

Living with Heart Failure



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WEXNER MEDICAL CENTER

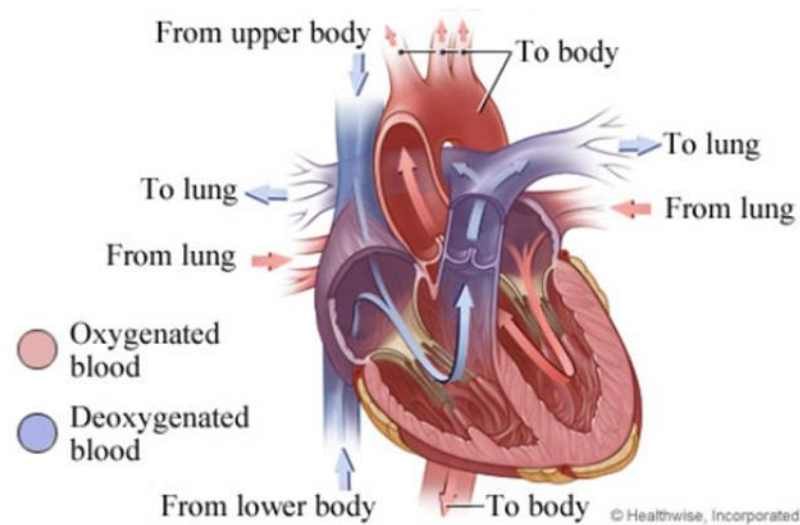
Objectives

- Understand heart failure and its various causes
- Discuss medical and surgical treatment options
- Review strategies for managing heart failure
- Identify resources for support and more heart failure information



How Your Heart Pumps

Your heart pumps oxygen and nutrient-rich blood to your body with every heartbeat.



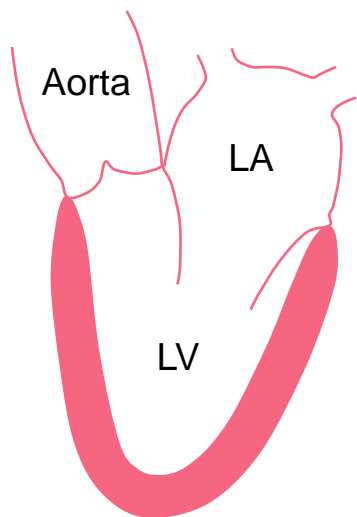
When your heart relaxes, it fills with blood. When it contracts, it pushes the blood forward in one direction to nourish and fuel the body.



What is Heart Failure?

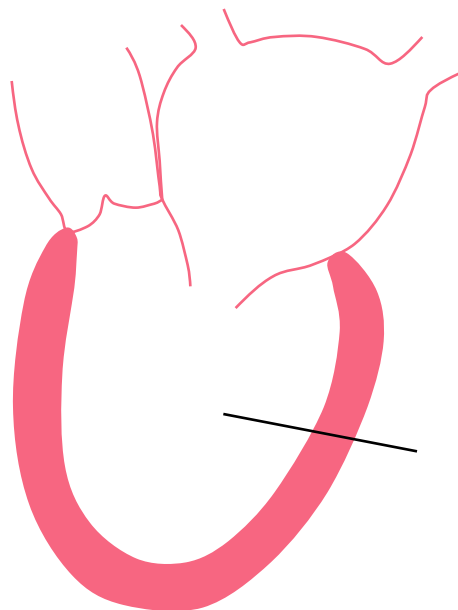
- Your heart is still working, BUT it isn't pumping the way it should (it's inefficient)
- Two main types
 - Systolic Heart Failure / HFrEF
 - Diastolic Heart Failure / HFpEF

Types of Heart Failure: Difference Between Systolic and Diastolic Heart Failure



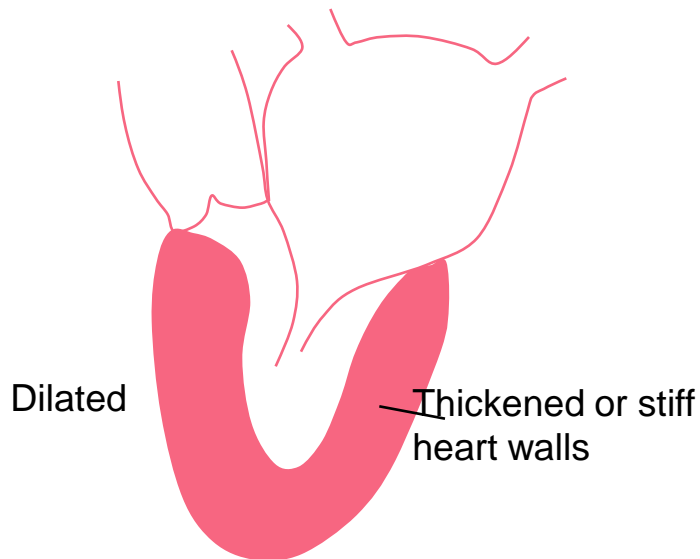
Normal

*Normal ejection (squeeze)
=Systolic function
Normal relaxation (filling)
=Diastolic function*



Systolic Heart Failure

*Weakened pump
Relaxation ± abnormal
→ Blood backs up
and overloads the heart*



Diastolic Heart Failure

*Normal ejection
Abnormal relaxation: Stiff or scarred
→ Won't allow enough blood to fill the
heart before it squeezes*



Simplified View of Systolic Heart Failure

Normal



Normal Heart



Dilated cardiomyopathy

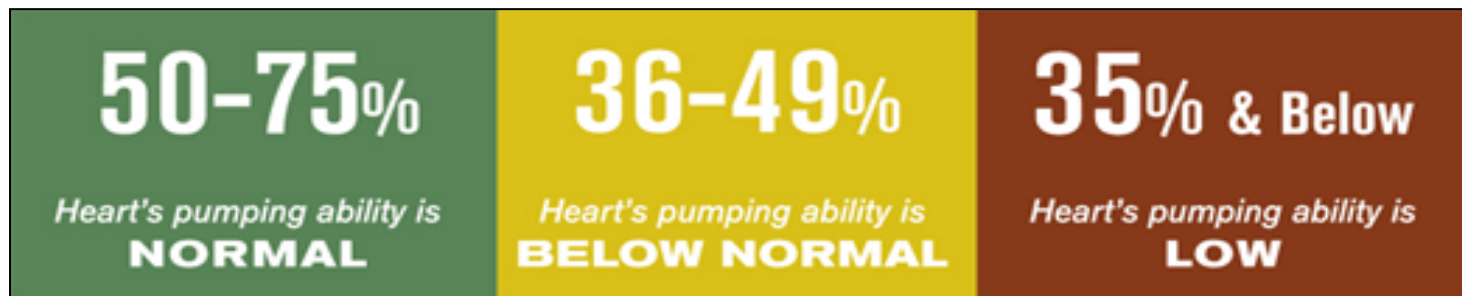


Development of
Heart Failure



How Severe is A Patient's Heart Failure?

- We measure the ejection fraction by echo
 - The fraction of blood that the heart pumps with every beat



- We assess the patient's symptoms
 - No or mild symptoms
- We assess the patient's functional status



Common (but maybe inaccurate) synonyms

- “Enlarged heart”
- “Weakened heart”
- Cardiomyopathy
- But not “the heart stopped working”



What causes heart failure?

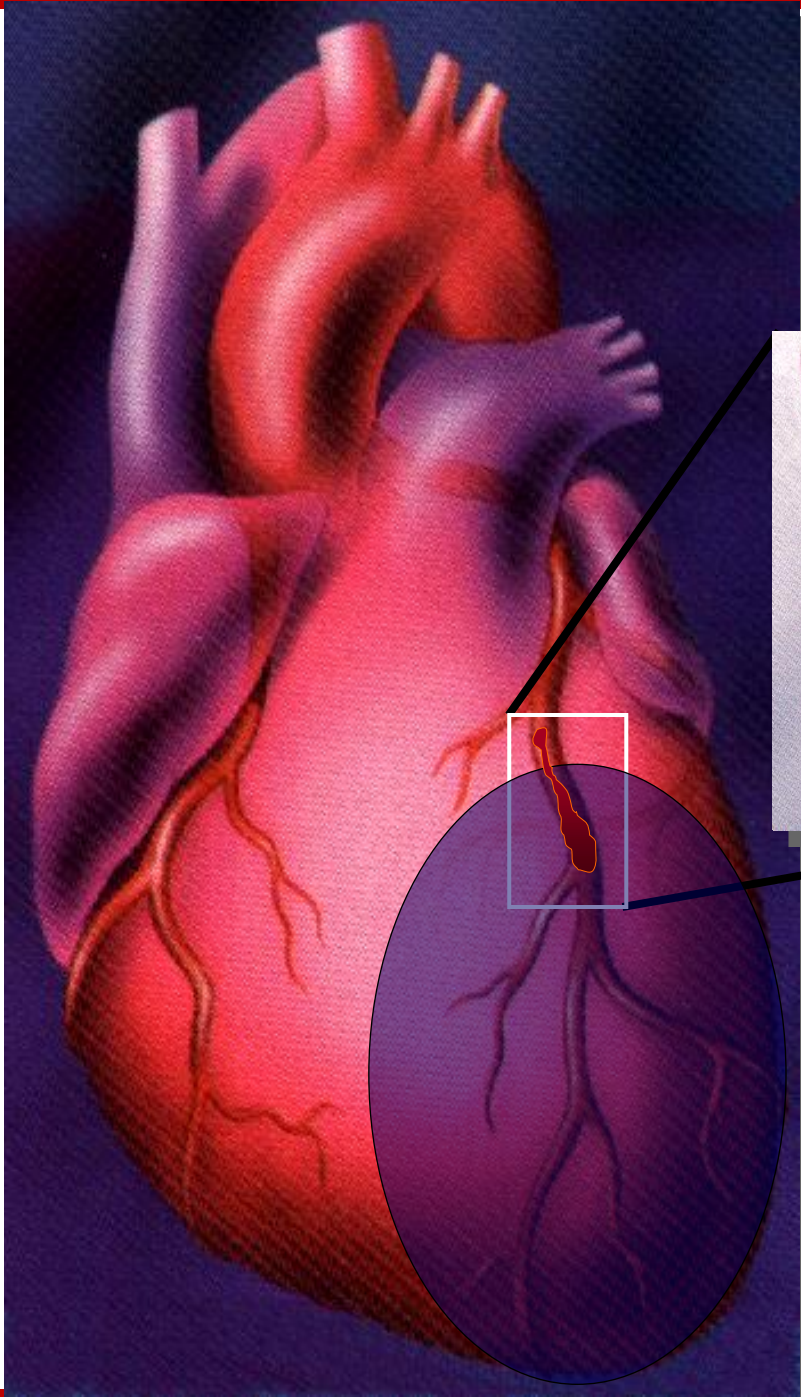
Heart failure develops mainly as we age or because of other health issues or behaviors that force the heart to work harder.

The heart's ability to squeeze and pump grows weaker over time.

Diseases that can damage or strain the heart

- Heart disease (heart attack/CAD)
- High blood pressure (hypertension)
- Diabetes
- Genetic conditions
- Problem with the heart muscle (cardiomyopathy) or heart valves
- Congenital heart problems (present at birth)
- Kidney problems
- Some types of infections

Some treatments for cancer (chemotherapy), certain thyroid conditions, heavy alcohol or drug use have also been linked to damage to the heart muscle



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How Big is the Problem?

- Affects ~ 6.5 million people in the U.S.
- Expected to increase 46% from 2012-2030
- 60,000 deaths per year directly attributed to HF
- Half of patients die w/in 5 yrs of diagnosis
- Over 1.1 million hospitalizations annually
- #1 cause of hospital readmissions (~25% in 1 month and 50% in 6 months)
- #1 cause of hospitalization for pts \geq 65 yrs
- Costs \$34.4 billion annually in the U.S.


Benjamin, et al. Circulation 2017.

Symptoms of Heart Failure

It's not always obvious, and symptoms can vary. peak up if you think something is wrong.

Think **FACES**...

- **F**atigue
- **A**ctivities limited
- **C**hest congestion
- **E**dema or ankle swelling
- **S**hortness of breath



Heart Failure Society
of America


Who is the Patient with Heart Failure?

Think **FACES**

- F**atigue
- A**ctivities limited
- C**hest congestion
- E**dema or ankle swelling
- S**hortness of breath

See back for more symptoms

For more information, visit www.abouthf.org



Symptoms of Heart Failure

- Some people may also report:
 - Feeling full more quickly, lack of appetite, wasting (cardiac cachexia)
 - Nausea and vomiting
 - Pressure or heaviness in the chest when lying flat
 - A noticeable drop in how often they urinate
- Other things to keep in mind:
 - Symptoms tend to get worse as your heart grows weaker.
 - They can be different in women
 - Talk with your doctor about any changes in how you feel. Keep a notepad handy to track symptoms.
- **NOTE:** Gaining weight quickly (over a period of days), swelling or developing a cough, especially one that worsens at night, could be a red flag that fluid is building up in the body – **medical attention is needed.**

How is Heart Failure Diagnosed

- Detailed medical history and physical exam
- The doctor will listen to your heart and lungs, ask how you are feeling and note any personal/family medical history, etc.
- Order blood and/or imaging tests to assess any damage to your heart and check how well your heart pumps blood
 - B-type natriuretic peptide (BNP) and/or thyroid blood test; when heart failure develops or worsens, BNP is released
 - EKG, chest X-ray, echocardiogram, ultrasound or cardiac MRI
 - Possible stress test or heart catheterization

Heart Failure Treatment

Treatment of heart failure is a “team sport”

- The patient
- Caregivers, family, and other support
- Health care professionals
- Pharmacists
- Nutritionists
- Exercise physiologists (cardiac rehab)

Heart Failure Treatment

- There is no cure for heart failure, but there are treatments to help you live a longer, more active life.
- These include:
 - Lifestyle changes
 - Ongoing medical care
 - Medications
 - Procedures in certain cases
 - Heart pumps (left ventricular assist devices) or a heart transplant for more severe cases or as a last resort
- Treatment will depend on your:
 - Age
 - Overall health
 - Other medical conditions
 - Personal preferences

Heart Failure Medications

- Medications are an essential part of treating heart failure.
- Some people take an average of 11+ medications – that’s a lot to keep track of!
- Medications are mainly used to
 - help your body get rid of extra fluid and/or
 - reduce the strain on the heart so it doesn’t have to work as hard to pump blood

The CardioSmart Med Reminder App, is a free and easy-to-use app to help you take your medications as prescribed.

Available in the Apple App Store!



Heart Failure Medications

- You may be prescribed 1 or more of:
 - Diuretic (“Water Pills”): Helps body get rid of extra salt and fluid
 - ACE Inhibitors / ARB / ARNI: Relax blood vessels making it easier for heart to pump
 - Beta-blockers: Slows heart rate reducing work heart has to do
 - Aldosterone antagonist: Helps body get rid of extra salt and fluid; Helps body hold onto potassium
 - Hydralazine / Nitrates: Work together to relax and expand blood vessels

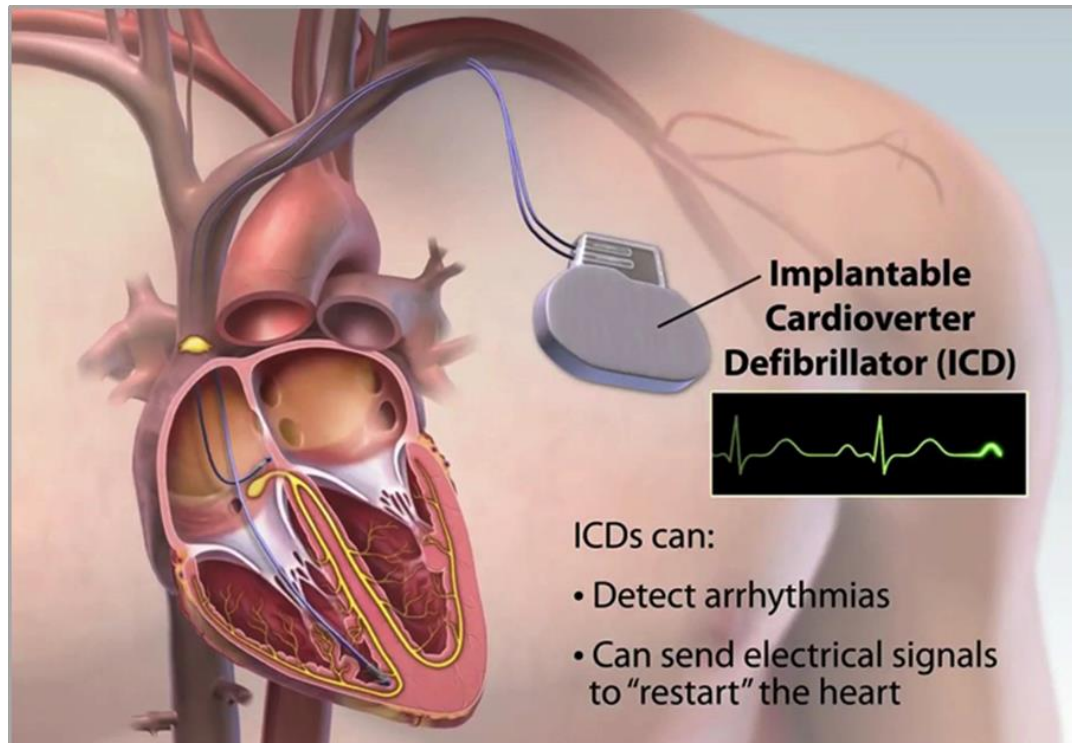
Heart Failure Medications

- When taking medications, always:
 - take them as directed by your doctor and read labels
 - report side effects
 - keep follow-up appointments – sometimes medications, dosages and/or how often you take each need to be adjusted
 - tell your doctor if you have a hard time taking or paying for your medications (ask about pill boxes, Rx assistance programs, etc.)



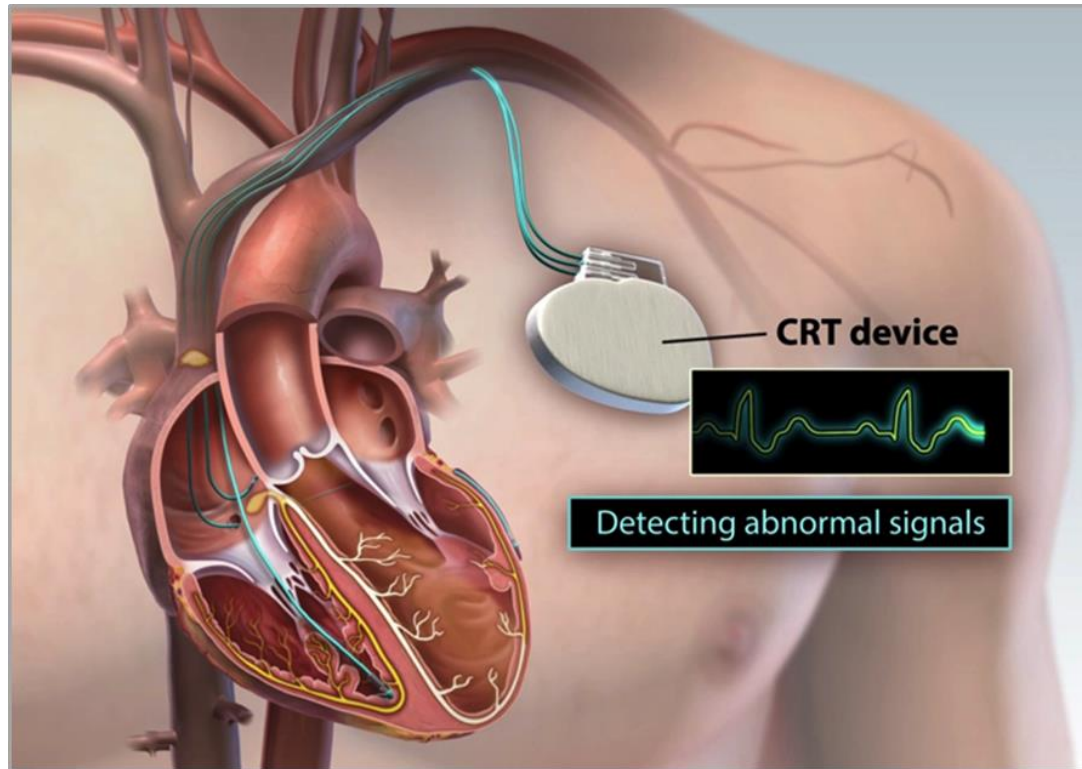
Heart Failure Procedures

Implantable cardioverter defibrillator (ICD): battery-powered device placed under the skin that keeps track of your heart rate; if a problem is detected it will deliver a shock to restore normal heart beat.



Heart Failure Procedures

Cardiac resynchronization therapy (CRT): special pacemaker that helps coordinate both sides of the heart to pump at the same time



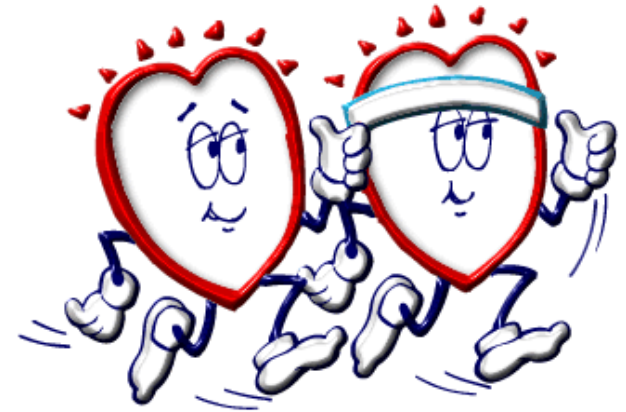
Lifestyle Changes

- Eating a heart-healthy, low sodium diet
- Watching your fluid intake
- Getting regular exercise
 - Find a safe and reasonable level of physical activity
 - Don't overexert yourself
- Losing weight if needed
 - Excess body weight makes your heart work harder
- Avoiding alcohol, tobacco and stimulants like cocaine, methamphetamines, anabolic steroids, etc.



Exercise Will Improve Your Quality of Life

- Pick a simple aerobic activity that you enjoy
 - Start slowly and increase gradually
- Need to move large muscle groups
 - Walking is a great first choice
 - Resume activities you stopped (gardening, bowling, fishing)
- Work your way up to 30 minutes most days
 - Doesn't have to be 30 minutes in a row
 - Warm up and cool down
- Check with your physician first if
 - You are really out of shape, uncertain about your abilities, or have shortness of breath with very mild activity



Fluid intake & Daily Weights

Limiting fluid intake: important in managing heart failure

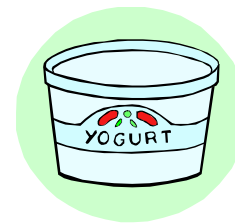
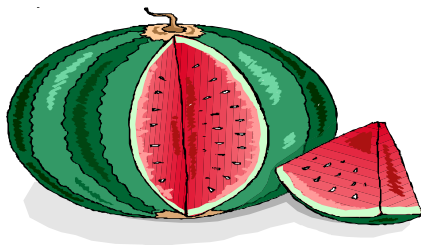
REMEMBER: Anything liquid at room temperature is considered a fluid

Daily weights: every morning at the same time using the same scale

Keep track of daily weights

Typically, weight gain of 3 or more pounds in 24 hours OR 5 or more pounds in 48 hours can be a sign of fluid retention

REMEMBER: You might not see swelling until you are 8-15# up



Salt and Heart Failure

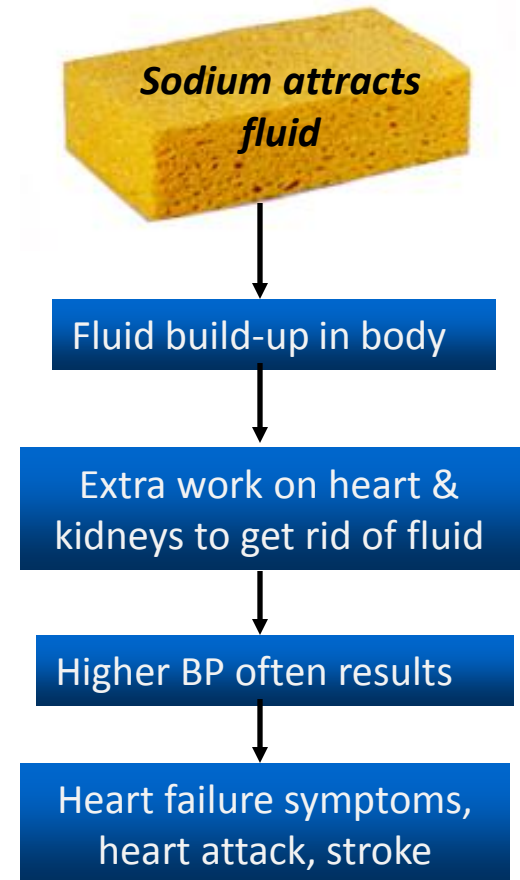
Sodium is a component of salt

- Naturally occurring in many foods
- Added during processing
- In most foods eaten away from home

Your body needs only a small amount of sodium to keep a normal fluid balance.

Too much sodium causes your body to hold onto fluid and cause symptoms of weight gain, shortness of breath, and fatigue.

The more sodium (salt) you take in, the more fluid your body holds on to



Low Sodium Diets

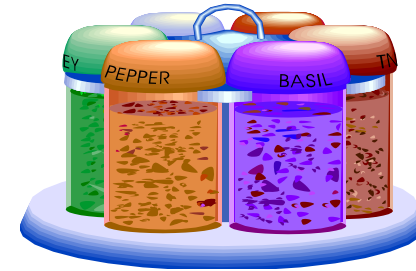
In addition to heart failure patients, the American Heart Association recommends

- 1) All adults older than 51
- 2) All African Americans
- 3) Anyone with high blood pressure

limit their daily intake to **1500 mg**

Plan your meals for 2000 mg intake

<u>MEAL</u>	<u>mg Sodium</u>
Breakfast	600mg
Lunch	600mg
Dinner	600mg
Snack	200mg



Use alternative seasonings!

<i>Basil</i>	<i>Parsley</i>
<i>Chives</i>	<i>Paprika</i>
<i>Dill weed</i>	<i>Pepper</i>
<i>Garlic</i>	<i>Sage</i>
<i>Tarragon</i>	<i>Mrs. Dash</i>
<i>Thyme</i>	<i>Lemon, lime juice</i>



How It Shakes Out

¼ tsp salt = 600 mg sodium

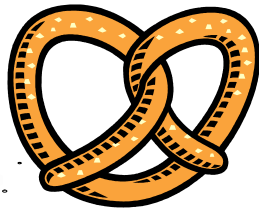
½ tsp salt = 1200 mg sodium

1 tsp salt = 2300 mg sodium *More than daily recommendation*

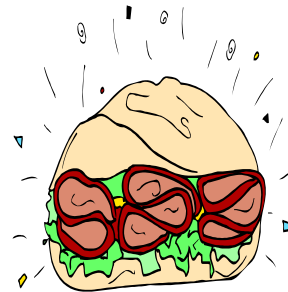
Even a small amount of salt counts!



½ tsp salt



= 1 serving
pretzels



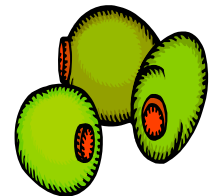
= 3 slices of ham



= 2 packets of
soy sauce



= 3 pickles



= 14 green olives

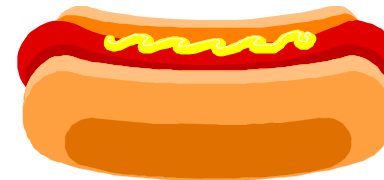
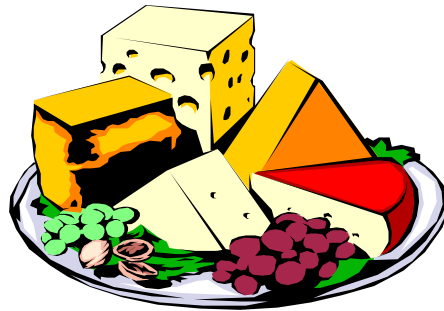


Common high sodium foods

- * Frozen meals
- * Canned foods
- * Breads, baked goods
- * Lunch & smoked meats
- * Cheese
- * Condiments (salad dressing)
- * Olives
- * Pretzels
- * Pickles
- * Bacon
- * Anchovies
- * Soy sauce
- * Seasoning mixes
- * Gravy
- * Salted crackers
- * **FAST FOOD**



Rule of thumb: the more processed the food, the more sodium it contains



Reading Labels

1. Look for Sodium
Listed as milligrams or mg
2. Next, look at serving size
If you eat 2 servings of a food
you need to double what you
see on the label
3. Reduced-sodium products still
contain sodium

Always read the label

Example of Nutrition Facts Label			
Serving Size 1/2 cup (114 g) Servings per Container 4			
Calories 90	Calories from Fat 30 % Daily Value *		
Total Fat 3g			5%
Saturated Fat 0g			0%
Cholesterol 0mg			0%
Sodium 300mg			13%
Total Carbohydrate 13g			4%
Dietary Fiber 3g			4%
Sugars 3g			
Protein 3g			
Vitamin A 80%	●	Vitamin C 60%	
Calcium 4%	●	Iron 4%	
Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your needs.			
	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Saturate Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Total Carbohydrate		300g	375g
Fiber		25g	30g
Calories per gram:			
Fat 9	●	Carbohydrate 4	● Protein 4



Sodium Guidelines

< 140 mg = low sodium

Enjoy these foods!

140-400 mg = medium sodium

Use food in moderation

> 400 mg = high sodium

Use this food sparingly

Low sodium 140 mg or less sodium per serving

Very low sodium 35 mg or less sodium per serving

Sodium-free Less than 5 mg sodium per serving

1. Use salt substitute or other spices when cooking (watch for high potassium in some substitutes)
2. Don't add salt at the table



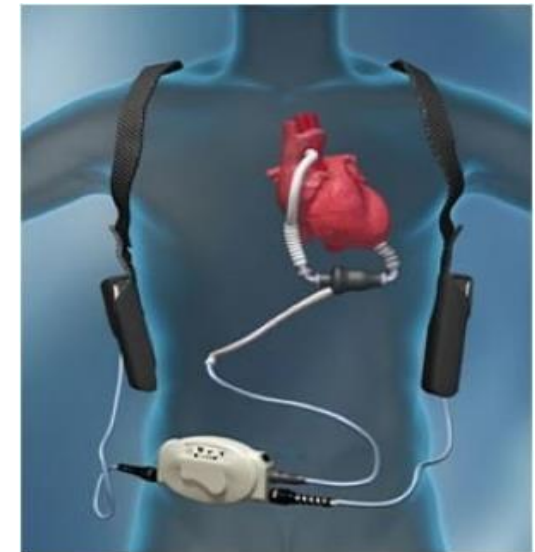
Other Conditions Associated with HF

- Sleep Apnea
 - inefficient breathing patterns at night
 - Patients may sleep “fine” but the inefficiency can cause increased adrenaline
 - Between 60-75% of HF patients have some form
- High blood pressure
- High cholesterol
- Diabetes
- Coronary artery disease



Treatments for Advanced Heart Failure

- For end-stage heart failure:
 - Heart transplant, if eligible
 - Left ventricular assist devices to help the heart pump better
 - Home inotropes for patients on transplant/VAD waiting lists or, for some, as part of hospice care
- Numerous investigational therapies: devices, stem cells, gene therapies, and novel drugs.



Tips for Managing Heart Failure

Prepare for Appointments be ready to report:

The screenshot shows the CardioSmart website interface. At the top left is the CardioSmart logo with the text 'American College of Cardiology'. A search bar is located at the top right. Below the logo is a navigation menu with options: Heart Conditions, Drugs & Treatments, Heart Basics, Healthy Living, Connect With Others, News & Events, and My Dashboard. The main content area is titled 'Heart Failure' and features a sidebar on the left with links: Heart Failure Home, Understand Your Condition, Questions to Ask Your Doctor (highlighted), Your Responsibilities, Your Care Team, Getting Support, and The Research. Below the sidebar is a 'HELPFUL RESOURCES' section with a link to 'Heart Failure Treatment Guidelines'. The main content area has a heading 'Questions to Ask Your Doctor' followed by an introductory paragraph: 'If you've been diagnosed with heart failure, there are several key questions that you should ask your cardiologist during your next visit. These questions will ensure that you and your doctor have discussed your major risk factors so that you can become or stay as healthy as possible.' Below this is a list of seven questions. To the right of the main content is a 'Get CardioSmart' section titled 'YOU'RE INVITED' which lists two challenges: 'June Blood Pressure Challenge' (Jun 01, 2015 - Jul 01, 2015, 11 Participants) and 'Men's Health Month Challenge' (Jun 01, 2015 - Jul 01, 2015, 7 Participants). At the bottom right of the screenshot is a 'CardioSmart Points' section with the text 'Log in to Check Your Balance and Go Shopping'.

CardioSmart.org/HFQuestions



Tips for Managing Heart Failure

- Learn about your specific type of heart failure
- Know how to recognize the signs that things might be getting worse
 - worsening shortness of breath
 - swelling
 - gaining weight very quickly (for example, more than 5lbs in 36-72 hours)
 - coughing at night
 - heaviness in your chest, not being able to lie flat



Tips for Managing Heart Failure

- Your doctor may want you to keep a log of your:
 - Blood pressure
 - Heart rate
 - Daily weight
 - ICD therapies

- It's also important to carry:
 - Information about your devices, stents, etc.
 - Keep a list of current medications, dosage and who prescribed each
 - Ask about a health alert bracelet



Tips for Managing Heart Failure

- Try to do something good for your heart every day
 - Exercise
 - Breathe deep
 - Eat lots of fresh fruits and vegetables
 - Watch your fluid intake
- Stick with your treatment plan
- Stay positive
 - Advances in treatment; patients living better and longer
- Pay close attention to your symptoms and don't delay getting care
- Join a support group



Tips for Managing Heart Failure

- Involve caregivers and get support
 - Managing heart failure can feel overwhelming
- Caregivers can help:
 - Manage your medications
 - Go with you to doctor visits and ask questions
 - Monitor your progress
 - Support you in making healthy changes in your life
 - Weigh different treatment options
 - Lift your spirits when you feel down
 - Keep you connected to the things you love



Tips for Managing Heart Failure

- Plan ahead
 - Be sure you have a current living will and health care proxy in place
 - This assures your loved ones know your wishes for end of life care when the time comes



Tips for the Caregiver

- You, the caregiver, are a very important part of the care team.
- Here are some tips to help you manage the details and stay organized:
 - Educate yourself about your loved one's condition
 - Go to medical appointments when you can and take notes
 - Keep track of test results
 - Make sure you know what medications are being taken and why



Tips for the Caregiver

Although it might sound selfish, the best thing you can do for your loved one is to take care of YOU.

- Put yourself first
- Find ways to recharge
- Welcome distractions every now and again
- Don't forget to eat a balanced diet
- Get enough sleep
- Set limits. It's OK to say "no" sometimes.
- Widen your circle of support.
- Assign tasks to others and accept help
- Cut yourself some slack

Resources for Support and Information

Healing Hearts of Central Ohio
<http://www.healingheartscentralohio.org>



CardioSmart www.CardioSmart.org



American Heart Association www.heart.org

National Heart Blood and Lung Institute www.nhlbi.nih.gov



Thank You