

Heart failure

Definition

Heart failure, also called congestive heart failure, is a condition in which the heart can no longer pump enough blood to the rest of the body.

Alternative Names

CHF; Congestive heart failure; Left-sided heart failure; Right-sided heart failure - Cor pulmonale

Causes

Heart failure is a chronic, long-term condition, although it can sometimes develop suddenly.

The condition may affect only the right side or only the left side of the heart. These are called right-sided heart failure or left-sided heart failure. More often, both sides of the heart are involved.

Heart failure is present when the following changes are present:

- Your heart muscle cannot pump, or eject, the blood out of the heart very well. This is called systolic heart failure.
- Your heart muscles are stiff and do not fill up with blood easily. This is called diastolic heart failure.

Both of these problems mean the heart is no longer able to pump enough oxygen-rich blood out to the rest of your body, especially when you exercise or are active.

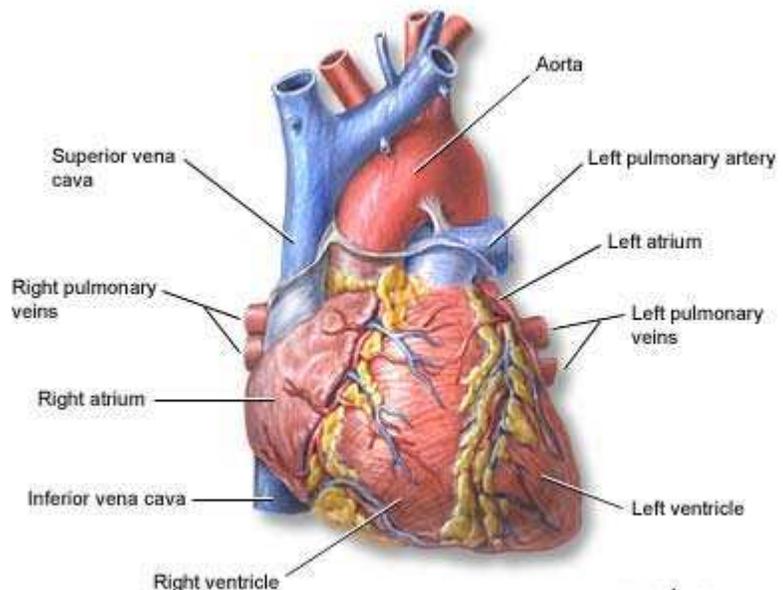
As the heart's pumping action is lost, blood may back up in other areas of the body, causing fluid to build up in the lungs, the liver, the gastrointestinal tract, and the arms and legs. As a result, there is a lack of oxygen and nutrition to organs, which damages them and reduces their ability to work properly.

Perhaps the most common cause of heart failure is coronary artery disease (CAD), a narrowing of the small blood vessels that supply blood and oxygen to the heart. For information on this condition and its risk factors, see: Coronary artery disease.

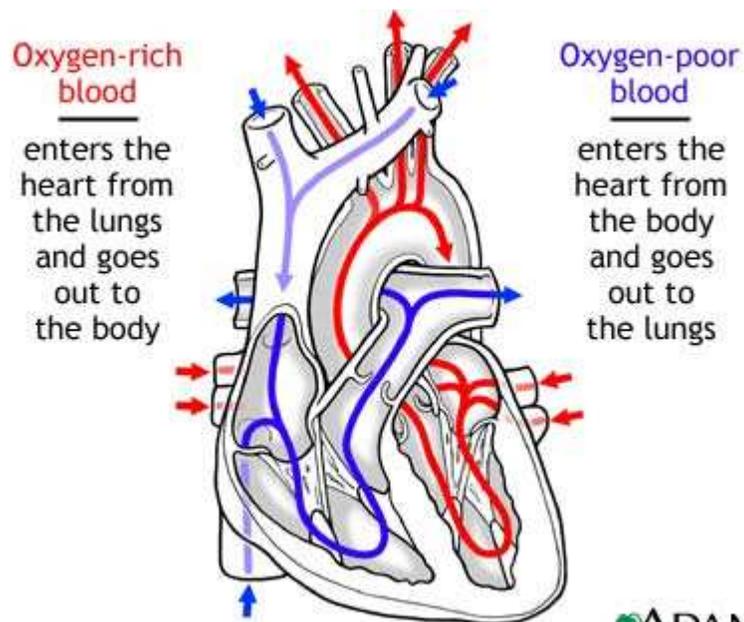
Heart failure can also occur when an infection weakens the heart muscle. Such a disorder is called cardiomyopathy. There are many different types. For more information, see: Cardiomyopathy

Other heart problems that may cause heart failure are:

- Congenital heart disease



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- Heart attack
- Heart valve disease
- Some types of abnormal heart rhythms (arrhythmias)

Diseases such as emphysema, severe anemia, hyperthyroidism, or hypothyroidism may also cause or contribute to heart failure.

Symptoms

Symptoms of heart failure most often begin slowly. At first, they may only occur when you are very active. Over time, breathing problems and other symptoms may be noticed even when you are resting.

However, heart failure symptoms may begin suddenly after a heart attack or other heart problem.

Common symptoms are:

- Shortness of breath with activity, or after lying down for a while
- Cough
- Swelling of feet and ankles
- Swelling of the abdomen
- Weight gain
- Irregular or rapid pulse
- Sensation of feeling the heart beat (palpitations)
- Difficulty sleeping
- Fatigue, weakness, faintness
- Loss of appetite, indigestion

Other symptoms may include:

- Decreased alertness or concentration
- Decreased urine production
- Nausea and vomiting
- Need to urinate at night

Infants may sweat during feeding (or other activity).

Some patients with heart failure have no symptoms. In these people, the symptoms may develop only with these conditions:

- Abnormal heart rhythm (arrhythmias)
- Anemia
- Hyperthyroidism
- Infections with high fever
- Kidney disease

Exams and Tests

A physical examination may reveal the following:

- Fluid around the lungs (pleural effusion)
- Irregular heartbeat
- Leg swelling (edema)
- Neck veins that stick out (are distended)
- Swelling of the liver

Listening to the chest with a stethoscope may reveal lung crackles or abnormal heart sounds.

The following tests may be used to diagnose or monitor heart failure:

- Chest x-ray
- ECG
- Echocardiogram
- Cardiac stress tests
- Heart CT scan
- Heart catheterization
- MRI of the heart
- Nuclear heart scans

This disease may also alter the following test results:

- Blood chemistry
- BUN
- Complete blood count
- Creatinine
- Creatinine clearance
- Liver function tests
- Uric acid -blood test
- Sodium - blood test
- Urinalysis
- Sodium - urine test

Treatment

MONITORING AND SELF CARE

If you have heart failure, your doctor will monitor you closely. You will have follow up appointments at least every 3 to 6 months and tests to check your heart function. For example, an ultrasound of your heart (echocardiogram) will be done once in awhile to see how well your heart pumps blood with each beat.

You will need to carefully monitor yourself and help manage your condition. One important way to do this is to track your weight on a daily basis. Weigh yourself at the same time each day and on the same scale, with little to no clothes on.

Weight gain can be a sign that your body is holding onto extra fluid and your heart failure is worsening. Talk to your doctor about what you should do if your weight goes up or if you develop more symptoms.

Other important measures include:

- Take your medications as directed. Carry a list of medications with you wherever you go.
- Limit salt intake.
- Do not smoke.
- Stay active. For example, walk or ride a stationary bicycle. Your doctor can provide a safe and effective exercise plan for your degree of heart failure. DO NOT exercise on days that your weight has gone up from fluid retention or you are not feeling well.
- Lose weight if you are overweight.
- Get enough rest, including after exercise, eating, or other activities. This allows your heart to rest as well. Keep your feet elevated to decrease swelling.

Here are some tips to lower your salt and sodium intake:

- Look for foods that are labeled "low-sodium," "sodium-free," "no salt added," or "unsalted." Check the total sodium content on food labels. Be especially careful of canned, packaged, and frozen foods. A nutritionist can teach you how to understand these labels.
- Don't cook with salt or add salt to what you are eating. Try pepper, garlic, lemon, or other spices for flavor instead. Be careful of packaged spice blends as these often contain salt or salt products (like monosodium glutamate, MSG).
- Avoid foods that are naturally high in sodium, like anchovies, meats (particularly cured meats, bacon, hot dogs, sausage, bologna, ham, and salami), nuts, olives, pickles, sauerkraut, soy and Worcestershire sauces, tomato and other vegetable juices, and cheese.
- Take care when eating out. Stick to steamed, grilled, baked, boiled, and broiled foods with no added salt, sauce, or cheese.
- Use oil and vinegar, rather than bottled dressings, on salads.
- Eat fresh fruit or sorbet when having dessert.

MEDICATIONS

Your doctor may prescribe the following medications:

- ACE inhibitors such as captopril, enalapril, lisinopril, and ramipril to open up blood vessels and decrease the work load of the heart
- Diuretics including hydrochlorothiazide, chlorthalidone, chlorothiazide, furosemide, torsemide, bumetanide, and spironolactone to help rid your body of fluid and salt (sodium)
- Digitalis glycosides to help the heart muscle to contract properly and help treat some heart rhythm disturbances
- Angiotensin receptor blockers (ARBs) such as losartan and candesartan for those who have side effects with ACE inhibitors
- Beta-blockers such as carvedilol and metoprolol, which may be helpful for some patients

Certain medications may make heart failure worse and should be avoided. These include nonsteroidal anti-inflammatory drugs, thiazolidinediones, metformin, cilostazol, PDE-5 inhibitors (sildenafil, vardenafil), and many drugs that treat abnormal heart rhythms.

SURGERIES AND DEVICES

Heart valve surgery, coronary bypass surgery (CABG), and angioplasty may help some people with heart failure.

The following devices may be recommended for certain patients with heart failure:

- A pacemaker to help treat slow heart rates or other heart signaling problems
- A biventricular pacemaker to help the both sides of your heart contract at the same time; it is also called cardiac resynchronization therapy.
- An implantable cardioverter-defibrillator that recognizes life-threatening, abnormal heart rhythms and sends an electrical pulse to stop them.

Severe heart failure may require the following treatments when other therapies no longer work. They are often used when a person is waiting for a heart transplant:

- Intra-aortic balloon pump (IABP)
- Left ventricular assist device (LVAD)

Note: These devices can be life saving, but they are not permanent solutions. Patients who become dependent on circulatory support will need a heart transplant.

Outlook (Prognosis)

Heart failure is a serious disorder. It is usually a chronic illness, which may get worse with infection or other physical stress.

Many forms of heart failure can be controlled with medication, lifestyle changes, and treatment of any underlying disorder.

Possible Complications

- Irregular heart rhythms (can be deadly)
- Pulmonary edema
- Total heart failure (circulatory collapse)

Possible side effects of medications include:

- Cough
- Digitalis toxicity
- Gastrointestinal upset (such as nausea, heartburn, diarrhea)
- Headache
- Light-headedness and fainting
- Low blood pressure
- Lupus reaction
- Muscle cramps

When to Contact a Medical Professional

Call your health care provider if weakness, increased cough or sputum production, sudden weight gain or swelling, or other new or unexplained symptoms develop.

Go to the emergency room or call the local emergency number (such as 911) if you experience severe crushing chest pain, fainting, or rapid and irregular heartbeat (particularly if other symptoms accompany a rapid and irregular heartbeat).

Prevention

Follow your health care provider's treatment recommendations and take all medications as directed.

Keep your blood pressure, heart rate, and cholesterol under control as recommended by your doctor. This may involve exercise, a special diet, and medications.

Other important treatment measures:

- Do not smoke.
- Do not drink alcohol.
- Reduce salt intake.
- Exercise as recommended by your health care provider.

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