



Congestive Heart Failure

Expertise in Matters of the Heart



CAUSES | SYMPTOMS | DIAGNOSIS
MANAGING HEART FAILURE | WHEN TO CALL YOUR DOCTOR
DAILY WEIGHT RECORD | MEDICINE SCHEDULE

Congestive Heart Failure

WHAT IS HEART FAILURE?

Heart failure occurs when the heart muscle weakens due to a disease of the heart or blood vessels. This leaves the heart unable to pump enough blood to the organs and tissues in the body, depriving parts of the body of enough blood and nutrients.

Because the heart muscle is not strong enough, the blood returning to the heart can back up, causing congestion in the tissues. Fluid can build up in parts of the body, such as the lungs and the legs. This buildup of fluid may cause symptoms such as shortness of breath, congested cough, and fatigue. Walking, carrying groceries, or climbing stairs can be difficult.

For most patients, heart failure is a chronic condition. This means it can be treated and managed, but not cured. If it is the result of other medical conditions, such as blocked coronary arteries or heart valve

disease, surgery may help.

CAUSES OF HEART FAILURE

There are several reasons why the heart muscle may become weak and not work properly:

Coronary Artery Disease

Coronary artery disease causes a narrowing of the blood vessels supplying blood to the heart muscle. This narrowing leads to decreased blood flow to the heart, and possibly a heart attack. Both decreased blood flow and a heart attack may weaken the heart muscle, which can result in congestive heart failure.

High Blood Pressure (Hypertension)

The increased pressure causes the heart to work harder and can lead to enlargement of the left side of the heart (hypertrophy). This may lead to congestive heart failure.

Heart Valve Disease

Heart valves that are not working properly may cause heart failure. The valves control forward flow of blood inside the heart. If the valves are not functioning properly, blood flow can back up into the heart and lungs. This makes the heart work harder and may enlarge the left ventricle.

**Heart Muscle Disorder
(Cardiomyopathy)**

Some diseases or other factors can cause a weakening of the heart muscle. Some examples are:

- Infections (viral and bacterial)
- Alcoholism/drug abuse
- Genetic (inherited)
- Chemotherapy/radiation
- Pregnancy
- Abnormalities of metabolism
- Amyloidosis/Sarcoidosis
- Blood diseases

Congenital Heart Disease

Heart defects at birth may cause the heart to work harder than normal. In time, the left ventricle may enlarge. This interferes with the pumping action of the heart.

Idiopathic (*unknown cause*)**Cardiomyopathy**

Sometimes the exact cause of heart failure is not found. However, the actual cause is not as important as controlling the symptoms and reducing the workload of the heart.

Symptoms of heart failure

Symptoms of heart failure vary from person to person. Symptoms may include:

- Trouble breathing, especially with exertion or when lying in bed
- Waking up breathless at night
- Frequent cough, especially when lying down
- Fatigue, weakness
- Dizziness or fainting

- Swollen feet, ankles, and legs (edema)
- Nausea, with abdominal swelling, pain, and tenderness

Symptoms can be managed with medicine, exercise, and diet. Report a change in symptoms or new symptoms to your doctor right away.

Diagnosis of heart failure

A health history, physical exam, chest x-ray, blood/urine tests, and electrocardiogram (ECG or EKG) help diagnose heart failure.

Based on your symptoms and test results, your doctor may want to measure the amount of blood pumped from the heart with each beat. Tests that measure this are:

ECHOCARDIOGRAM

The echocardiogram uses sound waves to make images of the heart and its chambers. The procedure is safe and does not require entering

the body with any instruments or devices.

NUCLEAR SCAN

A special dye that shows up on x-ray is injected into a vein and flows to the heart. X-ray pictures are taken to show how well the heart muscle is functioning.

LEFT VENTRICULOGRAM

Dye is injected into the ventricle, and the function of the ventricle and heart valves, as well as the anatomy of the ventricle, are assessed with the use of x-rays.

Managing heart failure

Early management of heart failure helps decrease symptoms and prevent frequent hospitalizations. Heart failure can be managed with:

- Your prescribed medicines
- Surgery
- Diet
- Exercise
- Lifestyle and health habits
- Family support
- Recording your weight daily

MEDICINES

Depending on your symptoms and diagnosis, your doctor may start treatment by prescribing one medicine and then adding others later. Treatment may begin with one or more medicines. Your doctor may add other medicines over time.

It may take several days or weeks to find the right kind and dose of medicines. Your doctor will work with you to find:

- The right medicines for you.
- The right amount of each one.
- The best time of day to take each medicine.

HOW TO TAKE MEDICINES

- Take medicine as prescribed.

- Do not skip a dose.
- Refill prescriptions.
- Tell your doctor about other conditions you have or other medicines you take. This includes non-prescription medicines such as aspirin, antacids, herbal or vitamin supplements, and cold remedies.
- Any medicine can have unplanned side effects. Report these to your doctor right away.

COMMON MEDICINES USED

ACE Inhibitors

ACE inhibitors make it easier for the heart to pump. An ACE inhibitor may be the first medicine prescribed. Based on your symptoms, a diuretic and digitalis may be prescribed with the ACE inhibitor or added later.

Some patients have side effects. They may include:

- Cough
- Dizziness
- Skin rash

Diuretics

Diuretics keep fluid from collecting in your feet, ankles, legs, lungs, and abdomen. Skipping doses can cause swelling and shortness of breath.

Weigh yourself daily to determine if you are retaining fluid. If you are, your weight will increase. Weigh yourself at the same time and on the same scale every day and record on the form provided.

Call the doctor if you gain:

- More than 5 pounds in 3 days
- 3 pounds overnight

Diuretics may cause:

- Leg cramps
- Dizziness or lightheadedness
- Incontinence (accidental urine leakage)
- Gout (a type of arthritis)
- Skin rash

Urinating more often is not a side effect. It is normal.

Potassium supplements

Supplements replace the potassium that is lost when you take diuretics. Take with meals to avoid upset stomach.

Digitalis

Digitalis helps the heart pump and may improve your ability to exercise. It is prescribed as Digoxin or Lanoxin.

It can cause these side effects:

- Nausea, loss of appetite
- Mental confusion

- Blurred or yellow-colored vision
- Slow heart rate

Do not stop taking digitalis unless your doctor tells you to.

Nitrates

Nitrates relax or dilate the coronary arteries, allowing more blood to flow to the heart muscle. Nitrates also dilate or relax the vessels in the body, decreasing the workload on the heart muscle.

Common side effects are:

- Headache
- Dizziness

Beta blockers

Beta blockers are used with diuretics, digitalis, and ACE inhibitors. They reduce blood pressure and heart rate.

Beta blockers may help to reverse the harmful effects on the heart from the natural process of heart failure. This may improve the heart's pumping function.

Common beta blockers used to treat heart failure are Carvedilol (Coreg) or metoprolol (Toprol-xl).

Side effects may include:

- Lightheadedness or dizziness
- Fatigue
- Slow heart rate
- Shortness of breath

Under the direction of your doctor, this medicine must be started at a low dose. It is gradually increased. Often, other medicine doses must be adjusted while the beta blocker dose is being increased. It takes time for your heart to adjust to these beta blockers. This adjustment period usually takes from 3-10 weeks.

Anticoagulants

Anticoagulants prevent blood clots from forming. Sometimes they are called “blood thinners,” although they do not actually thin the blood. They will not dissolve clots already formed, but will prevent clots from becoming larger. Coumadin (warfarin) is the most common anticoagulant.

If you are dividing your pill, break it on the line. Take the exact dose at the same time each day. If the pill is forgotten, inform your doctor. Do not take an extra dose.

Call your doctor right away if you notice:

- Bleeding gums
- Nosebleeds
- Easy bruising
- Blood in urine
- Blood in bowel movement
- Excessive menstrual flow
- Fever or illness

Ask your doctor before taking any new medicines. This includes aspirin,

cold and cough remedies, vitamin supplements, antacids, laxatives, or pain-relievers. Check with your doctor about taking Tylenol for pain.

Tell your doctor, dentist, or podiatrist you are taking an anticoagulant.

Use caution when shaving or working with sharp tools. Apply pressure to any cut and if the bleeding does not stop, call your physician.

Carry or wear some identification indicating that you take an anticoagulant.

Inotropes

Inotropes help the heart beat more strongly and forcefully. They are only given through an IV in an outpatient area of the hospital or clinic. Your nurse discusses potential side effects with you.

KEEPING TRACK OF YOUR MEDICINES

Use the medicine record each day to remind you:

- Which medicines to take each day.
- What each pill looks like.
- When to take them.
- When each medicine was taken.

Always carry a list of the doses of each medicine you take in case of an emergency.

Your health care team can help you apply for pharmacy assistance or obtain less expensive medicines.

SURGERY FOR HEART FAILURE

If a heart valve problem or coronary artery disease is suspected as the cause of your heart failure, surgery may be recommended. The nature of the surgery varies, depending on the type of heart failure. When considering surgery, these items will be discussed with you:

- Benefits
- Risks, including the risks of doing nothing.
- Alternatives, including their benefits and risks.
- Total cost and how much is paid by insurance.

Types of surgery

- **Coronary Artery Bypass Graft Surgery** — This type of heart surgery is done if your coronary arteries are blocked.
- **Heart Valve Surgery** — Repairing or replacing one or more heart valves may be needed if heart failure is caused by a valve problem.
- **Heart Transplant Surgery** — Heart transplantation is considered only in cases of very severe heart failure and is performed in specialized medical centers.

DIET

Diet changes play an essential role in managing heart failure.

Small, frequent meals help by decreasing the workload of the heart. A dietitian will assist you with meal planning, teaching you how to read nutrition labels, change your recipes, and identify foods high in salt.

A high potassium diet may be needed with the use of diuretics that lead to potassium loss. Foods high in potassium include baked potato with skin, bananas, avocados, apricots, cantaloupe, grapefruit, kiwi, oranges, prunes, strawberries, potatoes, tomatoes, and dried fruits.

Patients with reduced kidney function should discuss their potassium requirements with their doctor.

Limit caffeine to less than 300 mg per day. Caffeine increases the heart rate and may cause irregular heart rhythms.

CAFFEINE CONTENT OF BEVERAGES, FOODS AND MEDICINES

This table lists caffeine content in milligrams.

SOURCE OF CAFFEINE	TYPICAL
Coffee 8 oz. serving	
Brewed, drip method	100
Espresso, double (2 oz.)	70
Instant	65
Decaffeinated	3
Teas 8 oz. serving	
Brewed, imported brands	60
Brewed, U.S. brands	40
Instant	28
Iced	25
Soft Drinks 8 oz. serving	
Caffeinated colas	24
Mountain Dew	55
Other 8 oz. serving	
Cocoa beverage	6
Chocolate milk	5
Desserts 1 oz. serving	
Baker's chocolate	26
Dark semi-sweet chocolate	20
Milk chocolate	6
Chocolate-flavored syrup	4
Over-the-counter medicine	
Excedrin (2)	130
Anacin (2)	65

A low-salt diet is highly recommended. Salt (sodium) can cause the body to retain fluid. This makes the heart work harder and breathing more difficult.

Sodium is usually restricted to 2,000 mg to 2,400 mg per day. Limit processed foods such as canned and boxed items, smoked or cured foods, and many condiments (mustard and ketchup). Check food labels carefully.

Sometimes fluids may also be limited to help regulate your blood levels of sodium.

2,000 MG SODIUM DIET

Bread, cereal, grains, pasta, 6-11 servings

RECOMMENDED

Whole wheat bread, dinner rolls, cooked cereal without added salt, most dry cereals, muffins, cornbread, waffles, unsalted crackers, graham crackers, rice, pasta, tortillas, low sodium or homemade bread crumbs

EXCLUDED

Breads, rolls, crackers with salted tops; instant hot cereals; pancake mix; stuffing mix; biscuit mix; regular bread crumbs or cracker crumbs; potato, rice, or pasta box mixes

Fruits, 2-4 servings

RECOMMENDED

All fruits – fresh, canned, frozen, dried or fruit juice

EXCLUDED

Fruits processed with salt or sodium

Vegetables, 3-5 servings

RECOMMENDED

Fresh or frozen vegetables, low-sodium canned vegetables

EXCLUDED

Regular canned vegetables; tomato juice/V8; pickles; olives; vegetables seasoned with ham, pork, or bacon

Dairy products, 2 servings

RECOMMENDED

Skim, 1%, 2% milk (max. 16 oz. daily), low-sodium cheeses, low-sodium ricotta, low-sodium cottage cheese, low-fat yogurt, frozen yogurt, vanilla ice cream

EXCLUDED

Buttermilk (1 cup/week), chocolate milk, milkshake, regular cheeses, regular cottage cheese, processed American cheese, cheese sauce, pudding mixes

Meats/meat alternatives,

2-3 servings

RECOMMENDED

Any lean, fresh or frozen beef, lamb, pork, chicken, or turkey; fish and shrimp; canned tuna or salmon (rinsed); eggs and egg substitutes; unsalted nuts and seeds; low-salt peanut butter; beans and legumes; low-sodium soy products

EXCLUDED

Any smoked, cured, salted, canned or koshered meat, fish, or poultry, including bacon, ham, sausage, lunch meats, hot dogs, chipped beef, sardines, or anchovies; pickled meats or fish; pickled eggs; salted nuts or seeds

Snacks

RECOMMENDED

Sherbet; animal crackers; unsalted popcorn, pretzels, potato chips, or tortilla chips; rice cakes

EXCLUDED

Regular potato and tortilla chips, popcorn, or pretzels; pie; pastries; cake; cheese puffs; cheese crackers

Condiments

RECOMMENDED

Salt-free spices, fresh herbs, pepper, regular salad dressings, Italian dressing, mayonnaise, margarine, oil, vinegar, lemon or lime juice, hot pepper sauce, tartar sauce, low-salt soy sauce, ketchup, mustard, sour cream

EXCLUDED

Table salt; seasonings made with salt, such as garlic salt, celery salt, onion salt, seasoned salt, sea salt, rock salt, and kosher salt; Worcestershire sauce; regular soy sauce; meat tenderizers; teriyaki sauce; steak sauce; barbecue sauce; bouillon; MSG; bacon bits

Prepared foods

RECOMMENDED

Frozen dinners (< 500 mg sodium), low-sodium canned soups, homemade soup without added salt

EXCLUDED

Frozen dinners; regular canned soups; fast food; pizza; packaged foods; Ramen noodles; instant soup, sauce, or gravy mixes

EXERCISE

For most people with congestive heart failure, it is better to stay active. Many people with heart failure may feel better with regular exercise. Intense strenuous activity is generally discouraged. Walk leisurely on a flat surface at least once a day, but do not overdo it. Do not walk in very hot or very cold weather. If you feel very tired, short of breath, lightheaded, dizzy, or have chest pain, decrease or stop your activity. You may exercise in a rehabilitation program, or non-supervised programs such as health clubs or recreation centers. You may also choose to exercise at home. Follow your doctor's guidelines about exercise. **DON'T OVERDO IT!**

Exercise includes:

- Walking
- Cycling
- Swimming
- Low-impact aerobic routines

Avoid:

- Isometric exercises (such as lifting weights) that require holding your breath, bearing down, and sudden bursts of energy.
- Exercise for 1½ hours after meals.
- Outdoor exercise when it is too windy, cold, hot or humid.

Your doctor or nurse advise you about the kind and amount of exercise that is right for you. A Cardiac Rehab specialist is also available to help plan and monitor your exercise program. An exercise stress test (treadmill) is required before beginning an exercise program, to see how much you can do safely. The Cardiac Rehab team has a special exercise class for patients with heart failure.

Daily activities

Heart failure can affect your daily activity. Mild heart failure may have little effect on your normal activities. Severe heart failure may restrict activities, or make them more difficult.

Talk to your health care team about:

- Work. Can you still work? Full time or part time?
- Recreation. Can you go hiking, play golf, exercise, and attend sporting events?
- Leisure. Can you travel, work in the garden, or do volunteer work?
- Sex. Can you have sexual intercourse?

Your doctor and nurse rely on what you tell them to help reduce your symptoms and improve your quality of life. Private aspects of your life are kept confidential. Involve your family members in discussions about activities. They need to know how to support and help you. Some activities (such as work or recreation) may become more difficult, while others stay the same.

Fatigue and increase of heart failure symptoms can be minimized by scheduling rest periods each day. Napping may or may not be necessary, but do find the time to rest by sitting and elevating your legs. Avoid activities right after meals or when feeling tired. Listen to your body and rest at the first signs of fatigue.

Even though you may need to make changes in your daily routine, you may discover new daily pleasures and rewards. Work restrictions can lead to enjoyable and interesting leisure activities. Recreation may become a valuable part of daily life. Sexual relations can be enjoyable as you and your partner discover less demanding ways to express and share affection.

Lifestyle and health habits

Living with heart failure means you may need to change your health habits. These lifestyle changes can reduce your symptoms and improve

the quality of your life:

- Lose weight if you are overweight.
- Do not smoke or chew tobacco.
- Eliminate or reduce alcoholic beverage consumption.
- Do not use illegal drugs.
- Reduce stress.
- Closely monitor amount of salt in your diet.
- Weigh yourself daily.

You should also:

- Avoid exercise that exceeds your guidelines.
- Avoid people who have colds.
- Obtain annual influenza and pneumonia vaccinations.

Your responsibilities include:

- Report if your symptoms get worse.
- Report when you are not able to do an activity or exercise as usual.
- Take medications as prescribed and report any new symptoms from your medicine.
- Follow a prescribed diet.
- Reduce stress.
- Please notify your cardiologist if another physician changes your medication.

Support

Your family and friends can be a great source of support and encouragement. As much as possible, include others in all decisions that affect you. These decisions involve your lifestyle and your ability to work and earn a living. Support from family and friends can be especially important as you adjust to lifestyle changes and any emotional difficulties.

Family and friends can help you:

- Keep track of medicines.
- Prepare special meals.
- Exercise.
- Find more information on treating heart failure.
- Join a support group.

Since your family is a part of your health care team, they should also know when to report new symptoms or a change in symptoms.

Other resources for support

In addition to family and friends, professional counseling or local support groups can be a source of help. Support groups offer the chance for you to talk with other heart patients and families during regular meetings. Support groups may also offer educational programs about heart problems.

Ask your doctor or Cardiac Rehab nurse about support groups in your area.



When to call your doctor

BE RESPONSIBLE FOR YOUR HEALTH

Phone # _____

A sudden unexplained weight gain

Report a weight gain of 3 pounds in a day OR more than 5 pounds in 3 days. This may be the first sign that you are starting to retain fluid.

Increased swelling in your ankles or stomach

Please pay attention to ANY swelling, and discuss your symptoms with your medical team. You may notice your shoes, pants, belt, or skirt fitting more tightly.

Increased shortness of breath

You have trouble catching your breath with activities that usually do not cause you shortness of breath, or you notice that you have trouble breathing more often.

Waking up at night with shortness of breath

You often have to sit up to catch your breath, or find it more comfortable to sleep in a recliner.

Using more pillows under your head to sleep

You may find it more comfortable to elevate your head on a few pillows while you sleep. If you need to continue to elevate your head with more and more pillows to breathe easier, this may be an indication that fluid is building up.

Coughing up mucus

If it is white or pink and foamy, yellow or green, or if you have wheezing or rattling in your lungs when you breathe.

Increased fatigue

You continue to get more and more tired with your usual activities.

Palpitations or rapid heart rate

You have a sudden onset of rapid heart rate, racing of your heart, pounding or skipping. Record your pulse every morning and any time you feel palpitations. Record all palpitations.

Chest, jaw, shoulder or arm pain

You develop new chest, jaw, shoulder or arm pain, or your pain is not relieved by nitroglycerin.

Bruising or bleeding

You develop nose bleeds, gum bleeding, red urine, black stools or

blood in stools.

Medicines

Let your doctor know if you change your medicines.

Daily weight record

An unexplained weight gain is a warning sign that your heart failure medicine may not be working as well as it has been. Call your doctor at the first sign of weight gain (fluid retention). This may help to prevent a visit to the emergency room, or a hospital stay.

Weigh yourself every morning after emptying your bladder, before eating or drinking, and in the same type of clothes.

Mark your daily weights on the chart and compare your weights from day to day.

Please call your doctor if you have either of the following:

- A gain of more than 5 pounds in 3 days.
- A gain of 3 pounds overnight.
- Report new or increased shortness of breath, or swelling in your in your ankles, feet, or abdomen.

Daily weight record

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For more information call (970) 221-1000, (800) 459-4241, or visit www.heartcenteroftherockies.com

Expertise in Matters of the Heart