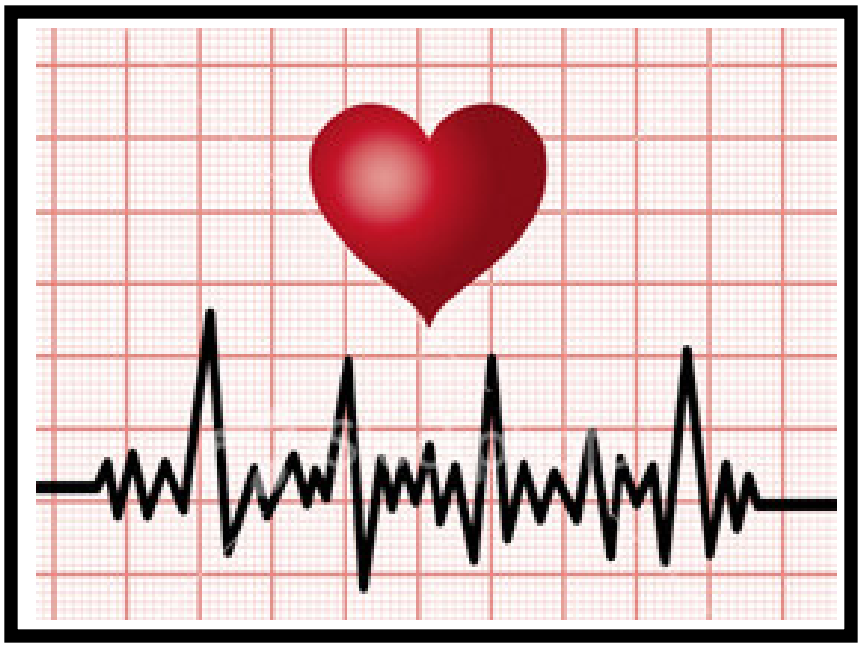
Merrimack Valley Cardiology Associates

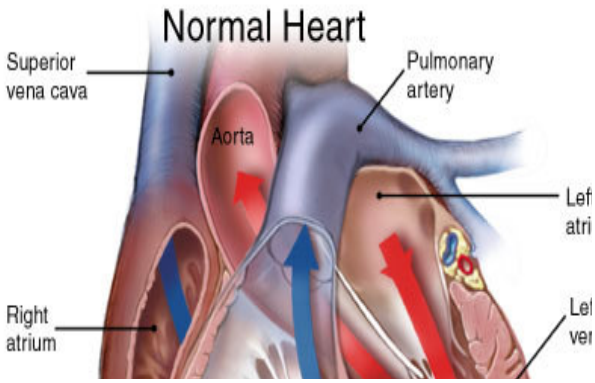


Heart Failure Education

What is heart failure?

Heart failure is a serious medical condition that occurs when your heart is not pumping blood as well as it should. The term "heart failure" does not mean that the heart has stopped working and that there is nothing can be done. Rather, by following your doctor's recommendations and paying active attention to your lifestyle, you can help keep your heart failure from getting worse and with the right treatment, your heart failure may even improve. Remember, you are not alone. Nearly 5 million Americans are living with heart failure.

There are two different types of heart failure. The first type of heart failure is called "systolic heart failure". In systolic heart failure, the heart muscle is weak and does not pump enough blood out to the body with each beat. The other type of heart failure is called "diastolic heart failure". In diastolic heart failure, the heart muscle is stiff, it has lost its ability to relax, and it cannot completely fill with blood. Most people have a combination of both systolic and diastolic heart failure.

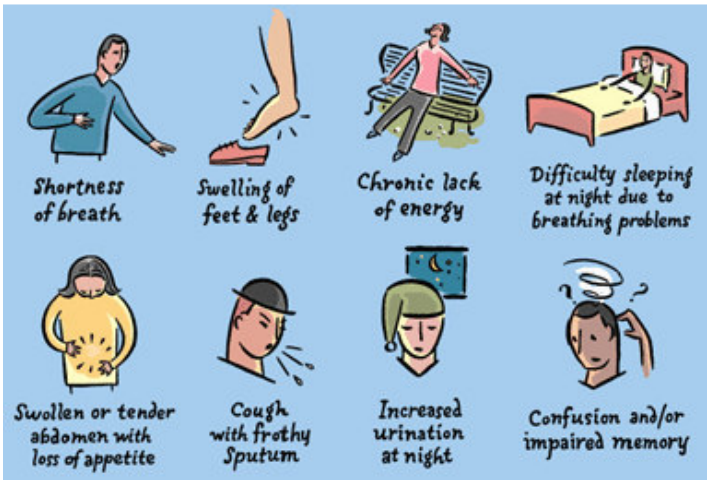


When your heart is not pumping as well as it should, less blood and oxygen is circulated to your muscles, and other organs. Your kidneys are an organ that can be particularly sensitive to lack of blood flow. Your kidney function can be monitored closely with frequent blood tests. In heart failure, blood may also "backup" in your blood vessels. Too much fluid in the body's tissues can result in the development of symptoms such as weight gain, difficulty breathing, and swelling of the legs or abdomen. Know that heart failure is not constant, it fluctuates. For example, if you develop a cold or infection, your heart failure symptoms may be worse while you are sick. The, once your cold has resolved, your symptoms may return back to normal.

What are symptoms of heart failure?

Once you are diagnosed with heart failure, it is important that you learn to identify and monitor heart failure symptoms. Below is a list of common heart failure symptoms. Remember to always report any sudden symptom changes to your physician.

- quick weight gain (more than 3 pounds in one day **or** more than 5 pounds in one week).
- Shortness of breath during physical activity, at rest, or even when lying in bed
- waking from sleep short of breath
- swelling of the feet, ankles, or abdomen
- persistent cough (when you don't even feel like you have a cold)
- getting up in the night several times to urinate
- lack of appetite
- rapid or irregular heartbeats
- tiredness, fatigue
- confusion, impaired thinking

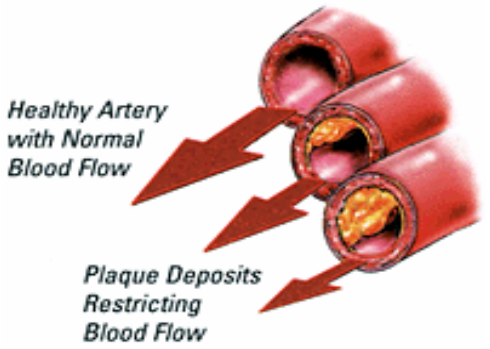


What are the causes of heart failure?

Health conditions that damage the heart, or cause the heart to work unusually hard, can lead to heart failure. If you have heart failure most likely you have, or have had, one of the following:

Coronary Artery Disease

Coronary Artery Disease is the most common cause of heart failure. When cholesterol and fatty deposits build up in the arteries of the heart, less blood gets to the heart muscle. This lack of blood supply to heart can damage the heart muscle and decreases the pumping strength of the heart. If a heart attack occurs, healthy heart tissue may be replaced with scar tissue and decrease the heart's pumping ability even further.



High Blood Pressure

When pressure in the blood vessels is high, the heart needs to pump harder than normal to keep blood circulating. Overtime, this can cause the chambers of the heart to enlarge and the heart muscle to become weak. This can decrease the heart's overall pumping ability and cause heart failure to develop.

Heart Valve Abnormalities

Heart valve abnormalities can result from birth defects, disease, or infection (such as endocarditis). When heart valves do not open or close completely with each heart beat, the heart has to pump harder to keep the blood moving. If the heart has to work too hard, the heart's pumping ability can decrease and heart failure can develop.

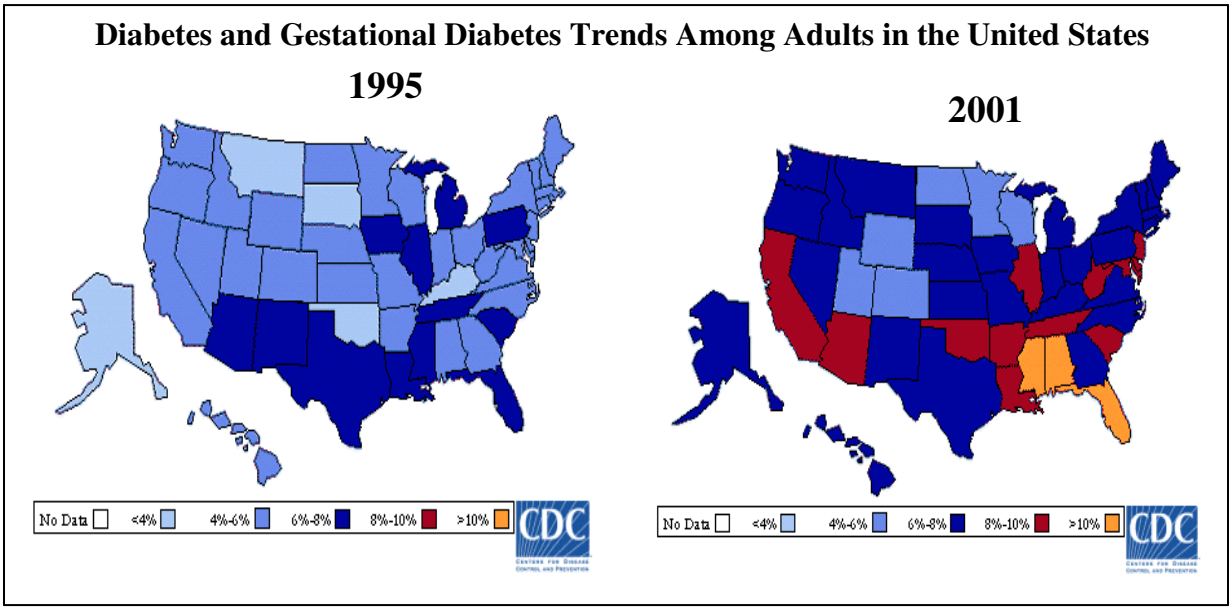
What are the causes of heart failure?

Diabetes
Diabetes puts extra strain on the heart. Also, people with diabetes tend to be overweight, have high cholesterol, and high blood pressure. All of these medical conditions cause the heart to work harder and can lead to heart failure.

Cardiomyopathy
Cardiomyopathy is a weakening or change in the heart muscle. It is most commonly a result of damage to the heart muscle caused by coronary artery disease. However, other causes include genetic abnormalities, viral infections, consumption of toxins, and (recreational drugs, lead, alcohol, etc). Peripartum cardiomyopathy is a cardiomyopathy that occurs in women who have recently given birth and develop heart muscle dysfunction. Sometimes, the cause of cardiomyopathy cannot be identified. This is called "idiopathic cardiomyopathy".

Other Causes of Heart Failure include:

- **thyroid disease**
- **severe lung disease**
- **low blood cell count (severe anemia)**
- **abnormal heart rhythm (atrial fibrillation)**



What can I do to help prevent my heart failure from getting worse?

- ♥ **Take medications correctly**
- ♥ **Follow low sodium (salt) diet**
- ♥ **Exercise**
- ♥ **Quit smoking**
- ♥ **Avoid alcohol**
- ♥ **Always attend doctor's office visits**
- ♥ **Monitor fluid intake**
- ♥ **Record daily weights**

Medication Education

Medications can help control heart failure symptoms. However, everyone with heart failure needs to take medicine, even when they don't have any symptoms.. Some medications have been proven to help heart failure patients stay out of the hospital longer and live longer. Always take your medications correctly. Note, that your medications will likely be started at a very low dose. Then, frequent office visits will be needed to make sure that you, and your heart, are adjusting well to the medicine, and your medication will be slowly increased. Below are some tips that can help make it easier for you take your medication correctly:

- Always bring a written record of your current medications to each office visit. Be sure to list:
    1. Name of medication
    2. How much medication you are taking the medication (milligrams, grams)
    3. How often you are taking the medication (once a day, twice a day)

- Use a pill box to organize your medications.

- Notify your physician of any needed refills early, at least one week before you run out of tablets.

Diuretics

Diuretics are mainly used to help improve heart failure symptoms. Diuretics, also known as "water pills", cause you to urinate more frequently and help your kidneys remove salt and water from your blood stream. As a result, symptoms of fluid overload such as shortness of breath, and swelling of the ankles, legs, and/or belly can improve. By decreasing the water in your body, diuretics can make it easier for your heart to pump. Sometimes, you may receive an intravenous (I.V.) injection of diuretic for fast fluid relief. However, you should know that too much water loss can cause dehydration. Symptoms of dehydration include lightheadedness and weakness. If you develop these symptoms, you should notify your doctor. Diuretics can also also your electrolytes such as potassium. Therefore, when your doctor changes your diuretic dose, you will likely be asked to complete follow up bloodwork to check your kidney function and electrolytes.

Note, Aldactone is different than the other diuretics for two reasons. The first reason is aldactone it is a potassium sparing diuretic. This means that aldactone can cause an increase in your potassium level rather than a decrease in your potassium level like the other diuretics. The second reason is aldactone has been proven in some studies to have produce beneficial effects in some heart failure patients.

What diuretic are you taking?

- Lasix (furosemide)
- ***Aldactone (spironolactone)*** ****proven in studies to be beneficial for some hear t failure patients***
- HCTZ (hydrochlorothiazide)
- Zaroxolyn (metolazone)
- Bumex (bumetanide)
- Demadex (torsemide)

Beta-blockers

Numerous studies have demonstrated a benefit from beta blockers in people with heart failure. Beta blockers relax blood vessels, lower blood pressure, and slow the heart rate. As a result, the amount of blood flow to the heart muscle is increased. Increased blood flow to the heart helps the heart muscle heal, and helps prevent the spread of injury. Also, by slowing the heart rate, the heart is able to rest longer between beats, and this can help the heart become stronger. Overall, beta blockers help protect the heart after injury and may improve heart function.

What beta blocker are you taking?

- ♥ Coreg (carvedilol)
- ♥ Toprol XL , Lopressor (metoprolol)
- ♥ Zebeta / Monocor (bisoprolol)

Digoxin

Digoxin is a very old medicine originally extracted from dried purple foxglove leaves that was discovered in 1785. In heart failure, digoxin is used in some patients to help improve the heart's ablility to pump blood. Some studies suggest that digoxin can improve the quality of life, reduce symptoms, and prevent hospitalizations for people with heart failure. If you are taking digoxin for heart failure, be aware that it may take several months before digoxin starts working. So, don't be surprised if you don't feel better right away. Digoxin is also used in cardiology to help people with an irregular or rapid heartbeat. Digoxin slows the heart rate by decreasing electrical impulses of the heart. Sometimes, digoxin levels can become too high. This is called "digoxin toxicity". Symptoms of digoxin toxicity include decreased appetite, blurred vision, nausea, vomiting, and unusual weakness. If you are experiencing any of these symptoms and you are on digoxin, you should contact your doctor. Digoxin levels can be monitored with blood tests.

ACE inhibitors (Angiotensin Converting Enzyme Inhibitors)

Ace inhibitors prevent your heart muscle from weakening, and they may help protect your kidneys. ACE inhibitors cause your blood vessels to relax, or "vasodilate". This can cause your blood pressure to decrease. When you have a lower blood pressure, your heart does not have to work as hard, and your heart failure can improve. Sometimes, ACE inhibitors affect kidney function and potassium levels. Your physician will monitor for these side effects with blood tests. ACE inhibitors may also cause side effects such as rash, chronic cough, lightheadedness, and swelling of mouth or tongue. If you should experience any of these symptoms while on an ACE inhibitor, contact your physician.

What ACE inhibitor are you taking?

- ♥ Zestril / Prinivil (lisinopril)
- ♥ Vasotec (enalapril)
- ♥ Altace (ramipril)
- ♥ Accupril (quinapril)
- ♥ Capoten (captopril)
- ♥ Lotensin (benzapril)
- ♥ Monopril (fosinopril)
- ♥ Mavik (trandolapril)
- ♥ Aceon (perindopril)

Angiotensin Receptor Blockers (ARBs)

Angiotensin Receptor Blockers are very similar to ACE inhibitors. Your physician may prescribe an angiotensin receptor blocker if you are not able to take an ACE inhibitor, usually due to having a cough.

What Angiotensin Receptor Blocker are you taking?

- Diovan (valsartan)
- Cozaar (losartan)
- Avapro (irbesartan)
- Atacand (candasartan)
- Benicar (olmesartan)
- Micardis (telmisartan)

Medications to Avoid

Some prescription medications, and over-the-counter medications, should be avoided in heart failure patients. The most common class of medications that heart failure patients have problems with are pain medications called **n**on-**s**teroidal **a**nti-**i**nflammatory **m**edications, also known as NSAIDs. These medications can decrease kidney function and cause increased salt and water retention.

Some common NSAIDs are:

- Advil, Motrin, Nuprin (ibuprofren)
- Celebrex (celecoxib)
- Indocin (indomethacin)
- Naproxyn, Aleve (naproxen)
- Mobic (meloxicam)
- Daypro (oxaprozin)

Low Sodium (low salt) diet

Limiting sodium intake is one of the most important things you can do to help prevent your heart failure from getting worse. Sodium is a mineral found in salt, baking soda, baking powder, and other foods that we eat. Once you develop heart failure, your kidneys cannot eliminate salt as well as normal. You will retain salt easily and when your body retains salt, it also retains fluid. Fluid overload can strain your heart and cause you to develop heart failure symptoms such as weight gain, abdominal swelling, and foot/ankle swelling. As a heart failure patient, you need to eliminate as much sodium from your diet as possible. Specifically, **your goal should be less that 2000mg of sodium daily.** (Keep in mind that average American consumes approximately 6000mg daily). Here are some helpful hints to help decrease your daily sodium intake:

- Stop using table salt, simply take it off the table (one teaspoon of salt has 2000mg of sodium!)
- Do not cook with salt
- Learn how to read food labels**:** The milligrams of sodium is listed on all food labels. Remember that the milligrams of sodium listed on the label is "per serving". Therefore, if one serving is equal to one pretzel, and you eat three pretzels, you need to multiply the milligrams of sodium by three to calculate your total sodium intake. Usually, if the food has less than or equal to 140mg of sodium per serving, it is okay.
- Become familiar with the following terms that may be found on food packages:
  - "sodium free" = 5mg or less per serving
  - "very low sodium" = 25mg or less per serving
  - "low sodium"= 140mg or less per serving
  - "reduced sodium" = 25% or less than the original product
- Be aware of common foods that are high or low in sodium

HIGH SODIUM FOODS

canned vegetables	packaged soup (can or box)	salted snack foods (chips,pretzels, crackers)
deli meat	olives	spaghetti
shell fish	sausage	chinese food
pickles	ham	fast food(McDonalds)
hot dogs	bacon	cheese
gravy	cooking sherry	restaurant food
soy sauce	meat tenderizer	bouillon cubes
steak sauce	seasoned salts	chili sauce
salted nuts	peanut butter	salted butter or margarine
prepared baking mixes	frozen dinners	

LOW SODIUM FOODS

fruit	Poultry	meat
tea	Fish	coffee
milk	vegetables	low sodium products

Exercise

Even though you were diagnosed with heart failure, you can still exercise. Exercise is good for people with heart failure. Your heart is a muscle, and just like the other muscles in your body, it needs to exercise to stay healthy. Exercise will improve your overall fitness and prevent your muscles from wasting from lack of use. Most people that exercise daily, find that they are less tired, have less stress, and have a higher energy level. Even a small amount of exercise can help improve the way you feel and can help you maintain a more positive attitude. Exercise can also help improve your cholesterol, lower your blood pressure, and help you obtain better weight control. However, before you start exercising, talk to your doctor about what exercise plan is best for you. Always remember to start slowly! Begin exercising about 5-10 minutes daily and then increase the amount of time you exercise each day. Your goal should be to exercise for 30 minutes daily. While exercising you should be able to talk comfortably without becoming short of breath. This is called the "Talk Test". When you are finished exercising, you should feel like you can still do more, and if you feel wiped out, then you have pushed too hard. Aerobic exercises such as walking, biking, or swimming are the best types of exercise. These exercises require continuous motion of your large muscle groups. But, most importantly select an exercise that you enjoy!

Exercise Guidelines

- If you experience chest discomfort, heart palpitations, dizziness, or excessive fatigue, shortness of breath or sweating…..STOP EXERCISING AND REST!
- Remember to warm up muscles. Stretch for 5-10 minutes before exercising.
- Maintain a slower pace during the first 5 minutes of your exercise activity.
- Be cautious about exercising in hot, humid, or cold weather
- If you become too tired with a certain level of exercise, decrease the speed or length of time at which you are exercising
- Remember it is best to skip your daily exercise if you are not feeling well.
- Wait one hour after eating meals or drinking beverages with caffeine before exercising.
- Listen to your body. If your joints or muscles hurt, rest. Give your body time to recover before exercising again. Of course, if you cause injury to yourself, call your physician!
- Find a safe place to exercise like in a neighborhood with a sidewalk, a local gym, or nearby mall. Did you know most Malls in New England have walking programs? Ask for more information at your mall's customer service desk.