

# Beaumont

## COPD Action Plan

### GREEN ZONE: I am doing well today!

**My symptoms are under control.**

- Usual activity and exercise level
- Usual amount of cough and phlegm/mucus
- Sleep well at night
- Appetite is good

**My Actions:**

- Take daily medications as prescribed
- Use oxygen as prescribed
- Continue regular exercise/diet plan
- Use pursed lip breathing, relaxation, body position, and energy conservation techniques

### YELLOW ZONE: I am having a bad day – Call My Doctor

**I will call my doctor's office if I:**

- Am more breathless than usual
- Have less energy for daily activities
- Have increased or thicker phlegm/mucus
- Have a change in the color of my phlegm/mucus
- Am using quick my relief inhaler/nebulizer more
- Have more coughing than usual
- Have poor sleep and symptoms are waking me
- Have a poor appetite
- My medicine is not helping
- Have increased swelling
- Other signs unique to me: \_\_\_\_\_

**My Actions:**

- **CALL MY DOCTOR** \_\_\_\_\_
- Continue green zone actions
- Use my quick relief inhaler/nebulizer as prescribed
- Get plenty of rest and eat frequent small meals.
- If advised to do so I will start antibiotics and oral steroids and take them as prescribed

Home Care # \_\_\_\_\_

After hours # \_\_\_\_\_

### RED ZONE: I need help immediately – Call 911

**I NEED URGENT MEDICAL CARE IF I:**

- Have severe shortness of breath even at rest
- Am not able to do any activity because of breathing
- Am not able to sleep because of breathing
- Have fever or shaking chills
- Am feeling confused or very drowsy
- Have chest pains
- Am coughing up blood
- Other signs unique to me: \_\_\_\_\_

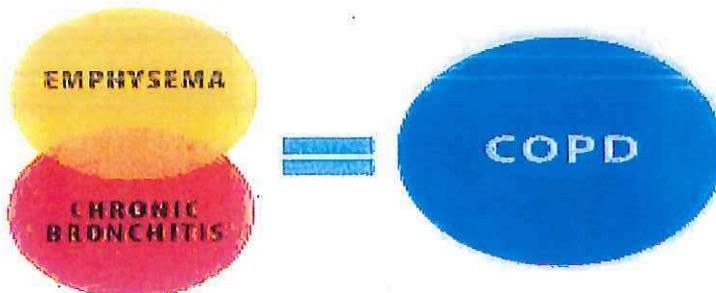
**My Actions:**

- **CALL 911**

This list is meant to act as a guide. You may experience other symptoms. This form is not a replacement for medical care. If you are concerned for your health or unclear on the actions you should take, consult your doctor.

References: American Lung Association (2013). "My COPD Action Plan", Retrieved from <http://www.lung.org/lung-disease/copd/awareness/copd-action-plan-generic.pdf>. & National Heart Lung and Blood Institute (2011). "Breathing Better with a COPD Diagnosis", NIH Publication No. 07-5841.

# MY COPD CHECKLIST



I UNDERSTAND WHAT COPD IS

I HAVE QUIT/TRYING TO QUIT SMOKING

I USE OXYGEN AT HOME (if prescribed)

I HAVE HAD FLU/PNEUMONIA VACCINES

I HAVE A COPD ACTION PLAN AND FOLLOW IT

I HAVE LONG ACTING/MAINTENANCE MEDICINE

I HAVE RESCUE MEDICINE

I ATTEND PULMONARY REHAB REGULARLY

I HAVE HAD SPIROMETRY/PFTs TO MONITOR MY DISEASE

I SEE A PULMONOLOGIST (LUNG DOCTOR) REGULARLY

I HAVE ADVANCED DIRECTIVES



1Y FAMILY DOCTOR \_\_\_\_\_

1Y PULMONOLOGIST/LUNG DOCTOR \_\_\_\_\_

P BEAUMONT COPD Nurse - 313-473-6935

1Y HOME CARE NURSE \_\_\_\_\_

## PATIENT INFORMATION

# LUNG CONDITIONS

*Including:*

**ASTHMA**

**COPD**

(Chronic Obstructive Pulmonary Disease:  
Emphysema and Chronic Bronchitis)

**PNEUMONIA**

*Dear Beaumont Patient,*

*This packet has been developed to provide you with information about lung conditions. During your hospital stay, your nurse and other members of the health care team will use this packet as they teach you about your condition, what you will experience during your stay and what to expect when you are discharged.*

*This booklet is not meant to substitute for the advice and counsel of your doctor. If you have any questions, please ask your doctor.*

## CONTENTS

The Health Care Team.....	1
Normal Anatomy of the Respiratory System .....	2
What is COPD? .....	4
Chronic bronchitis .....	4
Emphysema.....	5
Living with COPD.....	6
Infections.....	6
Asthma .....	8
Pneumonia .....	10
What is HF?.....	11
Symptoms of heart failure.....	13
Causes of heart failure.....	13
Weighing in.....	14
Exercise or rest? .....	15
Saving energy .....	16
Heart Failure Classes.....	17
Medications and Devices Helpful in	
Treating Lung Conditions .....	18
Antibiotics .....	18
Vaccines .....	20
Inhalation Devices .....	21
Nebulizers .....	21
Metered-Dose Inhaler (MDI).....	22
Spacers .....	23
The dry-powder inhaler (DPI) .....	24
Using Oxygen Safely at Home.....	26
When to Call Your Doctor.....	26
Better Ways to Breathe.....	26
Positions That Help Reduce Shortness of Breath.....	26
Clearing Your Lungs .....	28
Eating.....	29
Diet Guidelines.....	30
Breaking the Constipation Habit .....	32
Exercise .....	32
Sleep .....	33
Sexuality .....	34
Saving Energy .....	34
Relaxing.....	36
No Smoking Section.....	37
Legal Issues .....	40
Guardianship.....	42
Links: Further Help and Encouragement .....	43
Community Resources and Support Services.....	43
Cardiopulmonary Health & Rehabilitation.....	44
Discharge Information .....	45

## INTRODUCTION

Any hospitalization can be stressful, but it is particularly overwhelming when it involves your lungs. You may be asking yourself, "How did I end up here?" or saying "I can't believe something is wrong with me."

This book has been prepared to provide you and your family with information regarding lung conditions and the risks that contribute to it. We hope that you and your family will use this booklet as a guide in answering some of the questions or concerns that you may have.

## THE HEALTH CARE TEAM

The health care team will work closely with you to plan your care during your hospital stay. Their goal is to help you return to your optimal level of activity. The healthcare team will include:

### **Medical staff**

Your doctor(s) will direct the care you receive during your hospital stay.

### **Nursing**

Registered nurses will coordinate and oversee your care and the teaching that you will receive throughout your entire hospital stay. They work closely with your doctor and other team members. Nurses will assess your health status, administer medications, monitor your vital signs and lab results, as well as provide you and your family with education about your illness and medications. Your nurses will watch you closely and inform the doctors caring for you of any changes in your condition and of progress you make.

### **Respiratory therapy**

A respiratory therapist may evaluate your need for oxygen and give you breathing treatments if ordered by your doctors. The therapist may also teach you about your oxygen levels, breathing treatments, and/or any other concerns related to your breathing. If you have any questions concerning respiratory therapy, please ask your nurse to contact the Respiratory Care department.

### **Pharmacy**

Your doctor will order medications for you during your hospital stay. A pharmacist may meet with you during your stay to teach you about your medications. A pharmacist may also be involved in monitoring your drug therapy in the hospital.

### **Physical therapy and occupational therapy**

A physical therapist may be asked to evaluate you if you are having problems moving about. The physical therapist may be able to help you improve your activity level and strength. An occupational therapist may be asked to evaluate your Activities

of Daily Living (ADL). The occupational therapist may be able to help you improve your independence and safety with activities such as grooming, feeding, dressing, and bathing. If you have any questions concerning Physical or Occupational Therapy, ask your nurse to contact the Rehabilitation Department at 248-964-4010.

### **Nutrition**

A registered dietitian may meet with you to teach you about developing a diet plan to help you maintain a healthy weight and avoid build up of fluids. A dietitian can also help you with any other nutritional needs you may have. If you have any questions concerning nutritional care, please call 248-964-1415.

### **Care Management**

The Care Coordinator will assist you with discharge planning needs before you leave the hospital. Your discharge needs will be assessed beginning at the time you are admitted to the hospital. The Care Coordinator will talk with you regarding insurance coverage and other concerns you may have about your care after you leave the hospital. Your needs may include:

- equipment (such as oxygen)
- home care for skilled nursing
- private hire home assistance

If you have any questions, please contact the Care Management Department at 248-964-8900 (Monday through Friday, 8 a.m. to 4:30 p.m.).

### **Beaumont Home Services**

Beaumont Home Services can help you get back to your daily routine as soon as possible. The staff can provide the care you need through a variety of skilled and private hire services. Home services include nurses, home health aides, physical therapists, occupational therapists, registered dietitians, and social workers. They can also provide and deliver medical supplies to your home.

If you think you may need help once you go home, please call 248-743-9500.

## NORMAL ANATOMY OF THE RESPIRATORY SYSTEM

### **Alveolar duct**

End of the bronchioles.

### **Alveoli**

Also called the air sacs; resemble a cluster of grapes. There are approximately 300 million alveoli. The alveoli are surrounded by capillaries (tiny blood vessels); O<sub>2</sub> (oxygen) and CO<sub>2</sub> (carbon dioxide) are exchanged between the alveoli and the capillaries.

### **Nose**

Air enters the nose, is filtered, warmed and humidified.

### **Bronchioles**

Smaller divisions (branches) off of the right and left bronchi; continue to divide into smaller and smaller tubes.

### **Diaphragm**

A large dome shaped muscle located between the chest and the abdomen; major muscle of breathing.

### **Pharynx**

Also called the throat, the pharynx divides into the esophagus and the trachea; it serves as a **hallway** for air and food. Air goes through the pharynx into the trachea, food goes through the pharynx into the esophagus.

### **Lungs**

The main role of the lungs is to get oxygen to your blood. They are two cone-shaped organs located in the chest; extend from just above the clavicles (collar bones) to the diaphragm; lie between the front and back ribs; and are divided into sections or lobes. The right lung has three lobes, the left lung only has two lobes (the left lung is smaller to make room for the heart).

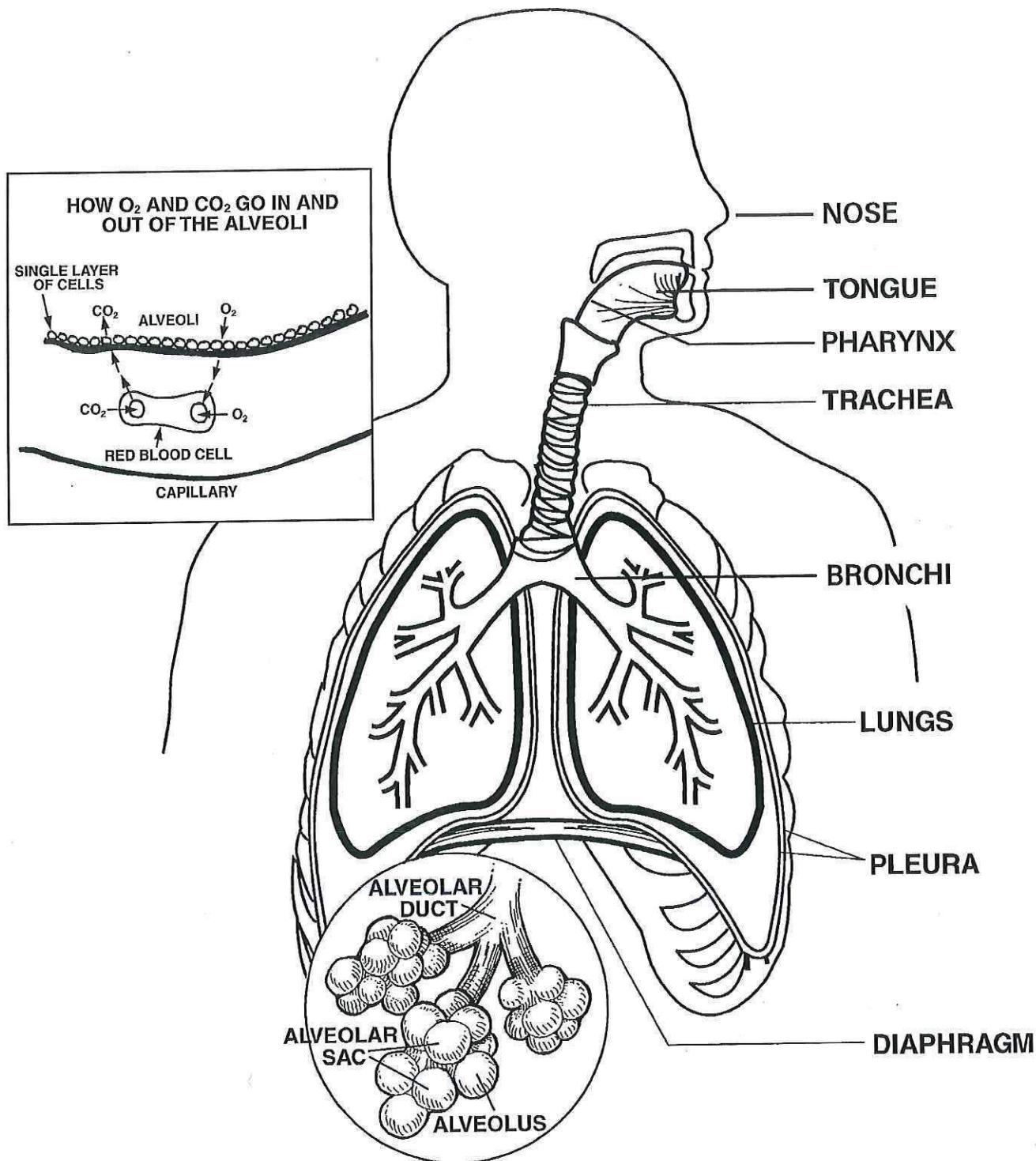
### **Right and left bronchi**

Tubes that branch off from the trachea; the first main branches of the respiratory tree; lined with cilia.

### **Trachea**

Also called the windpipe; the trachea is a tube 4 inches long and 1 inch in diameter. It is made of smooth muscle and "C" shaped cartilage rings. The rings surround the trachea so it will not collapse; the air goes through the trachea into the right and left bronchi; the trachea is lined with cilia which are tiny hair-like fibers that sweep the mucus up the airway to the throat where it is swallowed. Smoking destroys some cilia and paralyzes the rest.

## Lung anatomy



# WHAT IS COPD?

## COPD stands for chronic obstructive pulmonary disease

- **Chronic** means long-term
- **Obstructive** refers to the fact that breathing is partially blocked
- **Pulmonary** indicates that the disease affects the lungs

If you have COPD, you're not alone. In fact, almost 16 million Americans have it. It's even more common than asthma.

The term COPD refers to a disease that generally includes both chronic bronchitis and emphysema. Usually it occurs in people who are heavy smokers and have been smoking for a long time.

Most people don't realize they have a problem until they're age 40 or older. Then they start noticing that they're short of breath. They may also have a morning cough that produces sputum (mucus or phlegm). It might be mistaken for smoker's cough. Many people don't find out that they have COPD until they have a serious attack of bronchitis.

If you have any of the following symptoms regularly (especially if you are or were a smoker), you may have some form of COPD:

- A severe cough that persists between colds
- Spitting up mucus
- Difficulty breathing
- Frequent bad colds
- Shortness of breath on exertion

The doctor's overall goal in treating COPD is to relieve symptoms with the fewest side effects possible. New drugs have made the lives of patients with COPD much better.

The single most important step you can take to keep your lungs healthier is to stop smoking. Even if you're under 35 years old, with mild COPD, your lungs will probably return to normal

after you stop smoking. Even if you're older, stopping smoking can keep your lungs working better for longer – and prolong your life.

COPD can vary from day to day and from season to season. Infections, pollution, and other factors may make your symptoms more severe for certain periods. Physicians call these times "exacerbations."

COPD doesn't go away, but it can be treated. And the sooner you get treatment, the better. To learn more about COPD, talk to your doctor. There are medications, breathing techniques and lifestyle changes that can help you breathe easier.

## Chronic bronchitis

Chronic bronchitis is one of the two major lung diseases that underlie COPD. The other is emphysema. Chronic bronchitis and emphysema frequently, but not always, occur together in COPD. Both chronic bronchitis and emphysema are long-term conditions. Both make it hard to breathe. Both cause shortness of breath, tiredness, and coughing.

Many people experience short-term bronchitis when they have a very bad cold. Other people may have a different cause, but experience the same symptoms: severe cough, raspy throat, difficulty breathing and a need to cough up a great deal of mucus from the lungs. In chronic bronchitis, this condition lasts for months at a time and each year it lasts longer.

Chronic bronchitis often develops in people over age 40 who are or who used to be moderate to heavy smokers. The total amount of smoking over a lifetime is measured in "pack-years". For example, 10 pack-years can mean a pack a day for 10 years or two packs a day for five years, or half a pack a day for 20 years. Typically, people who develop chronic bronchitis have a smoking history of over 10 pack-years.

Chronic bronchitis involves the bronchial tubes: the main airways that branch into the lungs. In

chronic bronchitis, they have been constantly irritated by inhaled cigarette smoke, air pollution or other harmful substances.

When the bronchial tubes have been irritated for years, their walls thicken or swell. They produce more mucus, so less air flows through. Coughing every day for months brings up the increased amount of mucus. The irritated airways become an ideal breeding place for infections that can endanger the lungs.

## **Emphysema**

Emphysema is one of the two major lung diseases that underlie COPD. The other is chronic bronchitis.

Emphysema is usually diagnosed in smokers or ex-smokers (usually 50 to 75 years of age) with shortness of breath both at rest and during physical exertion. People with emphysema may cough, but their coughing isn't usually severe and does not produce much mucus. Breathing, on the other hand, may be hard.

Like chronic bronchitis, emphysema, in most cases, is believed to be the result of long-term irritation or infection of the bronchial tubes. The inflammation gradually blocks the airways.

In emphysema, this blockage traps air in the tiny air sacs found at the end of the bronchial tubes. These air sacs (called alveoli) are where carbon dioxide and other waste gases in the blood are exchanged for oxygen taken in by the lungs from the air.

Eventually, the walls of these air sacs stretch out, become stiff instead of elastic, and break down. The lungs themselves become larger and don't exchange oxygen for carbon dioxide as well. In severe emphysema, even very simple activities can bring on shortness of breath.

A small number of people with emphysema are born without a lung-protecting enzyme called alpha1-antitrypsin (AAT). This makes them more likely to develop emphysema at an earlier age.

Smoking, however, is the main problem for most patients with emphysema. It must be stopped if the patient is to be helped.

## **Diagnostic testing for COPD**

Along with the clinical presentation of COPD, physicians may order some diagnostic tests to help confirm the diagnosis. A chest x-ray is usually one of the first tests performed when someone presents with the symptoms of COPD. This provides an opportunity to look for underlying infections (such as pneumonia) or any structural abnormalities with the lungs. A cat scan may be used to get a more detailed look at the lungs, and can pick up some of the changes seen in COPD. The standard testing used to confirm a diagnosis of COPD is a pulmonary function test (PFT). A PFT is a general term used to describe different tests (spirometry) that measure how well your lungs work, and consist of different breathing maneuvers. Each component of a PFT provides your physician with a set of numbers that they compare to predicted values for someone of the same age, sex, and height. One of the key components of COPD is the airway obstruction it causes, which can be evaluated by a PFT. Not only does a PFT confirm a diagnosis of COPD, it is also used to check your response to medications and the disease progression. There are four different stages of COPD: mild, moderate, severe, and very severe. Your physician will evaluate your PFT results to determine what stage you are at, and what the best treatment options are. On the day of your PFT, wear loose fitting clothing to allow you to take deep breaths. Avoid large meals prior to your testing so that you can breath comfortably. Your physician may tell you to hold some of your breathing medications on the day of your PFT. On average a PFT takes about 45 minutes, and will be performed by a respiratory therapist or a certified pulmonary technician. Pulmonary function testing can be performed at some physicians' offices or in one of Beaumont's outpatient centers.

## Living with COPD

Living with COPD (chronic obstructive pulmonary disease) means you must change your lifestyle and learn new ways to take care of yourself. You still have the same physical, emotional and social needs everyone has, but you may need to find new ways of coping with some of them. The information in the sections below should help.

Learning more about COPD and your medications can also help. Seek out other information from your doctor and from other resources. Take notes, and decide how you as an individual can best use what you learn. Remember that controlling COPD is a partnership between you and your doctor. Helping yourself is an important part of your treatment.

### What to avoid

You can help keep your lungs healthy by avoiding things that make your COPD worse. Unless you also have asthma, allergies will not make your COPD worse. But your lungs can't clean themselves out like those of a person without COPD. Stressful situations, pollution, and other things around you may make your symptoms worse.

### Stress and anxiety

Unpleasant feelings can make your COPD worse. If you feel anger, stress, or anxiety, talk to your friends and family about it. Tell them what you like or don't like. Try to keep calm. Practice the special methods for breathing and relaxing described in this booklet.

### Pollution

- Avoid pollutants, exhaust, gas fumes, and strong odors like perfume.
- Ask people around you not to smoke. Sit in the non-smoking sections of restaurants.
- Avoid using underground parking.
- Try not to travel through high-traffic or industrial areas.
- Use household cleaning products, paint or varnish only in well-ventilated areas.
- If the air quality is poor, avoid outdoor activities.

Try to stay out of very hot or cold weather. When it's very cold or windy, cover your nose with a scarf. When it's humid, try to stay in air-conditioned places. This can make breathing easier.

### Infections

When you have COPD, you're more likely to develop a lung infection if you get a cold or the flu. To stay healthier, avoid contact with germs and get prompt treatment at the first sign of illness.

### Take precautions

- Taking the following precautions can help you avoid illness:
- Wash your hands often and keep them away from your face. Most germs are spread through hand-to-mouth contact.
- Avoid people who have colds, flu, sore throats or sinus infections. If you do come in contact with someone who has a cold or the flu, be sure to wash your hands afterwards.
- Stay out of crowds, especially in the winter when more people have colds and flu.
- Exercise regularly, eat a balanced diet and get enough sleep.
- Keep your lungs clear of mucus that can trap germs.

**When to get treatment**

- If you get sick, the sooner you seek treatment, the more likely you are to prevent damage to your airways. Call your doctor at the first signs of any of the following:
- A fever or chills
- Tightness in your chest that does not go away with your normal medications
- Increased shortness of breath, wheezing or coughing

- Increased mucus, blood in your mucus or mucus that has an odor or is yellow or green
- An irregular heartbeat
- Swollen ankles

Talk with your doctor about what you should do if you're ill and keep a list of your medications with you in case you get sick away from home.

**COPE SELF MANAGEMENT TOOL****YOUR SYMPTOMS****YOUR ACTION**

<b>GREEN ZONE: All Clear</b>	<ul style="list-style-type: none"> <li>• No cough, wheeze, chest tightness, or shortness of breath during the day or night</li> <li>• No decrease in your ability to maintain a normal activity level</li> </ul>	<ul style="list-style-type: none"> <li>• Your symptoms are under control</li> <li>• Continue taking your medications including oxygen</li> <li>• Follow your physician prescribed diet</li> <li>• Keep physician appointments</li> </ul>
<b>YELLOW ZONE: Caution</b>	<ul style="list-style-type: none"> <li>• Sputum that increases in amount, becomes thicker than usual, or changes in color</li> <li>• Increased cough or wheezing even after you take your medicine, and it has time to work</li> <li>• Increased swelling of ankles and or feet</li> <li>• Increased shortness of breath with activity</li> <li>• Weight gain of 2-3 pounds in 1-2 days or 5 pounds in 5 days</li> <li>• Fever of 100.5 F orally</li> <li>• Increased number of pillows needed to sleep or needing to sleep in a chair</li> </ul>	<ul style="list-style-type: none"> <li>• Add any rescue breathing medications as needed</li> <li>• Your symptoms may indicate that you need an adjustment to your medications</li> <li>• Call your home health nurse, physician, or COPD nurse</li> </ul> <p>Home Health Nurse: _____</p> <p>Physician: _____</p> <p>COPD Nurse: 248-964-8373</p> <p>Pulmonary Rehab: 248-964-0594</p> <p>Your pharmacy: _____</p>
<b>RED ZONE: Emergency</b>	<ul style="list-style-type: none"> <li>• Anything else that bothers you</li> <li>• Unrelieved shortness of breath</li> <li>• Chest pain</li> <li>• Wheezing or chest tightness at rest</li> <li>• Increased and/or irregular heartbeat</li> <li>• Change in the color of your skin, nail beds, or lips to gray or blue</li> <li>• Mental changes</li> <li>• Unable to speak more than one or two words at a time</li> </ul>	<ul style="list-style-type: none"> <li>• This indicates that you need to be evaluated by a physician right away</li> <li>• Call 911 or go to the nearest Emergency Room</li> </ul>

## ASTHMA

Asthma is a chronic (long-term) disease that causes the airways of the lungs to be irritated, swell and have mucus production. There may be swelling in the airways, which can cause them to narrow (become smaller) and then may cause difficulty in breathing or wheezing. Wheezing is a loud high-pitched noise that can be heard when taking in a breath or breathing out. An asthma attack is when you have problems breathing (also called episodes or exacerbations).

Although there is no cure for asthma, it may be controlled with medications. It is also important to prevent a flare since many times asthma is "triggered" by something that bothers the lungs such as smoke, animals, dust, molds, cold air, viruses or allergies. Over time many asthma patients learn what causes them to have an asthma attack and avoid the "triggers."

Patients at any level of chronic asthma may have mild, moderate, or severe episodes of asthma. Some patients with intermittent asthma (least serious level) may experience sudden, life-threatening attacks in between long periods of normal lung function and no symptoms.

### **Sign and symptoms of asthma are:**

Many people with asthma have warning signs prior to their attack. The signs are not the same for everyone and may change over time for patients.

- Cough (which may be worse at night or early morning)
  - Shortness of breath
  - Trouble breathing
  - Wheezing
  - Chest tightness
  - Rapid (fast) breathing
  - Rapid (fast) heart beat
  - Extremely tired
- Drop in peak flow meter reading
  - Needing more medicines (inhalers) than your doctor has prescribed
  - Sputum (mucus) changes from clear or white to yellow, green or bloody
  - Unable to do usual activities or exercises
- Tests that may be done to find out if you have asthma or infection:
- Chest x-ray: a chest x-ray may be done to see a picture of your lungs and heart. Repeat chest x-rays may be done during your hospital stay to determine whether the medication you are taking is working.
  - Sputum (mucus) sample: a sputum sample may be done to find out exactly which bacteria or virus if you also have pneumonia. You will be asked to give the sample by coughing deeply and then spitting the mucus into a specimen cup.
  - Blood tests including blood cultures and arterial blood gases (abgs) may be needed. Blood cultures are done by taking a small sample of your blood twice (15 minutes apart).
  - Arterial blood gas (abg) is a blood sample taken from your artery to see if you have enough oxygen in your blood.
  - Pulse oximetry is done by placing a probe on your finger to measure the amount of oxygen in your blood.
  - A peak flow meter is a device that measures how fast you can breathe out. Using the device can be a good measure of whether there is narrowing in the airways before the symptoms of the asthma happen. Using the peak flow meter correctly is very important to manage asthma. The respiratory therapist will answer any questions that you may have.

## Treatment

Treatment for asthma usually includes two medicines to control swelling of the airways. Long-term control medicines are usually given to persistent (ongoing) asthma by decreasing or preventing the inflammation that can cause the airways to swell and tighten. Inhaled steroids may be used to help reduce the inflammation or you may use a combination product of long acting and inhaled steroid.

Short acting (or rescue) medications are usually given to patients in case they need to quickly open their airways. These medications are bronchodilators, which act to relax the muscles that may tighten around the airways and help make breathing easier.

Your asthma action plan may be referred as green zone, yellow zone and red zone.

**Green zone:** means you are doing well and have no symptoms of asthma and can do normal activities.

**Yellow zone:** means you may be coughing, wheezing, chest hurts or you may be short of breath and may notice feeling tired and not be able to do all usual activities. Usually your physician may have you add some medications such as quick relief medicine and/or inhaled steroid and you should avoid triggers.

**Red zone:** means you are very short of breath, quick relief medicines are not helping, you are unable to do activities and your symptoms are getting worse after being in the yellow zone for 24 hours. You should call your doctor or go to the hospital immediately.

### Green Zone: All Clear

Your goal peak flow:

- Peak flows are 80 to 100 percent of your best number
- No symptoms
- Able to do usual activities
- Usual medications control asthma

### Green Zone Means:

- Your symptoms are under control
- Continue taking your controller medications as ordered
  
- Continue monitoring peak flow
- Keep all physician appointments

### Yellow Zone: Caution

If you have any of the following signs and symptoms:

- Peak flow 50 to 80 percent of personal best
- Increased asthma symptoms (coughing, waking at night, wheezing, shortness of breath, tightness in chest, breathing faster, pale skin color)
- Call your physician if you are in the yellow zone most days. This is not where you should be every day.

### Yellow Zone Means:

- Your symptoms may indicate that you need an adjustment of your medications
- Eliminate triggers
- Stop strenuous exercise
- Add reliever medication:
  
- If no relief, continue with:

### Red Zone: Medical Alert

- Peak flow less than 50 percent of personal best
- Very short of breath
- Extreme difficulty breathing
- Usual activities severely limited
- Difficulty walking and talking due to shortness of breath
- Respiratory effort increased, skin between neck and ribs pulls in with breathing
- Skin color is pale or gray
- Fingernails or lips are blue

**Call your physician immediately if you are going into the RED zone**

### Red Zone Means:

This indicates that you need to be evaluated by a physician right away

- Take reliever medication

**Call your physician right away**

Physician \_\_\_\_\_  
Number \_\_\_\_\_

If you have not reached your physician in \_\_\_\_\_ minutes, go to the nearest emergency room. Call 911 if necessary.

## PNEUMONIA

Pneumonia is an infection in the lungs which can be caused by bacteria, viruses, chemicals, or other organisms. Usually, lungs can fight off infection because they have built-in defense mechanisms in the upper and lower airways.

The lungs also depend on the body's central immune systems to get rid of harmful bacteria. Pneumonia occurs when infection-causing substances become too powerful for the defense system to handle. This is especially likely to occur in certain groups of people:

- People with chronic lung diseases such as chronic obstructive pulmonary disease (COPD)/ emphysema/chronic bronchitis and asthma
- People with chronic illness such as diabetes or kidney disease
- People with weak immune systems such as those with cancer
- People with viruses like a cold or influenza whose defenses are already weak
- People who are very young (under age 1) or older (over age 65)
- People who smoke or drink a lot of alcohol

### **Signs and symptoms of pneumonia are:**

- Coughing
- Thick, yellow or green sputum (mucus)
- Fever
- Chills
- Weakness
- Pain over the rib cage
- Shortness of breath
- Rapid breathing

Tests that may be done to find out if you have pneumonia or other lung conditions:

- Chest x-ray: A chest x-ray will be done to see if you have pneumonia and if so, the location of the pneumonia. Repeat chest x-rays may be done during your hospital stay to determine whether the medication you are taking is working.
- Sputum (mucus) sample: A sputum sample may be done to find out exactly which organism (bacteria or virus) is causing the pneumonia. You will be asked to give the sample by coughing deeply and then spitting the mucus into a specimen cup.
- Blood tests including blood cultures and arterial blood gases (ABGs) may be needed. Blood cultures are done by taking a small sample of your blood twice (15 minutes apart).
- Arterial blood gas (ABG) is a blood sample taken from your artery to see if you have enough oxygen in your blood.
- Pulse oximetry is done by placing a probe on your finger to measure the amount of oxygen in your blood.

### **Treatment**

Treatment for pneumonia includes getting enough rest to allow the body to recover. You will be encouraged to increase your activity as you feel better, but you must continue to rest in between activities.

Antibiotics will destroy the organism causing the pneumonia. You must finish all the medication your doctor prescribes to you, even if you are feeling better. If you stop taking the antibiotics, the pneumonia could come back and be even harder to treat. For more information on antibiotics, see the medication section.

Increasing the amount of fluids you drink will make the mucus thinner and easier to clear from your lungs. Your doctor may not recommend drinking more fluids if you have a heart or kidney problem.

Deep breathing and coughing too are very helpful to help clear your lungs. For instructions on how to do this properly, see page 35 or ask your nurse.

Oxygen therapy may be ordered to help you breathe better. While you are in the hospital, the staff will teach you when and how to use the oxygen. If you will be going home on oxygen, please refer to "Using oxygen safely at home" on page 26.

### **Prevention**

There are ways to keep from spreading this infection to others. Be sure to:

- Sneeze and cough into tissues.
- Dispose of tissues in a waxed or plastic bag.
- Wash your hands well after sneezing or touching dirty tissues.

There are also ways to decrease your risk of getting the infection again. You should:

- Eat a healthy, well-balanced diet.
- Get enough exercise and rest.
- Stop smoking if you smoke!
- Ask your doctor or nurse about a yearly flu shot or pneumonia vaccine – which is given once in a lifetime in most cases – especially if you are at high risk for getting pneumonia.

If you would like more information on lung conditions and pneumonia, refer to the resources on page 43.

## **WHAT IS HF?**

### **HF stands for "Heart Failure"**

A healthy heart pumps blood to all parts of the body without any difficulty. Heart failure is a condition in which the heart can no longer pump strongly enough to supply the body with the blood it needs to function normally. Heart failure can cause the fluid portion of blood to buildup and was formerly referred to as Congestive Heart Failure or CHF. Heart failure is usually gradual and occurs over a period of time.

Heart failure does not mean that the heart has stopped; it simply means that it cannot keep up with the demands placed upon it. Heart failure can range from mild to severe. There are several tests that can help the doctor to determine the severity of your condition.

Heart failure is caused by heart muscle weakness. The weakened area may either be on the right or left side of the heart or may be on both sides. When one side of the heart is weak, the other side has to work harder and can eventually become weak also.

Although there is no cure for heart failure, the symptoms can be controlled by following a low salt diet, getting proper rest and taking medication as prescribed. Because of the advances in heart treatment, people are living for years with damaged hearts. It is our goal to make those years as productive and happy as possible.

There is a lot YOU can do to help yourself. It is important for you to know as much as possible about heart failure. By informing your doctor of early signs of heart failure, treatment can occur from the doctor's office.

Waiting until the symptoms worsen can cause you to be admitted to the hospital. By monitoring yourself for the symptoms of heart failure, and following the guidelines in this booklet, you can be an important part of your treatment.

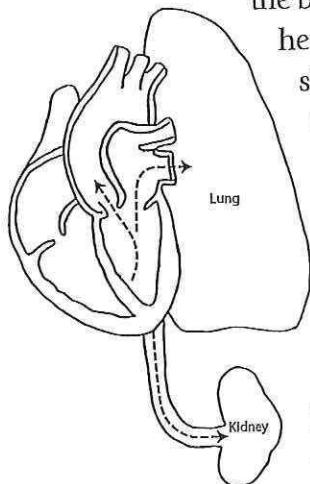
### Right sided heart failure

The right side of the heart receives blood from the body and sends it to the lungs to get oxygen. When the right side of the heart is weakened, the fluid portion of blood backs up in the veins, or abdomen.

Fluid buildup may occur in the digestive organs such as the liver causing bloating or poor appetite. Tiredness, fatigue, and loss of energy are common. Fluid backs up and can cause swelling of the legs and/or ankles.

### Left sided heart failure

The left side of the heart is responsible for pumping rich oxygenated blood to all parts of the body. When the left side of the heart is not pumping as well as it should, less blood is pumped to the body, and the fluid portion of blood is backed up into the lungs.



When the body does not send enough blood to the kidneys, the body thinks that it is low on blood. The kidneys react by holding on to salt and water increasing the fluid portion of blood. The heart has to then work harder to pump the extra blood volume.

Heart is not pumping well



The fluid portion of blood backs up into the lungs and can cause **difficulty breathing** (especially when lying flat).



Blood flow to kidneys is reduced. This can cause salt and water retention, increasing the fluid portion of blood.



Fluid is very heavy and a back up will cause weight gain.

### HEART FAILURE – THE DONKEY ANALOGY

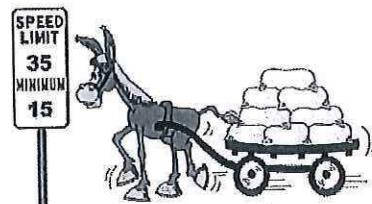


Heart failure limits a patient's ability to perform the routine activities of daily living



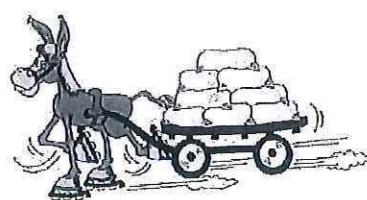
Treatments for Heart Failure: Medications, Diuretics, ACE Inhibitors

Reduce the number of sacks on the wagon



Treatments for Heart Failure: Medications,  $\beta$ -Blockers

Limit the donkey's speed, thus saving energy



Treatments for Heart Failure: Other Therapies, Cardiac Resynchronization Therapy

Increase the donkey's (heart) efficiency

## Symptoms of heart failure

There are many possible symptoms of HF. There is no cure for heart failure, but it is possible to keep your symptoms under control. If you experience any of the following, it may be a sign that your HF is worsening.

- Fatigue, loss of energy
- Weight gain (two to three pounds in a day or three to five pounds in five days)
- Shortness of breath (especially while lying flat, or on exertion)
- Swelling of ankles or legs
- Increased urination at night, decreased during the day
- Loss of appetite
- Trouble sleeping (unless propped up on pillows)
- Frequent dry hacking cough
- Abdominal fullness or bloating

## Keep your doctor informed of your symptoms.

### Helpful tips

Swelling of the feet and ankles is usually worse at the end of the day. When a person is sitting or standing all the day the fluid gradually seeps from the small veins and blood vessels into the tissues in the ankles and feet.

Elevating the legs can reduce swelling. Support stockings can also help to reduce swelling.  
Avoid stockings with a tight band; they can cause blood to pool. Always wear stockings with loose fitting tops.

Refer to page 20 about recommended pneumococcal and influenza vaccines for people with lung conditions and heart failure.

## Causes of heart failure

Heart failure can have a variety of causes. It can help your doctor to determine how to treat heart failure by knowing what caused it. Some of the most common causes are:

### Hypertension

Blood pressure is the pressure exerted by the blood as it travels in the vessels throughout the body. If the arteries are clogged with fatty deposits or narrowed in any way the heart has to pump harder to force the blood out. This raises the blood pressure. If the blood pressure stays high for a long period of time the heart can become enlarged and weak.

### Abnormal heart valves

The heart's chambers are separated by one-way valves. Abnormal heart valves do not open or close, as they should. This can be a result of an infection or can be present from birth.

### Coronary artery disease (CAD)

Coronary Artery Disease is a process in which the arteries that supply blood to the heart muscle are clogged with fatty deposits and cholesterol. When there is a decreased blood flow to the heart muscle, damage to the heart muscle may occur. This is called a heart attack. The healthy area of the heart has to take over the workload of the damaged area. Heart failure can occur as a result.

### Enlarged heart (cardiomyopathy)

Cardiomyopathy is a disease of the heart muscle in which the muscle fibers are no longer able to contract. The heart can no longer pump enough blood through the heart to the body. There are several causes of cardiomyopathy including infection, heredity, alcohol and drug abuse, and other heart diseases. The more serious causes of cardiomyopathy may require a heart transplant.

## Severe lung disease

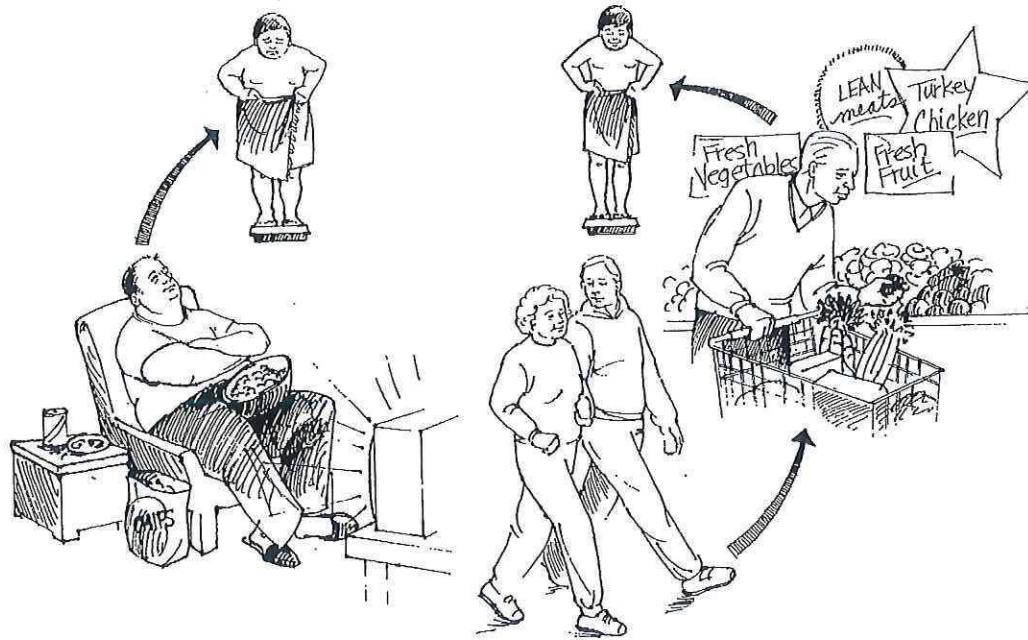
Severe lung disease reduces the amount of oxygen supplied to the heart muscle. Also, the heart has to pump blood into the lungs through restricted arteries, which causes a higher blood pressure. This results in an increased workload on the heart. COPD or Chronic Obstructive Pulmonary Disease, and emphysema are examples of lung diseases that might decrease the amount of oxygen supplied to the heart.

## Congenital heart disease

Congenital heart disease refers to defects in the heart at birth. The problem occurs when the heart chambers are formed. Improper valves or holes in the chambers of the heart cause the heart to pump improperly. This makes it harder for the heart to pump blood out, as it should.

## Prevention of further heart damage

- Since HF is worsened with heart damage, it is important that you do what you can to reduce your risk of a heart attack. Listed are some guidelines to follow:
- Don't smoke.
- Keep your blood pressure under control.
- Eat a diet low in cholesterol, fat, and salt.
- Exercise regularly (under your doctor's guidance).
- Maintain a healthy weight.
- Take your medicine as ordered by your doctor.



## Weighing in

It is important to weigh yourself daily at the same time and to keep a record of your weight. Remember that weight gain is a sign that the kidneys are saving water and salt. This type of weight gain is caused by water, not fat.

### Helpful tips:

- Weigh yourself early in the morning after your first urination.
- Always use the same scale.
- Wear the same clothes.
- Record your weight.
- A weight gain two to three pounds in a day of normal eating is probably fluid rather than fat.
- Notify your doctor with an increased weight gain of two to three pounds in a day or three to five in five days or as specified by your doctor.

Being overweight adds yet another strain to the heart. The heart has to work harder the more overweight you are. Losing weight can greatly improve the way you feel.

## **Do not overeat**

After eating the heart sends blood to the abdomen to help with digestion. Overeating puts an added strain on the heart. Avoid exercise after eating to allow time for digestion.

## **Tips for losing weight**

- Eat smaller meals, more often.
- Set realistic goals.
- Avoid excess alcohol.
- Reduce fat and cholesterol intake.
- Substitute fish and poultry for red meats.
- Do not skip meals.
- Ask your physician for a prescription to see the outpatient dietitian.

## **Exercise or rest?**

As mentioned earlier, heart failure means that the heart cannot keep up with the demands placed upon it. Every person with heart failure, however, does not have the same degree of activity tolerance. So, before attempting any exercise program, consult with your doctor.

Regular exercise can help to keep your body in good condition. It can help with muscle tone and overall good health. Vigorous exercise should however be avoided. It can place too much demand on an already compromised heart. The exercise program should be gradual. As your level of fitness increases, your activities of daily living will become easier. If activity is restricted too much, it can make even a short walk feel like work.

Rest is also an important part of treatment. It is important to have a balance between rest and activity. The heart needs time to rest, especially after meals. You should rest for 30 to 60 minutes after each meal so that your heart can use its energy to aid in digestion. It is important to not over-do activity of any kind. Listen to your body.

- First, consult your doctor to develop an exercise routine that's right for you.
- Then plan a regular time each day when you're least likely to cancel or be tired.
- Try to find a partner or two to exercise with. You're less likely to break a date with someone else than with yourself.
- Add something enjoyable to your exercise: music, a pleasant view, or maybe a treat afterwards, so it doesn't seem like a chore.

## **Take a walk**

You don't need a high-tech exercise plan to enjoy yourself and get huge benefits. Walking is one of the healthiest, easiest and most enjoyable ways to get exercise. Put on a comfortable pair of shoes and loose clothes – and head out. You could explore new areas and get to know your neighborhood. Or you might plan some of your errands or visits around a daily walk.

While you're walking, relax your upper body and keep a comfortable, easy pace. Be careful not to overexert yourself. If you feel short of breath, stop and relax. Do not walk in extreme heat or cold.

You can judge your walking pace by the following:

- If you can sing a song, you are probably walking too slow.
- If you are short of breath, you are probably walking too fast.

Pace yourself and gradually you will see that you can walk further and have more energy.

## Saving energy

### How to avoid tiring easily

- Avoid rushing by planning your day carefully. For example, if you have a scheduled activity, get up a little earlier. That way you'll have time to get ready for the activity without any hurry.
- Spread your activities out over the day. For example, do not do all your activities in the morning, save some for the afternoon or the next day.
- Rest between activities.
- Practice deep breathing regularly, at least every 2 hours while you are awake. Remember to use your abdominal muscles. Breathe out with your lips pursed. Breathing out should last twice as long as breathing in. Use an incentive spirometer if you have one.
- Use deep breathing while performing any active movement, such as sweeping or mopping.
- Use deep breathing with any activities that require you to raise your arms, such as lifting packages or combing your hair. Coordinate your movement with breathing.

### Energy saving techniques

#### Planning a schedule

- Select the most important jobs and/or those requiring the most energy and plan them for the time when you will be less tired or have fewer interruptions.
- Spread the most difficult tasks throughout the week.
- Prioritize your daily activities and plan your day to avoid rushing.
- Plan to rest 10-15 minutes between activities (i.e., reading, napping, listening to music).
- Group jobs together, think ahead and organize your day.

#### Performing the job

- Slide – do not lift and carry objects unless necessary.
- Use a small cart or wheel table to carry objects like stacks of dishes.
- Exhale when lifting or pushing – it helps.
- Work at the most comfortable height. Avoid long periods of bending and standing.
- Wear comfortable clothes and shoes (Velcro closing shoes, elastic waistband garments).
- Sit to work – whenever possible and use a chair with good back support.
- Use adaptive equipment when indicated (i.e., toilet height extender, high cupboard tongs or arm extenders, shower chair, remote control and home intercom system).
- Delegate maintenance chores or hire someone to assist (i.e., lawn care, pet care, and housekeeping).

#### Body mechanics

- Avoid stooping and bending.
- If you need to get lower, bend at the hips and knees, not at the waist.
- Reduce unnecessary standing, walking and stair climbing.
- Make each trip count. Think ahead.
- Pace yourself, slow down and live longer. Working twice as fast requires four times the energy.
- Rest ten (10) minutes of every hour (minimum) rather than one 2 hour afternoon nap and learn to stop and rest before you become overly fatigued.

### **In the morning**

Getting ready for your day can take a lot of energy. Here are some ways to save some:

- Sit on a stool in the shower and take your time.
- Sit down or rest your elbows on a table to brush your teeth, shave or put on make-up.
- Sit down while dressing. Put your pants on first and then your shirt.

### **In general**

- Try to sit down whenever you can. Place things you use often within easy reach.
- Ask "Can anyone else do this for me?" and "How can I do this more simply?"
- Organize your day. Give yourself rest periods between your activities. Be realistic and go at your own pace. Don't let yourself get rushed.
- Use your breathing and coughing techniques, body positions and energy-saving techniques regularly. They will help you reduce your shortness of breath, so use as many techniques as you like!

## **EDUCATE YOURSELF AND YOUR FAMILY ON HOW TO MANAGE AND TAKE BETTER CONTROL OF HEART FAILURE**

**A series of six classes (one topic per week) will include:**

- Heart Failure – Signs and Symptoms
- Diet
- Medications
- Stress Reduction
- Making Your Life Easier
- Exercise

**Tuesdays and Thursdays (on-going)**

**Length of class: 1 hour  
(1 to 2 p.m.)**

**Place: Beaumont Hospital, Troy  
Meet at West Entrance registration  
area**

**Complimentary valet parking**

**Cost: Free**

Call Physician Referral Service at  
248-964-8520 to register or for  
more information.

# MEDICATIONS AND DEVICES HELPFUL IN TREATING LUNG CONDITIONS

## **Remembering your medication**

Taking your medication as your doctor ordered is the first step towards a healthy lifestyle. Taking it at the same time every day can help you remember. For example, take it first thing in the morning after you wake up or at breakfast.

## **Antibiotics**

These drugs are taken for infections caused by bacteria: sinusitis, short-term bronchitis, and some types of pneumonia, for example. Antibiotics can help stop symptoms of infection such as fever, cough, and sputum changes. They are not effective against viral diseases like colds and flu. Different antibiotics work best in different types of infections. Your doctor will prescribe the one that is best for you and for your infection.

Take antibiotics as your doctor directs, even after you start to feel better. This may prevent another infection that could be harder to treat.

You may have a respiratory infection if:

- Your shortness of breath is worse.
- You are producing more sputum than usual.
- Your sputum is yellow or green.
- You have a fever.

The most common side effects of antibiotics include upset stomach, nausea, vomiting, and diarrhea.

They may also cause serious allergic reactions. Watch out for the symptoms. The most common symptom of an allergic reaction to an antibiotic is rash or itchy skin. In rare cases, allergic reactions to antibiotics may make it very hard to breathe, or cause wheezing or dizziness.

- If you have these symptoms, you may have a severe allergic reaction.
- Go to the hospital or call an ambulance.

Brand Name (Generic)	How Is It Used In COPD?	What Does It Do?	How Long Until It Works?	How Long Does The Effect Last?	What Is The Usual Dosage?	Common Side Effects	How Is It Available?
Aerobid (flunisolide) Azmacort (triamcinolone) Beclenert (beclomethasone) Flovent (fluticasone) Pulmicort (budesonide) Vanceril (beclomethasone)	As the cornerstone of COPD and asthma therapy	Reduce the inflammation and swelling in the airways	Variable	Must be taken regularly to be effective	1-4 puffs 2-4 times per day	Hoarseness, yeast infections	In metered-dose inhalers and solutions
Xopenex (levabuterol)	Rescue	Open up the airways	5 to 15 minutes	6-8 hours	0.63 mg or 1.25 mg	Headache, shakiness, nervousness, high blood pressure, flushing, palpitations	In a metered-dose inhaler or as a solution
Maxair (pirbuterol)	Rescue	Open up the airways	5 to 15 minutes	3-8 hours	2 to 4 puffs 4-6 times per day		In a metered-dose inhaler; dry-powder inhalers, solutions, syrup
Proventil/Ventolin (albuterol)							
Atrovent (ipratropium)	Rescue	Keeps the airways open	5 to 15 minutes	4-6 hours	2 to 4 puffs 4 times per day	Dry mouth, bitter taste, headache	In a metered-dose inhaler or as a solution
Spriava (tiotropium bromide)	Maintenance	Keeps the airways open	Not immediate/ variable	24 hours	18 mcg capsule once daily	Dry mouth, blurred vision	Capsule, in a HandiHaler device (inhaled)
Combivent/Duohaler (albuterol+ipratropium)	Maintenance AND Rescue	Opens up airways in two different ways	5 to 15 minutes	4-6 hours	2 puffs 4 times a day, up to 12 puffs a day	Dry mouth, bitter taste, headache, shakiness, nervousness, palpitations	In a metered-dose inhaler as a solution
Prednisone		Reduces the inflammation and swelling in the airways			Varies by patient condition	Stomach ache, greater appetite, mood swings, sleeplessness. In long-term use: weight gain, fragile bones, high blood sugar, cataracts, higher risk of infection. DO NOT STOP TAKING SUDDENLY.	In tablet form
Serevent (salmeterol) Brovana (formoterol) Performist (formoterol)	Control – Long Acting Bronchodilator NOT RESCUE	Opens up the airways	Not immediate	12 hours	Serevent=2 puffs twice daily. Brovana & Performist: Unit dose twice daily	Shakiness, headache, nervousness, high blood pressure, flushing, palpitations	In a metered-dose inhaler; dry-powdered inhaler, solution
Advair Serevent+Flovent Symbicort Budesonide+Formoterol Dulera	Control – Long Acting Bronchodilator and steroid NOT RESCUE	Reduce the inflammation and swelling in the airways and opens up the airways	Not immediate	12 hours	1 inhalation twice a day 100/50; 250/50; 500/50	Hoarseness, yeast infections, headache, shakiness, nervousness, high blood pressure, flushing, palpitations	Metered-dose inhaler
TheoDur (theophylline) Uniphyll (theophylline)	As additional bronchodilators	Opens up airways, may increase chest muscle endurance, decrease muscle fatigue		12 hours	Dose based upon patient weight	Nausea, cramps, diarrhea, insomnia, shakiness, and nervousness. Can interact with food and other medications	In tablet form

## Vaccines

Two vaccines are recommended for people with lung conditions and heart failure to prevent certain respiratory infections. These vaccines are:

### Pneumococcal vaccine

The Pneumococcal vaccine is used to prevent infections caused by this specific bug. The vaccine is given by injection. It causes the body to produce protection against the disease.

The rate of side effects are low but pneumococcal infections can cause pneumonia, meningitis (an infection which affects the brain), bacteremia (an infection of the blood stream) and even death. These infections are more likely to occur in older adults and patients with chronic diseases such as lung disease.

The vaccine is usually given only ONCE to each person. Your doctor will determine exceptions. If you have more than one doctor, be sure to let them know that you have received the vaccine.

Boosters may be needed based upon your age when the first dose of vaccine is given.

Call your doctor as soon as possible with fevers of 102° fahrenheit or 39° centigrade or above.

#### Get help immediately if any of the following occur:

- Difficulty in breathing
- Difficulty in swallowing
- Swelling of the eyes, face or inside of nose
- Itching or hives

### Influenza virus vaccine (flu shot)

The flu shot is used to prevent the flu. It is given by injection. There are many kinds of flu viruses but not all of them will cause a problem each year. Because of the number of viruses, it is necessary to receive a flu shot each year, usually in early November.

Influenza is a virus that can affect your throat and lungs, causing fever, chills, coughing, headache, muscle aches and pain. Adults and children who are weakened by other diseases, such as lung disease, may be affected more severely.

Tell your doctor if you have ever had an unusual reaction to the flu shot. It is also important to tell your doctor if you are allergic to eggs since this is where the vaccine is grown.

#### Get help immediately if any of the following occur:

- Difficulty in breathing
- Difficulty in swallowing
- Swelling of the eyes, face or inside of nose
- Itching or hives

## INHALATION DEVICES

Inhalation devices are used to inhale (breathe in) medications directly into the lungs.

### Nebulizers

- Sometimes called a "compressor" or breathing treatment
- Changes liquid medications into fine droplets that you inhale through a mouthpiece or mask
- Can be useful if you find it hard to use an inhaler
- Useful for high doses of medication
- Used in the hospital, especially in the emergency department
- Can also be used at home

Infants, children and adults may have difficulty timing their inhalations when using a metered-dose inhaler even with the use of a spacer device. For this reason, compressor-driven nebulizer units are recommended for such individuals, particularly for individuals who are having acute respiratory distress. The nebulizer unit can produce a fine medicated mist that is inhaled while breathing normally. For many patients, nebulized medication reaches the lower airways more effectively than with the use of a metered-dose inhaler. The home use of a nebulizer can dramatically increase the quality of life of many patients and can be a lifesaver when traveling.

The nebulizer has significant advantages over the metered-dose inhaler with or without a spacer in that it does not require coordination. Hand-breath coordination is not required, nor is it necessary to hold one's breath. In addition, it is possible to administer several medications at the same time. If a nebulizer unit is recommended, specific instructions by staff will be reviewed with you regarding use of medication. Whoever delivers the unit to you should also demonstrate its use and check that it is working properly. Written instructional information on the use of a nebulizer should be given.

For those individuals who travel and need to use a nebulizer unit while away from home, lightweight portable, battery-operated units are available. Some are so light in fact, that they can be easily carried on your person all the time.

### How to use a nebulizer

Use nebulizer as directed by your doctor. A nebulizer can be used occasionally, daily (1 – 4 times per day). Treatments usually last 5 – 10 minutes in duration.

- Check that your machine, nebulizer bowl, and tubing are clean and in good working order before and after use.
- Hold the nebulizer bowl or chamber in place, screw off the cap, and add your medication.
- Use a single premixed dose vial, or add the prescribed dose (e.g. 0.25 – 0.5 cubic centimeter) of the medicated solution (albuterol, Proventil®, etc.) to a dilutent (saline or cromolyn sodium). Place the medication(s) in the nebulizer bowl and close the bowl.
- Put the mouthpiece into the nebulizer bowl or attach a mask for infants.
- Attach the tubing to the inlet of the nebulizer bowl and turn the unit on.
- Hold the mouthpiece between your teeth and close your mouth gently around the mouthpiece sealing it with your lips.
- Turn on the machine and a mist should come out of the mouthpiece.
- Breathe slowly and slightly more deeply than usual (10 – 20 times per minute)
- If the treatment needs to be interrupted, just shut off the machine, and restart its use later. If an aerosol mask is used, place the mask over the mouth and nose
- Clean your machine and nebulizer bowl regularly as per the manufacturer's instructions. Keep a spare nebulizer bowl available in case the one you are using suddenly stops working.

## Metered-Dose Inhaler (MDI)

- Sometimes called a "puffer"
- Used with open-mouth or closed-mouth technique, depending on the medication
- You must coordinate activating the inhaler and breathing in
- Can be used with a spacing device or holding chamber

Metered-dose inhalers (MDIs) are devices that are convenient and easy to use for administering medications directly to the airways. If you are using an MDI, the following instructions will help you develop a proper technique. This technique is important in that it is the key to effective delivery of medication to the airways.

### **How to use a MDI**

1. Remove the plastic dust cap. Look inside to make sure nothing is inside the mouthpiece of the inhaler.
2. Shake the container vigorously immediately before using.
3. Hold the inhaler up to your mouth with the mouthpiece down.
4. Breathe out fully, empty your lungs slowly of as much air as you can without straining. You are now ready to inhale asthma medication.
5. Activate the inhaler while very slowly and simultaneously breathing in the medication. Hold the medication in your lungs for 5 – 10 seconds and then slowly exhale (breath out). See the following page for three possible techniques.
6. Wait a few minutes, then repeat steps 2 – 5 for a second inhalation.
7. Rinse your mouth (gargle with water) if you are using corticosteroid inhalers to help prevent infection.

8. After each use, replace the plastic dust cap. This will prevent the loss of medication and will keep the valve clean. Hint: If you find that you keep your inhaler in your pocket or pocketbook and it gets dirty, it is best to first place it in a plastic bag (i.e. a baggy) which will keep it clean and prevent you from accidentally inhaling dirt or a foreign object into your lungs.

**There are three possible techniques for inhaling your medication; use the one that works best for you.**

#### **A. Closed mouth technique**

The first method is called the CLOSED MOUTH TECHNIQUE. Shake the MDI vigorously. Breathe out completely, fully emptying your lungs. Place the tip of the MDI mouthpiece between your teeth and gently close your lips around the mouthpiece, creating a seal. Begin to breathe in slowly and deeply through your mouth immediately before activating your MDI. Just as you begin to inhale slowly, firmly press the container down into the mouthpiece once only. This releases the medication. Since you started to breathe in slowly immediately before activating the MDI, you should be able to continue to inhale slowly after the MDI has been activated until you reach maximum inhalation. Then hold your breath for 10 seconds and breathe out slowly through gently pursed (pressed together) lips.

#### **B. Open mouth technique**

A second technique, which is excellent if you are very well coordinated, is call the OPEN MOUTH TECHNIQUE. This technique is one in which one performs the above maneuver with the MDI placed approximately 2 inches from the mouth. The medication is sprayed directly into the open mouth during deep slow inhalation. Although many experts claim this is the best technique, some specialists do not usually advise using this method for most patients because the inhaler spray may be accidentally misdirected away from the mouth when the technique is not perfectly executed.

### C. Inhaler and spacer device

A third technique involves the use of an inhaler with a spacer device (holding chamber). Here, the MDI is attached to a spacer device and the patient exhales completely before inserting the mouthpiece of the spacer into his/her mouth. When the MDI is activated, the patient begins to breathe in slowly. The rate of flow of medicine sprayed into the holding chamber slows down and it can be completely inhaled even if your coordination is not perfect. Additional benefits include a much less chance of sore throats due to less force of medicated spray on the back of the throat, decreased hoarseness, decreased medication taste, and less of a chance for development of fungal infections of the mouth and throat for those using inhaled corticosteroids.

### Spacers

- Slows down the medication on its way into your mouth
- Should have a one-way valve to hold your medication for a few seconds until you are ready to inhale it
- Can help more of your medication reach your lungs
- Can also mean fewer side effects, such as throat infections, bitter taste, and hoarseness

For individuals who have difficulty using metered-dose inhalers (MDIs) spacers (also known as holding chambers and reservoirs) have been made. The spacers help eliminate the problem of hand-breath coordination, improve the delivery of medication, and reduce throat irritation and/or fungal growth in the upper airway.

All spacers receive the medicine from the MDI and briefly hold it until the individual begins to inhale (breathe in). Therefore, it is not necessary to precisely coordinate the release of medicine with inhalation. The spacer also allows for the medicated mist to decrease its speed of spray. As it is temporarily suspended in the holding chamber, it can be inhaled at a slower rate, leading to more complete distribution within the lung.

Even individuals who are familiar with the correct technique of MDI use may benefit from a spacer since they can increase the amount of medication deposited into the airways. Used with inhaled corticosteroids, a spacer may also decrease the incidence of thrush (yeast infection in the mouth and throat). Spacers may also help reduce the bad taste that many individuals experience with MDIs.

Adults and most children over 3 years (occasionally younger) of age can become proficient within a week or two of practice using these devices. Two common spacer devices used are the Aerochamber® and the InspireEase® device, both of which have incorporated a monitoring sound to alert the individual of inefficient inspiratory flow. The choice of spacer device is usually based on efficacy of aerosol delivery, how well the spacer fits the inhaler, its portability, convenience of use, and price. The nurse or respiratory therapist should review the use of the spacer device and offer written instruction.

### Using a metered-dose inhaler (MDI) with a spacer

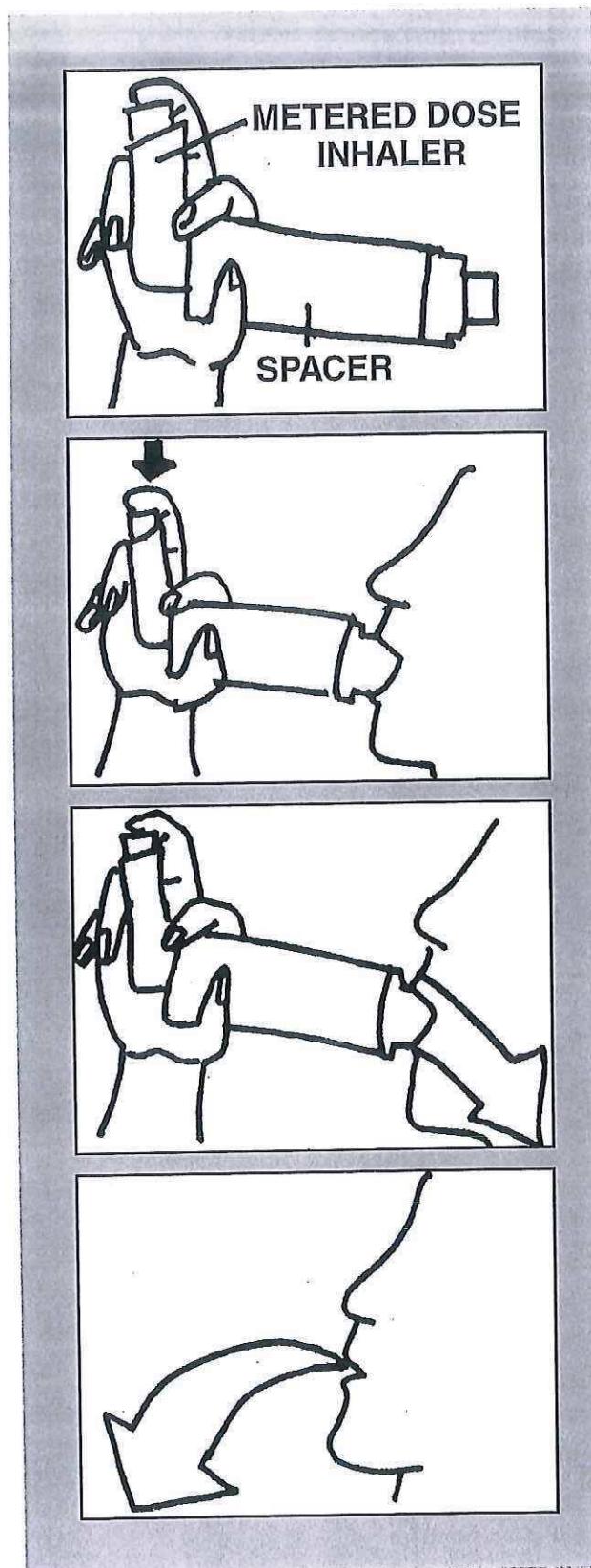
A tube called a spacer may be attached to the MDI to help the medication get further into your lungs. Use of a spacer can also help to decrease the size of the particle, decrease upper airway impaction and decrease the need for hand and eye coordination.

**To use a MDI with a spacer device follow these instructions:**

- Remove the caps from the metered dose inhaler and the spacer.
- Attach the spacer to the inhaler and shake well.
- Hold the metered dose inhaler with your middle finger on the metal canister. Put your index finger and thumb around the spacer.
- Breathe out normally through your nose. Put the mouthpiece of the spacer into your mouth, keeping your lips tight around the mouthpiece.
- Keep your chin up and press down ONCE on the metal canister of the MDI. This will release one puff of medication into the spacer.
- Breathe in through your mouth as deeply and slowly as possible. Remember, the slower you breathe in, the more medication you are getting into your lungs. When you breathe in too fast some spacers whistle to warn you that you are breathing too fast.
- Hold your breath for ten seconds. Take the spacer out of your mouth and breathe out slowly with your lips puckered as if you were blowing a kiss.
- If your doctor prescribes more than one puff of medicine, wait 60 seconds between puffs. Shake the inhaler well in between puffs. If you are taking more than one inhaler, wait five minutes between inhalers.

**How to care for your MDI and spacer**

- Rinse the MDI mouthpiece and spacer daily with warm soapy water, rinse well and air dry.
- Once a week, disinfect the mouthpiece assembly and spacer by soaking equipment in one part vinegar and three parts water for 20 minutes, then rinse well with water. Air dry.



## The dry-powder inhaler (DPI)

- Delivers medication as a powder
- Triggered when you inhale, unlike the press-and-breathe MDI
- Delivers a very fine powder, so fine you may not feel it when you inhale
- Must not be used with a spacing device or holding chamber
- Brand names: TURBUHALER®, DISKHALER®, AEROLIZER™, ADVAIR®, FORADIL®, PULMICORT®, and SEREVENT DISKUS®

## SPECIAL CONSIDERATIONS

Whichever technique you use, please consider the following:

- Rinse your mouth (gargle with water) if you are using corticosteroid inhalers to help prevent infection.
- If you notice "smoke" coming out of your mouth, or if you feel most of the medication remains in your mouth and not in your chest, you are not using your inhaler properly. You should demonstrate your technique to your physician or one of his/her staff.
- In order to judge if your inhaler is empty, some patients drop the metal portion of the inhaler in a sink of water, thinking that's its position (floating = empty, sinking = full) in the water will tell how much medication is left. This is not accurate. Shaking the inhaler or checking if it still "puffs" are also very inaccurate methods for determining the amount of medication left.

We feel that a much more accurate method is to divide the actual number of doses that a new MDI contains by the number of puffs used each day (daily dose) to determine or calculate the number of days of treatment your inhaler holds.

For example, if your MDI contains 200 puffs and you know that you inhale 2 puffs twice a day (4 puffs a day), you can then divide 200 puffs (total number of doses) by 4 (total daily dose) to determine the total remaining days of use. In this case the MDI contains 50 days of medication use before it will be empty (200 divided by 4). Then based on this information, simply write the predetermined date of replacement onto the canister with a permanent-marking pen, and also on your personal calendar. Using this information, you can confidently determine when the canister will nearly be empty and replace it in a timely fashion. It should be noted that it is possible that there will occasionally be less total doses in your MDI than indicated; therefore, replace the canister well in advance of total expiration. We have found that this is the best replacement strategy and the one that we strongly recommend. For patients that use MDIs only occasionally for symptoms, it's probably best to replace their inhalers at least every 6 months, even though they still may contain lots of medication. Of course, if the inhaler has not been used at all, you can replace it according to the manufacturer's expiration date marked on the box of the MDI and on the canister.

- Inhalers are sensitive to extreme temperature changes. Therefore, do not leave inhalers in your car, especially in summer heat or winter cold.

# USING OXYGEN SAFELY AT HOME

## Positioning the device

When you insert your oxygen tubing into your nose, make sure the prongs face upward and follow the natural curve of your nostrils. Wrap the tubing around your ears and adjust for comfort.

## Safety tips

- Oxygen is highly explosive. Alert your local fire department that oxygen is in the house and keep an all-purpose fire extinguisher on hand.
- Do not use petroleum products with oxygen (such as Vaseline in your nostrils) because they may be fuel if a fire occurs.
- If a fire does occur, turn off the oxygen immediately and leave the house.
- Do not smoke and do not allow others near the oxygen system. Keep the system away from heat and open flames, such as gas stoves.
- Do not run oxygen tubing under clothing, bed covers, furniture, or carpets.
- Keep the oxygen system upright.
- Make sure the oxygen is turned off when not in use.
- NEVER CHANGE YOUR FLOWRATE WITHOUT CHECKING WITH YOUR DOCTOR FIRST!

## When to call your doctor

### Not enough oxygen

- Difficulty or irregular breathing
- Restlessness
- Anxiety
- Tiredness or drowsiness
- Blue fingernail beds or lips
- Confusion or distractibility

## Too much oxygen

- Headache
- Slurred speech
- Sleepiness or difficulty waking up
- Shallow or slow breathing

## BETTER WAYS TO BREATHE

Here are a few ways to help your lungs get more air:

### Pursed-lip breathing

1. Inhale slowly through your nose until your lungs fill up with air.
2. Purse your lips as if you were going to whistle or kiss someone.
3. Breathe out slowly while keeping your lips pursed.
4. Take twice as long to breathe out as you do to breathe in.
5. Do not force your lungs to empty.

Pursed-lip breathing will help you control your breathing rate and shortness of breath. It helps more air get into your lungs and reduces the energy required to breathe. It will also help you feel more in control and make it easier for you to do things.

### Holding your breath

1. Breathe in.
2. Try to hold your breath for three seconds.
3. Breathe out.

Holding your breath extends the time for your lungs to exchange oxygen for carbon dioxide. This helps your blood to take in more oxygen.

## Breathing from your diaphragm

Your diaphragm is a thick, flat muscle just below your rib cage and above your abdomen (your belly). By using your diaphragm when you breathe in, you help your lungs expand so that they take in more air.

1. Relax your shoulders.
2. Put one hand on your abdomen.
3. Make your abdomen push out while you breathe in through your nose.
4. Suck in your abdominal muscles.
5. Breathe out using the pursed-lip technique. You should feel your abdomen go down.
6. Repeat three times and rest for two minutes.
7. Repeat this exercise many times a day.

## Rib-cage breathing

1. Repeat the steps used in diaphragm breathing, but place your hands on your ribs instead of your abdomen, and don't pull in your abdominal muscles.
2. Feel your chest expand and fall back as you breathe.

## Abdominal breathing

1. Lie comfortably on your back and place a pillow beneath your head. Bend your knees to relax your stomach.
2. Press one hand on your stomach lightly but with enough force to create slight pressure. Rest the other hand on your chest.
3. Now breathe slowly through your nose, using your stomach muscles. The hand on your stomach should rise during inspiration and fall during expiration. The hand on your chest should remain almost still.

These methods will make breathing less work, control your breathing when it's hard to breathe and help more air get to your lungs and the air sacs where oxygen reaches your bloodstream.

## Positions that help reduce shortness of breath

When you are short of breath, how you sit or stand can make a difference. Using less energy will help you avoid breathlessness. Here's how to sit and stand to use less energy.

### Sitting

When you sit, support your feet, lean your chest forward slightly, and rest your elbows on your knees and your chin on your hands or you can rest your arms on a table, with your head on a pillow.

### Standing

Standing takes less energy if you lean your chest forward slightly and rest your hands on your thighs. If there is a high piece of furniture nearby, rest your elbows on it, put your head on your forearms, and relax your neck and shoulders, or you can rest your hands on a piece of furniture.

## CLEARING YOUR LUNGS

Controlled coughing and breathing out hard are good ways for you to remove sputum (mucus or phlegm) from your body. This will save energy and prevent infections caused by extra sputum in your lungs.

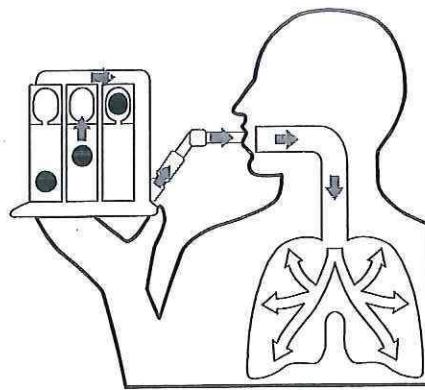
For either technique, sit and make yourself comfortable. Place both your feet firmly on the ground and lean your head forward slightly. Then do either or both:

### Controlled coughing

1. Inhale deeply from your diaphragm.
2. Hold your breath for two seconds.
3. While keeping your mouth slightly open, cough twice. The first cough will loosen your sputum. The second will move it up towards your throat.
4. Spit the sputum out into a piece of tissue. Check its color. If it is yellow, green or red, call your doctor. Then you can throw the tissue out. Wash your hands.
5. If no sputum comes up, take a break, then repeat once or twice.

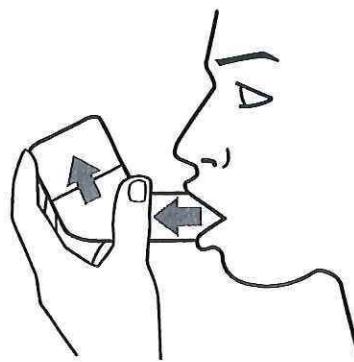
### Breathing out hard

1. Breathe in deeply from your diaphragm.
2. Breathe out hard through your nose and open mouth, as if you were making mist on a window.
3. Repeat once or twice.



### Incentive Spirometer

Using the incentive spirometer helps clear your lungs to prevent infections caused by mucus build-up. Use the incentive spirometer 10 times every hour while awake. Take a breath in like sipping from a straw.



### Flutter device

The flutter mucus clearance device is shaped like a pipe with a hardened plastic mouthpiece at one end, a plastic protective, perforated cover at the other end, and a high-density stainless steel ball resting in a plastic core on the inside. The flutter device has the ability to vibrate the airways which loosens mucus from the airway walls. The respiratory therapist will instruct you on how to use the flutter device correctly.

## EATING

A person with lung disease may need 10 times more energy to breathe than someone without lung disease. So it's important to eat a healthy diet to store energy. Eat five to six small meals a day. Small meals will prevent bloating and shortness of breath. Use fast and easy recipes and cook more than one meal at a time to help save your time and energy.

Eat foods high in protein and calories to stay well nourished, increase your energy level, and help you maintain your muscle and bone strength. If you do not eat enough calories, you can become underweight which can lead to infections. Buy tender meat and cut your food up into bite-sized pieces. The less energy you spend chewing, the better.

If you are taking long-term steroids - eat and drink more dairy products. If you can't digest milk, try a little yogurt, cheese or buttermilk. Lactaid supplements may aid in digesting daily foods. Ask your doctor to recommend a calcium supplement.

Drink a lot of water (unless your doctor has said not to). This will keep the linings of your airways moist and make it easier for you to cough things up.

Avoid carbonated beverages, beans, cabbage, corn and other gassy foods – this will reduce bloating and increase comfort.

### More Tips

- Eat three to six small meals daily (see sample menu on next page).
- Rest before eating.
- Choose easily prepared foods.
- Eat most meals early in the day.
- Eat slowly, avoid swallowing air.
- Avoid salty foods.

If you retain fluids, you may need to eat less salt and processed foods. Sodium is the mineral in salt that can cause fluid retention. Some foods high in sodium are:

- Bacon
- Corned beef
- Ham
- Hot dogs
- Canned pork and beans
- Canned soups
- Pickles
- Soy sauce

## Diet Guidelines

Use "My Pyramid" as a guideline for your daily diet. Using the recommended portions from each group will provide the following nutrients:

### Protein

Meat, beans, and milk provide protein "building blocks" for skin, muscle and tissue repair.

### Fat

Fat is needed for absorption of essential nutrients and also provides concentrated calories.

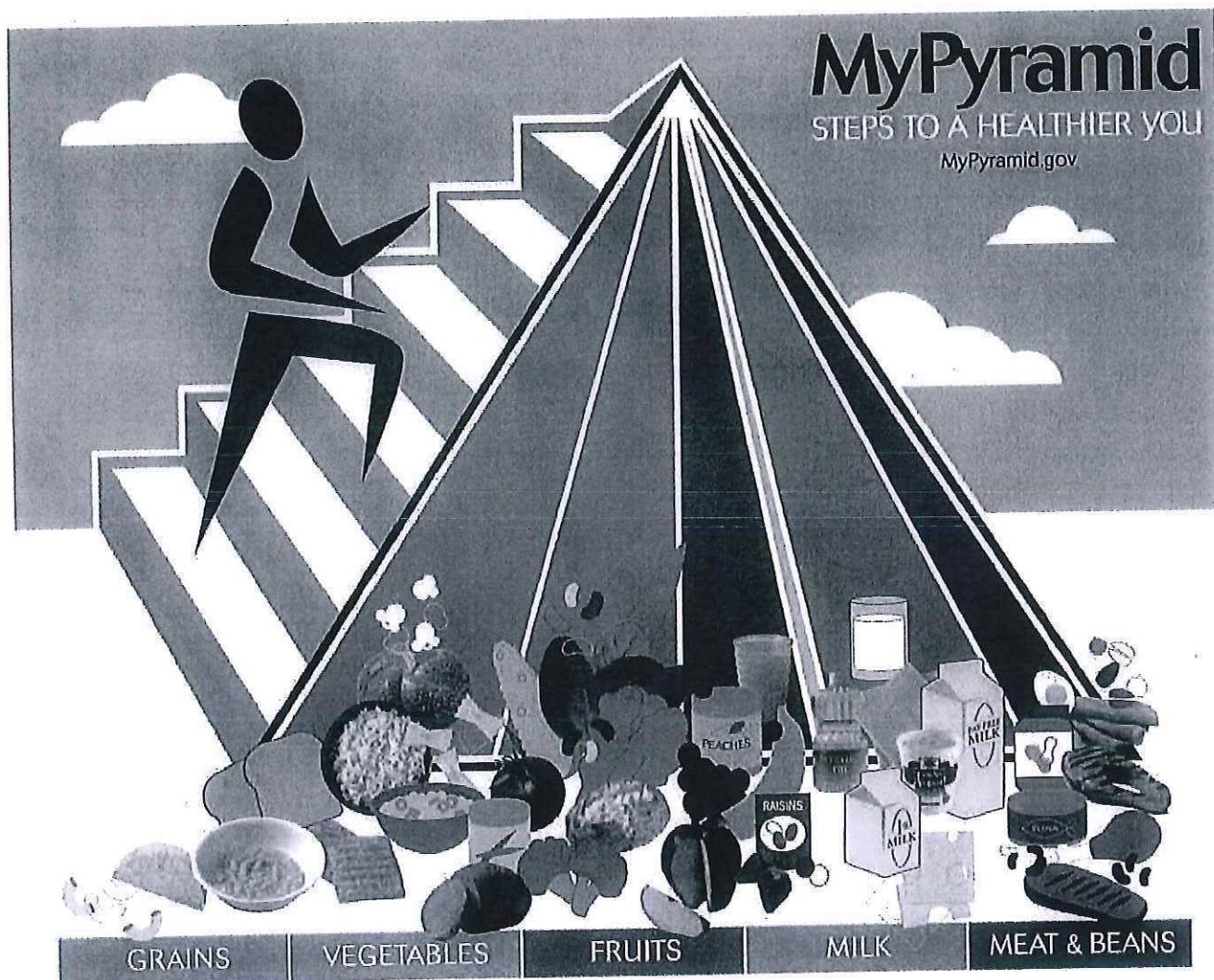
### Carbohydrate

Breads, cereals, fruits and vegetables contain complex carbohydrates. These are important to the body, promoting health and well-being with vitamins, minerals and energy. Carbohydrates with no nutritional value (sugar, candy, soft drinks) increase the workload of the lungs, and are not beneficial.

### Grains

*Make half your grains whole*

- Eat at least 3 oz. of whole-grain cereals, breads, crackers, rice, or pasta every day.
- 1 oz. is about 1 slice of bread, about 1 cup of breakfast cereal, or  $\frac{1}{2}$  cup of cooked rice, cereal, or pasta.



## Vegetables

### *Vary your veggies*

- Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens.
- Eat more orange vegetables like carrots and sweet potatoes.
- Eat more dry beans and peas like pinto beans, kidney beans, and lentils.

## Fruits

### *Focus on fruits*

- Eat a variety of fruit.
- Choose fresh, frozen, canned, or dried fruit.
- Go easy on fruit juices.

## Milk

### *Get your calcium-rich foods*

- Go low-fat or fat-free when you choose milk, yogurt, and other milk products.
- If you don't or can't consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages.

## Meat and Beans

### *Go lean with protein*

- Choose low-fat or lean meats and poultry.
- Bake it, broil it, or grill it.
- Vary your protein routine – choose more fish, beans, peas, nuts, and seeds..

## Sample Menu

### Breakfast

- 1 serving from each:
- Bread/cereal group
  - Fruit group
  - Meat/eggs group
  - Milk group

### Mid-Afternoon Snack

- 1 serving from each:
- Bread/cereal group
  - Milk or meat group

### Dinner

- 1 serving from each:
- Meat group
  - Vegetable group
  - Milk or fruit group
  - 2-3 servings from:
  - Bread/cereal group

### Evening Snack

- 1 serving:
- Fruit group

- 2-3 servings from:  
Bread/cereal group

- These are suggested guidelines for frequent meals.
- Butter or margarine may be used at any meal.
- Use beverages as desired unless otherwise directed.

## BREAKING THE CONSTIPATION HABIT

You can overcome constipation – even if you've been constipated frequently for many years. Follow these guidelines to break the constipation habit:

### Develop good bowel habits

Schedule a regular time for bowel movements. Choose a time when you won't be rushed or interrupted. Many people find that the best time is shortly after a meal.

Anticipate events, such as travel or social plans that may disrupt your normal routine. That way, you can plan ahead.

Don't ignore the urge to have a bowel movement even if you are busy or it's inconvenient.

### Watch your diet

Cut down on refined, starchy foods. Instead, choose foods like whole grain cereals, pasta and bread, nuts and fresh fruits and vegetables. These foods add fiber to your diet. If you get constipated when you are away from home, carry a supply of dried prunes with you to your destination.

Watch your intake of fatty foods, such as butter, cooking oils, cream and bacon. Although these foods can help soften your stools, they may work too well, causing diarrhea.

Drink at least eight to 10 glasses of fluid every day to keep your stools soft and easy to pass (unless your doctor has said not to). Prune juice or a hot beverage, like coffee or warm lemonade, may stimulate the urge to have a bowel movement.

### Learn to relax

If you're tense, having a bowel movement will be more difficult. Reading or listening to music while you're in the bathroom may help you to relax. Remember that a daily bowel movement isn't essential for everyone.

### Other tips

- Develop a daily exercise program. If you've been inactive for a long period of time, walking is a simple and effective way to get started.
- Get at least six hours of rest each night.
- Consult your doctor or nurse before using laxatives. Remember that overusing these medications can cause constipation rather than relieve it.

## EXERCISE

If you are like most people with lung disease, exercise can be a Catch-22 – you don't exercise much because you get tired and short of breath. But part of the reason you get tired and short of breath may be that you don't exercise.

Although you may find it hard at first, in the long term, exercise will make you less short of breath. It will also keep your muscles from getting tired as quickly. This means you'll have more energy and be able to do things longer. As an added bonus, exercise will keep your spirits up and improve your sense of well being.

### Start a routine

It's really not hard to break the cycle of no exercise and shortness of breath. The trick is to be patient and start slowly.

- First, consult your doctor to develop an exercise routine that's right for you. Ask him or her whether to change the way you use your medications. For example, some people need to use their inhaled short-acting bronchodilator 20 to 30 minutes before exercise.
- Then plan a regular time each day when you're least likely to cancel or be tired.
- Try to find a partner or two to exercise with. You're less likely to break a date with someone else than with yourself.
- Add something enjoyable to your exercise: music, a pleasant view, or maybe a treat afterwards, so it doesn't seem like a chore.

### **Take your pulse**

Whatever exercise you do, your pulse rate should climb no higher than 20 beats per minute faster than it is at rest. If you start to feel short of breath, stop exercising and take your pulse. Stay calm. Sit down if you can; otherwise, lean or hold onto something sturdy. Relax your upper body, letting your head and arms hang down. Purse your lips. Try to double the time it takes you to breathe out versus in.

To take your pulse, place the first two fingers of your right hand on your left wrist. Count the beats for 15 seconds and multiply that number by four.

### **Breathe properly**

Many of us don't breathe properly. To be sure you're doing it right, don't think about your lungs, but your belly. Too many people breathe from up in their chest. The breathing muscle – the diaphragm – is much lower (about level with your belly button).

A good way to warm up for exercise is to practice breathing from your diaphragm. Sit upright in a chair and hold one hand on your chest and the other below your waist. Concentrate on breathing so that your belly is doing most of the work. Over time you will build the strength of your diaphragm and breathe more efficiently.

### **Take a walk**

You don't need a high-tech exercise plan to enjoy yourself and get huge benefits. Walking is one of the healthiest, easiest and most enjoyable ways to get exercise. Put on a comfortable pair of shoes and loose clothes – and head out. You could explore new areas and get to know your neighborhood. Or you might plan some of your errands or visits around a daily walk.

While you're walking, relax your upper body and keep a comfortable, easy pace. Be careful not to overexert yourself. If you feel short of breath, stop, relax, and practice pursed-lip breathing.

### **Use your imagination**

More frequent walking is just a start. There are many activities to get your lungs going and your heart pumping that don't need to be overly strenuous. Whether it's gardening, dancing, swimming or bike riding, just be sure to consult your doctor before starting out.

## **SLEEP**

To get a good night's sleep, start preparing during the day. Exercise, eat well and stay active. Then relax before going to bed. Do your relaxation techniques, take a warm bath or have a cup of warm milk. Listen to music.

Avoid heavy meals before bedtime. They take time and energy to digest and you may wake up short of breath in the middle of the night. Don't drink coffee, tea or cola, or eat chocolate before going to bed. These all contain stimulants that will make it hard to sleep. Stressful conversation and emotionally charged movies or television in the evening, including the late news, can also keep you awake.

## SEXUALITY

Sex is important – it can be a source of relaxation and pleasure. People with chronic lung disease often fear shortness of breath during sex. You may feel no sex at all is the only solution. You're wrong!

Sex is a need just like eating, exercise and sleep. A healthy sex life is not just intercourse. Feelings created by a romantic setting, music, dinner or touching are also important. In fact the quality of the intimate time you spend with your partner just may take on a new dimension and enjoyment because of your chronic lung disease.

The familiar expression "take time to smell the flowers" will become your new lifestyle as you learn to manage your chronic lung disease and take charge of your own health and happiness.

- Talk with your partner about your concerns and work together to make sex enjoyable by modifying just a few things:
- Choose times when you are rested.
- To avoid shortness of breath, try positions that require less energy (such as lying on your back).
- Using a bronchodilator before sex may also help.
- Try using the Pursed-Lip Breathing technique to conserve energy.
- Consider other forms of sexual expression and intimacy as well as intercourse such as touching, holding, hugging, talking, etc.
- Use supplemental oxygen if it helps.
- Always rest before and after sex.

Allow your role to become more passive and your partner's role to become more active. Plan ahead and above all, keep lines of communication with your partner open and honest. Experimenting can be fun and enjoyable for both of you.

Follow your doctor's advice about using medication before sex, just as you would with any other physical activity.

## SAVING ENERGY

### How to avoid tiring easily

- Avoid rushing by planning your day carefully. For example, if you have a scheduled activity, get up a little earlier. That way you'll have time to get ready for the activity without any hurry.
- Spread your activities out over the day. For example, do not do all your activities in the morning, save some for the afternoon or the next day.
- Rest between activities.
- Practice deep breathing regularly, at least every two hours while you are awake. Remember to use your abdominal muscles. Breathe out with your lips pursed. Breathing out should last twice as long as breathing in. Use an incentive spirometer if you have one.
- Use deep breathing while performing any active movement, such as sweeping or mopping.
- Use deep breathing with any activities that require you to raise your arms, such as lifting packages or combing your hair. Coordinate your movement with breathing.

### Energy saving techniques

#### 1. Planning a schedule

- Select the most important jobs and/or those requiring the most energy and plan them for the time when you will be less tired or have fewer interruptions.
- Spread the most difficult tasks throughout the week.
- Prioritize your daily activities and plan your day to avoid rushing.
- Plan to rest 10-15 minutes between activities (i.e., reading, napping, listening to music).
- Group jobs together, think ahead and organize your day.

## 2. Performing the job

- Slide – do not lift and carry objects unless necessary.
- Use a small cart or wheel table to carry objects like stacks of dishes.
- Exhale when lifting or pushing – it helps.
- Work at the most comfortable height. Avoid long periods of bending and standing.
- Wear comfortable clothes and shoes (Velcro closing shoes, elastic waistband garments).
- Sit to work – whenever possible and use a chair with good back support.
- Use adaptive equipment when indicated (i.e., toilet height extender, high cupboard tongs or arm extenders, shower chair, remote control and home intercom system).
- Ask others to help you with maintenance chores or hire someone to assist (i.e., lawn care, pet care, and housekeeping).

## 3. Body mechanics

- Avoid stooping and bending.
- If you need to get lower, bend at the hips and knees, not at the waist.
- Reduce unnecessary standing, walking and stair climbing.
- Make each trip count. Think ahead.
- Pace yourself, slow down and live longer. Working twice as fast requires four times the energy.
- Rest ten minutes of every hour (minimum) rather than one two hour afternoon nap and learn to stop and rest before you become overly fatigued.

## In the morning

- Getting ready for your day can take a lot of energy. Here are some ways to save some:
- Sit on a stool in the shower and take your time.
- Sit down or rest your elbows on a table to brush your teeth, shave or put on make-up.
- Sit down while dressing. Put your pants on first and then your shirt.

## In general

- Try to sit down whenever you can. Place things you use often within easy reach.
- Ask "Can anyone else do this for me?" and "How can I do this more simply?"
- Organize your day. Give yourself rest periods between your activities. Be realistic and go at your own pace. Don't let yourself get rushed.
- Use your breathing and coughing techniques, body positions and energy-saving techniques regularly. They will help you reduce your shortness of breath, so use as many techniques as you like!

# RELAXING

## The anxiety-breathlessness cycle

Controlling your anxiety can help you avoid or limit shortness of breath. For many chronic lung disease patients, fear of suffocation and other emotions can cause shortness of breath. In a vicious cycle, this shortness of breath can lead to further anxiety and the anxiety to shallow breathing and muscle tension, which causes further shortness of breath. Some chronic lung disease patients stop some physical activities because of their fear of breathlessness and suffocation.

- That makes the vicious cycle even worse. The less you do, the worse your physical shape becomes. Being in bad shape means you can do less, so that you'll become even more anxious and short of breath.
- Stay active – just go at your own pace.
- Learn which situations may make you short of breath. Plan for them.
- Learn to take one day at a time, moment by moment. Remember, life holds many surprises. A situation that seems hopeless today could look brighter tomorrow.
- Do things you enjoy. Make a lot of time for pleasant activities in your day. This includes taking time for yourself and for the people around you.
- Talk to the people around you about your feelings and your chronic lung disease.
- Talk to your doctor about the kind of care you would like if your chronic lung disease gets worse.
- Learn to relax! Use the relaxation techniques described below.

## Deep breathing

Put one hand on your abdomen (belly) and breathe in deeply. Feel your abdomen move out. Push it out as hard as you can as you breathe in. This will help your lungs fill up with air. Breathe out through your mouth while keeping your lips pursed. Feel your abdomen go back to its normal size.

## Progressive muscle relaxation

Tense the muscles in your body one at a time and then let each one go limp. Start with your feet and go up to your head. Keep your eyes closed. Meanwhile, breathe in and out using pursed-lip breathing.

## Positive thinking

Get comfortable and close your eyes. Breathe deeply and regularly. Let your mind wander. Imagine that you're somewhere pleasant, like a beautiful meadow. Use all your senses to imagine – touch, smell, taste, hear and see. Mentally say "calm" every time you breathe out.

## Visualization

Picture something that makes you feel happy, confident, or relaxed: for example, imagine yourself doing a task well and feeling good about it afterwards. Concentrate on it and on your breathing.

## Music

Music is a great way to relax. Play whatever makes you feel calm and peaceful.

## Humor

Laughter is sometimes the best medicine. Jokes and humor reduce tension. They can also help you discuss sensitive issues.

# NO SMOKING SECTION

## Reasons To Quit Smoking

- **Because It May Kill You**

Smoking will take an average of seven years off your life. Your risk of heart disease is doubled if you smoke. One out of every five deaths in the United States is related to smoking, as is one out of every three deaths from cancer. That includes cancer of all kinds, not just lung cancer – mouth and throat cancer and cancers of the bladder, kidney, pancreas, stomach, uterine and cervix. In addition, smoking severely disrupts the body's natural protection, your immune system.

- **Because It Damages Your Lungs**

Cigarette smoke contains over four thousand chemicals. Most of these are harmful and can cause other lung diseases in addition to cancer. Smoking also contributes to smoker's cough and COPD.

- **Smoker's Cough**

Over time, cigarette smoke, dust particles, and other chemicals can damage or completely destroy the tiny protective hairs (called cilia) in the lungs, an important part of the body's immune system. To make up for the missing or damaged cilia, the lungs produce excess mucus. The mucus can clog the airways and cause smoker's cough.

- **Lung Cancer**

The most serious lung disease of all is lung cancer, which is caused primarily by smoking. Cancer cells grow rapidly and end up blocking the bronchi (the main airways in the lungs). If unchecked, these cells invade the lung tissue itself and can spread to the rest of the body. Cancer cells can travel to other vital organs, where new cancers begin.

- **Because It Makes You Sick In Other Ways**

Smoking can also cause the following diseases and conditions:

- Heart disease
- High blood pressure
- Reduced lung capacity and stamina
- Sore throats
- COPD
- Chronic Bronchitis
- Emphysema
- Ulcers
- Gum disease
- More severe colds
- Loss of taste

- **Because you are hurting others**

It is not news that smoking bothers the people around you. But now there's proof that it is harmful to their health. Second hand smoke contains the same cancer-causing material as the smoke you breathe in. That helps explain why non-smoking spouses of smokers are 24% more likely to develop lung cancer than those who live where nobody smokes. Studies also show that children of smoking parents are more likely to develop colds, flu and ear infections than children of non-smokers. Don't forget that, if you smoke, your children are much more likely to start smoking.

- **Because it is unattractive**

Smoking is ugly!! Smokers are more likely to develop wrinkles early. Smoke stains the teeth and fingers. It causes bad breath and an unpleasant smell on clothing and hair.

- **Because it is expensive**

If you quit, you will save a bundle. A pack a day costs about \$1000 a year. Doctor bills and sick days can add up. What's more, many insurance companies offer discounts to non-smokers.

- **Because it is a hassle**

It is becoming a bother to be a smoker! More and more public space is off-limits to smokers. Forty-six states don't allow smoking in public places. All domestic airline flights prohibit smoking. This trend is sure to continue, as smoking becomes less and less acceptable to society.

- **Because it is never too late**

When you quit smoking for good, you dramatically reduce your risk of death from lung cancer and heart disease. The sooner you stop smoking, the longer your lungs will stay young. If you stop smoking, your lungs will probably age at the same rate as a non-smoker's, even if they are already damaged. This means that even if you smoke now, quitting can help you avoid becoming disabled or dying at an earlier age. Sometimes it takes more than one time to quit smoking, please keep trying.

## How to quit

### You can do it!

First of all, remember: you are not alone. Quitting smoking is difficult but you can do it. Forty-six million Americans have done it already, and each year another four million break the habit.

The toughest part is the first couple of days. Once you get past that challenge, it gets much easier both in body and mind. You'll start feeling better even in the first week. And then it gets better and better: you'll stop coughing, have fewer colds, and breathe more easily. You'll have fresh breath and you'll save money. Most important, you'll cut your risk of serious problems like lung cancer, heart disease and chronic lung disease. What are you waiting for?

### Why do you smoke?

Sometimes quitting smoking is easier if you think about the reasons you smoke first. What kind of smoker are you? What do you get out of smoking? Why is it important to you?

### Three ways to quit

#### 1. Cold turkey

This is the way that works best for many people: stopping completely on a particular day. Choose your quit date carefully. It should be soon, but not right away. Choosing a date that is one or two weeks off will give you time to prepare mentally.

Find a day with special meaning to you: a birthday, an anniversary, or just the first of the month. Don't choose an especially high-stress time. Vacation time or some other break in routine may be best for you. But for many people it is important to incorporate quitting into their normal daily routine. Remember that there's no such thing as a perfect time to quit.

Tell your friends and coworkers about your plan so they encourage you. You may also want to talk about your plan with your doctor. Prepare a contract promising that you'll quit, which can help you commit yourself and prepare yourself mentally for quitting. Sign it with your doctor, a friend, or a family member.

#### 2. A planned program

Another way to quit is by following this three-step program (many of these tips may be helpful no matter how you quit):

##### *Step 1: one or two weeks before you quit*

- Write down how many cigarettes you smoke a day and when (after meals, with coffee, on the phone, watching TV, etc.).
- Stop buying cigarettes by the carton. Buy one pack at a time.

- On the third day, start smoking a brand you don't like.
- Change how you smoke in two ways: switch hands and smoke either faster or slower.
- Pick two non-smoking areas for yourself at home and at work. Beginning now, don't let yourself smoke while you're in those areas.
- Do not smoke for a half-hour after meals.
- Try to go 10 hours at a stretch without smoking.
- Clean up the telltale signs of smoking; for example, have your clothes cleaned and take away all ashtrays.
- Start to exercise: for example, walk, jog, or swim for about 30 minutes, three or four times a week.

### *Step 2: the week you quit*

- Keep recording how many cigarettes you smoke.
- Buy one pack at a time.
- Skip tea, coffee, and alcoholic beverages if you smoke while you drink.
- Pick four non-smoking areas for yourself at home and at work.
- Do not smoke for one hour after meals.
- Have your teeth cleaned professionally.
- Go a full day without smoking.
- On the day you set to quit – quit completely.

### *Step 3: making it stick*

- After you've quit, every day just before getting out of bed, promise yourself you'll get through the day without smoking.
- Take a 10- to 20- minute break to relax once or twice a day. Make yourself comfortable, close your eyes and breathe slowly.
- If you need to snack between meals, try low-calorie foods, such as unbuttered popcorn or fresh fruits and vegetables.

- Exercise! Working out relieves the urge to smoke.
- After dinner, grab a mint, crack nuts or have a refreshing glass of ice water or club soda instead of a cigarette.
- Keep your hands and mind busy. Take up a new hobby – one that uses both hands – or start a volunteer job.

### **3. Nicotine replacement**

If you have failed several attempts at quitting, or if your nicotine dependence is particularly strong, a nicotine-replacement program may help. Some forms of nicotine (gum, skin patches) are now available without a prescription. Other medications that can help you quit smoking (including new pills and nicotine inhalers) still require a prescription. You and your doctor can decide what methods for easing nicotine withdrawal are right for you.

Nicotine is a tough opponent, but you can be tougher. Your life may depend on it. Remember that the hardest time is always the first two days. Reward yourself for getting through them.

Ask for support from your family, friends, and coworkers. Most likely, they'll be very glad to help.

## LEGAL ISSUES

### Advance directives

#### What is an advance directive?

An advance directive is a written document that allows the person signing it to make decisions about his or her medical care. This is done in advance or before an incapacity makes him or her unable to make medical decisions.

#### What kind of document is considered an advance directive?

- **Living will** – A living will is a document that states what care a person does or does not want. It may or may not name a decision maker. It is not legally binding in Michigan, but serves as evidence of the person's intent.
- **Durable power of attorney for health care** – A durable power of attorney for health care or DPOA, is a document naming a person called a patient advocate. A patient advocate can make decisions when the person can't make or communicate them. It may describe what kind of medical care the person does or doesn't want. The most important portion is the designation (naming) of the patient advocate.

**NOTE:** Once a person is incompetent, the person cannot make or sign such a document. Durable power of attorney for health care is effective ONLY after the person has become incompetent. Durable power of attorney is only effective for health care issues. This has nothing to do with legal or estate issues.

#### What are the specific requirements for making a DPOA?

- The person must be an adult, 18 years or older
- The person must be competent. Once a person is not competent, he or she cannot make any kind of advance directive.
- The person must name a patient advocate, who must also be an adult.

- The person's signature must be witnessed by two people who are not the person's spouse, children, grandchildren, sibling, doctor, patient advocate, people who will inherit under the patient's will, people who will inherit if the person dies without a will or employees of a health facility where the person is being treated. In other words, the witnesses must be disinterested third parties – such as friends or neighbors.

- The patient advocate must sign a part of the form saying he or she agrees to act as the patient advocate.
- If the person wants his (her) patient advocate to be able to remove or discontinue measures that would result in his (her) death, the person must sign that specific paragraph.

#### How can a DPOA be revoked?

#### A person can revoke (void) a DPOA at any time – even if he (she) is no longer competent.

- It can be torn up in someone else's presence.
- Tell a health care provider that the DPOA is no longer valid.
- Send a letter or other communication to the patient advocate stating he/she is no longer authorized to act.

#### What happens to the DPOA once it is signed?

- The original should be stored in a safe place, like a safety deposit box.
- Copies should go to the patient advocate, lawyer, health care provider, family members and the hospital where the person would likely be admitted.

#### How is a DPOA implemented?

- The person's attending physician and another physician or licensed psychologist must decide that person is not competent to participate in medical care decisions.
- The physicians/psychologist must chart that determination.

- Then, in consultation with the patient advocate, the physician must write orders, based upon the instructions of the patient advocate, about the care of the person.

### **What authority does a patient advocate have?**

- The patient advocate must follow the same standards as another person in a position of trust, such as a trustee.
- The patient advocate must take reasonable steps to follow the person's wishes.
- The patient advocate cannot do something the person couldn't do on his/her own.
- The patient advocate cannot withdraw life support from a person who is pregnant, if death would result.
- The patient advocate can withdraw or withhold treatment resulting in the person's death only if the person has specifically given permission.
- A patient advocate cannot delegate his/her powers to another unless the person has authorized him/her to do so.

### **Once a DPOA is in effect, can it later become ineffective?**

- If the person regains the capacity to make medical care decisions, the effect of the document is suspended.
- Other things can make the DPOA ineffective, including:
  - the person's death
  - a court order dissolving the DPOA
  - the person's act of revocation (cancellation)
- **Divorce:** if the person, while married, designates a spouse to serve as the patient advocate, but the couple later divorce, the designation of the spouse is suspended while an action is pending for separate maintenance, annulment or divorce. The DPOA is revoked if there is a judgment of separate maintenance, annulment or divorce unless the person has named a successor to serve as the patient advocate.

### **What if the person changes his/her mind?**

Even if a person has made and signed a DPOA, and regardless of competency, if the person states he/she wants something done or not done that contradicts the directions in the DPOA, the patient advocate must follow the person's current instructions.

### **What if there is a dispute over the DPOA?**

Sometimes:

- A patient advocate's decisions may be challenged.
- Someone may claim the patient advocate is not acting as the person instructed.
- A person has revoked the DPOA and the patient advocate is no longer authorized to act.
- Someone challenges whether the person actually signed the document, or if witnesses actually saw the signing.

The person challenging the document has the right to take the matter to Probate Court for a decision.

### **How do directions of the DPOA become a reality?**

The person talks to the attending physician, residents and nurses about the person's care. It is especially important to talk to the attending physician. The attending physician is in charge of the person's care. The attending physician must write specific orders to implement a DPOA or living will.

### **No cardiopulmonary resuscitation (CPR) status or No Code status**

A person may have wanted No CPR status, or No Code status. What that means may vary from hospital to hospital. At Beaumont, No CPR status means if the person suffers a cardiac arrest, the CPR team will not be called. It does not necessarily mean that other measures, such as the use of certain drugs, won't be started. If you are the patient advocate, it is important that you make sure the doctor is writing orders reflecting what is in the document.

# GUARDIANSHIP

## Who is a guardian?

A guardian is a person appointed by the Probate Court to be responsible for the well-being of a person who cannot care for himself. Unless a court has ruled otherwise, a parent is the natural guardian of his/her children. A person other than the parent may be appointed as a child's guardian if parents are unavailable or unwilling to care for their child.

A guardian can be appointed for an adult who because of illness, disability, mental incompetence or chronic substance abuse, cannot care for himself.

## What is conservatorship?

Conservatorship is similar to guardianship for a person's property. A conservator manages the property of a person who is unavailable or unable to care for the property himself. An adult who is mentally competent but unable physically to manage his property may ask the court to appoint a conservator.

## May one person act as both guardian and conservator?

Yes. It's common for one person to act as the guardian of a person and, also, serve as the conservator of the person's estate.

## Who can ask the Probate Court to appoint a guardian or conservator?

A person seeking to have his own property protected may ask the court to appoint a conservator. Any person who has an interest in preserving the property may petition for conservatorship. Similarly, any person who has an interest in preserving another person's well-being may petition for guardianship.

## How does guardianship affect health care decisions?

When a person is a patient in a hospital or nursing home and unable to make treatment decisions, the facility must find someone else to make decisions.

If the patient has a guardian, the facility will rely on the guardian's directives. If a person has executed a durable power of attorney for health care, the facility will rely on the patient advocate. If the patient has neither a guardian nor a patient advocate, the facility must ask the next of kin to make treatment decisions. Next of kin includes, in order: the spouse, adult child or children, either parent, adult siblings.

## What happens if a patient has no guardian, patient advocate or next of kin?

From time to time, a patient who cannot make decisions doesn't have a patient advocate or guardian. Next of kin may be unable or unwilling to act. Sometimes, several people with equal authority to make decisions (adult children, for example) may disagree with each other about what treatment should occur. In those cases, an interested person – a relative, friend, or even the facility itself – will ask the court to appoint a guardian. If the court finds there is a need for a guardian, it will appoint one to act. The guardian's decisions are final – unless someone else convinces the Probate Court that a guardian isn't acting in the patient's best interests. Then, the court may appoint someone else to act as a guardian.

## What are good sources of information about guardians and conservators?

- Oakland County Probate Court, 248-858-1000, opt. 4
- Wayne County Probate Court, 313-224-5706
- Washtenaw County Probate Court, 734-994-2474
- Macomb County Probate Court, 586-469-5290
- Livingston County Probate Court, 517-546-3750

## LINKS: FURTHER HELP AND ENCOURAGEMENT

You can contact these organizations for more information on programs and methods to help you quit.

**American Cancer Society  
Centers for Disease Control and Prevention**  
[www.cancer.org](http://www.cancer.org)  
800-311-3435 • [www.cdc.gov](http://www.cdc.gov)

**American Lung Association  
William Beaumont Hospital  
Support Groups**  
248-784-2000 • 800-586-4872  
800-633-7377  
[www.lungusa.org](http://www.lungusa.org)  
[www.beaumonthospitals.com](http://www.beaumonthospitals.com)

**American Heart Association**  
248-827-4214 • 800-242-8721  
[www.americanheart.org](http://www.americanheart.org)

### Community resources and support services

After you return home, you might find that you need help coping with your condition, or with the recommended changes in your lifestyle.

- Here are some services you might find helpful:
- American Lung Association – 248-784-2000
- Asthma and Respiratory Disorders Lung Line – 800-222-5864
- Breather's Club: third Thursday of every month – 248-655-5790

Support and education for persons with chronic lung diseases (bronchitis, emphysema).

**Beaumont Hospital, Royal Oak**  
Every third Thursday of each month– 248-655-5790

- Asthma Club Support Group  
William Beaumont Hospital, Royal Oak  
Every second Tuesday of each month – 248-551-5000
- Nutritional Counseling  
Counseling regarding your specific nutritional needs is available with an outpatient registered dietitian for a fee with a prescription from your doctor. To schedule an appointment, call the Appointment Center at 248-577-9700
- Quit Smoking Program  
This two-week class teaches you the skills you need to quit smoking and start fresh. There is a nominal charge for the class. To register for this class or to get information on the most current support groups and classes at the hospital contact the Physician Referral and Information Service at 1-800-633-7377.

### Community resources for quitting smoking

Call the Michigan "Quit Line" at 800-480-7848 between 8 a.m. and 8 p.m. for phone support.

**American Lung Association**  
offers "Freedom from Smoking" online program. go to [www.lungusa.org](http://www.lungusa.org) and select "Quit Smoking."

**Outpatient pulmonary rehabilitation** – Commitment to lung health can help improve or stabilize your energy and performance. Pulmonary rehabilitations programs may benefit anyone with lung conditions.

**Beaumont Hospital**  
3601 West Thirteen Mile Road  
Royal Oak, MI 48073  
248-898-5000

**Auburn Hills Therapy Center**  
895 North Opdyke Road, Suite C  
Auburn Hills, MI 48326  
248-276-1600

**Crittenton Hospital**  
1101 West University Drive  
Rochester, MI 48307  
248-652-5644

**Henry Ford Macomb Hospital – Clinton Township**  
43401 Garfield, Suite A  
Clinton Township, MI 48038  
586-263-2756

**Port Huron Therapy Center**  
3041 Commerce Drive, Suite A  
Fort Gratiot, MI 48059  
810-385-9808

**St. John Macomb Hospital**  
11800 East 12 Mile Road  
Warren, MI 48093  
586-573-5233

**St. Joseph Mercy Oakland Hospital**  
44405 Woodward Avenue  
Pontiac, MI 48341  
248-858-3000

**Valley Hill Therapy Center**  
26905 Grand River Road  
Redford, MI 48240  
313-387-3800

## CARDIOPULMONARY HEALTH AND REHABILITATION

**Commitment** to Cardiopulmonary Health & Rehabilitation can hasten your return to peak performance after a heart attack, coronary bypass surgery, balloon angioplasty or stent insertion. This program can benefit anyone with a cardiovascular condition. Spend just 2 hours with us three times per week, and put the bounce back in your step.

Our cardiopulmonary rehabilitation team involves many health care providers – a cardiologist, exercise physiologist, cardiac rehabilitation nurse, exercise specialist, nutritionist, pharmacist, and others – but the most important member of the team is you. To further help, we encourage your family members to join you at our education and support sessions. Together we can help place your health back in your hands.

**Attitude** is often the key to success. Breaking old habits can be a challenge, but the rewards are well worth the effort. Cardiopulmonary rehabilitation offers each participant the opportunity to improve. During individual counseling and group education sessions, you learn specific skills to help manage stress, lose weight, or stop smoking. We'll help you develop strategies for a heart-healthy future.

### Risk Reduction

Our program reduces your risk for another event. After evaluating your health history, a plan for success will be established. Throughout your stay our efforts are directed to help you reach your goals. Sometimes a simple tip can make a big difference.

Proper nutrition is a very important part of the program. A healthy diet can decrease blood cholesterol, reduce weight, lower blood pressure and minimize problems caused by diabetes. Even better, it can make life a lot more enjoyable!

Exercise training for cardiopulmonary conditioning is an essential part of the rehabilitation experience. We will design a personalized program to optimize your return to health. Exercise sessions are one hour. Supervision is provided by a rehabilitation nurse and/or exercise physiologists who are Certified Exercise Specialists and a Respiratory Therapist. They monitor your heart rate, rhythm and blood pressure as you improve your physical performance. After the 6–12 week program, exercise will remain a daily activity.

### Getting Started is Easy

If you're interested in participating in our program, ask your physician for a referral. If you don't have a physician, call the Beaumont Physician Referral & Information Service at 800-633-7377 weekdays between 8 a.m. and 6 p.m., or Saturday 9 a.m. to 1 p.m.

### Financial Considerations

Many health insurance companies cover a large portion of the cost for our supervised, monitored outpatient cardiopulmonary rehabilitation program. But just to be safe, please check with your carrier. If you discover that cardiopulmonary rehabilitation is not a covered benefit, we can help you pursue other resources that may enable you to participate.

For a Tour of Our Facility or to see our program in action, call our cardiopulmonary rehabilitation office at 248-964-8520 and we will be happy to arrange a visit.

## DISCHARGE INFORMATION

You should be ready for discharge from the hospital in about four days. On the day of discharge, you will be expected to leave your room by 11 a.m.

Before leaving your hospital room, be sure that you have your:

- Discharge Instructions – you will receive written instructions from your healthcare team
- This entire Patient Information Packet

In most cases, discharge is planned in advance, and basic discharge instructions are given prior to discharge. It is important that you and those caring for you after discharge read and understand them. Remember to ask any questions you have. Write them down to remember, if necessary.

You are required to pay for items not covered by insurance (such as your co-pay, TV, telephone, etc.) on the day of discharge. We recommend that

your designated person go to the Cashier office prior to coming to our room on the morning of discharge. Payment may be made at the Cashier office, which is located on the first floor near the main entrance or by calling the Cashier on the morning of discharge with a major credit card. Any telephone inquiries may be made directly to the Cashier office by calling 45147 or if calling from outside the hospital 248.964.5147. Balances may be paid by cash, personal check or major credit card.

Once you have completed everything above, you are now ready to leave the hospital. The nursing staff will assist you with dressing if needed. Please let the nursing staff know when you are ready for a wheelchair escort to take you to the discharge area and one will be called for you.



# What is Heart Failure?

If you have heart failure, you're not alone. About 5.7 million Americans are living with it today.

In fact, it's one of the most common reasons people age 65 and older go into the hospital. It can take years for heart failure to develop. Heart failure is called congestive heart failure when fluid builds up in various parts of the body. So if you don't yet have it but are at risk for it, you should make lifestyle changes now to prevent it!

Heart failure symptoms usually develop over time as your heart becomes weaker and less able to pump the blood that your body needs. Heart failure usually results in an enlarged heart (left ventricle).

## Does your heart stop?

When you have heart failure, it doesn't mean that your heart has stopped beating. It means that your heart isn't pumping blood as it should. The heart keeps working, but the body's need for blood and oxygen isn't being met.

Heart failure can get worse if it's not treated. It's very important to do what your doctor tells you to do. When you make healthy changes, you can feel a lot better and enjoy life much more!

## What can happen?

- Your heart does not pump enough blood.
- Blood backs up in your veins.
- Fluid builds up in your body, causing swelling in your feet, ankles and legs. This is called "edema."
- Fluid builds up in your lungs. This is called "pulmonary edema."
- Your body does not get enough blood, food and oxygen.



**The Normal Heart**  
has strong muscular walls which contract to pump blood out to all parts of the body.

Heart muscle pumps blood out of the left ventricle.



**Heart Failure**  
is a condition that causes the muscle in the heart wall to slowly weaken and enlarge, preventing the heart from pumping enough blood.

Weakened muscle prevents left ventricle from pumping enough blood.

## What are the signs of heart failure?

- Shortness of breath, especially when lying down
- Tired, run-down feeling
- Coughing or wheezing, especially when you exercise or lie down
- Swelling in feet, ankles and legs
- Weight gain from fluid buildup
- Confusion or can't think clearly

## What are the causes?

The most common cause of heart failure is coronary artery disease (CAD). CAD occurs when arteries that supply blood to the heart muscle become narrowed by buildups of fatty deposits called plaque.

Other common risk factors that lead to heart failure are:

- Past heart attack has done some damage to the heart muscle
- Heart defects present since birth

(continued)



## What is Heart Failure?

- High blood pressure
- Heart valve disease
- Diseases of the heart muscle
- Infection of the heart and/or heart valves
- Abnormal heart rhythm (arrhythmias)
- Being overweight
- Diabetes
- Thyroid problems
- Alcohol or drug abuse
- Certain types of chemotherapy

**How is it treated?**

- Your doctor may give you medicine to strengthen your heart and water pills to help your body get rid of excess fluids.
- Your doctor will recommend a low-sodium (salt) diet.
- You may be provided oxygen for use at home.
- Your doctor may recommend certain lifestyle changes.
- Surgery or cardiac devices may be needed, in some cases.

**What can I do to manage my heart failure?**

- Follow your doctor's advice.
- Quit smoking, if you smoke.
- Take your medicines exactly as prescribed.
- Weigh daily to check for weight gain caused by increased fluid.
- Track your daily fluid intake.
- Monitor your blood pressure daily.
- Lose or maintain your weight based on your doctor's recommendations.
- Avoid or limit alcohol and caffeine.
- Eat a heart-healthy diet that's low in sodium, saturated fat and *trans* fat.
- Eat less salt and salty foods.
- Be physically active.
- Get adequate rest.

**HOW CAN I LEARN MORE?**

- ① Call 1-800-AHA-USA1 (1-800-242-8721), or visit [heart.org](http://heart.org) to learn more about heart disease and stroke.
- ② Sign up to get *Heart Insight*, a free magazine for heart patients and their families, at [heartinsight.org](http://heartinsight.org).
- ③ Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at [heart.org/supportnetwork](http://heart.org/supportnetwork).

**Do you have questions for the doctor or nurse?**

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

**How much salt may I eat?**

**How much weight gain is too much?**

**My Questions:**

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit [heart.org/answersbyheart](http://heart.org/answersbyheart) to learn more.



American  
Heart  
Association.  
life is why™

## Heart Failure Health Maintenance Guidelines

1. **Medications:** There are certain medicines that can help my heart work better, help me feel better, and may help me live longer. It is important that you take your medications as prescribed
2. **Diet:** A low salt diet will help me keep my heart failure from getting worse..
3. **Routine Activities/Exercise/Rest:** It is important to pay attention to and change activities.
  - You should alternate between activity and rest and break up large jobs into smaller jobs.
  - Stop any activity at the first sign of chest pain, heaviness, tightness, or increased shortness of breath.
  - Follow the activity instructions written on my Discharge Instructions.
  - Monitor your Heart Failure Zone every day and will record it in my calendar.
4. **Daily Weights:**
  - You should weigh yourself at home on the day of discharge to establish a baseline weight and document on your calendar.
  - It is important to try and weigh yourself on the same scale and at the same time every day.
  - Record your weight every day on my calendar.
  - Call your doctor if you have a weight gain of 2-3 pounds overnight. –or–
  - Call your doctor if you have a weight gain of 5 pounds in five days.
5. **Learn about Heart Failure:**
  - Review the Heart Failure information while in the hospital.
  - Learn the warning signs of Heart Failure.
  - Ask any questions you might have about your home medications.
6. **Call your doctor if you experience any of the following:**
  - Weight gain of 2-3 pounds overnight.
  - Weight gain of 5 pounds in five days.
  - Increased shortness of breath (especially while you are lying flat or with activity).
  - Swelling of ankles.
  - Increased swelling around stomach.
  - Cough that won't go away.
  - More urination during the night.
  - Tiredness, loss of energy.
  - Any side effects from my medications.

The above information is very important to help manage your congestive heart failure. Please ask your nurse or physician if you have any questions regarding the above information.

# My Checklist to Manage CHF



I SEE A CARDIOLOGIST REGULARLY



I HAVE QUIT SMOKING



I USE OXYGEN AT HOME (if prescribed)



I HAVE HAD FLU/PNEUMONIA VACCINES



I FOLLOW A LOW SODIUM DIET



I TAKE MY MEDICATION AS PRESCRIBED



I CARRY A LIST OF MY MEDICATIONS



I EXERCISE AS RECOMMENDED



I WEIGH MYSELF DAILY



I ELEVATE MY FEET AND LEGS WHEN RESTING



I ATTEND CARDIOLOGY REHAB REGULARLY



I UNDERSTAND WHAT CHF IS



My Family Doctor \_\_\_\_\_  
My Cardiologist \_\_\_\_\_  
My Home Care Nurse \_\_\_\_\_  
Hospital CHF Nurse \_\_\_\_\_

# Beaumont

## CHF Action Plan

### GREEN ZONE: I am doing well today!

**My symptoms are under control.**

- No shortness of breath
- No weight gain more than 2 pounds  
(It may change 1 or 2 pounds a day)
- No swelling of your feet, ankles, legs or stomach
- No chest pain

**My Actions:**

- Weigh self in morning before breakfast and write it down
- Check for swelling in your feet, ankles, legs and stomach
- Take daily medications
- Eat low salt food
- Balance activity and rest periods

### YELLOW ZONE: I am having a bad day- Call My Doctor

**I will call my doctor's office if I have:**

- Weight gain more than 2 pounds in 1 day or a weight gain of 5 pounds or more in a week
- Increased shortness of breath
- Increased swelling of feet, ankles, legs or stomach
- Loss of appetite
- No energy or are feeling more tired
- Dizziness or dry hacking cough
- Difficulty breathing while lying down, using more pillows.
- Waking at night short of breath
- An uneasy feeling or feeling like something not right
- Other signs unique to me: \_\_\_\_\_

**My Actions:**

- CALL MY DOCTOR \_\_\_\_\_
- Continue green zone actions
- If on oxygen, I will use it consistently and consult with my doctor on whether to increase it
- Get plenty of rest

Home Care #: \_\_\_\_\_

After hours #: \_\_\_\_\_

### RED ZONE: I need help immediately-Call 911

**I NEED URGENT MEDICAL CARE IF I:**

- Am struggling to breathe
- Have unrelieved shortness of breath while sitting still
- Have chest pains
- Have confusion or cannot think clearly
- Other signs unique to me: \_\_\_\_\_

**My Actions:**

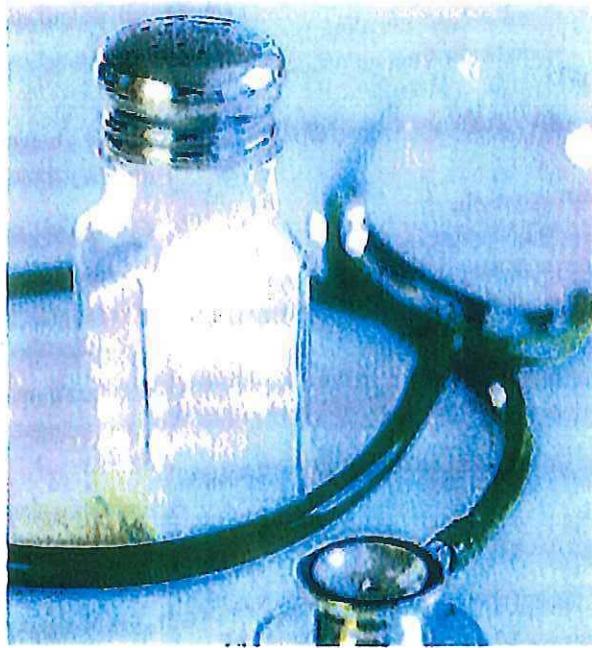
- CALL 911

This list is meant to act as a guide. You may experience other symptoms. This form is not a replacement for medical care. If you are concerned for your health or unclear on the actions you should take, consult your doctor.



# Why Should I Limit Sodium?

You may have been told by your healthcare provider to reduce the salt in your diet. Table salt is sodium chloride. You need a certain balance of sodium and water in your body at all times to work properly. Too much salt or too much water in your system will upset the balance. When you're healthy, your kidneys get rid of extra sodium to keep the correct balance.



## What's bad about sodium?

Too much sodium in your system causes your body to retain (hold onto) water. This puts an extra burden on your heart and blood vessels. In some people, this may lead to or raise high blood pressure. Having less sodium in your diet may help you lower or avoid high blood pressure. People with high blood pressure are more likely to develop heart disease or have a stroke.

## How much sodium do I need?

Most people eat too much sodium, often without knowing it. One teaspoon of salt contains about 2,300 mg of sodium.

- The average American eats about 3,400 mg of sodium a day.
- All Americans should ~~reduce~~ the amount of sodium in their diet to less than 1,500 mg a day.
- Your doctor may tell you to cut salt out completely.

## What are sources of sodium?

Most of the sodium in our diets comes from adding it when food is being prepared. Pay attention to food labels, because they tell how much sodium is in food products.

For example: foods with 140 mg or less sodium per serving are considered low in sodium.

Here's a list of sodium-containing compounds to limit in your diet:

- Salt (sodium chloride or NaCl)
- Monosodium glutamate (MSG)
- Baking soda and baking powder
- Disodium phosphate
- Any compound that has "sodium" or "Na" in its name

Some over-the-counter and prescription medicines also contain lots of sodium. Talk to your health care provider and make it a habit of reading the labels of all over-the-counter drugs, too.

## What foods should I limit?

The best way to reduce sodium is to avoid prepackaged, processed and prepared foods, which tend to be high in sodium. Watch out for the "Salty 6"—the top six common foods that add the most salt to your diet. Read food labels and chose the lowest level of sodium you can find for these items:

(continued)

**ANSWERS**  
by heart

Lifestyle + Risk Reduction  
High Blood Pressure

- Breads and rolls
- Cold cuts and cured meats
- Pizza
- Poultry
- Soup
- Sandwiches

These are some other foods can also be sources of "hidden" sodium:

- Cheeses and buttermilk
- Salted snacks, nuts and seeds
- Frozen dinners and snack foods
- Condiments (ketchup, mustard, mayonnaise)
- Pickles and olives
- Seasoned salts, such as onion, garlic and celery salts
- Sauces, such as barbecue, soy, steak, and Worcestershire

### How can I cook with less salt and more flavor?

- Avoid adding table salt to foods.
  - Use herbs and spices to add flavor to foods.
  - Eat fresh fruits, vegetables, lean meats, skinless poultry, fish, and tuna canned in water.
  - Choose unsalted nuts and low-sodium canned foods.
- Cook dried peas and beans.

### Why Should I Limit Sodium?

- Use products made without added salt; try low-sodium bouillon and soups and unsalted broth.
- Rinse canned vegetables, beans and shellfish to reduce salt.
- Sprinkle vinegar or citrus juice on foods just before eating. Vinegar is great on vegetables like spinach.

### What about eating out?

Controlling your sodium intake doesn't mean spoiling the pleasure of eating out. But order carefully. Consider these tips for meals away from home:

- Select fresh greens and fruits when available. Ask for oil and vinegar to top your salad or dressing on the side.
- Be specific about what you want and how you want your food prepared. Request that your dish be prepared without added salt.
- Remember portion control. You can always bring home a to-go box!

### HOW CAN I LEARN MORE?

- ① Call 1-800-AHA-USA1 (1-800-242-8721), or visit [heart.org](http://heart.org) to learn more about heart disease and stroke.
- ② Sign up to get *Heart Insight*, a free magazine for heart patients and their families, at [heartinsight.org](http://heartinsight.org).
- ③ Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at [heart.org/supportnetwork](http://heart.org/supportnetwork).

### Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

**What's my daily sodium limit?**

**Is there sodium in the medicine I take?**

### My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit [heart.org/answersbyheart](http://heart.org/answersbyheart) to learn more.



American  
Heart  
Association  
*Life is why™*

©2015, American Heart Association

# Understanding Nutrition Labels

## LABEL READING

For foods that are not specifically listed, you can use the Nutrition Facts label to decide if the food item is low in sodium. The important items to look at for sodium content are listed for you.

- Serving size: This label shows the serving size is  $\frac{1}{2}$  cup
- Sodium: This label states that in  $\frac{1}{2}$  cup of the food item, there are 300 mg (milligrams) of sodium

### Is this food safe for a low sodium diet?

The answer to this question depends on how restrictive your diet is. A common low sodium diet is 2,000 milligrams. Your doctor, nurse or dietitian may teach you about the level of sodium that is good for you.

For a 2,000 milligram low sodium diet, this food would be acceptable if you ate only  $\frac{1}{2}$  cup serving. Other foods for the day would also need to be low in sodium as listed in this booklet.

High sodium foods that should NOT be allowed in the diet would have a sodium level of 500 milligrams or more.

Note: Total fat is the combination of saturated, trans, polyunsaturated, and monosaturated fats. However, manufacturers are not required by law to list all four unless a specific claim is made pertaining to polyunsaturated or monounsaturated fats. By law, manufacturers can state a product has zero grams of trans fat, when in actuality the product may have up to 0.5 grams per serving. To be sure a product is trans fat-free, check the ingredient listing to see if there are any hydrogenated fats, or partially hydrogenated oils.

<b>Nutrition Facts</b>		
Serving Size $\frac{1}{2}$ cup (114g)		
Servings Per Container 4		
<b>Amount Per Serving</b>		
Calories 90	Calories from Fat 30	% Daily Value*
Total Fat 3g	5%	
Saturated Fat 0g	0%	
Trans Fat 3g	0%	
Cholesterol 0mg	0%	
Sodium 300mg	13%	
Total Carbohydrate 13g	4%	
Dietary Fiber 3g	12%	
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 calorie needs:		
Calories 2,000	2,500	
Total Fat Less than 65g	80g	
Sat Fat Less than 20g	25g	
Cholesterol Less than 300mg	300mg	
Sodium Less than 2,400mg	2,400mg	
Total Carbohydrate 300g	375g	
Fiber 25g	30g	
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4		

\*This label is only a sample. Source: Food and Drug Administration



American  
Heart  
Association

American  
Stroke  
Association

*Life is why*

75% OF AMERICANS

# WANT LESS SODIUM

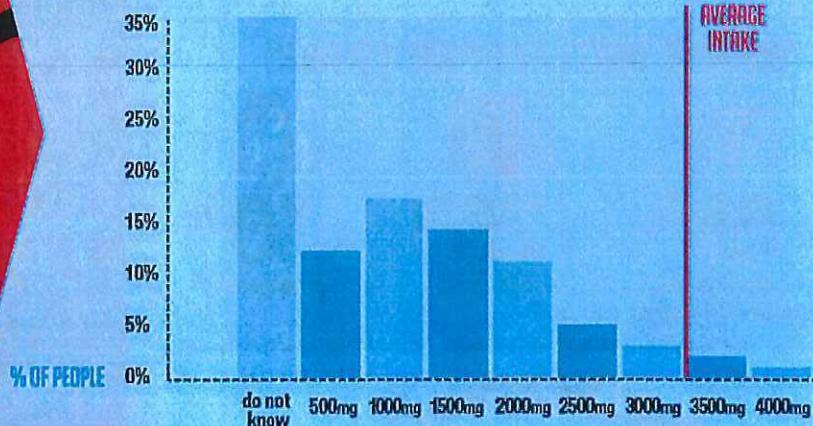
IN PROCESSED & RESTAURANT FOODS

ON AVERAGE, AMERICANS EAT MORE THAN 3,400 MG OF SODIUM DAILY

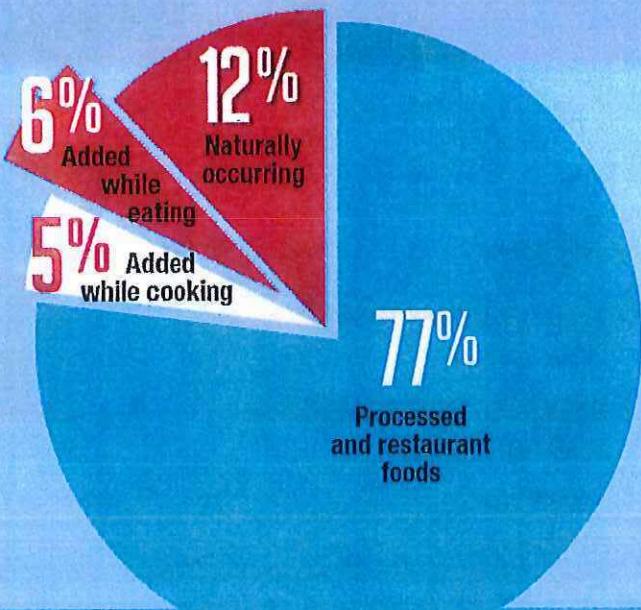


97% DO NOT KNOW OR UNDERESTIMATE THEIR SODIUM INTAKE.

AMERICANS ESTIMATE THEIR SODIUM INTAKE PER DAY AT:



AMERICANS' SODIUM INTAKE COMES FROM:\*



58% have tried to reduce the amount of sodium in their diet.

57% want more choice or control over the sodium content in their food.

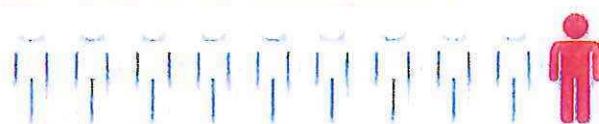
56% think the government should play a role in reducing sodium in foods by setting mandatory (31%) or voluntary (25%) limits.

21% incorrectly believe that there are already limits on how much sodium can be added to processed foods.

15% incorrectly believe there are already limits for restaurant foods.

# THE EFFECTS OF EXCESSIVE SODIUM ON YOUR Health & Appearance

**9** out of **10** Americans consume too much sodium.



## WHERE DOES IT COME FROM?



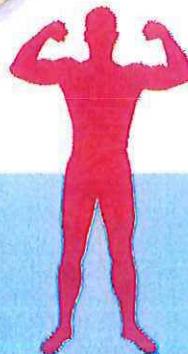
**3,400** milligrams  
the amount of sodium the average American consumes in a day

**1,500** milligrams or less  
recommended by the AHA for Ideal heart health

## Your HEALTH

Excess levels of sodium/salt may put you at RISK for:

STROKE	KIDNEY STONES
HEART FAILURE	ENLARGED HEART
OSTEOPOROSIS	MUSCLE
STOMACH CANCER	HEADACHES
KIDNEY DISEASE	



## Your APPEARANCE

Excess levels of sodium/salt may cause:

- INCREASED WATER RETENTION,  
LEADING TO:
- Puffiness
  - Bloating
  - Weight gain



# THE SALTY SIX



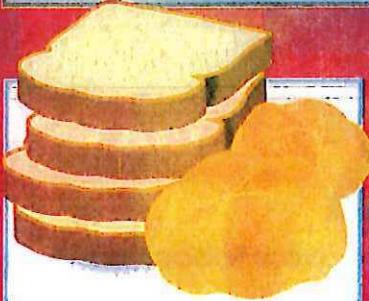
American  
Heart  
Association.  
Life is why™

## THESE SIX POPULAR FOODS CAN ADD HIGH LEVELS OF SODIUM TO YOUR DIET<sup>1</sup>

The American Heart Association recommends that you aim to eat less than 1,500 mg of sodium per day.



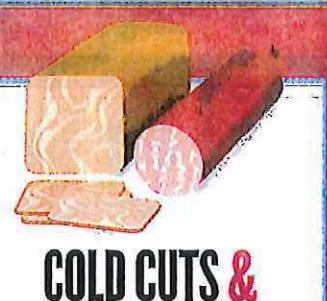
When you see the Heart-Check mark on a product, you know the food has been certified to meet nutritional criteria for heart-healthy foods, including sodium.



### BREADS & ROLLS

Some foods that you eat several times a day, such as bread, add up to a lot of sodium even though each serving may not seem high in sodium. Check the labels to find lower-sodium varieties.

1



### COLD CUTS & CURED MEATS

One 2 oz. serving, or 6 thin slices, of deli meat can contain as much as half of your daily recommended dietary sodium. Look for lower-sodium varieties of your favorite lunch meats.

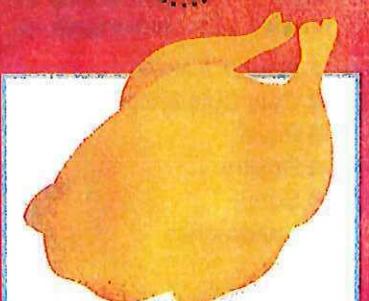
2



### PIZZA

A slice of pizza with several toppings can contain more than half of your daily recommended dietary sodium. Limit the cheese and add more veggies to your next slice.

3

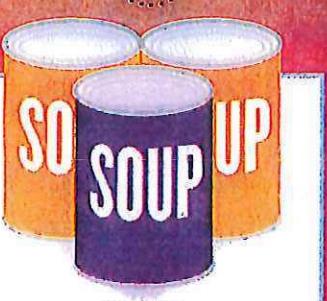


### POULTRY

Sodium levels in poultry can vary based on preparation methods.

You will find a wide range of sodium in poultry products, so it is important to choose wisely.

4



### SOUP

Sodium in one cup of canned soup can range from 100 to as much as 940 milligrams—more than half of your daily recommended intake. Check the labels to find lower sodium varieties.

5



### 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.

6

<sup>1</sup>Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report (MMWR), Vital Signs: Food Categories Contributing the Most to Sodium Consumption—United States, 2007–2008, February 10, 2012 / 61(05);92-98.

FACE FEEL PUFFY?

JEANS FIT TIGHTER?

In **3 weeks** you can:

- Change your sodium palate &
- Start enjoying foods with less sodium
- Reduce bloating

IN ONLY

**SALTY**

21 DAYS

**WAYS**

Learning to read & understand food labels can help you make healthier choices.

Nutrition Facts	
Serving Size 1/2 cup (144g)	
Servings Per Container 4	
Amount Per Serving	
Calories 310	Calories from Fat 103
% Daily Value	
Sodium 560mg	20%
Cholesterol 118mg	39%
Total Fat 15g	21%

**WEEK ONE**

Breads &amp; Rolls

Cold Cuts &amp; Cured Meats

- Look for lower sodium items
- Track your sodium consumption
- Log how much sodium you've shaved out of your diet

**WEEK TWO**

Pizza

Poultry

- If you do eat pizza, make it one with less cheese & meats
- Add veggies to your pizza instead
- Use fresh poultry rather than fried, canned or processed

**WEEK THREE**

Soups

Sandwiches

- One cup of chicken noodle soup can have up to 940 mg of sodium
- Check labels & try lower sodium varieties
- Use lower sodium meats, cheeses & condiments & plenty of vegetables to build healthier sandwiches

On average, American adults eat more than 3,400 milligrams of sodium daily – more than double the American Heart Association's recommended limit.

**3,400 mg**  
average sodium intake

**1,500 mg**  
recommended sodium intake

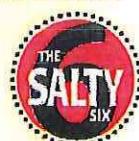
[heartcheckmark.org](http://heartcheckmark.org)

Look for the Heart-Check mark to find products that can help you make smarter choices about the foods you eat.

**KNOW THE SALTY 6**

Common foods that may be loaded with excess sodium:

- 1 Breads & Rolls
- 2 Cold Cuts & Cured Meats
- 3 Pizza
- 4 Poultry
- 5 Soup
- 6 Sandwiches



Choose wisely, read nutrition labels & watch portion control.



American Heart Association | American Stroke Association

life is why™

# SODIUM TRACKER



American  
Heart  
Association | American  
Stroke  
Association.

When recording your sodium intake, be sure to keep in mind that different brands and restaurant preparation of the same foods may have different sodium levels so ask your server or look online for sodium content of restaurant foods. To track your sodium intake check the nutrition labels of the foods you eat and prepare. When preparing homemade foods, check the sodium content in individual ingredients, then add up the totals. Sodium levels of the same food can vary widely, so it is important to educate yourself by reading labels and looking for low-sodium options.

The American Heart Association's Heart-Check mark—whether in the grocery store or restaurant helps shoppers see through the clutter on grocery store shelves to find foods that help you build a heart-healthy diet. Visit [heart.org/sodium](http://heart.org/sodium) for more information.

MEAL	FOOD	SODIUM	NOTES
Breakfast			
Snack			
Lunch			
Snack			
Dinner			
Snack			
	DAILY SODIUM TOTAL		

# SODIUM TRACKER



American  
Heart  
Association

American  
Stroke  
Association

When recording your sodium intake, be sure to keep in mind that different brands and restaurant preparation of the same foods may have different sodium levels so ask your server or look online for sodium content of restaurant foods. To track your sodium intake check the nutrition labels of the foods you eat and prepare. When preparing homemade foods, check the sodium content in individual ingredients, then add up the totals. Sodium levels of the same food can vary widely, so it is important to educate yourself by reading labels and looking for low-sodium options.

The American Heart Association's Heart-Check mark—whether in the grocery store or restaurant helps shoppers see through the clutter on grocery store shelves to find foods that help you build a heart-healthy diet.

Visit [heart.org/sodium](http://heart.org/sodium) for more information.

MEAL	FOOD	SODIUM	NOTES
Breakfast			
Snack			
Lunch			
Snack			
Dinner			
Snack			
DAILY SODIUM TOTAL			