

# LIVING WELL WITH HEART FAILURE

## JOHN MUIR HEALTH

- *How Does a Healthy Heart Work?*
- *What is Heart Failure (HF)?*
- *Summary of How Heart Failure Develops*
- *How is Heart Failure Diagnosed?*
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- *Returning to Work, Travel and Vacations*
- *What Can You Do if You have HF?*

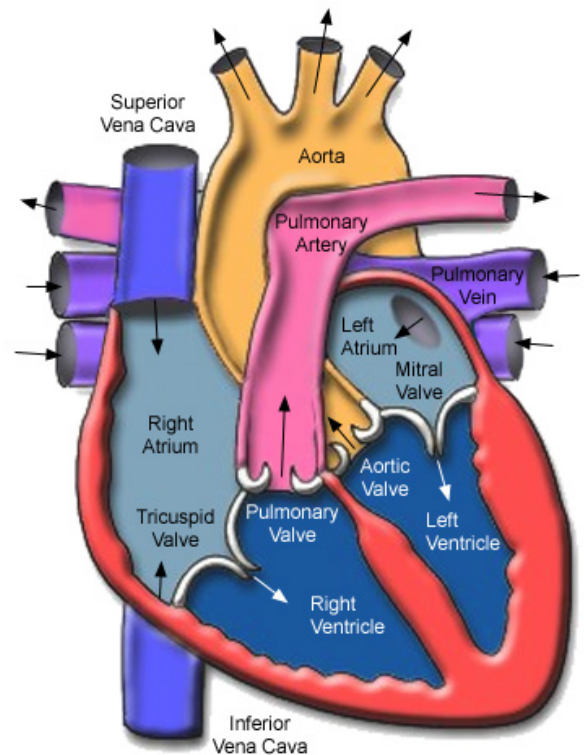
## INTRODUCTION

Nearly 5 million people in the United States are living with heart failure (HF), and 550,000 new cases of HF are diagnosed each year.

When you first learn that you have heart failure, you may feel frightened or alarmed. You may also have many questions or concerns. This binder is designed to help you understand heart failure, answer your questions and manage your condition.

Understanding heart failure, following your doctor's instructions and following the guidelines provided in this binder can help you successfully manage your heart failure. People who understand their condition make better decisions, live a longer life and feel better.

It is possible to lead a normal life, even if you have heart failure. Understanding and taking control of heart failure is the key to success.



Your doctor, healthcare providers and this binder will provide guidelines and a treatment plan. It is your responsibility to follow the treatment plan and manage your heart failure.

## HOW DOES A HEALTHY HEART WORK?

The heart is a muscle about the size of your fist. The heart's job is to pump blood, rich in oxygen and nutrients, to all parts of your body.

The left ventricle is the main pumping chamber. In a normal heart, the left ventricle ejects 50% or more of its blood volume out into circulation. This percentage is called the *ejection fraction* or **EF**.

## LIVING WELL WITH HEART FAILURE

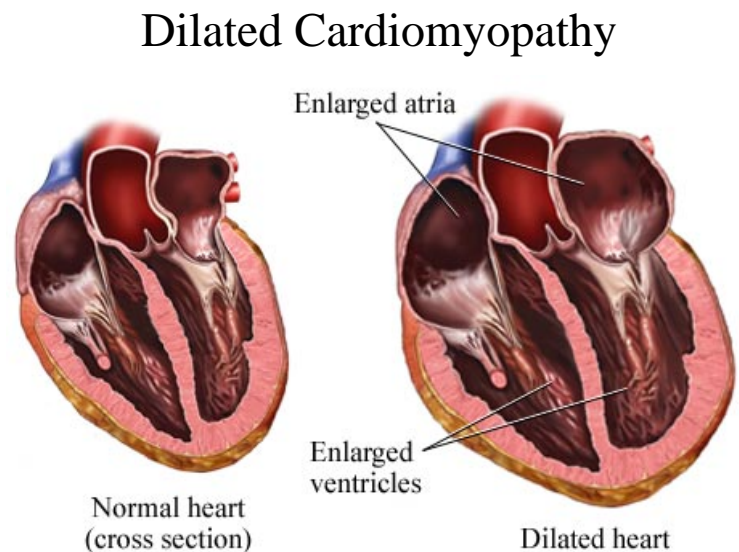
### WHAT IS HEART FAILURE?

- Heart failure is not a disease.
- Heart failure is the name used to describe a set of symptoms.
- Heart failure is caused by diseases that affect the ability of the heart to pump blood.

### WHAT HAPPENS WITH HEART FAILURE?

The term “heart failure” suggests that the heart has stopped working or has “failed”. This is not the case. What it actually means is that the heart is not working as well as it should, and cannot pump enough blood to meet the body’s needs.

This happens because the heart is weakened by conditions or diseases that damage the heart muscle. Most of these conditions weaken the heart little by little, over a period of time.



*CARDIOMYOPATHY is an enlarged heart. With cardiomyopathy the heart does not pump efficiently which can lead to heart failure.*

### SUMMARY OF HOW HEART FAILURE DEVELOPS

The heart muscle is weakened by conditions or diseases that damage the heart. The heart’s pumping action becomes less efficient. The body tries to compensate for the heart’s reduced pumping action by:

- Increasing hormonal stimulation
- Pumping faster
- Enlarging—the heart chambers stretch and enlarge and the muscle mass may increase in size.

For a time, these adaptations will help continue normal or near-normal heart functions. But sooner or later, these adjustments can actually make matters worse by putting extra strain on

## WHAT CAUSES HEART FAILURE?

### CARDIOMYOPATHY

is the general term for a heart that is enlarged or damaged by one of several diseases.

Cardiomyopathy can be caused by coronary artery disease, valvular heart disease, viral or bacterial infections that attack the heart, drugs that damage the heart muscle, prolonged alcohol abuse, some metabolic diseases, as well as other causes.

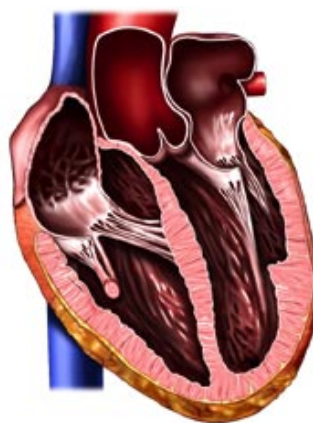
**CORONARY ARTERY DISEASE (CAD)** is the most common cause of heart failure. CAD is a narrowing of the arteries that supply blood to the heart muscle. Cholesterol deposits clog the arteries, decreasing the supply of blood and oxygen to the heart. This can weaken the heart muscle. Opening the arteries may improve heart failure.

CAD can result in a **myocardial infarction** or heart attack. A heart attack occurs when plaque and clotting cause a complete blockage in a coronary artery. The heart muscle that was receiving blood from the blocked artery dies, causing permanent muscle damage. An enlarged heart from CAD or from a prior heart attack may be referred to as **ischemic cardiomyopathy**. Six out of every seven patients hospitalized with heart failure have a history of coronary artery disease, and three out of four have a history of high blood pressure.

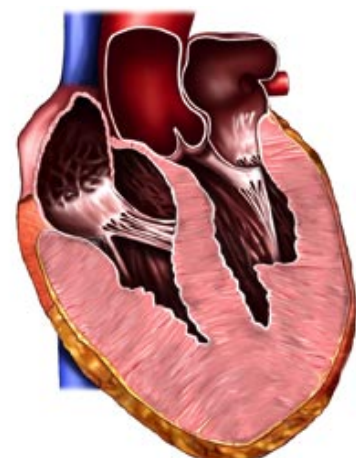
**HYPERTENSION (high blood pressure)** is the second most common cause of heart failure. Long standing or poorly controlled blood pressure increases the workload of the heart. Over time the high pressure causes the heart to enlarge and the muscle becomes thick and stiff. When this occurs the left ventricle cannot fill or pump normally. Long standing hypertension is

*A less efficient pump means a less forceful ejection or propulsion of blood into circulation.*

*Because the heart does not pump as effectively, the body's need for oxygen and nutrients may not be met.*



Normal heart  
(cross section)



Hypertrophic  
cardiomyopathy

## LIVING WELL WITH HEART FAILURE

### WHAT CAUSES HEART FAILURE? (CONTINUED FROM PG. 3)

**VALVULAR HEART DISEASE** is another common cause of heart failure. Heart valves control the direction of blood flow through the heart. When valves are damaged they may not open or close properly. Valves may become stiff (*stenotic*) or they may fail to close completely (*insufficient*) which can cause a back flow of blood (*regurgitation*). Either way, blood flow through the heart is impaired and the heart enlarges to compensate. This weakens the heart muscle and heart failure develops. Surgical repair or replacement may correct or decrease the progression of heart failure.

**OTHER CONDITIONS**, some of which are temporary and treatable, can cause heart failure. These include:

- Arrhythmias (Irregular, fast or slow pulse—see page 6 )
- Thyroid disease
- Pregnancy
- Obesity
- Unknown causes (*idiopathic cardiomyopathy*)

### RIGHT SIDED & LEFT SIDED HEART FAILURE

When the **right** side of the heart is not pumping effectively, the blood returning to the heart from the body backs up in the veins. Right sided heart failure causes a backup of blood coming into the heart.

Symptoms of right sided heart failure:

- Swelling in the liver
- Abdominal distention (bloating in the stomach)
- Swelling in the legs and ankles

The blood enters the **left** side of the heart from the lungs. When the left side of the

heart is not pumping blood forward well enough, blood backs up, causing fluid accumulation in the lungs. This is also called congestive heart failure. Decreased forward blood flow results in less nourishment to the body's organs and tissues.

Symptoms of left sided heart failure:

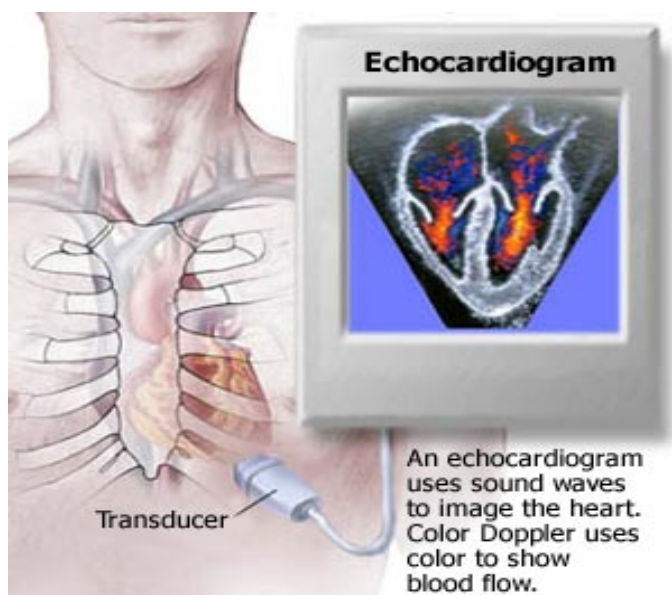
- Fatigue
- Shortness of breath
- Weakness
- Cough



## HOW IS HEART FAILURE DIAGNOSED?

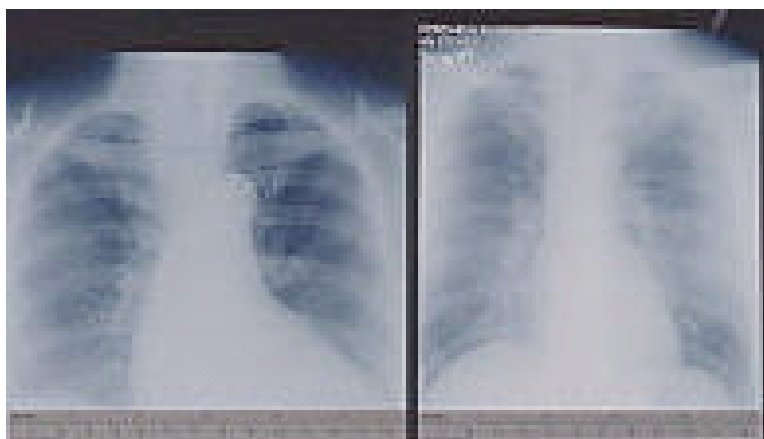
To make the diagnosis of heart failure the following should be done:

- Health History
- Physical Exam
- Chest X-Ray—to evaluate the size and shape of the heart and detect any fluid in the lungs.
- EKG—to determine heart rhythm and search for previous heart damage or thickened heart muscle.
- Blood Test for BNP—a hormone made when the heart is overworked.
- Measure **Ejection Fraction** (EF)—to gauge effectiveness of the pumping action of the heart. The EF can be determined with an echocardiogram, nuclear scan or angiogram.



*An echocardiogram uses ultrasound to determine the size of the chambers, the thickness of the heart muscle, the functioning of the heart valves and estimate the ejection fraction.*

*A chest x-ray showing an enlarged heart with fluid in the lungs.*



*Fluid in the lungs: congestive heart failure (Lungs should appear black)*

## **LIVING WELL WITH HEART FAILURE**

### **EJECTION FRACTION AND ITS IMPORTANCE**

Ejection Fraction (EF) is a key indicator of a healthy heart and is frequently used by physicians to determine how well your heart is functioning as a pump. Ejection fraction is the percentage of blood that is pumped out of the heart during each beat. In a healthy heart, 50-75 percent of the blood is pumped out during each beat. Many people with heart disease pump out less than 50% and many people with heart failure pump out less than 40%.

Ejection fraction is one of the many ways doctors classify the type and severity of heart failure and damage to the heart muscle.

#### **Ejection Fraction Ranges**

- An ejection fraction above 50% indicates that your heart is pumping normally and is able to deliver an adequate supply of blood to your body and brain.
- An ejection fraction that falls below 50% could indicate that the heart is no longer pumping efficiently and is not able to meet the body's needs.
- An ejection fraction of 35% or less indicates a weakened heart muscle. The heart is pumping poorly, which can significantly increase a person's risk for sudden cardiac arrest.

### **Measuring Your Ejection Fraction**

For heart failure patients, knowing your ejection fraction is just as important as knowing your blood pressure and your cholesterol. Ejection fraction is often measured using an echocardiogram, a simple and painless test often performed right in the doctor's office. Ejection fraction can also be measured with other tests including:

- Echocardiography
- Cardiac catheterization
- Exercise stress echocardiography
- Nuclear stress testing

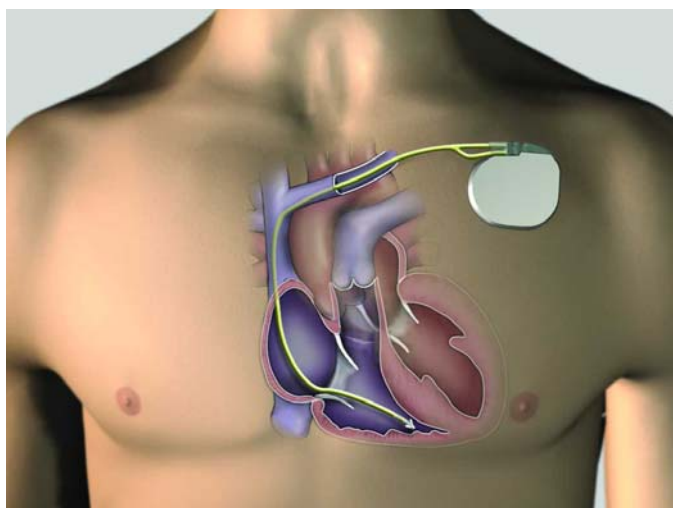
## A Low Ejection Fraction is a Serious Health Risk

Recent medical research shows that people with an ejection fraction of 35% or lower may be at increased risk for Sudden Cardiac Arrest. Sudden Cardiac Arrest is not a heart attack. Sudden cardiac arrest occurs when your heart suddenly starts beating very fast and quivering instead of pumping blood to the body and brain. If untreated, Sudden Cardiac Arrest can lead to death within minutes. If you have a low ejection fraction, your doctor may prescribe medications, recommend lifestyle adjustments or suggest other therapies.

## Treatment Options: Hope and Protection from Sudden Cardiac Arrest

The good news is there are several options that can help reduce the risk for sudden cardiac arrest.

- A heart-healthy lifestyle is one. Keeping your heart healthy includes regular exercise, healthful eating, weight management and not smoking
- Medical therapies play an important role in addressing the underlying medical conditions that can lead to sudden cardiac arrest. For patients with heart failure clinical studies have demonstrated certain classes of drugs, including beta blockers and ACE inhibitors, can reduce the risk of sudden cardiac arrest.
- Medical devices can be implanted in certain high risk patients. An Implantable Cardiac Defibrillator (ICD) is a device that detects a heart rhythm that may be dangerous and delivers an electrical shock to restore normal rhythm

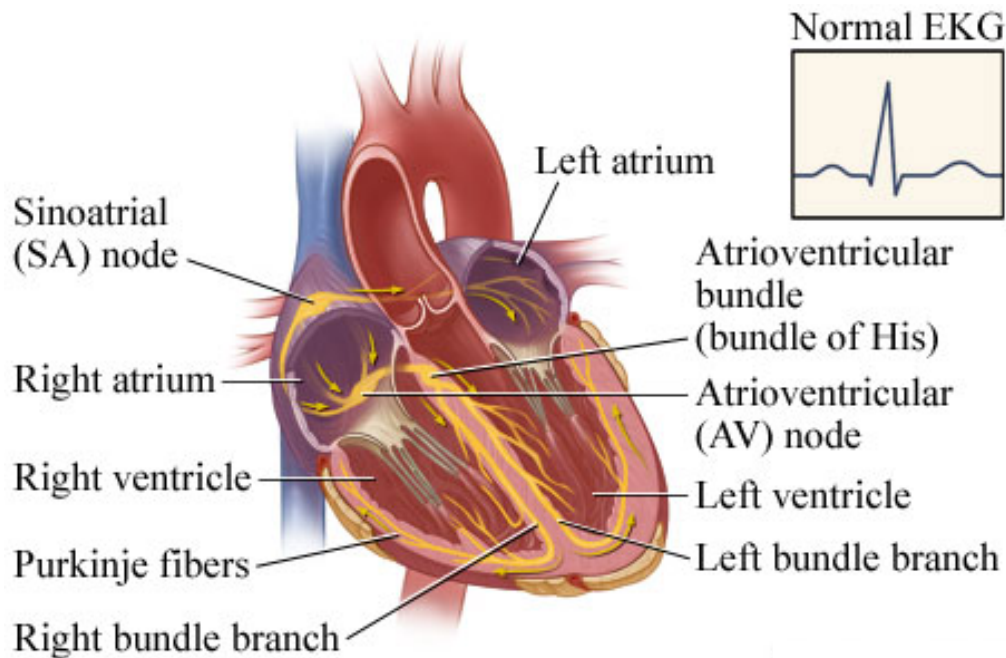


Implantable Defibrillator

Know your Ejection Fraction number and talk to your doctor. Only your doctor can determine your Sudden Cardiac Arrest risk and treatment options for your condition.

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AN ELECTROCARDIOGRAM (EKG) SHOWS THE ELECTRICAL PATHWAYS IN YOUR HEART AND THE PATTERN OF YOUR HEARTBEAT.



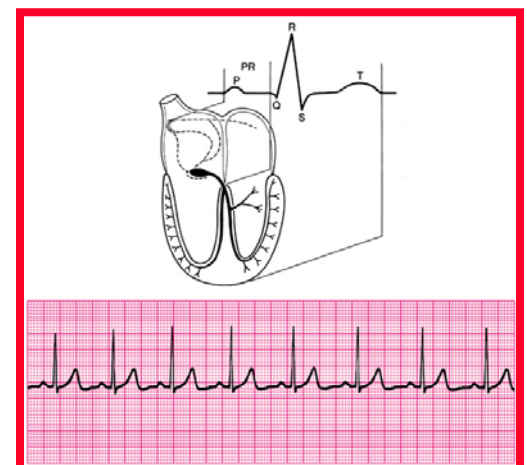
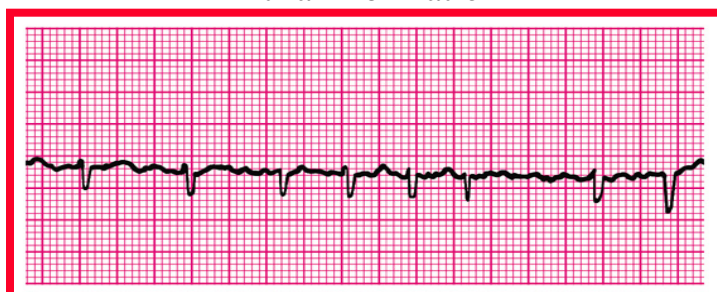
*The heart's electrical system generates the pulse or heart beat. An electrical impulse travels through the heart muscle causing the muscle to contract.*

## ATRIAL FIBRILLATION

Atrial fibrillation is an irregular heart rhythm (arrhythmia) originating in the upper chambers (atria) of the heart. Normally, the heart beats in a strong, steady rhythm. In atrial fibrillation, a problem with the heart's electrical system causes the atria to quiver, or fibrillate. The quivering upsets the normal rhythm between the atria and the lower chambers (ventricles) of the heart. As a result, the heart can not pump as well.

A less efficient pump means a less forceful ejection or propulsion of blood into circulation. Because the heart does not pump as effectively, the body's need for oxygen and nutrients may not be met.

Atrial Fibrillation



Normal Rhythm



## IS THERE A CURE FOR HEART FAILURE?

Heart failure is a chronic condition that in most cases cannot be cured; however, it can be managed. For most people with heart failure, management means SELF MANAGEMENT-taking medications and making positive lifestyle changes.

## YOUR CARE TEAM

Many people will work together to help you live better with heart failure.

**Your primary care provider:** This is the person you usually see for health problems. Your primary care provider can be a family practice physician, a general internist, a nurse practitioner or a physician assistant.

**Your cardiologist:** This is a physician specializing in the diagnosis and treatment of heart and blood vessel diseases.

**John Muir Heart Failure Tel-Assurance® Program:** This is a free program offered to patients who receive care at John Muir. The program uses daily telephone monitoring to keep your doctor informed of your progress. (For more information see reference section).

**Other health care professionals:** Many other professionals including nurses, dietitians, pharmacists, rehab specialists, care managers and social workers may contribute to different aspects of your care.

**You and your family:** You and your family are at the center of this team! You need to be active participants in your care. This means learning as much as you can about your condition, following your treatment plan and communicating with the rest of your health care team.

## ACCEPTING YOUR DIAGNOSIS

As you try to understand and accept what it means to have heart failure, you'll probably feel a range of emotions. Your outlook on the future may also change, depending on your prognosis. Heart failure can be mild or severe, and people respond differently to treatment. For some people, heart failure symptoms are reversible with proper treatment, yet for others, symptoms get worse over time.

Managing your feelings is an important aspect of your care. The following are normal emotional stages after a diagnosis of HF:

### **Your initial reaction**

Your initial reaction may be shock, disbelief, denial or numbness. For the first few months, you may have a hard time acknowledging your condition. It's tough to be told you have heart failure.

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## LIVING WELL WITH HEART FAILURE

### **Adjusting to your condition**

For 3-12 months after your diagnosis, you may experience preoccupation, fear, anxiety or anger. You may struggle to integrate new routines into your daily life. From questions of “why me?” to “what if” you will probably move toward more acceptance of your condition.

### **New habits become routine**

When new habits become routine and your understanding of heart failure improves, you’ll probably begin to feel more peaceful about your diagnosis. You may get satisfaction from the adjustments you’ve made in your life and feel new resolve about the future.

Throughout these emotional stages, be patient with yourself. Adjusting to life with HF is challenging, but many people have learned to accept their diagnosis and to lead lives filled with a renewed sense of purpose and hopefulness. With time, support and patience, you can too.



## TAKING CARE OF YOUR EMOTIONAL HEALTH

Your diagnosis of heart failure, your symptoms and your concern for the future may cause you and your loved ones to feel depressed or worried. Your concerns are normal. As you begin taking charge of your health and making positive changes, you may find these feelings start to fade. However, if negative feelings continue and interfere with your ability to enjoy life, talk to your doctor. Counseling might help you feel better.

## RECOGNIZING DEPRESSION AND ANXIETY

Everyone feels anxious or blue some of the time. But if these feelings persist and they interfere with your ability to do and enjoy daily activities, or if your relationships are affected, you should seek help. People who are depressed often feel tired and have no energy. They may lose interest in sex, have trouble sleeping and lose their appetite. Although fatigue and loss of appetite are also common symptoms of heart failure, they are more likely due to depression if accompanied by any of the symptoms listed on the next page.

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## LIVING WELL WITH HEART FAILURE

You may be depressed if you have any of the following symptoms for more than 2 weeks:

- Excessive sleepiness
- Feeling worthless or guilty
- Hopelessness
- Suicidal feelings
- Preoccupation with death
- Down mood
- Feeling blue
- Irritability
- Loss of interest in things you used to enjoy
- Withdrawal from others

You may be anxious if you have any of the following symptoms for more than two weeks:

- Excessive worry
- Fear
- Tension
- Feeling keyed up or always on edge
- Restlessness
- Feeling shaky

Many people in our society feel there is some stigma associated with having emotional problems like depression or anxiety. As a result, they may be reluctant to talk to anyone about how they are feeling. However, having emotional problems is nothing to be ashamed about. It is important to recognize and treat depression and anxiety. If you are having difficulty coping with feelings about heart failure, you should seek help and support. In other words, if depression and anxiety are interfering with your life or causing distress, it is important for you to seek help from your doctor or nurse.

### TIPS TO HELP YOU DEAL WITH EMOTIONAL BLUES

- Get out and walk every day
- Get dressed every day
- Keep up with activities or hobbies you enjoy
- Share your feelings with your spouse, a friend or clergy member
- Get a good night's sleep
- Follow your treatment plan



## LIVING WELL WITH HEART FAILURE

### CONSERVE YOUR ENERGY

Using less energy with daily tasks can help you have more energy to do more activities during the day. You may need to cut down on some of your activities or use energy-saving devices or techniques. If daily self-care or home care activities are too tiring, discuss this with your doctor. Here are some energy saving tips:

- Simplify your tasks and set realistic goals.
- Plan activities (chores, exercise and recreation) ahead of time. Do not schedule too many things to do in one day. Do things that take more energy when you are feeling your best.
- If necessary, rest before and after activities. When you rest, keep your feet up to keep the swelling down.
- If you become tired, stop and rest. You may need to finish on another day or when you feel less tired.
- Do not plan activities right after a meal.
- Get a good night's sleep.
- Ask for help. Divide tasks among family and friends.
- Use devices and tools such as a walker, shower chair, hand-held shower head or bedside commode.
- Do all of your grooming (shaving, drying your hair, etc.) while sitting.
- Arrange your activities so you do not have to climb up and down stairs many times.
- Avoid extreme physical activity. Do not push, pull or lift heavy objects (more than 10 pounds) that require you to strain.
- For more energy-saving tips, tell your doctor you would like to speak to an occupational therapist or cardiac conditioning specialist.



## RETURNING TO WORK

If you have been in the hospital for your heart failure, your doctor will tell you how soon you can return to work. You may need to change some of your job related activities. This may involve job re-training or taking disability.

Talk to your doctor about the type of job you have. Your doctor can help you decide if your job will affect your heart condition and if you need to make changes.

## TRAVELING AND VACATIONS

You may travel as soon as you are feeling better, but always let your health care provider know when you plan to go and provide a phone number where you can be reached.

By following these traveling tips, your vacation will be worry free:

- Always take all of your medications with you and make sure you have enough medications to last throughout your trip.
- If you are traveling by plane, carry your medications with you. Never check them with your luggage. You may need a letter from your health care provider that verifies all of your medications, especially if you are traveling internationally. Pack this letter with your medications.
- Consider wearing an Emergency Medical Identification band.
- Make sure you have your doctor's phone number.
- Be careful to avoid infection when traveling. In areas where the water might be unsafe, drink bottled water or other beverages (order beverages without ice). Swim only in chlorinated pools.
- Select food and drink with care to avoid illness. It is easy to overeat and to take in too much sodium when you are away from home, especially while eating meals at restaurants.





## LIVING WELL WITH HEART FAILURE

### WHAT CAN YOU DO IF YOU HAVE HEART FAILURE?

Heart failure is a serious disorder and is usually a chronic illness. Many forms of heart failure can be controlled with medication, lifestyle change and correction of any underlying disorder. **The success of your treatment plan depends on your active involvement.**

Following your treatment plan can make you feel better, prevent your heart failure from getting worse and help you live longer.

#### WHAT YOU CAN DO

- Take your medicines exactly as directed
- Weigh yourself every day to see if you are retaining fluid
- Follow a low sodium (low salt) diet

- Monitor your symptoms every day
- Ask your doctor about drinking alcohol
- Control your body weight
- Get regular physical activity
- Quit smoking
- Know your ejection fraction number
- Learn when to consult your doctor or nurse

This binder is designed to help you take control of your heart failure. Your doctor and the health care providers at John Muir Health will help you manage your heart failure. We are dedicated to your success.

