressure, or diabetes.
- Prevention of complications, such as stroke.

It is extremely important that you take your medicines exactly as recommended by your PCP (or specialist). If you don't, your Congestive Heart Failure may get worse or you may develop sudden Congestive Heart Failure.

Medication Schedule

- • Take your medications according to your doctor's instructions.
- • If you miss a dose, do not take two doses at once.
- • Do not skip doses unless instructed by your doctor to do so.
- • Notify your doctor if you think you have side effects.
- • Do not stop any medications without your doctor's instructions.
- • Store all medications in original containers away from heat and light.
- • Keep all medications out of the reach of children.

Medication Choices

A combination of medicines is often needed to control symptoms and slow the progression of Congestive Heart Failure. Some medicines are used to treat pumping problems (systolic Congestive Heart Failure), and others are used to treat problems with filling (diastolic Congestive Heart Failure). The most commonly used and effective classes of medicines are as follows:

Medicines for pumping problems (systolic Congestive Heart Failure)

These include:

- ACE inhibitors (angiotensin-converting enzyme inhibitors).
- ARBs (angiotensin II receptor blockers). These block the action of certain chemicals in the body that narrow (constrict) the blood vessels. This improves blood flow and lowers blood pressure. These medicines can be

used in place of an ACE inhibitor when you are not able to tolerate that medicine's side effects, although ACE inhibitors are preferred. Recent studies show that adding the ARB candesartan (Atacand) to an ACE inhibitor reduces hospitalization and cardiovascular-related deaths in people with Congestive Heart Failure.

- Diuretics.
- Aldosterone receptor antagonists (spironolactone and eplerenone, which are diuretics with additional properties that can prevent Congestive Heart Failure from getting worse and improve symptoms).
- Digoxin.
- Beta-blockers.
- Vasodilators. These lower blood pressure and reduce the workload on the heart.

A new medicine called BiDil significantly decreases death rates in African Americans who have advanced Congestive Heart Failure, according to the first major trial to test a drug only in African Americans. BiDil is a combination of hydralazine and isosorbide, two older drugs that have been used in the past to treat various heart conditions. When taken along with standard medicines for Congestive Heart Failure, BiDil was found to decrease the number of hospital stays and increase survival rate.

Medicines for filling problems (diastolic Congestive Heart Failure)

- Beta-blockers
- Diuretics
- ACE inhibitors
- Calcium channel blockers

If your Congestive Heart Failure is related to a specific underlying cause or condition, such as irregular rapid heartbeats (arrhythmias), impaired blood flow to the heart muscle (ischemia), or high blood pressure, you may take specific drugs for these conditions.

- Anticoagulants thin the blood and make it less likely to clot. These drugs may help prevent strokes.
- Antiarrhythmics prevent rapid and sometimes irregular heart rhythms.
- Antianginals (nitrates) control chest pain (angina) caused by impaired blood flow to the heart muscle.
- Antihypertensives lower blood pressure.

Nesiritide (Natrekor) helps relax certain blood vessels and gets rid of extra sodium and water from the body. This medicine is only used in a small number of people who are in the hospital with severe Congestive Heart Failure. Nesiritide is only used after trying other treatments. It can cause serious kidney problems, irregular heartbeats (arrhythmias), and low blood pressure.

What to Think About

- Taking medicines used only to treat diastolic dysfunction may be harmful if you have systolic dysfunction, and vice versa.
- Different people will take different medicines depending on the cause of Congestive Heart Failure and other related conditions.
- Medicines for arthritis can cause sodium and water retention and can make Congestive Heart Failure worse. Ask your PCP (or specialist) before taking anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil or Motrin), naproxen (Aleve), or cyclooxygenase-2 (COX-2) inhibitors, such as celecoxib (Celebrex).

X. Surgery

People who have Congestive Heart Failure with chest pain (angina) or who have had a heart attack in the past may benefit from coronary artery bypass surgery or angioplasty to open clogged arteries.

Some people may have surgery to repair specific underlying causes of Congestive Heart Failure, such as damaged valves. In cases that have a specific treatable cause, surgery sometimes can greatly improve or eliminate Congestive Heart Failure symptoms.

In general doctors only consider a heart transplant if you have severe, life-limiting symptoms of Congestive Heart Failure that do not respond to available treatments. In addition, you must be unlikely to benefit from coronary artery bypass surgery, and you must not have any other serious medical conditions that would reduce your life expectancy.

Experts are studying several different experimental treatments for Congestive Heart Failure, including:

- **Cardiomyoplasty**, a procedure in which the surgeon wraps a piece of skeletal muscle (often taken from the back) around the heart to help strengthen its pumping ability.
- **Ventricular assist devices (VADs)**, which are mechanical pumping devices that are inserted into the chest to help the heart pump more blood. VADs are typically used to keep people alive until a donor heart is available for transplant. Experts are also studying VADs as an alternative to heart transplant for longer-term treatment of severe Congestive Heart Failure. These devices require surgery to place the device and to make the connections between the heart and the device.

Surgery Choices

- Coronary artery bypass (CABG) surgery

- Angioplasty (with or without other procedures, such as stents or atherectomy)
- Heart transplant

What to Think About

Some people with Congestive Heart Failure may want to consider specific testing to find out whether they would benefit from angioplasty or bypass surgery. The decision to have more testing is difficult. It is not clear that restoring blood flow (revascularization) improves Congestive Heart Failure symptoms and prolongs life in people who do not have chest pain.

Evidence shows that starting ACE inhibitor medicines after a heart attack can help lower the risk of Congestive Heart Failure.

XII. Other Treatment

Biventricular pacing

Several new medical advances benefit people with Congestive Heart Failure. One is the biventricular pacemaker, which synchronizes the rhythm of the heart's chambers (cardiac resynchronization). It has been shown to improve quality of life in people who have severe Congestive Heart Failure and heart rhythm problems. New guidelines from the American Heart Association recommend biventricular pacing for people with severe Congestive Heart Failure. Further studies are ongoing to see whether this therapy might also benefit those with less severe Congestive Heart Failure.

Implantable defibrillators (ICDs)

A device that combines an implantable cardioverter-defibrillator (ICD) with a biventricular pacemaker is now available for some people with Congestive Heart Failure. The ICD part of the device continuously monitors the heart for life-threatening, rapid heart rhythms. When these dangerous heart rhythms occur, the device delivers an electric shock to the heart to restore a normal rhythm. The biventricular pacing part sends weak electrical shocks to stimulate a regular heart rhythm. Studies show better quality of life, improved capacity for exercise, and longer life in people with this combination pacemaker/ICD device compared with those who had only a biventricular pacemaker.

Other Treatment Choices

- Pacemakers, including biventricular pacemakers (resynchronization therapy)
- Enhanced external counterpulsation (EECP), a treatment sometimes used for Congestive Heart Failure

Cardiac rehabilitation is often recommended in the treatment of Congestive Heart Failure before or after pacemaker implantation or other surgical interventions.

Your PCP (or specialist) may also use an intra-aortic balloon pump to stabilize a person during sudden Congestive Heart Failure.

What to Think About

Complementary or alternative therapy

No convincing evidence shows that nutritional or certain vitamin supplements are effective for treating Congestive Heart Failure. Some European studies from the early 1990s suggest that the supplement coenzyme Q10 improves Congestive Heart Failure symptoms; more recent studies have shown no effect. In any case, coenzyme Q10 should not be a substitute for the standard treatment for Congestive Heart Failure.

Hawthorn is an herbal supplement that contains flavonoids. It dilates blood vessels to increase blood flow to the heart. German studies have shown improvement in some people with mild Congestive Heart Failure who took hawthorn. It is sometimes recommended in Europe and Asia for treatment of Congestive Heart Failure.

Talk to your PCP (or specialist) about whether supplements are safe for you.

XIII. End-of-Life Decisions

Although Congestive Heart Failure treatment is increasingly successful at prolonging life and reducing complications and hospital stays, Congestive Heart Failure can be a progressive, fatal condition. Many important end-of-life decisions can be made while you are active **and able to communicate your wishes**.

XIV. Other Places To Get Help

Organizations

American Heart Association (AHA)

7272 Greenville Avenue

Dallas, TX 75231

Phone: 1-800-AHA-USA1 (1-800-242-8721)

Web Address: <http://www.americanheart.org>

Call the American Heart Association (AHA) to find your nearest local or state AHA group. The AHA can provide brochures and information on support groups

and community programs, including Mended Hearts, a nationwide organization whose members visit heart patients and provide information and support.

Congestive Heart Failure Society of America

Court International, Suite 240 S

2550 University Avenue West

Saint Paul, Minnesota 55114

Phone: (651) 642-1633

Fax: (651) 642-1502

Web Address: <http://www.hfsa.org>

The Congestive Heart Failure Society of America represents the first organized effort by Congestive Heart Failure experts from the Americas to provide a forum for all those interested in heart function, Congestive Heart Failure, research, and patient care.

National Heart, Lung, and Blood Institute (NHLBI)

P.O. Box 30105

Bethesda, MD 20824-0105

Phone: (301) 592-8573

Fax: (240) 629-3246

TDD: (240) 629-3255

E-mail: nhlbiinfo@nhlbi.nih.gov

Web Address: <http://www.nhlbi.nih.gov>

The National Heart, Lung, and Blood Institute (NHLBI) information center offers information and publications about preventing and treating heart, lung, and blood diseases.

XV. Glossary

Aneurysm--a bulge in the heart wall or in a blood vessel

Artery-- a blood vessel that carries blood and oxygen away from the heart to parts of the body

Atrial fibrillation-- rapid, irregular beating of the heart

Balloon angioplasty-- using a balloon to stretch a narrow section of a coronary (heart) artery

Blood vessel-- an artery or a vein

Cardiomyopathy-- a condition in which the cause of the weakened heart muscle is unknown

Catheter--a tubular instrument that allows fluid to pass from, or into, a body cavity

Coronary bypass--using a vein from the leg or an artery from the chest to by-pass a blocked heart artery

Edema--the build-up of an excessive amount of fluid, also known as swelling

Regurgitation--the backward flow of blood through an abnormally functioning or “leaky” heart valve

Stenosis--the narrowing of a heart valve

Vein-- a blood vessel that carries blood to the heart

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