

LIVING WITH HEART FAILURE

**FOR PATIENTS
AND FAMILIES**



St. Elizabeth
PHYSICIANS



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**Advanced Heart Failure
Management Center**
1 Medical Village Drive
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As part of the Mayo Clinic Care Network, St. Elizabeth doctors have access to Mayo Clinic knowledge, expertise and resources.

WHAT IS HEART FAILURE?

The term heart failure means your heart does not pump as well as it should. Your body is not getting enough blood and oxygen because of this. Heart failure is a chronic, lifelong condition, but can be managed with medications, treatments, and a healthy lifestyle.

Types of Heart Failure and Ejection Fraction

What is ejection fraction (EF)?

An ejection fraction (EF) is the amount of blood your heart pushes out of the ventricles with each heartbeat. This percentage shows how well your heart is pumping blood to the rest of your body. Your EF also determines your treatment path. Normal EF is 50-70%.

Left-sided heart failure: Affects the left ventricle of your heart

Heart failure with reduced ejection fraction (HFrEF) is also referred to as systolic heart failure. Your EF is less than or equal to 40%.

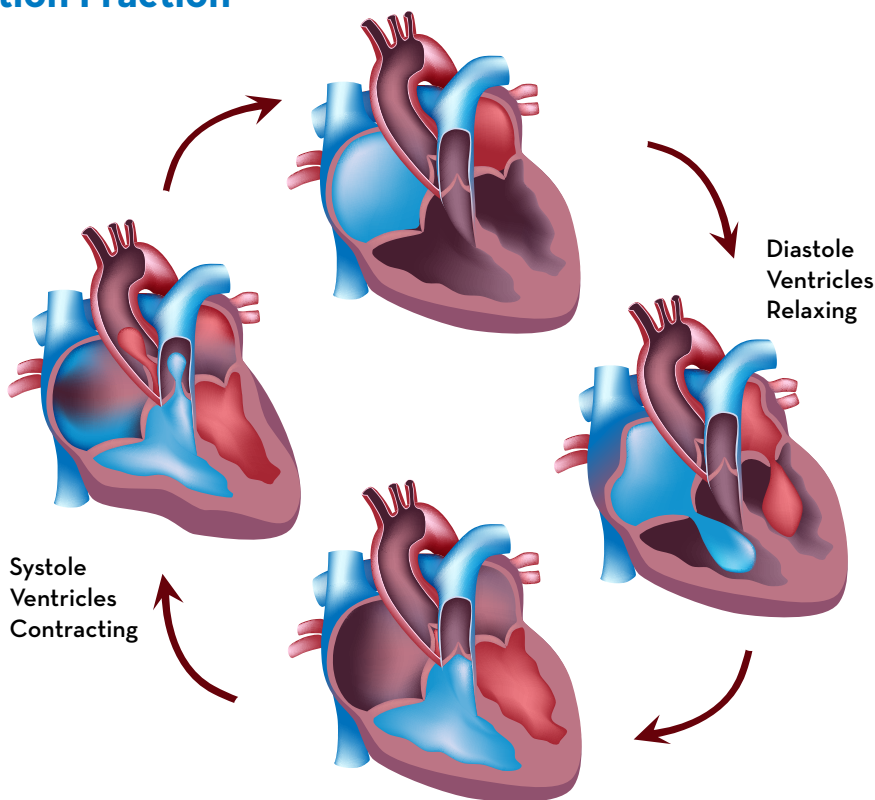
The left ventricle of your heart is enlarged and weak. It is not strong enough to pump blood out to the rest of your body.

Heart failure with preserved ejection fraction (HFpEF), is also referred to as diastolic heart failure. Your EF is greater than 40%

The left ventricle of your heart is stiff and thick. It can't relax and fill with enough blood to pump to the rest of your body.

Right-sided heart failure: Affects the right ventricle of your heart

The right ventricle cannot pump blood returning from the body to the lungs. Right-sided heart failure is often caused by left-sided heart failure. Chronic obstructive pulmonary disease (COPD) and other lung diseases or conditions can also lead to right-sided heart failure.



Diastole and Systole of Human Heart

$$\frac{\text{Amount of blood pumped out of the ventricle}}{\text{Total amount of blood in the ventricle}} = \text{Ejection Fraction (\%)}$$



Risk Factors and Causes of Heart Failure

There are several risk factors and causes of heart failure.

Risk factors increase your risk of developing heart failure and every effort should be made to control these:

- Coronary artery disease
- High blood pressure (hypertension)
- Diabetes
- Obesity
- High cholesterol
- Thyroid disease
- Sleep apnea

Causes of heart failure:

- Previous heart attack, also called myocardial infarction (MI)
- Valve disease
- Congenital heart disease
- Abnormal heart rhythms
- Alcoholism
- Some cancer treatments
- Infections

Diagnosis

To diagnose heart failure, your doctor will take a careful medical history, review your symptoms and perform a physical examination. Your doctor will also check for the presence of risk factors, such as high blood pressure, coronary artery disease or diabetes.

Using a stethoscope, your doctor can listen to your lungs for signs of congestion. The stethoscope also picks up abnormal heart sounds that may suggest heart failure. The doctor may examine the veins in your neck and check for fluid buildup in your abdomen and legs.

After the physical exam, your doctor may also order some of these tests:

Blood tests: Your doctor may order several blood tests to look for signs of diseases that can affect your heart. Blood tests to check your kidney function, electrolytes, and blood levels may also be ordered.

Echocardiogram (Echo): An echocardiogram uses sound waves to produce a video image of your heart. This test can help doctors see the size and shape of your heart along with any abnormalities. An echocardiogram measures your ejection fraction, an important measurement of how well your heart is pumping, which is used to help classify heart failure and guide treatment.

Angiogram (right heart cath): In this test, a thin, flexible tube (catheter) is inserted into a blood vessel at your groin or in your neck and into the right side of your heart. A dye injected through the catheter helps the doctor see the blood flow through your heart. Your doctor will take other measurements to help diagnosis and determine any treatments.

Magnetic resonance imaging (MRI): In a cardiac MRI, you lie on a table inside a long tube-like machine that produces a magnetic field, which aligns atomic particles in some of your cells. Radio waves are broadcast toward these aligned particles, producing signals that create images of your heart.

Cardiac PET scan: In a cardiac PET scan, you will lie on a table inside a tube-like machine after a nuclear isotope is injected into your vein through an IV. The nuclear isotope is used to create images of your heart.

SIGNS & SYMPTOMS OF HEART FAILURE

If you experience any of these symptoms, please call your doctor right away.

Weight gain of 2 or more pounds in 24 hours or 5 pounds in one week.

Shortness of breath

Dry hacking cough

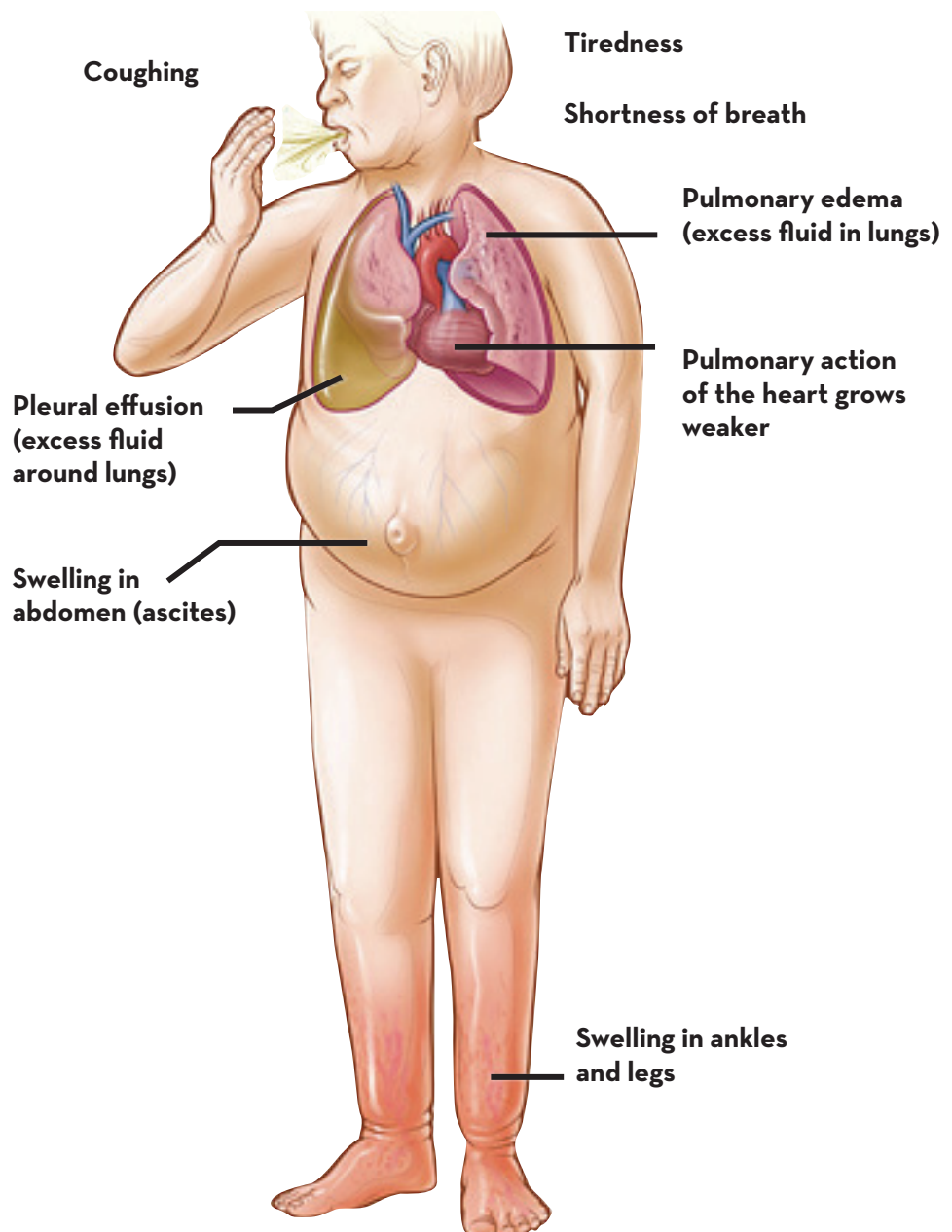
Lightheadedness or dizziness

Swelling in feet, ankles, legs, or abdomen (stomach)

Bloating

No energy

Difficulty sleeping due to shortness of breath (have to sleep sitting up or with more than one pillow)



MANAGING YOUR SYMPTOMS

Daily Weight Checks

- Daily weight checks are very important for patients with heart failure. If you gain weight overnight, know this is fluid, not fat. You may see your weight increase before you see swelling in your feet, legs, and belly.
- When you get up in the morning, go to the bathroom, then step on the scale. Keep a daily log of your weights. If your weight goes up 2 pounds overnight or 5 pounds in one week, then you need to call your doctor (primary care physician or cardiologist).

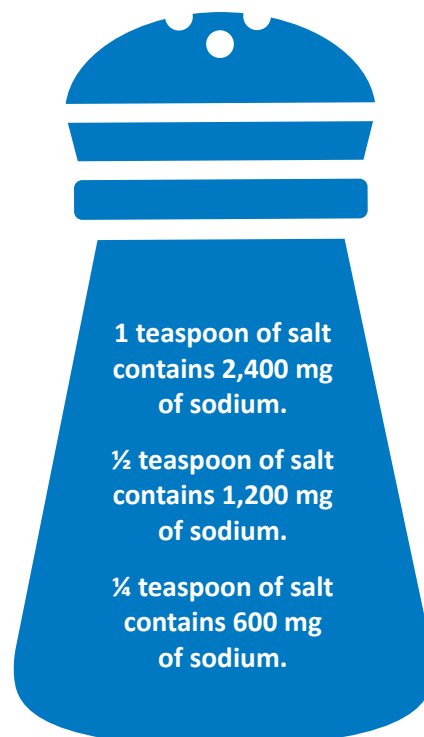


Reducing Sodium

It is recommended you limit your daily sodium (salt) intake to 2000 mg per day.

At home: Learn how to meal plan prior to shopping at the grocery store. This will help to minimize stress when you shop.

- Cook without using salt. Try to season your foods with spices, fresh garlic, onion, peppers, oils. **DO NOT USE A SALTSHAKER.**
- Try to stay away from anything that comes in a jar, box, can, or frozen meal. These are very high in sodium. Keep your foods as fresh as you can with meats, veggies, or fruits. If you need to season your foods, use salt-free seasonings, spices, and herbs.



Shopping: Learn how to shop. Read labels on processed foods to identify the amount of sodium in them. Look for serving size and sodium per serving. Select fresh or plain frozen vegetables (no sauces). If you have canned veggies, drain off the water, and then run the veggies under tap water to wash the salt water off.

Look for the terms “low sodium,” “reduced sodium,” or “no sodium added” on the label. This will cut your sodium amounts in your day.

- Restaurants:** Learn how to look at menus prior to arriving.
- Most restaurants have their menus online so you can see what is in each menu item. If you cannot get online, each restaurant will have their nutritional information posted inside the restaurant for the public to see.
 - Ask for dressings and sauces to be served on the side instead of mixed with food. Then you can control how much you use.
 - Choose foods that are fresh (such as salads) over frozen or prepared foods when possible.
 - Ask the waiter if your food can be prepared without salt or MSG.
 - Stay away from most dips, chips, salsa, pizza, soups and foods with a lot of sauce.
 - Bring your own fruit, yogurt, or other healthy choices when you go to events.

Check the Package for Nutrient Claims	
You can also check for nutrient claims on food and beverage packages to quickly identify those that may contain less sodium. Here’s a guide to common claims and what they mean:	
What It Says	What It Means
Salt/Sodium-Free	Less than 5 mg of sodium per serving.
Very Low Sodium	35 mg of sodium or less per serving.
Low Sodium	140 mg of sodium or less per serving.
Reduced Sodium	At least 25% less sodium than the regular product.
Light in Sodium or Lightly Salted	At least 50% less sodium than the regular product.
No-Salt-Added or Unsalted	No salt is added during processing - but these products may not be salt/sodium-free unless stated.

Source: <https://www.fda.gov/food/nutrition-education-resources-materials/sodium-your-diet>



American Heart Association.
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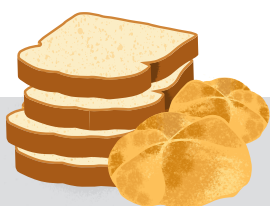
DID YOU KNOW?

These six popular foods can add high levels of sodium to your diet.

As part of a healthy dietary pattern that emphasizes the intake of vegetables, fruits, nuts, whole grains, lean vegetable or animal protein, and fish and minimizes the intake of trans fats, red meat and processed red meats, refined carbohydrates, and sugary drinks, the American Heart Association recommends 2,300 milligrams (mgs) or less a day of sodium.*



Daily suggested sodium referenced below is based on 2,300 mgs/day recommendation:



BREADS & ROLLS

Some foods that you might eat throughout the day, such as bread, can add up to a lot of sodium even though each serving may not seem high in sodium.

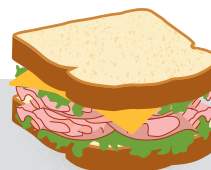
1



PIZZA

A slice pepperoni pizza can contain almost a third of your daily recommended dietary sodium. Try swapping in veggies to your next slice.

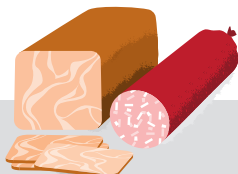
2



SANDWICHES

A sandwich or burger from a fast food restaurant can contain more than 100 percent of your daily suggested dietary sodium. Try half a sandwich with a side salad instead.

3



COLD CUTS & CURED MEATS

One 2 oz. serving, or 6 thin slices, of deli meat can contain as much as a third of your daily recommended dietary sodium. Build a sandwich with fresh vegetables such as lettuce, tomatoes, avocados, and bell peppers.

4



SOUP

Sodium in one cup of canned soup of the same variety can range from 49 to 830 milligrams — more than a third of your daily recommended intake. Check the labels to find lower sodium varieties.

5



BURRITOS & TACOS

Taco toppings and burrito fillings can pack a big sodium punch. Choose burritos and tacos that are full of veggies and lean sources of protein.

6



Compare labels whenever possible and choose options with the lower amounts of added sugars, sodium and saturated fat and no trans fat and look out for the Heart-Check mark, a simple tool to help you eat smart. When you see it, you can be confident that a product aligns with the American Heart Association's recommendations for an overall healthy eating pattern, including sodium.

Source: The American Heart Association

GET THE FACTS ON SERVING SIZE

Start With Serving Information

First, look at the serving size and the number of servings per container, which are at the top of the label. The serving size is shown as a common household measure that is appropriate to the food (such as cup, tablespoon, piece, slice, or jar), followed by the metric amount in grams (g).

The nutrition information listed on the Nutrition Facts label is usually based on one serving of the food; however, some containers may also have information displayed per package.

Understand Serving Sizes

Some serving sizes have changed on the new Nutrition Facts label. By law, serving sizes must be based on the amount of food people typically consume, rather than how much they should consume. Serving sizes have been updated to reflect the amount people typically eat and drink today. For example, based on the review of relevant information such as nationwide surveys of the amounts of foods Americans eat, the serving size for soda has changed from 8 ounces to 12 ounces.

Here are a few other things about serving sizes to keep in mind:

- The serving size is not a recommendation of how much to eat or drink.
- One package of food may contain more than one serving.
- Some containers may also have a label with two columns—one column listing the amount of calories and nutrients in one serving and the other column listing this information for the entire package. Packages with “dual-column” labels let you know how many calories and nutrients you are getting if you eat or drink the entire package at one time.

Sample Label for Frozen Lasagna

Nutrition Facts	
4 servings per container	
Serving size	1 cup (227g)
Amount per serving	
Calories	280
% Daily Value*	
Total Fat 9g	12%
Saturated Fat 4.5g	23%
Trans Fat 0g	
Cholesterol 35mg	12%
Sodium 850mg	37%
Total Carbohydrate 34g	12%
Dietary Fiber 4g	14%
Total Sugars 6g	
Includes 0g Added Sugars	0%
Protein 15g	
Vitamin D 0mcg	0%
Calcium 320mg	25%
Iron 1.6mg	8%
Potassium 510mg	10%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Source: <https://www.fda.gov/media/135305/download>

The sodium amount listed on the label is for **only 1 serving (1 cup)** of frozen lasagna.

One serving = 1 cup = 850 mg of sodium. (You have 1,150 mg to eat the rest of the day.)

Two servings = 2 cups = 1,700 mg of sodium. (You only have 300 mg left for the day.)

Three servings = 3 cups = 2,550 mg of sodium. (You have gone over your daily limit by 550 mg!)

Four servings (the entire container) = 4 cups = 3,400 mg of sodium (You have gone over your daily limit by 1,400 mg!)



The Importance of Potassium

Potassium is a mineral that helps maintain the normal function of the heart and nervous system. Diuretics (water pills) or other medications that get rid of excess fluid can cause potassium loss. But kidney problems or certain other medications may cause potassium to build up in the body.

Too much potassium can be just as harmful as too little. Work with your doctor or dietitian to understand how much potassium-containing food you should eat. Some potassium-containing foods include:

Dried fruits: raisins, prunes, apricots, dates

Fresh fruits: bananas, strawberries, mangos, peaches, watermelon, oranges, cantaloupe

Fresh juices: orange

Canned juices: carrot, grapefruit, prune, apricot (be sure to check the sodium amount!)

Fresh vegetables: beets, soybeans, beets greens, winter squash, peas, spinach, tomatoes, potatoes, mushrooms

Dried vegetables: beans, peas

Fresh meats: turkey, fish, beef

Dairy products: low-fat milk, yogurt

Tracking Your Fluid Intake

Your healthcare team may recommend limiting how much liquid you take in. Many people with heart failure are prescribed diuretics (water pills) to help them get rid of extra water and sodium and reduce their heart's workload.

Talk with your healthcare provider about how much fluid to drink every day. Your doctor or heart failure nurse may recommend limiting fluids to 64 ounces (around 2 liters) per day. This includes any water or other drinks taken with medications.

You may feel thirsty, but your body may not need more liquids. Take care not to replace the fluid that diuretics are helping to get rid of. Try sucking on sugar-free hard candy if your mouth feels dry.

Note: the water in some food counts as a liquid. To keep track of ALL your liquid intake, watch for foods that are high in liquids (or liquid at room temperature). These include yogurt, pudding, ice cream, gelatin, and fruits and vegetables.

SAMPLE MENU

	Calories	Saturated Fat (gm)	Sodium (mg)
Breakfast			
2 Egg 1-Yolk Omelet:	95	1.6	117
1/4 cup mozzarella cheese	85	2.5	149
1 cup broccoli, spinach, onions, red and yellow peppers, roasted	45	0.5	20
Whole wheat toast, 1 slice	70	1	129
Fruit spread, 1 Tbsp	40	0	0
Berries, 1 cup	60	0	0
Herbal Tea	0	0	0
Breakfast Total	395	5.6	415
Lunch			
Tacos:			
Corn tortillas, 2	124	0	26
Low sodium black beans, 1 cup	55	0	70
Tomatoes, chopped	24	0	19.5
Chicken breast, roasted or grilled, without skin	165	1.0	74
Avocado, 1/3 medium	80	1.0	0
Lime juice	8	0	1
Lettuce, 1 cup	17	0	29
Low sodium salad dressing, 1 TBSP	86.7	1.2	40.5
Strawberries, 1/4 cup	47	0	1
Almond milk, 1 cup	60	1	20
Lunch Total	666.7	4.2	281
Snack			
Grapes, 1 cup	62	0.1	2
Low fat vanilla Greek yogurt, 6 oz	80	0	45
Snack Total	142	0.1	47
Dinner			
Herb Baked Cod, 3.5 ounces	82	0.7	80
Baked potato	204	0	0
Low fat sour cream	18	0.5	15
Carrots, cooked, 1/2 cup	30	0	40
Salad, plain lettuce with tomatoes	25	0	6
Olive oil, 1 tsp and Balsamic vinegar	18	0	2
Skim milk, 1 cup	83	0	130
Dinner Total	460	1.2	273
Snack			
Apple, 1 medium	95	0.1	2
Almonds, unsalted, 1/2 cup	155	1.0	3
Snack Total	250	1.1	5
Total for the entire day	1913.7	12.2	1021



Avoiding Alcohol And Caffeine

If you have heart failure, you should discuss with your healthcare provider whether your alcohol intake should be reduced or if you should even drink at all. People who have alcohol-induced cardiomyopathy (heart muscle damage) should never drink alcohol.

Drinking too much alcohol can raise blood pressure, cause heart muscle damage and heart failure, and lead to stroke. It can also contribute to:

- High triglycerides (blood fats)
- Liver problems
- Cancer or other diseases
- Obesity
- Alcoholism
- Irregular heartbeat

People with heart failure also should limit their intake of caffeinated beverages such as coffee, black tea and caffeinated soda. Caffeine is a stimulant that can put more stress on the heart. Decaffeinated coffee, tea and diet sodas are fine, but water and 100% fruit juice are healthier choices.

Stopping Tobacco Use

Make a plan. Set a date and choose a time to quit when there is a little less stress in your life.

Remove every cigarette, lighter, match, and ashtray from the house and the cars. Don't let anyone smoke in the house or car.

Change your routine. Choose a healthy alternative to smoking such as walking after a meal instead of smoking. Start walking before you stop smoking, it will help you get into the routine before you even stop.

Stock up on fresh fruits and vegetables, hard candies or chewing gum.

Reward yourself each day that you do not smoke such as watch a movie, visit friends, take a walk or do a hobby.

Sometimes it may be necessary to use medication. Never smoke when using nicotine replacements such as patches or gum.



Need help quitting?

St. Elizabeth Tobacco Cessation Program
(859) 301-5570

Quit Now Kentucky
1-800-784-8669
(1-800-QUITNOW)

Physical Activity

Regular physical activity can help your heart to get stronger. With daily activity, most people with heart failure can experience some of the following benefits:

- Feeling more energetic.
- Improvement in mood.
- Losing or maintaining weight.
- Improvement in circulation.
- Feeling less stressed and tired.
- Lower blood pressure.
- Increasing HDL (good cholesterol).
- Lowering triglycerides.

Guidelines for exercise:

- Always talk with your doctor before starting an exercise program.
- Wear appropriate clothes – moisture-wicking clothing, well-fitting shoes.
- Always warm up to prepare yourself for exercise.
- Do exercises at a comfortable pace. Slow down when climbing stairs or hills. You should be able to talk when exercising.
- Set reachable goals and choose an activity you enjoy so you don't get bored.
- Drink water before, during, and after exercise, especially in warmer weather. Keep within the 64 ounces per day. Speak with your doctor if you need to go up on your fluid restriction on hot days.
- Always cool down for 5 to 10 minutes after exercising by walking slowly and easily.

Warning signs during exercise:

- Pain, tightness, or discomfort in the chest, jaw, arms, neck, or back.
- Lightheadedness, dizziness, or confusion.
- Unusual shortness of breath.
- Increased fatigue.
- Unusual pain or discomfort in your muscles or joints.
- Feeling extremely ill.
- Ankle swelling.



Vaccinations

It is important that you stay current on your immunizations. This helps to maintain good health.

- Flu shots are needed annually.
- Pneumonia shots are needed one time after age 65. If you were vaccinated before age 65, you will need to be revaccinated once after you turn 65. This should be at least five years after the last vaccination. Before the age of 65, you should be vaccinated every 5 years.

HOW IS HEART FAILURE TREATED?

Medications

Taking your medicine every day is necessary to control heart failure. Sometimes treatment will begin with two or more medicines.

It may take several days or weeks to find the right doses of your medicines.

Skipping doses or not refilling your prescription can cause serious problems.

Continue taking your medications even after you feel better. You feel better because the medications are working.

Avoid taking NSAIDS (non-steroidal anti-inflammatory drugs), like ibuprofen (Advil, Aleve). These medications can interact with your heart failure medications, affect your kidney function, and can worsen your symptoms of heart failure. Please discuss alternative medications with your doctor.



Medications Used To Treat Heart Failure

Medication Type & Generic (Brand)	How Medication Works	Important Information	Possible Side Effects
DIURETICS OR “WATER PILLS”			
Loops: Bumetanide (Bumex) Furosemide (Lasix) Torsemide (Demadex) Thiazides/Thiazide-like: Hydrochlorothiazide (Microzide) Metolazone (Zaroxolyn)	Improves heart failure symptoms by helping the kidneys remove more sodium and water from your blood.	Take early in the day to avoid waking up frequently at night. Your doctor should monitor your kidneys and potassium. You may need to take extra potassium pills.	High uric acid levels (caution with gout). Low magnesium. Low potassium. Dizziness with lowered blood pressure. Excessive urination. Kidney dysfunction.
BETA-BLOCKERS			
Bisoprolol (Zebeta) Carvedilol (Coreg) Metoprolol tartrate (Lopressor) Metoprolol succinate (Toprol XL)	Slows your heart rate. Lowers blood pressure. Has a direct effect on the heart muscle to lessen the workload of the heart.	Do NOT stop taking abruptly. Call your doctor if you have asthma or COPD and experience shortness of breath. May block signs of low blood sugar, especially in diabetics.	Fatigue. Cold hands. Dizziness. Lightheadedness. Shortness of breath. Sexual dysfunction.
ANGIOTENSIN CONVERTING ENZYME (ACE) INHIBITORS			
Benazepril (Lotensin) Captopril (Capoten) Enalapril (Vasotec) Lisinopril (Prinivil, Zestril) Fosinopril (Monopril) Quinapril (Accupril) Ramipril (Altace)	Helps blood move through your vessels more easily. Decreases blood pressure. Decreases water and sodium retention.	Use caution with various activities as medication can cause dizziness at first. Seek emergency medical attention if you experience swelling of the lips or tongue.	Low blood pressure. Dry cough with ACE inhibitors. Rash. Kidney dysfunction. High potassium. Swelling of lips and tongue. Abnormal metallic taste.

Medication Type & Generic (Brand)	How Medication Works	Important Information	Possible Side Effects
ANGIOTENSIN II RECEPTOR BLOCKERS (ARB)			
Candesartan (Atacand) Irbesartan (Avapro) Losartan (Cozaar) Olmesartan (Benicar) Telmisartan (Micardis) Valsartan (Diovan)	Helps blood move through your vessels more easily. Decreases blood pressure. Decreases water and sodium retention.	Use caution with various activities as medication can cause dizziness at first. Seek emergency medical attention if you experience swelling of the lips or tongue.	Low blood pressure. Dry cough with ACE inhibitors. Rash. Kidney dysfunction. High potassium. Swelling of lips and tongue. Abnormal metallic taste.
ANGIOTENSIN RECEPTOR NEPRILYSIN INHIBITORS (ARNI)			
Sacubitril/Valsartan (Entresto)	Helps blood move through your vessels more easily. Decreases blood pressure. Decreases water and sodium retention.	Use in place of ACE-inhibitor or ARB. If switching from ACE-inhibitor, wait at least 36 hours before taking sacubitril/valsartan. Do not chew, crush or divide tablets.	Low blood pressure. Dizziness. Kidney dysfunction. High potassium. Cough. Swelling of lips and tongue.
MINERALOCORTICOID RECEPTOR ANTAGONIST (MRA)			
Eplerenone (Inspra) Spironolactone (Aldactone)	Helps kidneys remove more sodium and water from your blood, without losing potassium, and lowers blood pressure.	Your doctor should monitor your kidneys and potassium.	Rash. Enlargement of breast tissue in males with spironolactone. Increased potassium.
VASODILATORS			
Hydralazine (Apresoline) Isosorbide dinitrate (Isordil) Isosorbide mononitrate (Imdur)	Causes the blood vessels to widen and relax, which decreases blood pressure and pressure on your heart.	Dizziness or lightheadedness can occur.	Dizziness. Headaches. Flushing. Heart palpitations. Nasal congestion.

Medication Type & Generic (Brand)	How Medication Works	Important Information	Possible Side Effects
CARDIAC GLYCOSIDE			
Digoxin (Lanoxin)	<p>Increases the force of the heart's contractions.</p> <p>Slows certain types of irregular heartbeats.</p>	<p>Use with caution in kidney disease.</p> <p>Use with caution when potassium is low.</p>	<p>Nausea/vomiting.</p> <p>Abdominal pain.</p> <p>Headaches.</p> <p>Dizziness.</p> <p>Mild skin rash.</p> <p>Bloody/black stools.</p> <p>Blurry/yellow vision.</p>
HYPERPOLARIZATION-ACTIVATED CYCLIC NUCLEOTIDE (HCN) CHANNEL BLOCKER			
Ivabradine (Corlanor)	Regulates heart rate when other heart failure medications have not helped enough.	<p>Must be in normal heart rhythm.</p> <p>Use if unable to take or are on maximally tolerated doses of beta-blockers.</p> <p>Take with meals.</p> <p>Avoid grapefruit.</p>	<p>Low heart rate.</p> <p>Atrial fibrillation.</p> <p>Visual brightness.</p> <p>Dizziness.</p>

Cardiac Rehabilitation

Cardiac rehabilitation is an outpatient education and exercise program that is customized to each patient's needs. Cardiac rehabilitation is designed to help you recover from a heart attack, heart disease or surgery to treat heart disease.

Cardiac rehabilitation is often divided into phases that involve monitored exercise, nutritional counseling, emotional support, and support and education about lifestyle changes to reduce your risks of heart problems. The goals of cardiac rehabilitation are to establish an individualized plan to help you regain strength, to prevent your condition from worsening, to reduce your risk of future heart problems, and to improve your health and quality of life.

Cardiac rehabilitation programs increase your chances of survival and are recommended by American Heart Association and American College of Cardiology.

For more information about Cardiac Rehabilitation at St. Elizabeth, go to stelizabeth.com/heart or call (859) 301-3600.



Surgery

In some cases, doctors recommend surgery to treat the underlying problem that led to heart failure. Possible surgeries include:

Coronary bypass surgery. If severely blocked arteries are contributing to your heart failure, your doctor may recommend coronary artery bypass surgery. In this procedure, blood vessels from your leg, arm or chest bypass a blocked artery in your heart to allow blood to flow through your heart more freely.

Heart valve repair or replacement. If a faulty heart valve causes your heart failure, your doctor may recommend repairing or replacing the valve. The surgeon can modify the original valve to eliminate backward blood flow. Surgeons can also repair the valve by reconnecting valve leaflets or by removing excess valve tissue so that the leaflets can close tightly. Sometimes repairing the valve includes tightening or replacing the ring around the valve (annuloplasty).

Valve replacement is done when valve repair isn't possible. In valve replacement surgery, the damaged valve is replaced by an artificial (prosthetic) valve.

Certain types of heart valve repair or replacement can now be done without open heart surgery, using either minimally invasive surgery or cardiac catheterization techniques.

Implantable cardioverter-defibrillators (ICDs). An ICD is a device similar to a pacemaker. It's implanted under the skin in your chest with wires leading through your veins and into your heart.

The ICD monitors the heart rhythm. If the heart starts beating at a dangerous rhythm, or if your heart stops, the ICD tries to pace your heart or shock it back into normal rhythm. An ICD can also function as a pacemaker and speed your heart up if it is going too slow.

Cardiac resynchronization therapy (CRT), or biventricular pacing. A biventricular pacemaker sends timed electrical impulses to the heart's lower chambers (the left and right ventricles) so that they pump in a more efficient, coordinated manner.

Many people with heart failure have problems with their heart's electrical system that cause their already weak heart muscle to beat in an uncoordinated fashion. This inefficient muscle contraction may cause heart failure to worsen. Often a biventricular pacemaker is combined with an ICD for people with heart failure.

Ventricular assist device (VAD). A VAD, also known as a mechanical circulatory support device, is an implantable mechanical pump that helps pump blood from the lower chambers of your heart (the ventricles) to the rest of your body. A VAD is implanted into the abdomen or chest and attached to a weakened heart to help it pump blood to the rest of your body.

Doctors first used heart pumps to help keep heart transplant candidates alive while they waited for a donor heart. VADs may also be used as an alternative to transplantation. Implanted heart pumps can enhance the quality of life of some people with severe heart failure who aren't eligible for or able to undergo heart transplantation or are waiting for a new heart.

Heart transplant. Some people have such severe heart failure that surgery or medications don't help. They may need to have their diseased heart replaced with a healthy donor heart.

Heart transplants can improve the survival and quality of life of some people with severe heart failure. However, candidates for transplantation often have to wait a long time before a suitable donor heart is found. Some transplant candidates improve during this waiting period through drug treatment or device therapy and can be removed from the transplant waiting list.

A heart transplant isn't the right treatment for everyone. A team of doctors at a transplant center will evaluate you to determine whether the procedure may be safe and beneficial for you.

Weight Chart


Take your weight at the same time every day. Try to wear similar clothing. Take your blood pressure in a sitting position with your arm at heart level (lay arm on table while sitting in chair). Comment section should be information such as: Dialysis day, swelling in feet, not feeling well, short of breath, overly tired, etc.

[illegible]

Heart Failure Zones

GREEN ZONE	WHAT TO DO:
<ul style="list-style-type: none"> I have not gained more than 2 pounds in 24 hours or 5 pounds in one week. I am not short of breath. I have no swelling in my feet, ankles, legs or stomach. 	<ul style="list-style-type: none"> Weigh yourself every morning before eating, and write down your weight every day. Take all medications as directed. Eat a low sodium (salt) diet. Daily Limit: 2000 mg (milligrams) Monitor fluid intake. Daily Limit: 2 liters or 64 ounces

YELLOW ZONE	WHAT TO DO:
<ul style="list-style-type: none"> I gained 2 pounds or more in 24 hours or 5 pounds in one week. I'm short of breath. I have a dry hacking cough. I feel lightheaded or dizzy. I have swelling. I have no energy. I have difficulty lying flat. I have to sleep with multiple pillows or sleep sitting in a chair. 	<ul style="list-style-type: none"> Call your cardiologist or family doctor to let them know your symptoms. Continue to weigh yourself daily. Take all medications as directed. Continue eating a low sodium (salt) diet and monitoring your fluid intake.

RED ZONE	WHAT TO DO:
<ul style="list-style-type: none"> Struggling to breathe. Chest pain, pressure, squeezing or any discomfort. Facial droop, arm weakness or slurred speech. Confusion. Extreme weakness or exhaustion. 	<div>  <p>Call 911!</p> </div>

The information included on this Heart Failure Zone card should not be used as a substitute for professional medical advice.

Sodium Counter

The items listed are to be used as a guide. You will need to check the food label to find the exact sodium amount.

BEVERAGES	Serving Size	Sodium (mg)
Coffee, regular or decaf	8 oz.	5
Gatorade	20 oz.	270
Iced tea	8 oz.	10
Lemonade, frozen	8 oz.	0
Lemonade, powder	1 scoop	50
Powerade	2/3 cup	160
Soft drinks, diet and regular	12 oz.	10-25
Tea, regular or decaf	8 oz.	5
Tomato juice (V8®)	8 oz.	640
Tomato juice, low sodium (V8®)	5.5 oz.	85

BREAD	Serving Size	Sodium (mg)
Bagel	1	200-400
Bun, hamburger / hot dog	1	240
Crackers, saltine	5	180
Dinner roll	1	230
Donut, yeast	1	145
English muffin	1	365
Rye	1 slice	175
Taco shell, hard	1	180
Tortilla, corn	1	180
Tortilla, flour	1	140
White	1 slice	125
Whole wheat/multi-grain	1 slice	160

CEREALS	Serving Size	Sodium (mg)
Cheerios®	3/4 cup	172
Cream of Wheat®, instant	1 packet	170
Oatmeal, instant/flavored	1 packet	150-240
Oatmeal, old-fashioned	1 cup	0
Raisin Bran®	3/4 cup	270
Shredded Wheat®, original spoon size	1 cup	0

DAIRY PRODUCTS	Serving Size	Sodium (mg)
American cheese	1 oz.	405
Blue cheese	1 oz.	395
Buttermilk	8 oz.	260
Cheddar cheese	1 oz.	175
Colby cheese	1 oz.	170
Cottage cheese	1/2 cup	460
Cream cheese	1 Tbsp.	45
Ice cream, chocolate	1/2 cup	80
Ice cream, vanilla	1/2 cup	55
Milk, chocolate	8 oz.	150
Milk, white	8 oz.	120
Mozzarella cheese	1 oz.	150
Parmesan cheese	1 Tbsp.	95
Provolone cheese	1 oz.	250
Sour cream	1 Tbsp.	10
Swiss cheese	1 oz.	55
Velveeta cheese	1 oz.	410
Yogurt	8 oz.	145

EGGS	Serving Size	Sodium (mg)
Egg, substitute	1/4 cup	120
Egg, whole	1 egg	70

FATS & OILS	Serving Size	Sodium (mg)
Butter, salted	1 Tbsp.	90
Butter, unsalted	1 Tbsp.	2
Margarine	1 Tbsp.	90

FRUIT (FRESH) & VEGETABLES	Serving Size	Sodium (mg)
Apple	1 apple	2
Banana	1 banana	1
Beans, canned	1/2 cup	300
Beans, fresh	1/2 cup	4
Cantaloupe	1 cup	15
Corn, canned	1/2 cup	270
Corn, fresh	1/2 cup	5
Grapes	1 cup	2
Olives	1 olive	50
Potato, French fries	14 fries	310
Potato, fresh	1 medium	5
Spinach, fresh	1/2 cup	20
Spinach, canned	1/2 cup	210
Spinach, frozen	1/2 cup	80
Tomato, fresh	1 tomato	5
Tomato, canned	1/2 cup	195
Watermelon	1 cup	3

MEAT, POULTRY, FISH, SEAFOOD	Serving Size	Sodium (mg)
Bacon, low sodium	1 slice	65
Bacon, regular	1 slice	100
Bologna	1 oz.	255
Beef, lean – ground, roast, steak	3 oz.	60
Bratwurst	1 link	635
Chicken, baked	3 oz.	60
Chicken, canned	3 oz.	435
Chicken, fried	3 oz.	300-600
Chicken, rotisserie	3 oz.	460
Crab, fresh, frozen or imitation	1 oz.	240
Fish, fresh or frozen	3 oz.	45
Ham, deli	2 oz.	620
Ham, roasted	3 oz.	1275
Hot dog	1 link	500
Pepperoni	1 oz.	580
Pork chop	3 oz.	60
Pork roast or rib	3 oz.	60
Roast beef, deli	3 oz.	60
Salami	2 oz.	1050
Sausage links	2 links	370
Shrimp, fresh	3 oz.	110
Tuna, canned	1 oz.	100
Turkey, deli	2 oz.	560
Turkey, ground	3 oz.	75
Turkey, roasted	3 oz.	90

NOODLES, PASTA, & RICE	Serving Size	Sodium (mg)
Noodles or pasta, cooked without salt	1 cup	5
Noodles or pasta, cooked with salt	1 cup	215
Ramen noodles	1 cup	980
Rice	1 cup	5

NUTS, NUT BUTTER, SEEDS	Serving Size	Sodium (mg)
Almond butter	2 Tbsp.	2
Nutella®	2 Tbsp.	15
Nuts, roasted, salted	1/4 cup	230
Nuts, roasted, unsalted	1/4 cup	5
Peanut butter	2 Tbsp.	100-300

PREPARED ITEMS/ MEALS	Serving Size	Sodium (mg)
Beef stew, canned	1 cup	1010
Chili, canned	1 cup	1030
Hamburger Helper®	1/3 cup	590
Lasagna, frozen	1 serving	1465
Macaroni and cheese, box	1 cup	870
Sloppy Joe, canned	1/3 cup	345

SALAD DRESSINGS AND TOPPINGS, SAUCES, CONDIMENTS, SEASONINGS, AND BAKING INGREDIENTS	Serving Size	Sodium (mg)
Baking powder	1 tsp.	425
Baking soda	1 tsp.	950
Balsamic vinegar	1 Tbsp.	0
Barbecue sauce	1 Tbsp.	125
Bisquick®	1 cup	1140
Blue cheese dressing	1 Tbsp.	165
Cocktail sauce	1 Tbsp.	160
Cornmeal, self-rising	3 Tbsp.	470
Croutons	2 Tbsp.	60
Dill pickle spear	1 spear	210
Flour, self-rising	1/4 cup	360
Frank's Red Hot Sauce®	1 Tbsp.	460
French dressing	1 Tbsp.	215
Gravy, canned or from dry mix	1/4 cup	300
Italian dressing	1 Tbsp.	115
Ketchup	1 Tbsp.	170
Mrs. Dash®	1 tsp.	0
Pickle relish	1 Tbsp.	105
Ranch dressing	1 Tbsp.	130
Salsa	1 Tbsp.	155
Soy sauce	1 tsp.	345
Sweet and sour sauce	1/4 cup	195
Tabasco® sauce	1 tsp.	35
Tartar sauce	1 Tbsp.	100
Teriyaki sauce	1 Tbsp.	690
Tomato paste	1 Tbsp.	130
Tomato sauce	1/4 cup	370
Vinegar and oil	1 Tbsp.	0

SNACK FOOD	Serving Size	Sodium (mg)
Corn chips	1 oz.	200
Granola bar	1 bar	80
Popcorn, air popped, unbuttered	1 cup	0
Popcorn, microwave	1 cup	115
Potato chips	1 oz.	250
Pretzels	1 oz.	60

SOUPS	Serving Size	Sodium (mg)
Beef bouillon cubes	1 cube	865
Chicken bouillon cubes	1 cube	1150
Soup, canned, broth-based, diluted with water	1 cup	895
Soup, canned, cream-based, diluted with water	1 cup	970
Soup, canned, reduced sodium, diluted with water	1 cup	540

RESTAURANTS

ARBY'S	Serving Size	Sodium (mg)
Crispy fish sandwich	1	990
Curly fries	1 small	940
Homestyle fries	1 small	810
Regular roast beef	1	1009

BURGER KING	Serving Size	Sodium (mg)
Cheeseburger	1	560
Crispy chicken sandwich	1	1080
Croissan'wich with sausage, egg, and cheese	1	930
Hamburger	1	380
French fries, unsalted	1 small	300
Veggie burger	1	980
Whopper, without cheese	1	980

CHICK-FIL-A	Serving Size	Sodium (mg)
Chicken noodle soup	1 cup	1040
Chicken nuggets, fried, 4 pieces	1	610
Chicken nuggets, grilled, 4 pieces	1	220
Chicken sandwich, fried	1	1400
Chicken sandwich, grilled	1	680
Side salad, no dressing	1	170
Waffles fries, small	1	190

CHIPOTLE	Serving Size	Sodium (mg)
Barbacoa	4 oz.	530
Black beans	4 oz.	210
Chicken	4 oz.	310
Chips & salsa	1 order	940
Fajita vegetables	2 oz.	150
Flour tortilla	1	600
Rice, brown	4 oz.	190
Rice, white	4 oz.	350
Steak	4 oz.	330
Queso	2 oz.	200

DAIRY QUEEN	Serving Size	Sodium (mg)
Cheeseburger	1	920
Chicken strip basket	4 pieces	2170
French fries, regular	1	590
Heath Blizzard, medium	1	440
Mr. Misty, medium	1	40
Onion rings, regular	1	840

JIMMY JOHN'S	Serving Size	Sodium (mg)
#1 - The Pepe (Ham)	8 in.	770
#2 - Big John (Roast Beef)	8 in.	560
#4 - Turkey Tom	8 in.	580
#6 - The Veggie	8 in.	580

KENTUCKY FRIED CHICKEN (KFC)	Serving Size	Sodium (mg)
Biscuit	1	520
Bowl	1	2350
Chicken tender	1 tender	320
Chicken sandwich	1	1170
Grilled, breast	1	710
Mashed potatoes and gravy	1	520
Original recipe, breast	1	1190
Popcorn nuggets, kids' size	1	870

LAROSA'S	Serving Size	Sodium (mg)
Boneless wings, BBQ	5 wings	1000
Breadstick, garlic	1 piece	265
Cheese pizza, large hand tossed	1 slice	640
Minestrone Soup	1 bowl	820
Pepperoni pizza, large hand tossed	1 slice	810
Spaghetti	1	1260
Steak hoagy, with cheese and pizza sauce	1	1520

MCDONALD'S	Serving Size	Sodium (mg)
Artisan grilled chicken sandwich	1	1040
Big Mac	1	940
Cheeseburger	1	680
Chicken nugget	1 nugget	85
Egg McMuffin	1	790
Filet-O-Fish sandwich	1	560
French Fries, medium	1	260
Hamburger	1	480
Side salad without dressing	1	15
Southwest grilled chicken salad without dressing	1	880
Quarter pounder with cheese	1	1150

SKYLINE CHILI	Serving Size	Sodium (mg)
3-way, regular	1	2040
3-way, small	1	1020
4-way, regular	1	2170
4-way, small	1	1090
5-way, regular	1	2310
5-way, small	1	1160
Cheese coney	1	1020
Chili bowl	1	1010
Chili cheese sandwich	1	880
Chili spaghetti, regular	1	1490
Chili spaghetti, small	1	740
Original burrito	1	1330
Oyster crackers	1 bowl	250

SUBWAY	Serving Size	Sodium (mg)
Club, 6-inch without cheese	1	780
Meatball, 6-inch without cheese	1	1530
Roast beef, 6-inch without cheese	1	630
Roasted chicken, 6-inch without cheese	1	520
Turkey, 6-inch without cheese	1	690

TACO BELL	Serving Size	Sodium (mg)
Breakfast quesadilla, sausage	1	1100
Crunchy taco, beef	1	310
Soft taco, beef	1	500
Soft taco, chicken	1	480

WENDY'S	Serving Size	Sodium (mg)
Dave's single	1	1020
Cheeseburger, junior size	1	610
Chicken nuggets, 4 pieces	1 order	340
Chili, small	1	930
French fries, small	1	210
Frosty, chocolate, small	1	150
Grilled chicken sandwich	1	810
Hamburger, junior size	1	420

