Heart Failure Handbook

Developed by the Louis Stokes Cleveland VAMC

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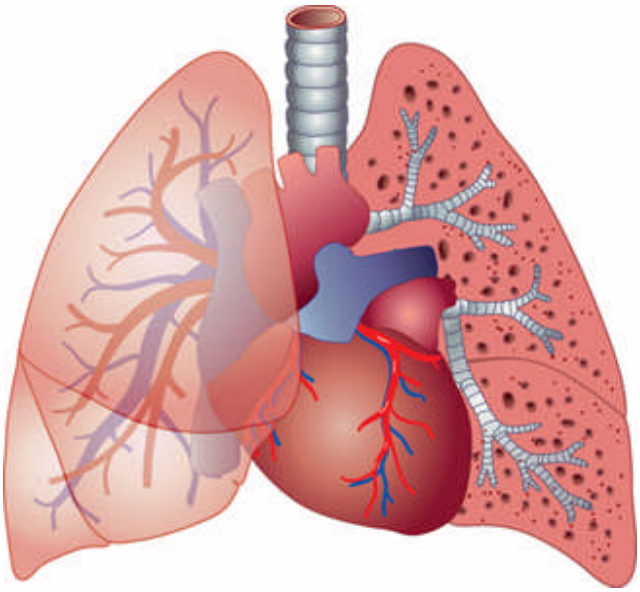
What is Heart Failure?
Chapter 1

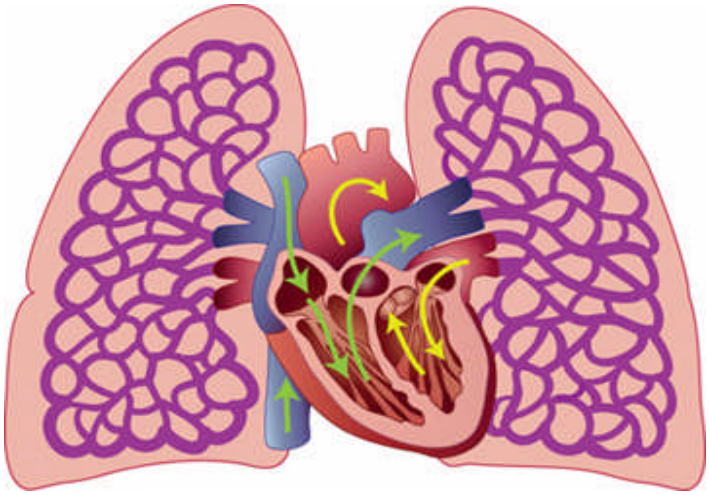
The Heart

The heart is a muscle about the size of your fist. It is located under and to the left of the flat bone in your chest (sternum). It has four chambers. The right side of the heart receives blood from the body. The muscle contracts and pumps blood to the lungs. In the lungs, blood picks up oxygen and gives off carbon dioxide. The blood then returns to the left side of the heart. It contracts and pumps the blood with oxygen and nutrients to the body.

Heart – Lung Connection



Cut-away View



Green Arrows- Represent blood flow from the body to the lungs

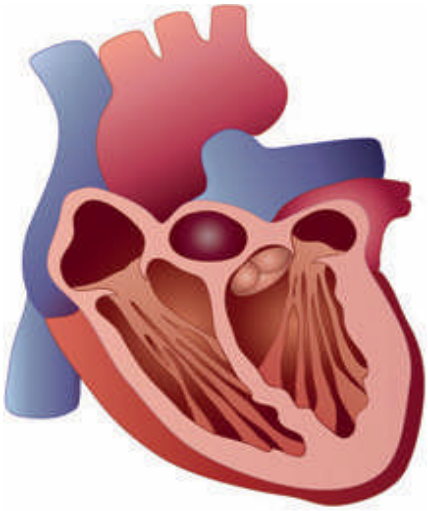
Yellow Arrows – Represent blood flow from the lungs through the heart to the body

Schematic View of Blood Flow

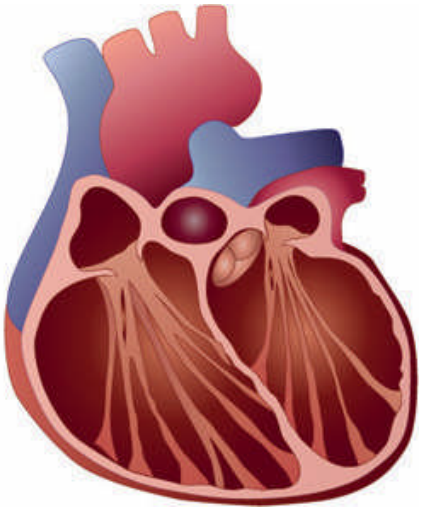
Definition Of Heart Failure

Heart failure occurs when the heart muscle becomes weak. It cannot contract normally. This affects the ability of the heart to pump the blood to the body. Thus the body does not get the blood it needs.

Normal Heart



Heart Failure

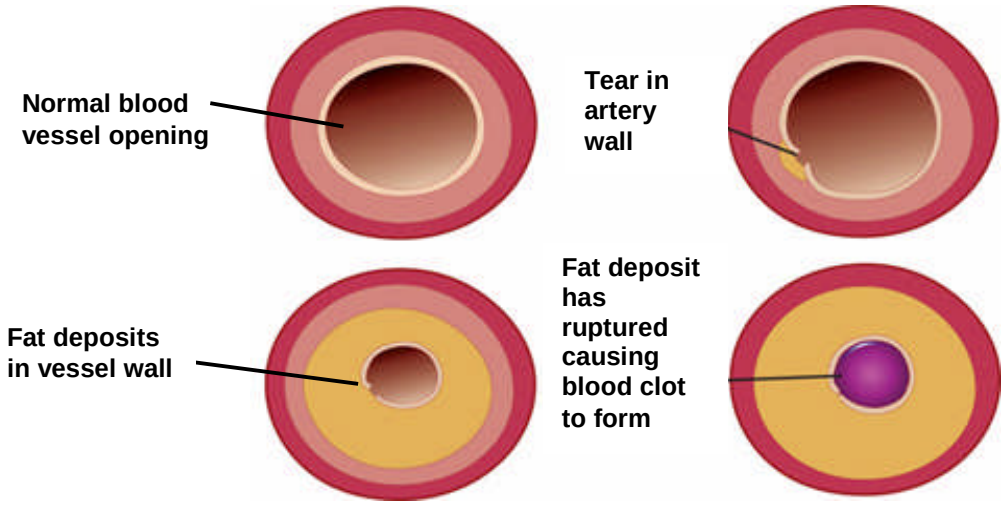


Causes of Heart Failure:

- Coronary Artery Disease
- Heart Attacks
- High Blood Pressure
- Abnormal Heart Valves
- Heart Muscle Disease
- Heart Defects
- Severe Lung Disease
- Diabetes
- Anemia
- Overactive (hyper) or Under active (hypo) Thyroid Gland
- Infection
- Abnormal Heart Rhythm

Causes of Heart Failure

1. **Coronary Artery Disease** – Fatty deposits or cholesterol build up in the heart's arteries decreasing the flow of blood. As a result of these deposits, less blood reaches some areas of the heart muscle, which can lead to damage. The healthy heart tissue must work harder and in time can fail.



2. **Heart Attacks - (MI or "myocardial infarctions")** – A heart attack occurs when an artery that supplies blood to the heart muscle gets blocked. This causes the heart tissue to become scarred. As a result, the heart does not contract as well.

Know Your Risk of a Heart Attack	
• **Age** - **Men age 45 or older** - **Women age 55 or older**	• **Smoking** • **Hypertension**
• **Family history of coronary artery disease**	• **Diabetes**
• **Obesity**	• **Elevated LDL (bad) cholesterol**
• **Physical inactivity**	• **Low HDL (good) cholesterol**

3. **High blood pressure ("hypertension")** – Blood pressure is the force needed to pump blood to the body. Hypertension is when the blood pressure is over 130/80 most of the time. The heart has to work harder. High blood pressure increases a person's risk of developing heart failure.

4. **Abnormal heart valves** – Some individuals are born with valves that are not formed properly. They can also be damaged by an infection such as rheumatic fever. As a result the valves do not open or close completely. The heart muscle has to pump harder to keep the blood moving forward. When the workload becomes too great, heart failure results.

5. **Heart muscle disease ("cardiomyopathy" or "myocarditis"*)*** – Certain diseases or conditions can damage the heart muscle. Examples of these are infection, alcohol abuse, pregnancy, and sarcoidosis. In some cases it may be inherited. Toxic effects of drugs such as cocaine and chemotherapy can also be the cause.

6. **Heart defects ("congenital heart disease") –** Sometimes the heart does not form correctly before birth. The heart cannot function properly.

7. **Severe lung disease -** If the lungs are not working well, the heart has to work harder. Over time this will lead to heart failure.

8. **Diabetes** - High blood sugars damage all body parts including the heart.

9. **Anemia ("low red blood cell count")** – Red blood cells carry oxygen to the body tissues. When there are fewer red blood cells the heart has to work harder. Over time, the heart can fail.

10. **Overactive (hyper) or under active (hypo) thyroid gland –** An overactive thyroid gland causes the entire body to be in a very active state. This puts a strain on the heart. An under active thyroid gland can also cause heart failure, although not directly. If a person with controlled heart failure becomes hypothyroid, the heart failure may no longer be controlled.

11. **Infection –** Any infection can damage the heart or cause a person with an already damaged heart to go into heart failure.

12. **Abnormal heart rhythm ("arrhythmia" or "dysrhythmia")** – An irregular, fast, or slow heartbeat can cause heart failure. These rhythms may not allow the heart to pump enough blood to the body. The rhythms may be corrected with drugs, a pacemaker, a defibrillator or an electrical shock to the heart.

Left Ventricular Remodeling

The heart has four chambers. The two upper chambers are called atria and the two lower chambers are called ventricles. The left ventricle is the chamber of the heart that pumps the blood out into the body. A normal heart is “pear shaped”. When a person has heart failure, the heart changes from a pear shape to an apple shape, which results in a decrease in function. Heart failure drugs can stop this process and sometimes even reverse it.

In remodeling: The heart changes

from a pear shape

to an apple shape

Classification of Heart Failure by Symptoms

Health providers classify your heart failure by symptoms.

Class I - A person has no symptoms or **NO LIMITATION** of activities.

Class II - A person has **MILD LIMITATION** of activities. (S)He may become short of breath when climbing stairs or walking at a fast pace for a long distance.

Class III - A person has **MARKED LIMITATION** of activities, but is comfortable at rest. (S)He becomes short of breath with routine activities such as getting dressed, bathing, or carrying light bags of groceries.

Class IV - A person is **UNCOMFORTABLE** at rest and is confined to a bed or chair. Any physical activity brings on discomfort and symptoms.

Pulmonary Hypertension

This is a condition where the pressure in the blood vessels of the lungs is high. The right ventricle pumps the blood to the lungs. It has to work harder in pulmonary hypertension. This can result in right-sided heart failure.

Sleep Apnea

This is a condition where a person temporarily stops breathing or breathes very shallow while they are asleep. These pauses can occur dozens or even hundreds of time during the night. Therefore a person does not get a good nights rest. (S)He feels exhausted even when getting up in the morning. As a result, (s)he may nap frequently during the day. Some individuals may even fall asleep while eating or watching TV. Sleep apnea can make heart failure worse. It can cause pulmonary hypertension, which can lead to failure of the right side of the heart. This in turn, makes the symptoms of heart failure more difficult to control.

Diagnosis of Heart Failure

Your provider will obtain a history and perform a physical exam**.** (S)He may order one or more of the following tests:

ECG (Electrocardiogram) This is done to assess your heart rhythm, and heart rate. It can detect if you are having or have had a heart attack. It also can determine if your heart's electrical system is unhealthy.

Echocardiogram This is an ultrasound. It is a moving picture of the heart. It can determine heart muscle and valve function. It can also show the size of the chambers in your heart and the blood flow across the valves. It is the Gold Standard for assessing and diagnosing heart failure.

MUGA Scan **A**n echocardiogram cannot be done on individuals who have larger chests. A MUGA scan can then be ordered. This test provides a "movie-like" image of the beating heart.

The echocardiogram and MUGA scan are used to determine the Ejection Fraction of the heart. This is the amount of blood the heart pumps out with each heartbeat. A normal **ejection fraction** is 55-65%.

Normal	**55-65%**
Mildly reduced	**45-55%**
Moderately reduced	**35-45%**
Severely reduced	**less then 35%**

Stress Testing: This test is done to "stress the heart" by increasing the heart rate. This makes the heart work harder. The heart rate is increased by walking on a treadmill or being given medication. Electrical activity is recorded. Changes in this activity can indicate if there is damage to the heart. It can also show if there is a decrease in blood flow to the heart muscle.

Cardiac Catheterization: If something abnormal is found on the stress test, a cardiac catheterization may be ordered. It may also be done if a blockage of the blood vessels to your heart is suspected. Chest pain may be a sign that this is occurring.

What to expect during a cardiac catheterization:

- A catheter is inserted into an artery in your groin, which is advanced into your heart.
- Dye is injected.
- Pictures are taken of the arteries surrounding the heart.

The test can show if you have a defective heart valve or a congenital heart defect. It can also show the presence of coronary artery disease.

Treatment depends on the severity of the blockage(s). If the blockage is not severe, the narrowed artery may be opened with a balloon. A stent (a tube) can then be inserted to keep the blood vessel open. This is called percutaneous coronary intervention (PCI). This was previously known as angioplasty with stent. In severe cases, Coronary Artery Bypass Surgery (CABG) may be necessary.

Treatment of your coronary artery disease may also include:

- Achieving normal blood pressure
- Reducing bad cholesterol (LDL and triglycerides)
- Following a low fat, low cholesterol diet
- Exercise
- In some cases, cardiac rehabilitation

Chest X-ray This is a picture of your heart and lungs. It can detect congestion (fluid) in your lungs. It can also show if the heart is enlarged.

Blood Tests that may be ordered include:

Kidney function tests include serum creatinine and blood urea nitrogen (BUN). These values can be affected by heart failure, medications or dehydration.

Thyroid function tests show the presence of an under or over-active thyroid gland.

Complete Blood Count detect the presence of an anemia.

Lipid profile tests determine "good"(HDL), "bad"(LDL), and triglyceride cholesterol levels. This test requires fasting for 12 hours before it is drawn.

Liver function tests are sometimes affected by heart failure or medications.

Urinalysis detects infections, drug toxicities or kidney problems.

PT (INR) measures the time it takes for the blood to clot. Patients on Coumadin® (Warfarin) must have this test done regularly.

Treatment of Heart Failure

Treatment consists of:

- Diet
- Exercise
- Medication
- Symptom management
- Weight management
- Risk factor reduction

Heart Failure Treatment Goals:

- Improve your heart function or prevent it from getting worse
- Control the symptoms of heart failure
- Improve your quality of life

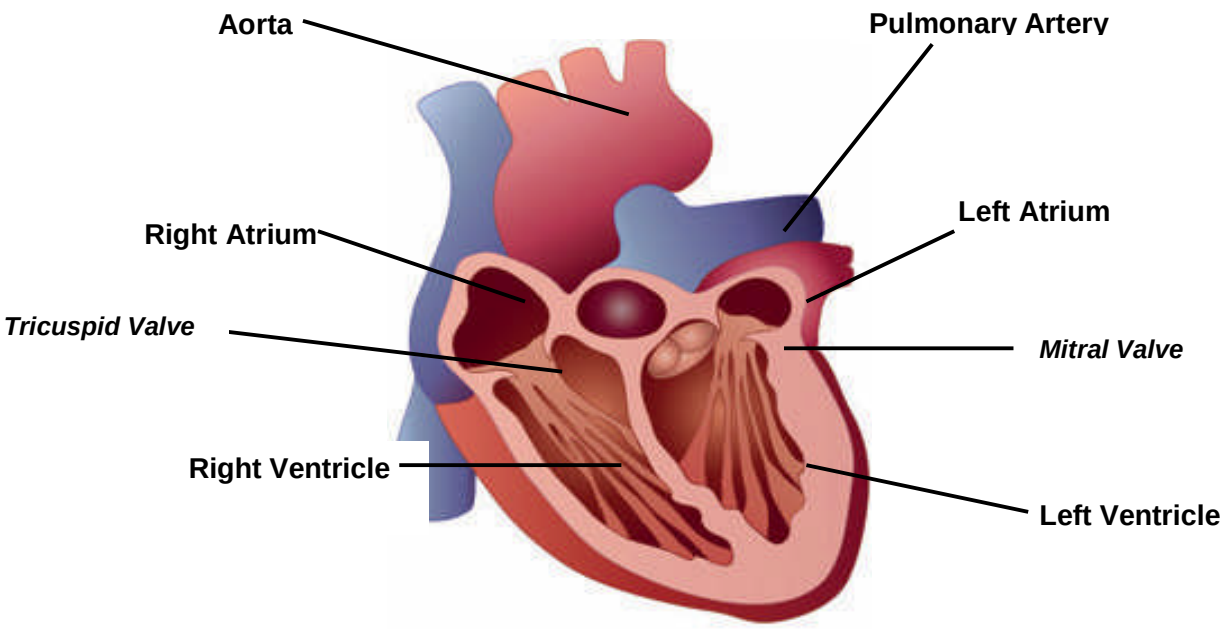
This will be done by increasing certain medications to **Target *Doses,*** teaching you how to manage your heart failure symptoms, and setting goals for your treatment.

Your role:

You will need to be a partner with your health care providers. We ask you to do the following:

- **Weigh yourself every day**
- **Record your daily weight on a calendar or in a log book**
- **Report a weight gain of more than 3-5 pounds over 3-5 days to your healthcare provider**
- **Follow a low sodium diet**
- **Follow an exercise plan that has been approved by your healthcare provider**
- **Take your medications as prescribed and report any side effects**
- **Monitor your symptoms and report any changes**
- **Keep all medical appointments and call if you need to reschedule**
- **Stop smoking**
- **Eat well-balanced meals with fruit and vegetables**
- **Avoid a high fat diet**
- **Get plenty of sleep**
- **Limit your alcohol intake or avoid alcohol**
- **Do not use illegal drugs**

What are the Symptoms of Heart Failure?
Chapter 2



Anatomy of the Heart

The **LEFT VENTRICLE** is the chamber in the heart that pumps blood to the body. People with heart failure have a weakened left ventricle.

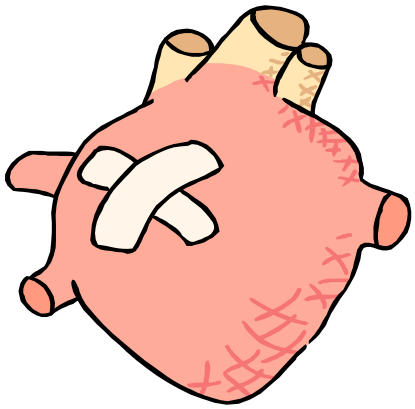
Do you know what your EJECTION FRACTION is?

This is the amount of blood that is pumped out of the heart by the left ventricle with each heartbeat. A normal ejection fraction is 55-65%.

Normal	**55-65%**
Mildly reduced	**45-55%**
Moderately reduced	**35-45%**
Severely reduced	**less then 35%**

Symptoms of Heart Failure

- Weight gain
- Shortness of breath
- Ongoing fatigue
- Chest pain
- Symptoms of fluid overload
- Palpitations
- Dizziness
- Decreased alertness
- Difficulty sleeping



Weight Gain:

This is the most important and most direct way to keep track of your heart failure. **You must weigh yourself every day for the rest of your life and record it on a log, calendar or piece of paper.** Bring this information with you to your appointments.

Why is this so important?

People with heart failure can gain water weight very rapidly. This is the earliest sign of heart failure. You may not notice other symptoms until you have retained 12-20 pounds of fluid. A water gain of this amount may result in the need for you to be admitted to the hospital. This can be avoided by weighing yourself every day. **If you gain more than 3-5 pounds over 3-5 days, you need to call your healthcare provider. (S)He can work with you to lose the weight and prevent you from being admitted to the hospital.**

Shortness of breath:

Many patients with heart failure have shortness of breath. It can occur at any time including with activity, at rest, and at night. This can vary from day-to-day. Some people have to sit upright to breath better or to sleep. Your treatment will be based on the cause and the degree of your shortness of breath. You need to report to your healthcare provider any changes in your symptoms.

Fatigue:

Feeling fatigued or tired all the time may be a sign that your heart failure is becoming worse. It may also be a symptom of another health problem such as anemia, sleep apnea, or a thyroid condition.

You will have good days and bad days. On good days, you need to increase your activity like walking a little further. On bad days, you may need to walk less, take more breaks, or decrease your activity. Listen to your body. It is okay to feel a little short of breath with activity. If you start to feel like you cannot catch your breath, you need to stop and rest. If you are feeling well and suddenly you feel tired all of the time, you need to report this to your healthcare provider.

Chest Pain:

Chest pain can occur in patients who have been diagnosed with coronary artery disease (blockages in the vessels surrounding the heart). Chest pain may also occur when symptoms of heart failure have worsened. This symptom may occur with activity, after eating, or even at rest. It might be a feeling of chest heaviness, a “squeezing” of the heart, or chest tightness. It may be relieved with nitroglycerin or with rest. Other health conditions such as gastroesophageal reflux disease, lung disease, and anxiety can also cause chest pain. You need to report any chest pain to your healthcare provider. Further testing may be needed to determine the cause of the pain.

Fluid Overload:

Symptoms that indicate you are retaining fluid are:

- Leg/feet/ankle or scrotal swelling
- Abdominal fullness/bloating/abdominal pain
- Loss of appetite or indigestion
- Nausea and/or vomiting
- Shortness of breath with activity, when lying down, or when you are at rest
- Cough
- Lung congestion
- Decreased urine production
- Inability to lie flat/need to sleep on 3-4 pillows or upright in a chair

Palpitations:

This is a thumping feeling in your chest. You may become short of breath or feel lightheaded or dizzy. You may even feel faint. You need to report this symptom to your healthcare provider.

Dizziness:

This can be a sign of heart failure, dehydration, or low blood pressure. Your water pill (diuretic) dose or other medication may need to be adjusted. A blood test may need to be done to determine the cause. A little dizziness on occasion when you stand up too fast is common. It only becomes worrisome if it is occurring frequently or becomes more intense.

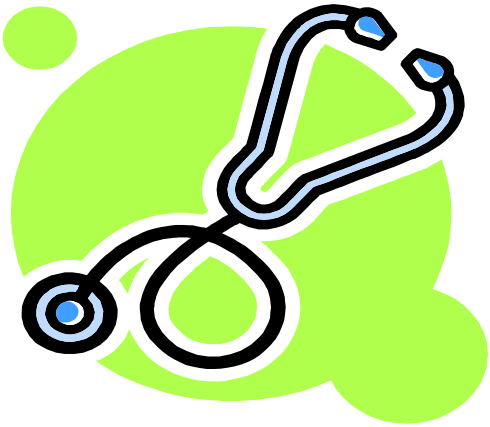
Decreased Alertness:

You may become more forgetful or have difficulty concentrating. You may find that you are having a hard time processing or comprehending things. This may be a sign of decreased blood flow to your brain. It may be the result of heart failure, dehydration or low blood pressure. You need to report these symptoms to your healthcare provider.

Problems Sleeping:

You may experience difficulty sleeping or shortness of breath that disrupts your sleep. In addition, you may stop breathing in your sleep, feel as if you have not rested well, or experience fatigue throughout the day. Please report these symptoms to you healthcare provider. You may need additional testing including a sleep study to determine the cause of these symptoms.

Your Exam



Your healthcare provider will perform the following exam:

Listen to your lungs:

This is done to check for congestion and fluid in the lungs.

Listen to your heart:

This can detect irregular heart rhythms, heart murmurs and high pressures in your heart and lungs. It can indicate if the heart is enlarged.

Look at your neck veins:

Your neck veins are the “dipstick” to your body. It can show if you have too much fluid in your body.

Take your vital signs and weight:

This is done to determine if your blood pressure and heart rate are controlled and your weight is stable.

Palpate (feel) your abdomen:

This shows us if your liver is enlarged, if you have fluid in your belly, or if you are bloated.

Check your legs:

This is done to check for swelling of your legs. This tells us whether you are retaining fluid.

Treatment of Heart Failure

Recommendations:

- Weigh yourself every day
- Record your daily weight on a calendar or in a log book
- Report a weight gain of more than 3-5 pounds over 3-5 days to your healthcare provider
- Follow a low sodium diet
- Follow an exercise plan that has been approved by your healthcare provider
- Take your medications as prescribed and report any side effects
- Monitor your symptoms and report any changes
- Keep all medical appointments and call if you need to reschedule
- Stop smoking
- Eat well-balanced meals with fruit and vegetables
- Avoid a high fat diet
- Get plenty of sleep
- Limit your alcohol intake or avoid alcohol
- Do not use illegal drugs

Treatment of Heart Failure:

Treatment of heart failure consists of improving symptoms, improving the function of your heart, medication management, and risk reduction.

Monitoring Your Weight
Chapter 3

You Should Weigh Yourself Every Day and Record It On a Log/Calendar/or Piece of Paper

Why should you weigh yourself every day?

People with heart failure retain (keep) water. They can gain " water weight" very rapidly. Gaining weight is the earliest sign of heart failure. If you do not weigh yourself every day, you might gain 3-5 pounds in one to two days and not know it. You may not notice any other symptoms until you have gained 12 to 20 pounds of water. This amount of retained fluid can make it necessary to admit you to the hospital. To avoid this, weigh yourself daily. If you gain more than 3-5 pounds in 3-5 days, call your provider and report this.

Weigh yourself:

- **Each morning**
- **In similar clothing or without clothes**
- **After urinating**
- **Before eating**
- **On the same scale**
- **Record your weight in a diary or on a calendar**

What is a person's "DRY WEIGHT"?

This may not be the recommended weight for your height. Rather, it is your weight when you are not retaining extra fluid (water). It may take time to find your dry weight and this is only accomplished when you are not experiencing heart failure symptoms. Keep in mind your dry weight may change if you gain or lose real body weight (fat/muscle).

Once you are at your dry weight, the goal is to maintain it.

How Do I Keep My Dry Weight?

Once you have achieved your dry weight, you will probably not need to take as much of your "water pill" (diuretic). You may be able to stop taking it altogether. Your provider will tell you how to adjust your medication.

Taking Your Diuretic Properly

Medications prescribed to Reduce Water Weight (Diuretic)?

- Furosemide (Lasix®)
- Bumetanide (Bumex®)
- Toresemide (Demadex®)
- Spironolactone (Aldactone®)
- Hydrochlorothiazide (HCTZ)

Taking too much diuretic can lead to kidney problems. Symptoms that you may experience if you are dehydrated or taking too much diuretic (water pill) include:

- **Low blood pressure**
- **Dizziness or lightheadedness (especially when changing postion)**
- **Dry mouth**
- **Dry skin**
- **Excessive thirst**

You should call your provider right away to report these symptoms. Your water pill dose may need to be decreased.

How to take the water pill properly

The water pill should be used as a ***Rescue Drug.*** This means that the water pill is used to help manage heart failure symptoms. This is not a medication that is used to treat/prevent heart failure. If used improperly it can be harmful to your kidneys.

If you have achieved a stable "dry weight" your provider may recommend that you take the water pill only as needed.

Taking your water pill "AS NEEDED"

If your weight increases 3 to 5 pounds in 3-5 days, you become more short of breath, and you experience more swelling, you may need to take an extra dose or doses of your water pill until you return to your "dry weight".

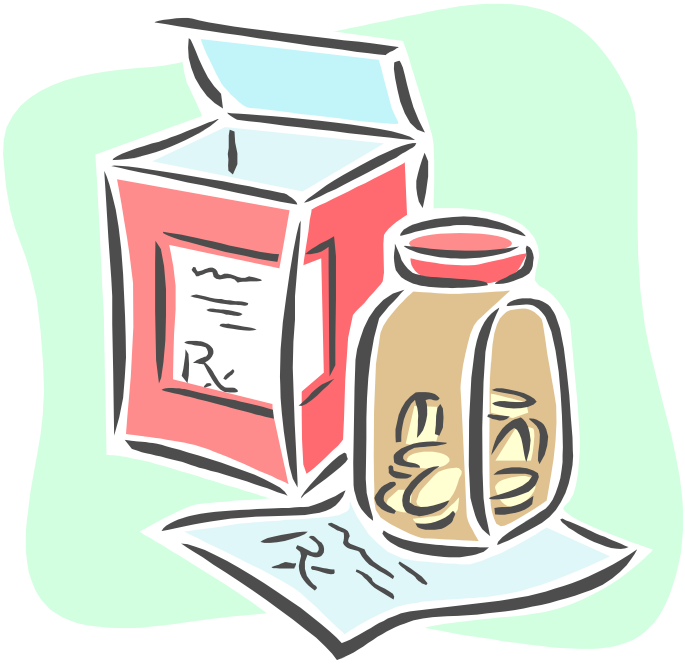
A Goal of heart failure management is to decrease your need for a daily dose of the water pill. Your body will eventually stop retaining as much water. Therefore you will need less of the "water pill" to maintain your weight.

DO NOT TAKE EXTRA WATER PILLS UNLESS YOU HAVE SPOKEN TO YOUR HEART FAILURE PROVIDER. THIS CAN CAUSE MORE HARM IF IT IS NOT DONE PROPERLY.

What Should I Bring to my Doctor's Appointment?

- An accurate list of your medications or your actual medication bottles
- Log of your daily weights
- Log of your blood pressure and pulse
- Records if you've seen an outside doctor or been to an outside emergency room
- Tests or lab results done outside the VA
- A list of questions or concerns

Please be sure to take ALL of your medications before your medical appointment so that we can determine how well your medication is working. (You MAY opt to hold your water pill until after your medical appointment).



How Do I "Watch My Salt/Sodium Intake?" Chapter 4

Definition

Sodium is an element that occurs as a compound. Examples include salt (sodium chloride) or baking soda (sodium bicarbonate). The most common compound is salt. Sodium also occurs in many minerals. It is found in most of the foods we eat. It is added to many foods as a cheap preservative.

What Does Sodium Do To Me?

Eating too much sodium causes the body to retain (hold) water. This can increase your blood pressure and weight. It can also lead to worsening heart failure. This can cause symptoms such as shortness of breath and swelling of the legs and abdomen.

Following a low sodium diet will help stabilize your heart failure, blood pressure and weight.

How Much Sodium/Salt Can I Have Per Day?

Individuals with heart disease are generally instructed to consume less than 2,400 milligram (mg) of sodium per day

1 teaspoon of salt = 2, 300 mg of sodium

Sources of Salt in Your Diet

Reading Food Labels is Simple

Step 1: Know how many servings you are going to eat. Remember the nutrition label gives information on a "per serving" basis.

Step 2: Look on the Nutrition Facts food label for the SODIUM information. This is given in milligrams (mg). Remember you are allowed **2,400 mg for the day**.

Step 3. Compare different brands at the grocery store. Pick the one with the least amount of sodium per serving.

Example of a Food Label

Nutrition Facts

Serving Size

1 cracker, rectangle (6g/0.2oz)

Amount per Serving

Calories 26 kcal

		% Daily Value
Total Fat	0.71 g	2%
Saturated Fat	0.176 g	1%
Polyunsaturated Fat	0.385 g	
Monounsaturated Fat	0.101 g	
Cholesterol	0 mg	0%
Sodium	**78 mg**	**4%**
Total Carbohydrates	4.29 g	2%
Dietary Fiber	0.2 g	1%
Sugars		
Protein	0.55 g	%

Recommended Daily Allowances

	Calories	2000	2500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Guidelines To Reduce Sodium In Your Diet

- Remove the salt shaker from your table
- Learn to read food labels
- Avoid foods that taste salty
- Cook from “scratch”, avoid processed foods
- Choose fresh, frozen, or canned vegetables without added sodium
- Choose fresh or frozen fish, shellfish, poultry, and meat
- Snack on fresh fruits and vegetables which are low in salt
- Avoid processed, cured or pickled foods
- Read the Nutrition Facts (Food Label) to determine the amount of sodium in a food. Compare brands. The amount of sodium can vary widely from brand to brand.
- Avoid foods containing MSG (used in Chinese foods), baking soda and other sodium-containing compounds
- Choose foods labeled “low –sodium”, “reduced sodium” or “sodium free”
- Take note of the sodium content of your favorite condiments, especially meat tenderizer, steak sauce, soy sauce, salsa, worschestershire sauce, and catsup
- Use different spices and herbs to season your food. Citrus juices work great
- Avoid salt substitutes that contain potassium unless approved by your provider
- Try seasoning mixes such as Mrs. Dash or Mr. Pepper
- Avoid colas/sodas that contain sodium
- Avoid chips, soups, frozen dinners, ham and pickles

Special Considerations

- Avoid the common medications that contain sodium such as antacids, laxatives and cough remedies. Read labels or ask your pharmacist prior to taking over-the-counter medications
- Avoid fast food restaurants
- Check your water softener. Some contain sodium. Avoid drinking home or commercially softened water unless you know it does not contain sodium

Choosing Foods

Food Item	Those that are good	Those to avoid
Breads	English muffins, white, wheat, pumpernickel or other unsalted breads	Sweet rolls, breads or rolls with cracker or bread crumb coatings, corn bread, packaged biscuits
Cereals	Regular cooked cereals such as oats, cream of wheat, rice or farina, puffed rice, shredded wheat	Instant hot cereals; Any regular boxed cereals
Crackers/snack foods	All unsalted crackers, peanuts, snack foods; peanut butter	Salted crackers and snack items; party spreads and dips
Pasta, rice, potatoes	All types of plain pastas, potatoes and rice	Macaroni and cheese mix; seasoned spaghetti mixes; canned spaghetti; seasoned potato mixes; boxed/packaged pasta, rice or potatoes
Dried beans and peas	Pinto beans, white northern beans, black-eyed peas, lima beans, lentils, split peas	All canned beans; beans with added bacon grease
Meats and alternatives	Fresh or frozen meat, poultry, and fish; low sodium canned tuna and salmon; eggs	Salted, smoked, canned, spiced, cured fish, bacon, ham, sausage, tuna, salmon; cold cuts; breaded frozen meats, fish, and poultry; pies and kosher meats
Fruits and vegetables	Fresh frozen, low-sodium canned vegetables or vegetable juices; low-sodium tomato paste and sauce; fresh, canned or frozen fruit juices	Regular canned vegetables, vegetable juice, tomato juice or paste; olives, sauerkraut or vegetables packed in broth; vegetables in butter or sauces; maraschino cherries, dried fruits and vegetables

Heart Shared Medical Appointment
Chapter 5

I Have Heart Failure…
What Activities or Exercise Can I Do?

The American Heart Association released a new recommendation about exercise in patients with heart failure. They stated that exercise is safe and beneficial for people with cardiac conditions. This came after extensive review of the medical literature on exercise and heart failure.

The majority of evidence shows that **regular exercise in patients with heart failure improves:**

- **Functional capacity**
- **Quality of life**
- **Muscle function**
- **Blood flow**

Recommended Exercise: 20-30 minutes 3 to 5 times a week
It is suggested that you obtain approval from your healthcare provider before beginning an exercise program.

These exercise recommendations reflect a gradual change in thinking by doctors. Ten or 20 years ago, most doctors felt patients with heart failure should have constant rest. Some ordered complete bed rest. Studies have proven that patients who were inactive were more likely to experience a decrease in ability to function and had a higher likelihood of an early death. New studies have shown that exercise is just as important for individuals with heart failure as it is for people in general.

What is your Functional Capacity?

This is your ability to perform activities to a maximum potential. Exercise improves functional capacity and your ability to tolerate activity. This can make you less short of breath and improve your quality of life.

What Kind of Exercises Can I Do?

- Walk on a level/flat surface (AVOID hills/stairs which require more exertion)
- March in place and moves your arms while holding a soup can in each hand
- Walk in a pool if you have arthritis or joint pain
- Use a stationary bike at a very low level/speed
- Lift light weights (dumbbells) AFTER you have improved you ability to exercise.

How Much Can I Do?

- Start slowly and gradually increases your exercise (you may need to start with a few minutes twice a day).
- Gradually increase the time until you reach a goal of 20-30 minutes 3-5 times per week.
- Listen to your body! If you become very short of breath stop and rest.
- Report chest pain, pressure or tightness with activity to your healthcare provider. Stop exercising if you experience these symptoms.

Some individuals may qualify for cardiac rehab programs. However, you should know that this is not always covered by Medicare or private insurance.

Perceived Exertion Scale:

This is how exercise feels to you. You need to rate your activities according to the chart below. If your activities are falling into the 13 and below range, you can continue to do them. If your activities are above 13, you should not perform these activities until you build up your stamina.

The Scale is 6-20:

6 - 8 = Very, very, light exertion
9 - 10 = Very light exertion
11 - 12 = Fairly light exertion
13 - 14 = Somewhat hard exertion
15 - 16 = Hard exertion
17 - 18 = Very hard exertion
19- 20 = Very, very hard exertion

How Do I Monitor My Breathing?

This scale allows you to monitor your breathing during exercise or activity. The scale is 1 to 5:

1-2 = Mildly short of breath
3-4 = Moderately short of breath
5 = Very short of breath

If you are rating yourself as 3 or higher, you need to slow down or stop exercising. When you feel recovered and more comfortable, then you may resume.

How Do I Start an Exercise Program?

You **always need to warm-up** for at least 5 to 10 minutes before you start exercising. This allows your heart to slowly increase to an aerobic level. Examples of warm-ups include walking for a few minutes at a slow pace, using a stationary bicycle, or stretching.

You **always need to cool down** after exercise. This allows your heart to return slowly to a resting rate. You can do this by gradually slowing the pace of your walking for a few minutes until you are breathing at a normal rate. Stretching at the end of your exercise program is recommended to help you avoid injury.

Always listen to your body!!! If you are short of breath and cannot catch your breath, you are doing too much. You should be able to talk when you are exercising. If you are gasping for air, STOP, catch your breath, and then resume exercising at a slower pace. After several weeks you will be able to go faster and further. Be patient and stick with it. The benefits are worth it.

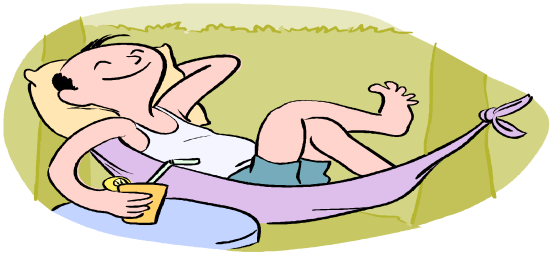
Exercise Tips:

- Do NOT exercise after you have eaten. Wait at least 1 hour.
- Avoid extreme heat (over 80 degrees F) or extreme cold (under 32 degrees F).
    - In summer it is best to exercise early in the morning or late in the evening.
    - In winter it is best to exercise in an indoor track or at a mall.
- Avoid weight lifting, competitive sports, or contact sports unless approved by your healthcare provider.

- Keep an exercise logbook. Record date, type of exercise, rate of your breathing, and rate of perceived exertion using the scales provided above. Take this to your appointments to discuss with your healthcare provider.
- Exercise at the same time of the day. Make it part of a daily routine.
- Drink a cup of water before and after exercise. When your level of exercise increases you may need to drink more water.
- You should expect to breathe a little faster/harder during exercise/walking. If you are unable to talk comfortably, you are over doing it and should stop for a minute and then resume at a slower speed.
- If you are not breathing a little harder then normal, you should be able to pick up the pace or go further.
- Change your activity or the place you exercise. For example, bike at the park then walk around the track. Alternate activities so you do not become bored.
- If you become ill, expect to start back at a lower pace and gradually build up again.
- Do not take a hot shower immediately after exercise. You must cool down first.
- Do not do activities that cause chest pain, dizziness, light-headedness or gasping for breath.
- Allow for rest periods during the day.

The Importance of Rest

People with heart failure need to rest during the day. Rest is important and essential to maintaining your stamina. Allow time each day to rest. Take a nap, rest with your feet up, or just stop what you are doing for at least 15-30 minutes a few times a day. This will give you and your heart a break. Often times, people say they exercised one day and were exhausted the next. You may need to alternate rest and activities throughout the day.



Sexual Relations and Heart Failure

Can I Have Sexual Relations with Heart Failure?

The answer is YES but you may need to get your heart failure symptoms under control first.

Many patients experience erectile dysfunction or impotence. There are many types of erectile dysfunction and the problems vary from person to person. These problems can be due to the medications you are taking or decreased blood flow to the genital areas as a result of poor heart function. Please discuss this with your healthcare provider. There are options available to help you.

Can I Take Viagra® (Sildenafil) or Levitra® (Vardenafil)?

These medications are safe for most heart failure patients.

YOU CANNOT TAKE THESE MEDICATIONS IF ARE TAKING:

- Nitroglycerin Tablets under your tongue or Nitroglycerin spray
- Nitroglycerin patch
- Isorsorbide dinitrate
- Isosorbide mononitrate

TAKING VIAGRA® or LEVITRA® WITH THE ABOVE MEDICATIONS CAN BE LIFE-THREATENING.

It may take several attempts before success is achieved even with Viagra® or Levitra®. Fifty percent of sexual dysfunction is mental and fifty percent is physical. It is okay if the treatment does not work initially. Do not be embarrassed to discuss this with your healthcare provider because it is very common and nothing to be embarrassed about.

Tips To Follow During Sexual Relations:

- Avoid having sex right after you have eaten a heavy meal.
- Choose a time when you are rested. The morning seems to work well.
- Assume a more passive role initially such as the bottom position. This requires less work on your part and will prevent you from getting tired. Lying side by side may also work.

- If you become tired or start to feel uncomfortable during sex, stop and take a break.
- Cuddling, hugging, kissing require very little energy.
- Find a peaceful setting with minimal distractions.

Other Options For Sexual Dysfunction:

Talk with your healthcare provider about other options for your sexual dysfunction. There may be medical issues besides your heart failure and/or medications causing your sexual dysfunction that a urologist can uncover.

Smoking Cessation

Smoking Can:

- Cause erectile dysfunction
- Clog arteries
- Deprive you body of oxygen
- Increase your blood pressure
- Increase you heart rate
- Cause your heart to work harder
- Damage your lungs
- Cause cancer

Nicotine constricts blood vessels. It also makes the blood thicker and clumpier. This can cause already narrowed blood vessel(s) in the heart to become blocked. A blockage in the blood vessels of the heart can result in a heart attack.

How Do I Quit?

Wanting to quit is the first step in achieving this goal. At the VA we have smoking cessation programs to help you. Methods that are helpful include, the nicotine patch, medication, and/or counseling. Ask your provider if you would like to quit. They will assist you with this.

Tips To Help You Quit Smoking:

- Chew gum or suck on sugar-free candy
- Become more active
- Change your daily routine
- Distract yourself with other things
- Avoid people who are smoking
- Cut down or quit consuming caffeine and alcohol
- Keep reminding yourself that quitting will make you feel better
- Do not give up if you have a set back
- Let your family and friends know you are quitting and ask for their support

Health Management:

- Stay active (if you do not use it …you lose it)
- Keep your friends and family up-to-date on your health status
- Exercise
- Eat healthier
- Get plenty of rest
- Drink water instead of caffeine drinks and soft drinks (not too much)
- Get a flu vaccine every fall
- Get a pneumonia vaccine
- Avoid sick individuals
- Keep you legs elevated when sitting
- Listen to you body. On days you feel well do more and on days you feel sick do less.

Heart Shared Medical Appointment
Chapter 6

"What Medications Am I On /Why Am I On Them?"

Goals of Medication Therapy:

- Improve quality of life
- Reduce symptoms
- Reduce hospitalizations
- Slow disease progression
- Prolong survival

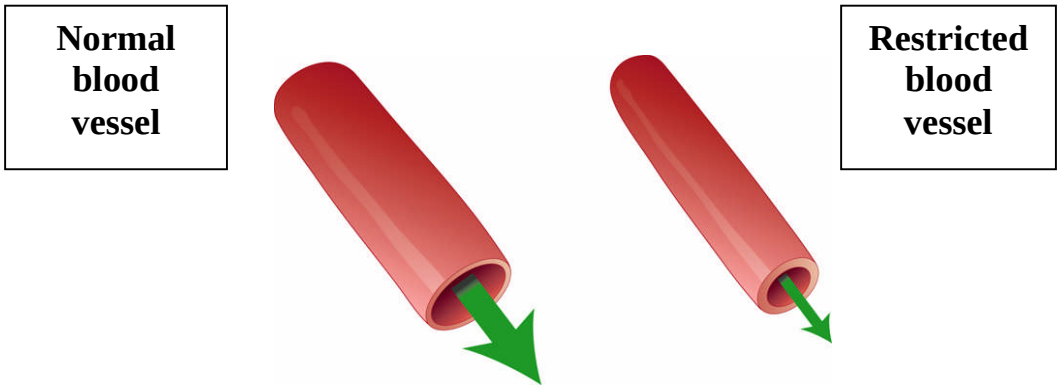
Categories of Medications and Their Purpose

Angiotensin-Converting Enzyme Inhibitors (ACE-Inhibitors)

Examples: lisinopril (Prinivil®), fosinopril (Monopril®), enalapril (Vasotec®), ramipril (Altace®)

How your body works:

Your body makes a chemical called angiotensin. It causes your blood vessels to constrict (become smaller). These constricted vessels make the heart work harder to pump blood to the body. Angiotensin also causes the kidneys to retain sodium and fluid leading to edema (swelling in abdomen and legs)



How the drug works:

ACE-Inhibitors help decrease the amount of angiotensin made, which allows the blood vessels to relax and allows more blood to flow through the vessels. As a result, blood pressure is lowered and the workload on the heart is decreased. Studies have shown that ACE-Inhibitors are one of the most beneficial medications for individuals with heart failure because they help you live longer and feel better.

Side Effects:

- Low blood pressure - If you have high blood pressure, these medications will help lower your blood pressure (a good thing). Some people may become lightheaded, or dizzy especially when standing up quickly. Notify your healthcare provider if this occurs.

- High Potassium – This is a substance in your body that is necessary for it to function. If the level in your blood gets too high, it can make you feel weak. Blood tests are used to monitor the potassium level.

- Cough – Some patients experience a persistent dry cough when taking an ACE-Inhibitor. However, it is important to recognize that a cough may be a symptom of heart failure rather than the medication. Notify your healthcare provider if you experience this symptom.

Angiotension Receptor Blockers (ARBs)

Examples: candesartan (Atacand®), valsartan (Diovan®), losartan(Cozaar®)

How your body works:

Angiotensin II Receptor Blockers can be added to or used instead of ACE-Inhibitors. These medications have a similar effect as the ACE-Inhibitor in your body by blocking angiotensin, which lowers blood pressure and reduces the workload on the heart.

How the drug works:

Like ACE-Inhibitors, ARBs block angiotensin activity. ARB's may be used in place of ACE-Inhibitors in people who have experienced side effects such as cough when taking an ACE-Inhibitor. ARB's may also be

recommended in addition to an ACE-Inhibitor to help control symptoms of heart failure.

Side Effects:

- Low blood pressure - If you have high blood pressure, these medications will help lower your blood pressure (a good thing). Some people may become lightheaded, or dizzy especially when standing up quickly. Notify your healthcare provider if this occurs.

- High Potassium – This is a substance in your body that is necessary for it to function. If the level in your blood gets too high, it can make you feel weak. Blood tests are used to monitor the potassium level.

Beta-Blockers (BB's)

Examples: metropolol (Toprol XL®), carvedilol (Coreg®)

How your body works:

In heart failure, the heart muscle is weakened and does not pump well. To provide the body with blood and nutrients, the blood pressure rises and causes the heart rate to increase. Over time this is harmful to the heart and causes it to enlarge (remodel).

How the drug works:

Studies have shown that Beta-Blockers are very important for people with heart failure. They prolong life and can improve heart function by preventing further enlargement (remodeling) of the heart. Beta-Blockers decrease blood pressure and pulse which decreases the workload on the heart. Studies have shown that BB's may improve heart function and increase ejection fraction. They may also help restore the heart's normal shape (from an apple shape back to the normal pear shape). These medication also help prevent life-threatening heart rhythms that may occur when people have heart failure.

Side Effects:

- Fatigue - Most people will feel fatigued for a little while when starting a Beta Blocker or when the dose of your medication is increased. Notify your healthcare provider if this is severe enough to interfere with your daily activities. Otherwise expect to feel fatigue for 2-6 weeks after starting this medication or after the dose has been increased. DO NOT STOP THIS MEDICATION ON YOUR OWN.

- Lightheadedness or Dizziness - You may become lightheaded, or dizzy especially if you stand up quickly. Notify your healthcare provider if this occurs.

- Weight Gain – Weight gain is usually a temporary side effect of this medication but you should discuss weight changes with your healthcare provider. Your healthcare provider may make other recommendations when adjusting your BB dose.

Effective heart failure care includes achieving target doses of ACE-Inhibitors, ARB's and Beta-Blockers. Target doses increase survival and decrease hospitalizations related to heart failure.

Diuretics

Examples – furosemide (Lasix®), hydrochorothiazide, spironolactone (Aldactone®), torsemide (Demadex®), bumetadine (Bumex®), metolazone (Zaroxyln®).

How your body works:

In heart failure, the body retains water that leads to rapid weight gain, which may cause swelling of the abdomen, legs, and feet. It may also cause you to feel short of breath.

How the drug works:

Diuretics (water pills) act on the kidneys to rid the body of extra water and sodium.

Side Effects:

- Low Potassium – If the potassium level in your blood gets too low it can make you feel weak. Blood tests need to be drawn to watch the potassium level. Most patients do not experience low potassium levels when they are on ACE-Inhibitors, ARB's, and/or spironolactone since these medications help increase potassium levels.

- Dehydration – If you experience lightheadedness, dizziness when standing, dry mouth, loss of appetite, weakness, or fatigue, you may be dehydrated. You need to report these symptoms to your healthcare provider.

Lanoxin:

Examples: lanoxin (Digoxin® or Digitek®)

What your body does:

When people have heart failure, the heart muscle is weakened. Irregular heart rhythms may also occur.

How the drug works:

Digoxin is used to help the heart beat stronger. It may also assist in controlling irregular heart rhythms.

Side Effects:

- Changes in vision
- Nausea/vomiting
- Decreased appetite
- Changes in heart rhythm

Vasodilators:

Examples: Hydralazine (Apresoline®), Isosorbide dinitrate (Isordil®), Isosorbide mononitrate (Imdur®), nitroglycerin tablets *(tablet placed under the tongue to relieve chest pain),* nitroglycerin patch

How your body works:

When you have heart failure, your blood vessels tend to tighten (narrow) which places more strain on the heart and may cause you to experience chest pain.

How the drug works:

Vasodilators allow the blood vessels to relax, which allows the blood to flow more easily to the body and heart muscle itself.

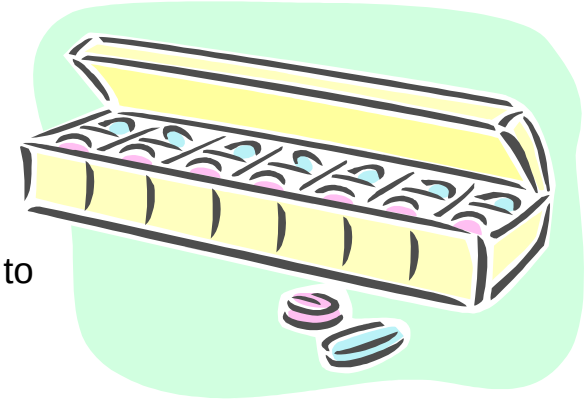
Side Effects:

- Low Blood Pressure/Flushing - Vasodilators cause low blood pressure and/or flushing.

- Headache - Nitroglycerin may cause a headache. This is usually a temporary side effect and can be treated with over the counter Tylenol for a short period of time.

Tips for Taking Your Medications:

- Use a pill box to organize your medications
- Know the name, dosage, and purpose of each of your medications
- Carry an updated list of your medications with you at all times
- Use an alarm or watch to remind you to take medications on time
- When traveling, be sure to place medication in your carry on luggage
- Store medication in a cool, dry place



Drugs to Avoid:

You may need to avoid over–the–counter drugs

- Cold medications that contain decongestants such as pseudophedrine (Sudafed®). This medication can elevate your blood pressure and heart rate.

- Pain medications called NSAIDS (non-steroidal anti-inflammatory drugs). This is ibuprofen (Motrin®, Advil®) and naproxen sodium (Aleve®). These may increase your blood pressure and cause you to retain water (fluid).

Foods to Avoid:

You may need to avoid certain foods. Your provider will discuss this with you.

- Foods high in potassium – Orange juice, potatoes, beans, peanuts, bananas, cantaloupe *(You may be asked to increase or decrease your intake depending upon your potassium level).*

- Grapefruit and grapefruit juice. These can increase the level of some of the medication you may be taking such as: carvedilol (Coreg®), amlodipine (Norvasc®), felodipine (Plendil®), nifedipine (Adalat®), diltiazem (Tiazac®, Cardizem®), verapmil (Calan®, Verelan®, Covera-HS®), simvastatin (Zocor®), lovastatin (Mevacor®), atorvastatin (Lipitor®) and amiodarone (Cordarone®)

Heart Failure Shared Medical Appointment
Chapter 7

Planning For My Future

People with chronic illnesses often worry about what will happen to them if their disease becomes disabling. One way people deal with fears and worries about the future is by planning for it. While the plans you make may never need to be put into effect, there is comfort in knowing that you are prepared if the events do come to pass.

What Are Advanced Directives?

"Advance directive" is a general term that refers to a person's verbal and written instructions about future medical care, in the event that the person becomes unable to speak for him or herself. Each state regulates the use of advance directives differently. There are several types of advance directives available in Ohio: the **Living Will, Health Care Power of Attorney, Ohio's Do-Not-Resuscitate law,** and **Organ and Tissue Donation.**

Why Do I need An Advance Directive?

Advance directives give you a voice in decisions about your medical care when you are unconscious or too ill to communicate. As long as you are able to express your own decisions, your advance directives will not be used and you can accept or refuse any medical treatment. But if you become seriously ill, you may lose the ability to participate in decisions about your own treatment.

What Laws Govern The Use of Advance Directives?

Both federal and state laws govern the use of advance directives. The federal law, the Patient Self-Determination Act, requires health care facilities that receive Medicaid and Medicare funds to inform patients of their rights to execute advance directives. All 50 states and the District of Columbia have laws recognizing the use of advance directives. The booklet, "Questions and Answers: Advance Directives and End-of-Life Decisions," available from Choice In Dying, offers more information about advance directives.

How Do I Obtain an Advance Directive?

You may get an Advance Directive form (VA Form 10-01-0137) from your social worker, chaplain, or healthcare provider. You do not have to engage and attorney to complete this form and assistance in completing the form will be provided at **no cost** to you.

Living Wills

Ohio's Living Will is a type of advance directive in which a person puts in writing his or her wishes about life-sustaining treatments if he or she became permanently unconscious or terminally ill and unable to communicate. The person must be declared permanently unconscious or terminally ill and unable to communicate by 2 physicians before the Living Will becomes effective.

Health Care Power of Attorney

Health Care Power of Attorney is a type of advance directive that allows a person to appoint someone to make medical decisions for the person in the event that he or she is unable to do so. The DPOA-HC differs from the Living Will because the attorney-in-fact appointed through a DPOA-HC is authorized to make medical decisions in any situation where the person is unable to communicate. It is not limited to events when you are permanently unconscious or terminally ill and unable to communicate.

Who May Be Appointed as My Decision Maker

Anyone that you select may be your designator. It is not required that the person you select be a family member. A friend who is available and willing available to speak with the Medical Staff about your wishes should you be unable to do so may be an excellent choice. The person you identify should be aware that you have designated him/her as your health care power of attorney. It will be important to discuss your wishes with the individual you select and to be certain that he/she understands what treatments you want or do not want. Once you have identified this individual, be sure to include information on the paperwork about how to contact that person (e.g. you may want to include a work or cell phone number).

Ohio's Do-Not-Resuscitate Law

Ohio's Do-Not-Resuscitate law is an advance directive that allows a person the option of not being resuscitated in the event of a cardiac or respiratory arrest. By enrolling in this program, a person has a choice to die without heroic measures, and health care providers are provided with legal means to respect those wishes. It is necessary to be enrolled in this program by a medical practitioner and have acceptable forms of DNR identification.

Organ and Tissue Donation

Organ and Tissue Donation is an advance directive choice for anyone who wishes to donate organs and/or tissues after death. By making this decision known with family ahead of time, the person's wishes may be carried out immediately and relieves loved ones of the burden of making this decision.

Important Definitions

- ***Advance Directive***: A written document that indicates what medical treatment you do and do not want, if you become unable to make your wishes about treatment known.
- ***Artificial Nutrition and Hydration***: A procedure in which a tube is inserted into a vein, through your nose into your stomach, or into the intestine directly to provide you with synthetic food (nutrients and water).
- ***Comfort Care:*** Care that is provided to help keep you comfortable but does not cure your disease. Examples of comfort car include positioning you in bed, providing pain medication, keeping your lips and mouth moist.
- ***Cardiopulmonary Resuscitation(CPR):*** Treatment to try to restart a person's breathing and heartbeat. CPR may be done by breathing into your mouth, pushing on your chest, placing a tube into your mouth or nose, administering medication, using the paddles to give an electric shock to your chest, or by other medical means.
- ***Durable Power of Attorney for Health Care:*** A document that appoints a specific individual to make health care decision for you if you become unable to make those decisions yourself.
- ***Life Sustaining Treatment:*** Any medical treatment that is used to dealy the moment of death. Life sustaining treatment may include a ventilator (machine to breathe for you), cardiopulmonary resuscitation (CPR), and artificial nutrition and hydration.
- ***Living Will:*** a type of advance directive in which a person puts in writing his or her wishes about life-sustaining treatments if he or she became permanently unconscious or terminally ill and unable to communicate. The person must be declared permanently unconscious or terminally ill and unable to communicate by 2 physicians before the Living Will becomes effective.
- ***Permanent Vegetative State:*** The point at which a person becomes unconscious with no hope of regaining consciousness even with medical treatment. The body may move and the eyes may be open but the individual is unable to think or communicate.
- ***Surrogate Decision Maker:*** This is an individual, organization, or other body authorized to make health care decisions for you if you are unable to do so for yourself.

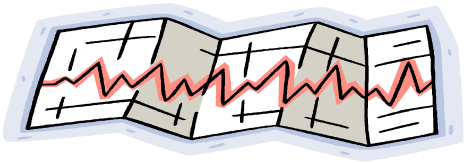
What is DNR/Comfort Care?

Do Not Resuscitate is a medical order that specifies the treatment that emergency medical services and healthcare providers do and do not perform. When an individual is DNR/Comfort Care healthcare providers:

WILL

- Suction your airway
- Administer oxygen
- Place you in a comfortable position
- Splint or immobilize as needed
- Control any bleeding
- Provide pain medication
- Provide emotional support
- Contact other appropriate healthcare providers such as hospice, home health care, attending physicians, certified nurse specialists (CNS), or certified nurse practitioners (CNP)

WILL NOT



- Administer chest compressions
- Insert an artificial airway (breathing tube)
- Administer resuscitation medication
- Defibrillate or cardiovert (use paddles to administer an electric shock to your chest)
- Provide respiratory assistance (other than what is listed above)
- Initiate cardiac monitoring

When an individual chooses to become DO NOT RESUSCITATE (DNR). a hospital bracelet will be worn to alert medical personnel of your DNR status.

Heart Shared Medical Appointment
Chapter 8

When Medicine is not enough…

There are times when medication is not enough to control heart failure symptoms. At that point, your provider will discuss other options with you. Some of these options include:

- Inotropic Therapy
- Heart Transplantation
- Left Ventricular Assist Device Therapy
- Bi-Ventricular pacing
- Hospice care

Inotropic Therapy

Inotropic therapy may be recommended along with other medications to treat your heart failure. Inotropic therapy includes medications such as Milrinone and Dobutamine that are given through continuous IV infusion. These medications help your heart beat stronger and are given in the hospital so that your provider can evaluate how you respond to the medication.

Generally, inotropic therapy is used for only short period of time during a hospitalization for worsening heart failure symptoms. However, occasionally these medications are prescribed as long-term therapy. When long-term therapy is needed, your provider will determine the dose that is right for you and then make arrangements for you to go home with the medication. This can be coordinated with Home Health Care Services.

Heart Transplantation

Heart transplantation may be an option for patients who continue to experience severe symptoms of heart failure despite optimization of all other medical treatments. To determine whether you qualify for transplant, you will be asked to complete an evaluation that includes a physical

examination, exercise stress testing, breathing tests, echocardiogram, laboratory workup, and psychosocial evaluation. A referral for heart transplant must be made by your Primary Care Physician or Primary Cardiology Provider.

Contraindications to Heart Transplantation

- Active smoking
- Active alcohol abuse
- Active use of other illicit substances
- Other end organ damage (i.e. kidney failure, liver failure, severe pulmonary disease)
- Cancer or active metastatic disease
- Obesity
- Lack of social support system
- Noncompliance with diet, medications and/or appointments
- Active infection
- Severe complicated Diabetes Mellitus
- Irreversible Pulmonary Hypertension

If your healthcare provider feels that you need to be evaluated for heart transplantation, they will discuss this with you. If you agree to be evaluated, a consult will be placed to the Heart Transplant Team so that the evaluation can begin.

Heart Transplant Evaluation includes:

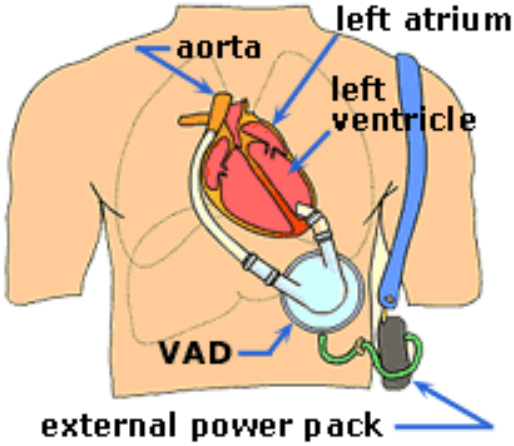
- Echocardiogram
- Heart Catheterization
- Exercise Stress Testing
- Pulmonary Function testing
- Laboratory testing
- Colonoscopy
- Psychosocial evaluation with a Psychologist and a Social Worker
- Dental evaluation
- Approval by the transplant selection committee

Left Ventricular Assist Devices

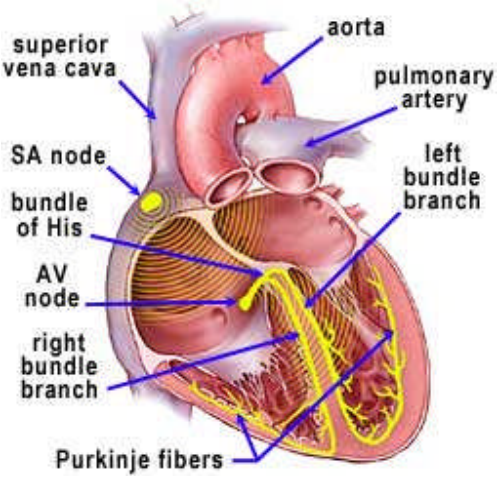
A left ventricular assist device may be an option for people who have severe heart failure that cannot be controlled with medications and/or other treatments. A **left ventricular assist device (LVAD)** takes over the function of the heart when the heart is no longer able to pump effectively. An LVAD is implanted surgically. It is usually implanted in people who are already on a heart transplant wait list or who are being considered for transplantation. These devices may also be used after transplant until the transplanted heart is functioning independently.

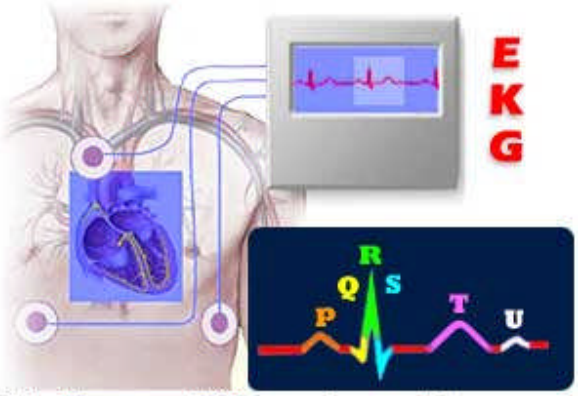
LVAD's are used to help patients with poor heart function lead a "normal" lifestyle. Many patients are able to go home after receiving an LVAD.

As the picture below demonstrates, the LVAD has parts that are implanted in the patient's abdomen and chest and parts that are outside the body. Patients carry the external battery pack in a bag around their waist or over their shoulder.



Bi-Ventricular Pacemakers





The P wave, QRS complex, and T wave are associated with heart contractions. The P wave shows upper chamber activity. The QRS complex and T wave show lower chamber activity.

In approximately 30% of patients with heart failure, an abnormality in the heart's electrical conduction system (called an "intraventricular conduction delay" or bundle branch block) causes the two ventricles to beat out of sync (slightly out of phase with one another). As a result, some patients with heart failure require Bi-Ventricular Pacemakers to assist their hearts back into a synchronized rhythm.

Patients who need Bi-ventricular pacemakers are referred to the Electrophysiology Department for further evaluation.

Hospice Care

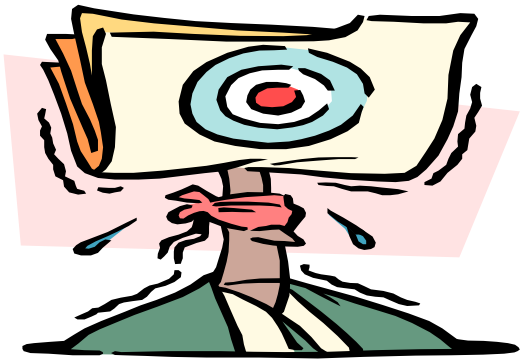
When all other therapies fail or patients are not eligible for alternative therapies, your Heart Failure Provider may suggest a consult to the Hospice Department. Those in the Hospice Department are trained to assist patients in the final stages of life. Their job is to give medical care to the patient and provide the patient and family with ongoing support.

For all of the therapies listed, a discussion with your health care provider and family member(s) is important. Please let us know what questions you have.

Reference: www.chfpatients.com

Heart Failure Shared Medical Appointment
Chapter 9

Heart Disease: It's Partly In Your Head



Stress

For most people, stress is a fact of life. But what is stress? Hans Selye, a physiologist, described stress as "the **nonspecific response of the body to any demand made upon it."**

Your body responds to stress by preparing to meet the demand or by taking action. When you experience stress, the adrenal glands release the stress hormones adrenaline and cortisol. The **heart speeds up**, **blood vessels are constricted**, and **clotting factors in the blood are activated** as preparation for a possible injury. This response burdens the heart muscle and reduces the supply of blood to the coronary arteries. This response is often called the "flight or fight response".

In general, these changes last only until the stressful event passes, then your body returns to its normal level of functioning. If the stress is present for any length of time, your body begins adapting to the stress. This adaptation can contribute to other problems such as hypertension, shortness of breath, muscle/joint pain, depression, and fatigue.

Stress and Heart Failure

Stress and heart failure have a circular relationship with each affecting the other. Stress may worsen the symptoms of your heart failure and/or you may feel more stressed because you have been diagnosed with heart failure.

Stress has also been known to intensify the symptoms of your heart failure and may increase the number of episodes that you experience.

Common Types of Stress

Regardless of the type of stress, the changes that occur in your body remain the same. Few people experience only one type of stress or one stressor at a time. In many cases, one type of stress can lead to other stressors or even magnify the effects of existing stressors. For example, individuals who have financial problems find this stress increases when asked to eat a special diet in order to minimize the effects of their heart failure.

Physical stressors: Physical stressors are those that increase your body's demand for energy and can include picking up your grandchild for the first time, grocery shopping, the physical symptoms of your chronic illness. If your body isn't prepared to deal with this demand you may experience increased fatigue, sore muscles, or a worsening of some disease symptoms (e.g. shortness of breath).

Mental and emotional stressors: Mental stressors are those that lead to an emotional reaction. These reactions can range from pleasant to uncomfortable and include seeing a child get married, starting a new job, frustration due to the physical limitations you experience as a result of your illness.

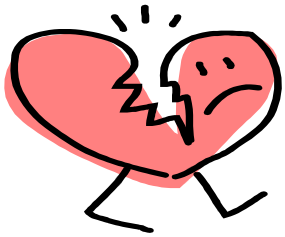
Environmental Stressors: Environmental stressors are those that result from your surroundings and may be as varied as secondhand smoke, uneven sidewalks that make it difficult to walk, loud noise that affects your sleep.

Gaining Control Over Your Stress

Since stress is a part of life, learning skills to manage stress can help you to feel better both physically and emotionally. Many strategies for managing stress are effective, it is important to find several that work for you. Below are steps you can take to gain control over stress.

- Identify the sources of your stress and remember it may not be your heart failure
- Divide this list of stressors into things you can and can't control
- If you know that certain situations will be stressful, develop ways to deal with them before they happen. This is known as problem-solving. Focus on strategies that have worked before.
- Participate in relaxing and distracting activities on a regular basis (e.g. listening to music, fishing, woodworking, reading). Although some people tend to smoke a cigarette, drink a glass of wine, or drink a cup of coffee to soothe their tension, these actually increase the body's stress response.
- Be more assertive, set limits, and say "No"
- Try to be more flexible
- Get close to somebody
- Remember to laugh!
- Seek professional help if your efforts are ineffective

Depression: The Facts



- Depression can be a symptom of heart failure and/or a reaction to being diagnosed with heart failure.
- Symptoms of depression and symptoms of heart failure overlap and can sometimes be confused with one another (fatigue, decreased concentration, loss of interest in sex).
- Depression is not directly related to the severity of your heart failure symptoms.
- Depression is more likely to occur with exacerbations of your heart failure, some treatments, and major life transitions (leaving work, discontinuing a hobby, hospitalization).
- Rates of depression in individuals with heart failure range from 24-42%.
- Those with depression have more frequent hospital admissions for CHF symptoms and are more likely to die prematurely of their heart failure.

How do I know if I'm Depressed?

Many people assume that depression is the same as being sad or "down in the dumps." While some people experience feelings of sadness when they are depressed, many find that themselves feeling irritable or "grouchy". These feelings often last for several weeks to several months and are accompanied by some of the symptoms listed below.

- A depressed or agitated mood
- Diminished pleasure from activities you used to enjoy
- Feelings of excessive guilt, worthlessness, hopelessness
- Feeling slowed down physically and mentally
- Difficulty making decisions and/or concentrating
- Increase/decrease in appetite, weight, sleep
- Loss of energy and sexual interest
- Recurrent thoughts of death

The Impact of Depression

People who are depressed experience lower quality of life and often describe greater difficulty as a result of their chronic health condition. They are less likely to follow-through with treatment recommendations, which can worsen the symptoms of their heart failure and lead to hospitalization. Depression causes disrupted sleep and adds to daytime fatigue. It also has a negative impact on their relationships, their work, their life at home, and their ability to deal with stress. As a result, people with depression are more likely to turn to unhealthy behaviors (alcohol use, poor eating habits, tobacco use).

What Helps Depression?

- Identifying and changing the triggers of your depression.
- Maintaining a strong social support
- Optimism and hope
- Taking good care of your general health including regular exercise, nutrition, and adequate sleep
- Psychological counseling and medication
- Emotional expression

From Type A to Chronic Distress

During the 1960's and 1970's, psychologists developed a short alphabet to describe different personality traits and their impact on heart disease.

Type A's **–** These individuals were the weekend-working, perfectionist strivers who were deemed most likely to develop heart disease.

Type B's **–** These individuals are more relaxed, less competitive and had personality traits that were considered models of health.

Type C's **–** These individuals were outwardly pleasant people who avoided conflict by suppressing their feelings and were deemed most likely to develop cancer.

The ABC model fell apart in the 1980's, when large studies found no reliable connection between Type A personality and heart disease.

Type D: Chronic Distress
More recent research has helped identify truly harmful emotions, such as anxiety, hostility, and hopelessness. The Distress Scale has given researchers an easy way to measure several of them at once.

Type D: These individuals are prone to experience negative emotions including anxiety, hostility, and difficulty interacting in social situations.

In a study conducted by Johan Denollet with 300 people enrolled in cardiac rehabilitation, 27% of the Type D patients died within 10 years as compared to only 7% of those who were not Type D.

Are You Type D: Take the Quiz

The D-Scale 14

Below are a number of statements that people often use to describe themselves. Read each one and circle the appropriate number next to that statement to indicate your answer. There are no right or wrong answers: Your own impression is the only thing that matters.

	False	Less False	Neutral	Less True	True
1. I make contact easily when I meet people.	4	3	2	1	0
2. I often make a fuss about unimportant things	0	1	2	3	4
3. I often talk to strangers	4	3	2	1	0
4. I often feel unhappy	0	1	2	3	4
5. I am often irritated	0	1	2	3	4
6. I often feel inhibited in social interactions	0	1	2	3	4
7. I take a gloomy view of things	0	1	2	3	4
8. I find it hard to start a conversation	0	1	2	3	4
9. I am often in a bad mood	0	1	2	3	4
10. I am a closed kind of person	0	1	2	3	4
11. I would rather keep people at a distance	0	1	2	3	4
12. I often find myself worrying about something	0	1	2	3	4
13. I am often down in the dumps.	0	1	2	3	4
14. When socializing, I don't find the right thins to talk about	0	1	2	3	4

´Negative affectivity´ scale: Add scores for questions 2, 4, 5, 7, 9, 12, and 13 [ ]

"Social inhibition´ scale: Add scores for questions 1*, 3*, 6, 8, 10, 11, and 14 [ ]

You qualify as a type D personality if you scored 10 or higher on both negative affectivity and social inhibition scales.

Even if you never fully conquer your distress, you can take practical steps to make it less toxic to your health. Becoming an effective manager of your heart failure symptoms will go a long way to improving your health as well as your mood.