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What is COPD?

COPD stands for chronic obstructive pulmonary disease. It’s a condition in which the lung airways called bronchial tubes become inflamed and narrowed (chronic bronchitis) and the air sacs called alveoli become damaged and even destroyed (emphysema). Most people with COPD have both chronic bronchitis and emphysema, and some also have asthma. The inflammation causes scarring and destruction over time and is usually progressive. COPD is the third leading cause of death worldwide.

In normal lungs, the air you breathe passes from your nose and mouth through the airways to the tiny air sacs of the lung called alveoli. Oxygen passes through the walls of the air sacs into the bloodstream. Carbon dioxide—a waste product of the body—passes out the opposite way from the bloodstream to the air sacs, and is then eliminated from the body by breathing out.

In COPD, the lungs become more damaged over time, and breathing becomes more labored. When the damage is severe, it may be difficult to get enough oxygen into the blood. It may even be difficult to get rid of excess carbon dioxide because oxygen and carbon dioxide can’t easily cross the scarred and destroyed walls of the air sacs. Also, air can get “trapped” in the air sacs and make it very difficult to empty the lungs completely with every breath. Air trapping leads to worse shortness of breath, as it’s difficult to inhale fresh air into the lungs when they’re already full of stale air.

Human Lung Anatomy and Function

Smoking and Emphysema
Causes
COPD is caused by inhaling irritating gases and particles. Smoking cigarettes is the most common cause of lung injury; however, one in five people with COPD never smoked cigarettes. Secondhand smoke, air pollution, or occupational exposure to irritant gases can all cause COPD. Untreated or chronic asthma can also lead to airway damage, causing COPD.

There probably is also a genetic susceptibility to COPD, leading some people to be more prone than others to develop airway inflammation and lung damage. For example, some people may develop COPD and others may not, even if exposed to the same amount of lung irritants. There is a known protein that protects the lungs called alpha 1 antitrypsin, and 2-3% of people with COPD have a severe genetic deficiency of this protein. There is special treatment for alpha 1 antitrypsin deficiency, so it’s important to be tested.

Progression of Symptoms
There may be no or very mild symptoms with COPD at first, but symptoms usually worsen over time as the disease progresses. Symptoms include shortness of breath with exertion, and eventually shortness of breath can even occur at rest. A chronic cough is common, either dry or with phlegm (mucus). You may also have wheezing. Fatigue is a common symptom and can be very debilitating. It is likely caused at least in part by the severe deconditioning that occurs if you have COPD and you stop doing activities.

Treatment
There is no cure for COPD; however, symptoms—and quality of life—can be improved and disease progression can be slowed with treatment. Treatment includes stopping smoking, exercising, and using inhaled medications to open the airways and decrease inflammation. It’s also important to avoid flare-ups (called COPD exacerbations) that can cause a sudden decline and more rapid progression. Studies show that 70% of COPD exacerbations are caused by respiratory infections (viral or bacterial), and 30% are caused by environmental pollution, pulmonary embolism, or unknown cause.

COPD and Other Conditions
COPD is linked to multiple other chronic conditions: depression, anxiety, osteoporosis, unexplained weight loss, high blood pressure, coronary artery disease, stroke, diabetes, memory loss, and kidney disease. Gastroesophageal reflux disease may contribute to the development of COPD exacerbations. By taking steps to slow the progression of COPD, you can help prevent other chronic diseases.

COPD Over Time
Unfortunately, COPD symptoms can’t be completely eliminated with treatment, and the condition usually worsens over time. However, stopping smoking is vital to slowing the progression. People living with COPD usually stop doing many of their usual activities over time as their fatigue and shortness of breath increase. Treatment with deliberate exercise conditioning is crucial to combat this decline and help maintain and improve quality of life.
Evaluation

Your doctor will take your health history, asking about your smoking history and environmental exposures. Your doctor will also want to know about your symptoms, medical history, and family history of lung disease.

Your doctor will perform a physical exam. This involves listening to your lungs and checking your vital signs. Your lung sounds may be more diminished (quieter) or have wheezing (whistling noise). Your doctor may also notice that your chest wall is “barrel” shaped. This is a sign of enlarged lungs, which is another sign of COPD. Your oxygen saturation (percentage of oxygen in your blood) will be checked, and may be lower than normal. This can be another sign of COPD.

Tests

Pulmonary function testing is the Global Initiative for Obstructive Lung Disease (GOLD) standard of diagnosing, staging, and treating COPD. This test will measure how much air your lungs can hold, how well the oxygen is delivered into your bloodstream, and how fast you can blow the air out of your lungs. With COPD, it takes longer for you to exhale the air out of your lungs.

Chest X-rays and CT scans may also be ordered and can show signs of COPD. COPD on a chest X-ray or chest CT will often show “hyperinflation” from all the air being trapped in your alveoli (tiny air sacs). The doctor can see if there’s any damage to your alveoli caused by emphysema.

Learning Needs Assessment

You most likely have many questions about your COPD, and we’d like to address the questions that are your greatest concern. To help us do that, please check the three topics you’d like more information about.

- Lung anatomy
- What is COPD?
- Your treatment plan
- COPD medications
- Using your inhalers
- Exercise
- Quitting smoking
- Clearing your airways
- Sexual activity and lung disease
- Emergency planning for home
- Pulmonary function testing
- Coping with shortness of breath and breathing techniques
- Pulmonary rehabilitation
- Nutrition
- Emotional health
- Oxygen
- Sleep apnea
- Preventing infections
- Nutrition
- End of life planning: Advance directives, living will, durable power of attorney
- Recognizing flare-ups/exacerbations

What are your education preferences? Check any that apply.

- No preference
- Auditory
- Demonstration
- Discussion
- Visual
- Written
Successfully managing a chronic condition is difficult under the best of circumstances. There are common issues that make self-management more difficult. Below are some of these issues. Please help us help you by identifying the issues that affect you so we can look for resources to help you better manage your condition.

1) Transportation is not always available.
   - I won’t be able to drive because of a medical condition or recovery time after surgery.
   - I don’t feel safe getting in and out of a vehicle because of my balance or health.
   - I don’t feel comfortable transporting my equipment (oxygen, walker, etc.) in a car on my own.
   - I have to rely on family or friends to take me to appointments or the pharmacy, and they may not always be available.
   - I don’t know about any community resources for transportation.
   - I don’t like to ask for help because I don’t want to inconvenience anyone, and I’m used to doing things for myself.
   - I can’t afford gas for my car with all the appointments I have.

2) I don’t have insurance, or my insurance doesn’t cover enough of my expenses.
   - My medications are too expensive without insurance.
   - My medications are too expensive with insurance.
   - I can’t afford the co-payments to my doctors and specialist visits.
   - I’m in the “donut hole” and have hit my limit for coverage for the year. All my medications are full price.

3) I don’t understand the way providers talk to me about my healthcare.
   - They speak to me in a medical language that’s not familiar to me.
   - I don’t understand what’s happening in my body.
   - I don’t know where to start when making decisions that impact my health.
   - I don’t know how to improve my health.
   - I don’t understand the medical system and why I need to see a specialist and a primary doctor. Why is that important?
   - I don’t know how to communicate my concerns to my doctor when I see him or her.

4) My life is too challenging to deal with my own health right now.
   - I’m worried about housing.
   - I’m worried about food.
   - I’m worried about all my medical bills.
   - I’m worried about employment.
   - I’m worried about legal issues.
   - I’m worried about my family.

5) I don’t have anyone to help me right now.
   - I don’t have friends I can call for help.
   - I don’t have family I can rely on.
   - I don’t have a faith community (church) for resources.

Comments: ____________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
### Medications for COPD

It's very important that you learn as much as you can about the medications used to control and treat COPD. Exacerbations (flare-ups) can be avoided by taking your medications as prescribed. Brand names of medications differ, so it will help you greatly to know not only the names of your medications, but their classification.

<table>
<thead>
<tr>
<th>Types of Medication</th>
<th>How They Work</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-acting or Fast-acting Bronchodilators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Beta agonists</td>
<td>• Relax and open airways</td>
<td>• <strong>Albuterol sulfate</strong> <em>(ProAir, Proventil HFA, Ventolin HFA)</em></td>
</tr>
<tr>
<td>2. Anticholinergics</td>
<td>• Help lessen shortness of breath</td>
<td>• <strong>Levalbuterol HCl</strong> <em>(Xopenex HFA)</em></td>
</tr>
<tr>
<td></td>
<td>• Help prevent exercise-induced wheezing</td>
<td>• <strong>Ipatropium bromide</strong> <em>(Atrovent HFA)</em></td>
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<tr>
<td></td>
<td>• Rescue medications help stop attacks</td>
<td></td>
</tr>
<tr>
<td>Long-actingBronchodilators</td>
<td>Preventative and Maintenance</td>
<td><strong>Formoterol</strong> <em>(Foradil)</em></td>
</tr>
<tr>
<td>1. Beta agonists</td>
<td>• Take effect slowly and work longer</td>
<td>• <strong>Salmeterol</strong> <em>(Serevent)</em></td>
</tr>
<tr>
<td>2. Anticholinergics</td>
<td>• Relax and open airways</td>
<td>• <strong>Tiotropium bromide</strong> <em>(Spiriva)</em></td>
</tr>
<tr>
<td></td>
<td>• Lessen shortness of breath</td>
<td><strong>Note:</strong> If you’re taking Ipatropium, DO NOT take Spiriva</td>
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<tr>
<td></td>
<td>• May improve lung function</td>
<td></td>
</tr>
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<td></td>
<td>• Long-acting, lasts about 8-12 hours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Often found in combination inhalers</td>
<td></td>
</tr>
<tr>
<td>Anti-inflammatory Inhaled Medications</td>
<td>Preventative and Maintenance</td>
<td><strong>Beclomethasone</strong> <em>(QVAR)</em></td>
</tr>
<tr>
<td>(Corticosteroids)</td>
<td>• Start helping within 5 days of regular use, better after 30 days of use</td>
<td>• <strong>Budesonide</strong> <em>(Pulmicort)</em></td>
</tr>
<tr>
<td></td>
<td>• Reduce inflammation and swelling in airways</td>
<td>• <strong>Fluticasone</strong> <em>(Flovent HFA)</em></td>
</tr>
<tr>
<td></td>
<td>• Reduce mucus production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Decrease sensitivity of airways to allergens and irritants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Important to rinse mouth after use</td>
<td></td>
</tr>
<tr>
<td>Combination Inhaled Medications</td>
<td>Preventative and Maintenance</td>
<td><strong>Fluticasone plus salmeterol</strong> <em>(Advair)</em></td>
</tr>
<tr>
<td>(Combine effects of different types of medications)</td>
<td>• Long-acting bronchodilator with anti-inflammatory agent</td>
<td><strong>Fluticasone plus vilanterol</strong> <em>(Breo)</em></td>
</tr>
<tr>
<td></td>
<td>• Preventative when used regularly</td>
<td><strong>Budesonide plus formoterol</strong> <em>(Symbicort)</em></td>
</tr>
<tr>
<td></td>
<td>• Used every 12 hours</td>
<td><strong>Mometasone plus formoterol</strong> <em>(Dulera)</em></td>
</tr>
<tr>
<td></td>
<td>Important to rinse mouth after use</td>
<td><strong>Ipatropium bromide plus albuterol sulfate</strong> <em>(Duo Neb and Combivent Respimat)</em></td>
</tr>
</tbody>
</table>
Antibiotics
Your doctor may prescribe an antibiotic to treat an infection in your body. Remember these important points:

• Tell your doctor if you are taking any other medications, may be pregnant, are breastfeeding, or are planning to become pregnant.
• Tell your doctor if you have an allergic reaction to medication or food.
• Take the antibiotic exactly as prescribed, and call your doctor if you have any questions.
• Don't stop the medication even if you start feeling better. If you don't take it all, you may not kill all the bacteria, and this makes it more difficult to treat the bacterial infection if it comes back.
• If you miss a dose, take it as soon as you remember, unless it's almost time for another dose. Do not take a double dose.
• Call your doctor right away if you have severe stomach pains, nausea, vomiting, diarrhea, cramps, tender abdomen, skin rash or itching, shortness of breath, or trouble breathing.

Possible side effects of antibiotics:
• Mild stomach cramps or pain
• Diarrhea, nausea, or vomiting
• Headache
• Strange taste in the mouth

Oral Corticosteroids
Corticosteroids reduce inflammation or swelling to relieve symptoms. When you’re experiencing a COPD exacerbation, you may need a higher dose of corticosteroid than what's in an inhaler. An oral corticosteroid will work quickly throughout your body, including your lungs, to reduce inflammation in the airways that may be making it difficult to breathe.

Remember these important points:

• Take the medication exactly as directed by your doctor and your pharmacist. If you have any questions, contact your doctor or pharmacist right away.
• Take this medication at the same time every day and do not stop taking it unless your doctor tells you to. You may be on a “tapered dose,” which means you will take a little less each day for your body to adjust. It’s crucial that you follow your doctor’s orders for taking your corticosteroid to avoid throwing off your body’s natural steroid-making cycle.
• Contact your doctor or pharmacist if you miss a dose.
• For your safety, tell your doctor and pharmacist about your other medications.
• If you use your inhaled corticosteroids regularly, it decreases the need for the use of oral corticosteroids that have more adverse side effects.
Medication Delivery Systems

There are several different delivery systems for the medications: metered dose inhalers, dry powder inhalers, soft mist inhalers, and nebulizers.

**Using an Inhaler with a Spacer**

To control and manage your COPD, you need to take your medications as directed and in the correct way. Some of your medications are inhaled using a metered-dose inhaler (MDI). An MDI uses a fine spray to dispense medication. Your MDI should be used with a spacer to make sure all the medication you need goes into your lungs.

**Follow the steps below.**

**Step 1**
- Shake the inhaler well and remove the cap. If the inhaler is being used for the first time or has not been used in over a week, prime it as directed by its manufacturer.
- Attach the spacer and remove the spacer cap.

**Step 2**
- Exhale the air out of your lungs.
- Put the spacer between your teeth, above your tongue, and close your lips tightly around it.
- Keep your chin up.

**Step 3**
- Spray 1 puff into the spacer by pressing down on the inhaler.
- Breathe in through your mouth as slowly and deeply as you can without making yourself cough. If you’re breathing too quickly, you’ll hear a whistling sound in the spacer. You do not want to hear the spacer whistle!

**Step 4**
- Take the spacer out of your mouth.
- Hold your breath for 8-10 seconds.
- Exhale slowly or with pursed lips.

*Note: If you’re prescribed more than 1 puff of medication at a time, wait 30 seconds to 1 minute between puffs. Shake the inhaler again and repeat steps 2 through 4.*

**Using a Dry Powder Inhaler**

To control and manage your COPD, you need to take your medications as directed and in the correct way. Some of your medications are inhaled using a dry-powder inhaler (DPI). With a DPI, you inhale tiny grains of powder medication.

There are many different types of DPsIs, and none of them look or work the same way. Be sure you know how to use your device properly.

**Follow the steps below.**

**Step 1**
- Load the prescribed dose of medication by following the instructions that came with your specific device.

**Step 2**
- Exhale the air out of your lungs, holding the inhaler away from your mouth.
- Keep your chin up.

**Step 3**
- Place the mouthpiece between your lips and teeth.
- Breathe in as deeply as you can without making yourself cough. This is a slightly faster inhale compared to the MDI.

**Step 4**
- Take the inhaler out of your mouth.
- Hold your breath for 8-10 seconds.
- Exhale, but do not breathe out through the inhaler. Moisture from your breath can make the powder stick inside the inhaler.
Using a Soft Mist Inhaler

To control and manage your COPD, you need to take your medications as directed and in the correct way. Some of your medications may be inhaled through a soft mist inhaler. Soft mist inhalers use a fine mist spray to dispense medications and do not require a spacer.

Follow the steps below.

Step 1: Loading the Soft Mist Inhaler
- Open the cap to the inhaler and press the dose-release button once; close cap.
- With the cap closed, press the safety catch while pulling off the clear base.
- Push the narrow end of the cartridge into the inhaler and push the cartridge against a firm surface to make sure it’s fully inserted. It’s normal for about 1/8 of the cartridge to still be visible.
- Replace the clear base to the inhaler, lining up the safety catch with the notch.

Step 2: Priming
- Before using for the first time, the inhaler must be primed.
- Hold the inhaler upright with the cap closed.
- Turn the base to the right until you hear a “click.”
- Open the cap and point the inhaler toward the ground.
- Press the dose release button; you should see a spray of mist.
- The inhaler must be primed 3 times before the first use.

Step 3: Using your Soft Mist Inhaler
- Hold the inhaler upright with the cap closed.
- Turn the base to the right until it clicks; do this in one continuous turn so no medication escapes.
- Exhale all the air out of your lungs.
- Open the cap and place the mouth piece in your mouth, past your teeth, with your lips tightly around it.
- Press the dose release button and slowly inhale the medication.
- Hold your breath for 8-10 seconds before exhaling.
Medication Delivery Systems

Using Your Nebulizer
A nebulizer turns liquid medication into a mist which is then inhaled through a mask or mouthpiece. A nebulizer is easier to use when you’re too short of breath to use a metered dose inhaler and perform a breath hold.

Follow these steps to use your nebulizer:

1. Place the correct dose of medication in the nebulizer cup.
2. Connect one end of the tubing to the cup and the other end to the nebulizer machine.
3. Attach the mouthpiece or mask to the cup.
4. Plug the machine in to the outlet and turn it on.
5. Place the mouthpiece between your lips past your teeth. If using a mask, place it over your nose and mouth making sure it fits securely and comfortably.
6. Inhale the mist slowly, then exhale. Avoid talking during the treatment.
7. Do this until all the medication is gone. This usually takes about 10-15 minutes.

Cleaning Your Nebulizer
Cleaning your nebulizer regularly helps prevent infection, and also helps it to function properly. Certain cleaning should be done daily, while other cleaning is done twice a week.

General Guidelines
- Always disconnect electrically powered equipment from power source before cleaning.
- Never submerge electrically powered equipment in water, and only use a mildly damp cloth/sponge when cleaning.
- Discard cleaning solutions after each use. Don’t reuse.

Daily Cleaning
- Wash your hands and disassemble the nebulizer.
- Gently clean parts in a solution of mild soap and water. Rinse with water.
- Shake off the excess water and place the nebulizer parts on a paper towel to air dry.
- Keep the parts covered with another paper towel to keep them dust free.
- Once dry, reassemble for the next treatment.

Twice a week, clean and disinfect following these steps:
- Soak disassembled parts in a solution of 1 part white vinegar to 3 parts water for 20 minutes.
- After soaking, rinse thoroughly with hot running water.
- Air dry on a paper towel.
Using Oxygen

Shortness of breath in COPD is due to airflow obstruction. Your prescribed inhaler will help treat this. However, you also may have low oxygen levels either chronically or at the time of an exacerbation that contribute to your shortness of breath and fatigue. Your healthcare provider can prescribe oxygen to help with this.

Using supplemental oxygen will get more oxygen into your blood, helping to ease your shortness of breath so you can continue to do your usual activities. It also helps prevent chronic problems, such as heart failure, that can develop when oxygen levels remain low over time.

**Oxygen therapy is the only medication prescribed to patients that can save lives and decrease the risk of dying.**

Your oxygen may be prescribed for you to use all day, or only during sleep or during certain activities. A medical equipment company will deliver the device(s) to your home, set everything up, and teach you how to use your oxygen equipment safely. Follow instructions to make sure you’re on the appropriate amount of oxygen during sleep, at rest, and with exercise and movement.

There may be three parts to your oxygen prescription:

- _____ liters at night
- _____ liters at rest
- _____ liters with exercise and activity
Types of Oxygen

Oxygen comes in many forms. You may be prescribed more than one form depending on your specific needs. Oxygen is most often inhaled through a nasal cannula. This is a lightweight tube with two prongs that fit into each nostril. The nasal cannula can be used with any of the devices listed below.

**Compressed oxygen** is stored in a tank. Larger tanks are on wheels and smaller tanks can be carried. A pressure gauge on the tank shows the level of oxygen and a dial adjusts the liter flow. The flow of oxygen is determined by your healthcare provider and should always be left at the prescribed rate. Since this type of oxygen is stored under pressure, the tanks must be handled and stored carefully.

**Pros:**
- Easy to use
- Comes in a variety of sizes
- Doesn’t waste oxygen
- Smaller tanks are available to take short trips outside the home

**Cons:**
- Can be heavy and difficult to move around
- Limited duration of use and need for frequent refills
- Takes up more space
- Oxygen under pressure must be handled and stored carefully.

An **oxygen concentrator** is a machine powered by batteries or plugged into an electrical outlet. It takes oxygen in the air that surrounds you and concentrates it. This device needs to be kept in a space that has a good supply of fresh air, not in a confined space like a closet.

**Pros:**
- Takes up less space
- Doesn’t require refilling
- Works well if you require higher oxygen flow rate
- Portable battery options now available for travel

**Cons:**
- Can’t be used to fill portable tanks
- Most depend on electrical power; can drive up your power bill
- Excess heat and noise

**Liquid oxygen** has been cooled down and changed from a gas to a liquid. It warms back up to a gaseous state before reaching you. This form of oxygen comes in a large tank refilled every 1-2 weeks and a small device that can be filled from the large tank for portability.

**Pros:**
- Small and light
- Easy to carry
- Takes up less space
- Efficient

**Cons:**
- Can be more costly
- Requires regular home deliveries
- Limited storage (1-2 weeks) due to evaporation

If you’re on high flow levels of oxygen (for example, more than 6 liters), you may need a mask instead of a regular nasal cannula. Supplemental oxygen use can dry your nose and mouth. To manage this higher flow, you may need to use humidified oxygen and use a nasal lubricant. Your medical supply company can assist you with this.
When safely used, oxygen can help you avoid shortness of breath, improve your sleep, and increase your mental alertness. Oxygen can also be hazardous, making fires burn hotter and faster. To reduce the chance of fire and other hazards, follow these important guidelines.

**Do:**

- Keep oxygen away from anything that can start a fire, such as matches, cigarettes, candles, or any sources of flame or spark.
- Keep oxygen away from any source of heat, such as space heaters, furnaces, and radiators.
- Turn oxygen off when you’re not using it.
- Have a fire extinguisher accessible and make sure your smoke detectors are working.
- Have a backup tank in case of a power outage.
- Ask your medical equipment company for any other safety tips.

**Don’t:**

- Smoke or allow others to smoke around you.
- Use any air fresheners or aerosol sprays. These are highly flammable.
- Use any oil-based products on your hands or face, such as lotion or vapor rub, as they are flammable. Use water-based products.
- Use a gas stove while wearing your oxygen.
- Use any oil on the oxygen unit.
- Store liquid oxygen on its side. This may cause it to evaporate.

**Traveling with Oxygen**

You can safely travel with oxygen; just make sure you plan ahead. Check with the airline or other transportation carrier to find out the requirements before booking your travel. Always check with your healthcare provider; he or she, along with your medical equipment company, may be able to help you. Depending on your mode of travel, you may need to make arrangements to have oxygen delivered. Keep copies of your prescription and any other paperwork you might need.

- **Traveling by car:** Keep windows cracked for good circulation and don’t smoke! If using liquid oxygen, store upright, secure in seatbelt if possible, or store on the floor. Don’t store extra units in the trunk.
- **Traveling by bus or train:** Call the carrier and tell them you’re traveling with oxygen. You may need to show your prescription.

- **Traveling by plane:** Call the airline well in advance to make arrangements. Oxygen tanks aren’t permitted on planes. Some airlines supply oxygen for you while in flight for a fee. You’ll need to make arrangements for oxygen to be delivered to your destination or while on layover.
- **Traveling by ship:** You most likely can bring your oxygen on board. You must call to make arrangements. The cruise line will likely need a copy of your prescription and a letter from your healthcare provider with a brief medical history. You’ll need to make arrangements for oxygen units to be delivered to the ship.
ALL forms of tobacco cause cardiovascular disease, and tobacco use is the #1 preventable cause of cancer in the world. It’s linked to an innumerable number of diseases including COPD, diabetes, back pain, and even rheumatoid arthritis.

Tobacco is the toxin, but nicotine causes the ongoing addiction. When people stop using tobacco, they experience nicotine withdrawal symptoms that are often severe and difficult to overcome. Because of this, most people who quit “cold turkey” are back to using tobacco within 30 days.

E-cigarettes or Vaping

The harm from smoking is not from nicotine but from dangerous chemicals added to tobacco. The same is true of e-cigarettes, or vaping. The safety or danger of vaping is completely unknown at this time. More research is needed before experts can say for sure whether e-cigarettes are safer than real cigarettes, or even an effective option for tobacco cessation. The U.S. Food and Drug Administration (FDA) has not approved e-cigarettes for use in helping people quit smoking.

If you’re thinking about using e-cigarettes to help you quit smoking, talk to your doctor first.

The use of medical nicotine to help with tobacco cessation does not contribute to ongoing addiction. It actually helps to break the addiction. Please talk to your physician about your desire to become tobacco-free, and ask for help.
How Tobacco Damages your Health

Smoking
Smoking is the leading cause of cancer in the United States, and increases the risk of many types of cancer:

- Nasal Cavity
- Mouth
- Throat
- Lung
- Kidney
- Stomach
- Acute Myeloid Leukemia
- Pancreatic
- Bladder
- Cervical

Smoking is also linked with many other diseases and health problems:

- Stroke
- Cataracts
- Emphysema
- Heart Disease
- Bronchitis
- Bone Disease
- Trouble Becoming Pregnant

What makes tobacco so harmful?
When you smoke a cigarette, you’re literally inhaling poison. When burned, a cigarette releases over 4,000 chemicals into your body. Many of these chemicals are poisons, including cyanide, arsenic, and lead! They cause serious health problems—heart disease, heart attack, COPD, stroke, lung cancer, and blood vessel problems, to name just a few.

Acetic Acid Vinegar Ammonia Toilet Cleaner Arsenic Poison Butane Lighter Fluid Cadmium Batteries Carbon Monoxide Hexane Barbecue Lighter Methane Sewer Gas Methanol Rocket Fuel Nicotine Insecticide Paint Stearic Acid Candle Wax Toluene Industrial Solvent
How does nicotine work?
Nicotine works like a lock and key in the nicotinic receptors in the brain. When the nicotine hits the brain from one drag of a cigarette (in just 10 seconds), the nicotine attaches to these receptors and releases dopamine, which makes you feel ahhhhhh….

As you continue to smoke, these receptors multiply into the millions in your brain. So when you don’t smoke, all these receptors scream for more nicotine to feed the need for dopamine or pleasure. This is why it’s so difficult to quit smoking!

Nicotine withdrawal symptoms include anxiety, depression, restlessness, and irritability.

The brains of tobacco users have many more nicotine receptors than non-tobacco users. When filled with nicotine, these receptors will “fire,” causing the feelings you have when you use tobacco.

In the brains of former tobacco users, many nicotinic receptors have disappeared, but those that remain have “memory” and can be triggered by cues.

How do I quit? I’ve tried before and failed!
Quitting smoking is one of the most difficult things a person can do. But every time you quit and relapse, you increase your chances of success the next time. Today, there are more tools to quit than ever before. If you’ve felt overwhelmed by trying to quit in the past, you’ll be amazed at all the tools available today to help you quit.
**What is available to me?**
Within outpatient pulmonary rehabilitation, you have access to a Mayo Clinic trained tobacco treatment specialist to help you quit. St. Luke’s also has a Tobacco Cessation program with Mayo Clinic trained counselors and nurses who’ll provide cessation tools and behavioral strategies to help you successfully quit for life.

**What about medications?**
Several medications are helpful, depending on your unique needs. Nicotine replacement is vital to avoid withdrawal symptoms. Each cigarette you smoke has 1 mg of nicotine. If you smoke a pack per day, you need at least 20 mg to replace the nicotine your body is used to in order to avoid withdrawal symptoms that can lead to relapse. This nicotine replacement can be delivered through a nicotine patch (7, 14, or 21 mg), nicotine lozenge or gum (2 or 4 mg), nasal spray, or an inhaler (“puffer”).

Bupropion (Wellbutrin) is an antidepressant and replaces the dopamine your body is no longer being rewarded with through smoking. Another drug, varenicline (Chantix) is the only medication that was created specifically for smoking cessation. It works to partially block the nicotinic receptors so smoking doesn’t give you the reward that it used to. People naturally reduce their smoking intake significantly before even trying to quit when using Chantix.

*Any of these medications can be taken in combination together. Please meet with the pulmonary rehab tobacco treatment specialist or a nurse with St. Luke’s Tobacco Cessation program for further recommendations.*

**What else can I do to help me quit smoking?**
Pick a quit date. When you get the appropriate medications on board, pick a date within two weeks of deciding to quit. Then:

- Prepare your home, friends, and family for this change.
- Clean out your smoking areas and car. Some people even get their car detailed so they can enjoy the fresh start. Fill your car ash tray with nicotine gum and lozenges or hard candy.
- Have a plan in place for when stress gets to you: write in a journal, go for a walk, drink a glass of water, call a friend, go for a drive, or exercise. Always have a plan in place for when a craving hits.
- **Don’t forget to use your nicotine replacement liberally!**
- Try to avoid alcohol for the first few months, if possible. Drinking lowers your inhibitions, and every drink makes it easier to give in and smoke.
- Reward yourself with the money you save from not smoking!
Clearing Your Airways

**Airway clearance techniques** may be prescribed to help move mucus up and out of the airways in your lungs. Clearing the airways helps relieve your shortness of breath and coughing. It also helps keep your lungs clean, which is especially important if you have a respiratory infection. Different devices or body positioning can be used to support airway clearance. Three of the most common methods are listed below.

- **Positive expiratory pressure therapy**: With this method, you use a hand-held device that changes pressures inside the lungs, similar to a vibration, to help move secretions (mucus). Examples of this type of device are the acapella or aerobika. You’ll use this device 2-8 times a day to help clear your lungs.

- **Postural drainage**: To perform this method, you’ll change the positions of your chest to drain mucus from your lungs with gravity. You can use the huff cough with this technique. There are 2-4 positions you can learn so you can do postural drainage on yourself.

- **Vest therapy**: With this method, you wear a vest that vibrates your chest to clear airways. This therapy can be used 2-8 times a day.

- **Huff cough**: This is a specific type of coughing technique to help clear your airways. Follow this technique:
  1. Sit in a chair with both feet on the floor.
  2. Take in a slow, deep breath and hold for 1-3 seconds.
  3. Exhale out of the mouth making a “huff” sound, moving the air forcefully and quickly.
  4. Take 2 slow, deep breaths in and out.
  5. Repeat steps 2-4.
  6. Perform 3-4 times.

**Coping with Shortness of Breath**

When it’s difficult to breathe, you may start to get anxious and begin to panic, which can leave you even shorter of breath and make your symptoms worse. This is known as the dyspnea cycle. Dyspnea means having a difficult time breathing or feeling short of breath. People with COPD will often avoid or limit activities they once enjoyed to avoid this cycle.

**How can you break the cycle?**

- Use pursed-lip breathing, diaphragmatic breathing, and relaxation strategies.
- Learn to breathe during activity.
- Exercise more each day, so your body can handle more activity.
Anxiety and Shortness of Breath (Dyspnea) are Linked

Feeling short of breath (having dyspnea) can cause feelings of fear, panic, and anxiety. Having anxiety can make you feel very short of breath, especially if you have underlying lung disease. Also, some of the medications people with COPD use for treatment, such as inhaled bronchodilators and prednisone, can increase anxiety in those who are susceptible.

A panic attack is defined as a “sudden episode of intense fear accompanied by several physical symptoms.” Panic attacks can happen to anyone, but people with COPD seem especially prone to them. Symptoms of a panic attack include:

- Sweating
- Heart palpitations
- Trembling or shaking
- Feelings of being smothered
- Chest pain, tightness, or discomfort
- Fear of dying
- Dizziness or lightheadedness
- Numbness or tingling in the extremities
- Hot flashes or chills

If you feel a panic attack coming on, you may be able to stop it by focusing on your breathing techniques. It’s important to note that short-acting inhaled bronchodilators, such as albuterol, which are used for sudden onset of increased shortness of breath, can sometimes increase your heart rate and intensify anxiety during a panic attack. So make sure that you first try to take several slow, deep breaths before using the inhaler.

Counseling can help you develop tools to deal with anxiety, like mindfulness practice. There are also medications that can be used to treat anxiety and prevent panic attacks. It’s appropriate to discuss your concerns about anxiety with your primary care physician.

Breathing Techniques

We want you to be in control of your breathing—we don’t want your breathing to be in control of you. These breathing exercises allow you to do just that—take control. They take practice, so the more you practice the better prepared you’ll be when you’re short of breath and need these exercises to help you get in control.

Pursed-lip Breathing

Pursed-lip breathing will slow down your breathing rate and allow for more air to get out of your lungs. Use this technique when exerting yourself.

1. Inhale slowly through your nose for at least two counts. Be sure your shoulders and neck muscles are relaxed. Count 1-2-3.

2. Purse or pucker your lips, as if you were blowing out a candle. Exhale slowly through your pursed lips for at least twice as long as you inhaled. Count 1-2-3-4-5-6.
Abdominal or Diaphragmatic Breathing

This type of breathing focuses on using your diaphragm to breathe—not your neck and shoulder muscles or “accessory breathing muscles.” This method allows more air to reach the bottom of your lungs. Use this technique during daily activities and at rest.

1. Sitting in an upright position, place one hand on your chest wall and the other hand on your abdomen.
2. Inhale slowly through your nose. As you inhale, you should feel your hand on your abdomen move out as your lungs fill with air. Remember to keep your neck and shoulder muscles relaxed.
3. Exhale through your pursed lips. As you exhale you should feel the hand on your abdomen move back inward as the air leaves your lungs.

Tripod Breathing

You may notice athletes placing their hands on their knees and bending slightly forward to catch their breath. This controlled breathing method:

1. Allows gravity to move abdominal contents out of the way for more lung expansion
2. Takes the strain off your “accessory breathing muscles”
3. Opens more lung units in the back for better gas exchange
Energy Conservation

People with chronic lung disease often experience shortness of breath when performing daily activities such as dressing, bathing, and shopping. Shortness of breath with daily activities can then lead to decreased activity overall. But you can make modifications to your daily activities that can reduce shortness of breath, giving you the energy to do the things that are most meaningful to you. You can do this by learning to plan, prioritize, position, and pace.

Plan
- Make a written schedule of things to do for the day or week.
- Perform harder tasks at times when you have the most energy.
- Before starting a task, gather all items needed to complete that task.
- Schedule rest breaks throughout the day.
- Space tasks throughout the day and perform one at a time.
- Break larger tasks into smaller steps.

Prioritize
- Decide what tasks need to be done and which can wait until later.
- Determine if any tasks can be delegated to others or hired out.
- Determine if some tasks can be done less often.

Position
- Use work surfaces at a comfortable height.
- Sit to perform tasks, whenever possible, such as using a stool in the shower or sitting to fold laundry.
- Store items between shoulder and waist height to limit bending, climbing, and reaching.
- When pushing or pulling an object, move your whole body with it. For example, walk with a vacuum rather than bending.
- When carrying an object, keep it close to your body.
- When lifting an object, bend at the hips and knees, and use the muscles in your legs to lift yourself and the object.
- Use a cart to carry laundry, or groceries from the car. A cart may also have a seat so you can rest when you get tired.
- Using a four-wheeled walker can help decrease back pain, provide you with an easy spot to sit when you’re tired, carry your oxygen and other items, and provide support to help you breathe more easily.

Pace
- Don’t rush. Rushing uses more energy and makes shortness of breath worse. Work at a steady, relaxed pace.
- Use slow, smooth movements when you’re using increased effort.
- Remember to use pursed-lip breathing when performing tasks requiring more effort.
**What is Pulmonary Rehabilitation?**

Pulmonary rehabilitation is an important part of treatment for patients who have symptomatic COPD. This outpatient program takes place in a fun and friendly environment with a team of professionals who truly care about your best health and quality of life.

Your care team includes a physician, nurse practitioner, nurses, respiratory therapists, occupational therapists, dietitians, exercise physiologists, and social workers. Everyone on your team is dedicated to supporting you in a safe environment with an individualized exercise program, education, breathing retraining, smoking cessation, and medical management of symptoms.

**Why should I participate in pulmonary rehabilitation?**

Research shows that people with lung disease can improve their quality of life by attending pulmonary rehabilitation. This program enables you to do more activities with less shortness of breath and less fatigue. It also decreases your risk of needing emergency medical care and hospitalization.

**Who pays for pulmonary rehabilitation?**

Most insurance companies, including Medicare, cover the cost of pulmonary rehabilitation. But you may have a co-pay per session, depending on your individual insurance plan.

**How long does it last and where does it meet?**

Patients attend 2-3 times per week, with each patient’s program varying between 6 and 15 weeks.

**In the Treasure Valley:**

3525 E. Louise Drive, Meridian  
(208) 706-7050

We’re located at St. Luke’s Meridian, just across the street (to the northeast) of the main medical center. We’re on the 5th floor of the Meadowlake Building.

**In the Magic Valley:**

2550 Addison Avenue E., Suite C, Twin Falls  
(208) 814-7770

We’re located in the St. Luke’s Physician Center Building

If you haven’t heard from a member of the pulmonary rehabilitation team within a week of your hospital discharge, please call us to schedule an appointment. We look forward to working with you!

Hear directly from patients who have improved their lives through pulmonary rehab. Visit our Pulmonary Rehabilitation page at stlukesonline.org, click on the blog post, then watch the video.
Living Healthy with COPD

Recurrent exacerbations can make your underlying condition get worse faster. Follow these guidelines to reduce flare-ups and stay as healthy as possible.

✔️ **Avoid smoke.** Quit smoking, and avoid places where others smoke. Secondhand smoke may contribute to further lung damage.

✔️ **Avoid air pollution.** On very bad pollution days, stay indoors with windows closed (for example, an active fire season).

✔️ **Exercise regularly.** It may seem difficult to exercise when you have trouble breathing, but regular exercise can improve your overall strength, endurance, and breathing.

✔️ **Clear your airways.** With COPD, mucus tends to collect in your air passages and can be difficult to clear. Controlled coughing, airway clearance techniques, and drinking plenty of water may help.

✔️ **Control your breathing.** Talk to your doctor or respiratory therapist about techniques for breathing more efficiently throughout the day and during activity. They can also discuss breathing positions and relaxation techniques you can use when you’re short of breath.

✔️ **See your doctor regularly.** Stick to your appointment schedule, even if you’re feeling fine. It’s important to monitor your lung function. Be sure to get your annual flu vaccine and keep up to date on other vaccines and immunizations.

✔️ **Wash your hands.** This will help keep you healthy and decrease your risk of infection. Use hand sanitizer when you can’t wash.

✔️ **Avoid people who have active respiratory infections.**

✔️ **Take care of your mouth, teeth, and gums.** Brush your teeth every morning and evening, floss at least once a day, and visit your dentist for regular checkups and cleanings.

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**Flare-ups (Exacerbations)**

**How to recognize them and what to do**

No matter how hard you try to stay healthy, you always have some risk of getting sick. But if you learn to be aware of changes in your health, and watch for the signs and symptoms of a flare-up, you can identify problems early. Then you can contact your doctor right away, allowing for quick treatment and minimizing your risk of going to the hospital.

Early warning signs or symptoms of an acute flare-up or exacerbation are unique to every person. You’re the best one to know if you’re having any breathing problems. It’s very important to share this information with your family and those close to you, so they can help you recognize these early signs.

Use the chart on the back page of this guidebook to recognize the signs of a flare-up and what to do if one happens.
Obstructive sleep apnea (OSA) is a disorder in which your breathing is blocked or partially blocked during sleep. The problem can be mild to severe depending on how many times during sleep your air is blocked from entering your lungs. This may happen anywhere from 5-50 times per hour. If you’re diagnosed with COPD, it’s essential that you also assess your risk for sleep apnea. These conditions can occur together (this is called OVS, or overlap syndrome), and their negative effects can have serious consequences for your health.

What are the symptoms of sleep apnea?
- Not feeling rested after a night’s sleep
- Feeling drowsy during the day
- Waking up with a headache
- Your sleeping partner notices that you stop breathing
- Your partner notices that you snore loudly
- Your partner notices that you gasp or choke

Obstructive sleep apnea can be diagnosed by a sleep study in which your nighttime sleep is monitored. Your doctor can order a sleep study if he or she thinks you might have sleep apnea. This usually takes place at a sleep center, which is a facility set up to observe your breathing patterns overnight. The study will allow you and your doctor to find out how often you stop breathing or if you have too little air flowing into your lungs during sleep. It can also help diagnose other possible sleep problems.

Obstructive sleep apnea can improve with weight loss or by avoiding certain medicines as well as alcohol before bed. Talk with your doctor for guidance. If needed, a CPAP (continuous positive airway pressure) machine can help treat obstructive sleep apnea. It applies pressure via a mask to keep your airways open at night while you sleep.

Blocked airways, most commonly in your throat, cause sleep apnea. Your airway can become blocked when your throat muscles and tongue relax during sleep. Sleep apnea is more likely to occur if you are overweight, use certain medicines or alcohol before bed, or sleep on your back.

Untreated sleep apnea, on its own, can put you at risk for heart disease, stroke, abnormal heart rhythm, high blood pressure, pulmonary hypertension, depression, and diabetes; COPD and sleep apnea together can worsen symptoms of both conditions. It’s important to talk with your doctor if you suspect that you suffer from this disorder.
Osteoporosis is a disease that weakens your bones, making them very easy to break. If your bones become severely weak, very painful fractures of the spine can occur with no warning. These are called spontaneous vertebral compression fractures, and they make a person with COPD have even worse problems breathing comfortably.

Weakening of the bones can cause progressive curvature of the spine called kyphosis, which can be painful and make it difficult to take a deep breath. The causes of osteoporosis include smoking, aging, being sedentary (not exercising), routinely drinking excessive alcohol, being female (although it also occurs in men), and eating a poor quality diet. Taking frequent courses of glucocorticoid medications like prednisone for COPD exacerbations also causes bone loss, resulting in osteoporosis.

Osteoporosis is diagnosed by a bone density test with a special kind of X-ray called a DXA test. Treatment to reduce bone loss consists of lifestyle measures such as quitting smoking, limiting alcohol to two or fewer drinks per day, and exercising regularly. Do all you can to avoid falls because of the high risk of a painful and debilitating bone fracture.

It’s also important to eat a diet that includes adequate amounts of protein and calories as well as foods rich in calcium like broccoli, kale, and low-fat dairy. Your doctor may also recommend a calcium supplement to achieve 1,000-1,200 mg daily. Your doctor may also recommend a Vitamin D supplement of 600-800 IU per day, and may prescribe medication to increase bone density.

Talk to your doctor about whether or not you appear to be at high risk for osteoporosis and if you should have a DXA test to evaluate your bone strength.
You know that shortness of breath is a distressing symptom of your pulmonary disease. You may try to prevent shortness of breath by avoiding exertion. You’re not alone. Many people who have COPD avoid exercise or activities for this very reason. But it may surprise you to know that exercise can actually help your COPD symptoms. To understand how this works, you first need to understand what happens when you don’t exercise.

If you avoid exercise and activity, physical deconditioning takes place. That is, your strength and cardiovascular function decline. You become weaker and more fatigued, and your breathing gets worse. It becomes an endless cycle that progressively and ultimately keeps you from performing activities of daily living, being active, and doing the things you enjoy.

Regardless of the severity of your disease, consistent exercise has been shown to increase function through adaptations made in your musculoskeletal and cardiovascular systems. This means that these two systems improve and get stronger, reducing the workload on your lungs. This makes it easier for you to not only tolerate exercise, but to gradually increase your level of exercise. It also reduces your symptoms of breathlessness.

How much exercise?
You should initially be performing moderate intensity exercise 3-5 times per week. Start toward the lower end of the spectrum and work toward a goal of 5 days of exercise. Your exercise intensity will also depend on how you’re tolerating exercise and your fitness goals. Generally speaking, your intensity should feel like a light-to-moderate workload.

You can monitor how well you’re tolerating exercise by using an oximeter. You can gauge the intensity of your exercise by using the Rating of Perceived Exertion (RPE) and Modified Rating of Perceived Dyspnea (RPD) scales on page 28. You can also gauge your exercise intensity with a heart rate monitoring system. Most importantly, you should listen to your body and stop exercising if something doesn’t feel right.

Initially, you should work toward completing 30 minutes of continuous cardiovascular exercise. Cardiovascular exercises involve rhythmic activities that use large muscle groups and are performed at a light-to-moderate intensity for an extended period of time. Some examples of aerobic exercises are walking, jogging, cycling, rowing, and swimming. These exercises help improve heart and lung function and are crucial to weight management. Other benefits of aerobic exercise include decreased body fat, increased lean body mass, increased stamina, decreased stress, and improved sleep quality.
The FITT principle

When exercising, follow the FITT principle. FITT stands for “frequency, intensity, time, and type” of exercise.

- **Frequency:** 3-5 times per week (more is better!)
- **Intensity:** Exercise intensity should be performed at a light-to-moderate workload. Specific workloads (such as speed and elevation on a treadmill or watts on a bicycle) can and should be regularly progressed to move you up to greater exercise intensities, as tolerated.
- **Time:** It’s generally recommended that you perform 30 minutes of exercise most days of the week. Your initial goal should be to achieve a total of 150 minutes of cardiovascular exercise per week.
- **Type:** This refers to the mode of exercise, which may include walking, jogging, cycling, swimming, stepping, rowing, and others. Start with the type of exercise you’re able to perform and you find most enjoyable.
Warm-up and Cool-down
With either aerobic or resistance (strength) training exercises, you must perform both a warm-up before you start exercise and a cool-down after you finish. The warm-up is designed to prepare your body for exercise by gradually increasing your heart rate, blood pressure, and body temperature. You never want to jump right into exercise without performing a warm-up. Not only do you put your muscles at risk for injury, but you also put an immediate and dangerous stress on your heart.

Your warm-up should last 5-10 minutes and gradually increase in intensity until you’re ready to start exercising. Examples of warm-up exercises may include arm circles, hip circles, marching in place, heel kickers, toe taps, and gentle walking that begins to pick up pace.

After exercise, it’s equally important to perform a cool-down. Quickly moving from exercise to total rest without a cool-down creates the most likely time for a cardiac event to occur. By performing a cool-down, you gradually return your heart rate, blood pressure, and body temperature to pre-exercise levels, reducing your risk of a post-exercise event occurring.

Your cool-down should last 5-10 minutes and decrease in intensity until you reach your pre-exercise resting state. A cool-down can be performed by walking and gradually slowing toward a gentle pace, or by continuing on cardio equipment you were using, only at a reduced intensity.

Indications to Stop Exercising
Exercise is known to be safe after your hospital stay, but it’s important to watch for worsening signs and symptoms. Indications to stop exercise include:

- Nausea, vomiting, heartburn, or abdominal pain
- Excessive shortness of breath
- Lightheadedness or dizziness
- Chest, arm, neck, throat, or back pain
- Significant oxygen desaturation
- Mental confusion
- Any other symptoms that cause concern

If you’re having any of these symptoms, stop exercising and sit down. If your symptoms don’t go away or get worse, call 911 immediately. If your symptoms go away, make sure you contact your healthcare provider’s office and tell them about the symptoms you were having.

COPD and Weather
It’s important that you exercise in appropriate weather conditions. Extremely hot or cold weather can cause COPD exacerbations. It’s recommended that you exercise in a climate-controlled setting or in mild weather.

COPD and Air Quality
Poor air quality is a significant trigger for acute COPD exacerbations. Outdoor exercise should be avoided when the air quality index is yellow (moderate) or worse. Air pollution and fires are major contributors to worsening air quality. To see your daily, local air quality, visit the Air Quality Index website: airquality.deq.idaho.gov

My Cardiovascular Exercise Prescription

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A healthy diet won’t cure COPD, but it can help your body fight off infections and possibly slow the progression. Eating healthy foods can help you maintain strength and make you feel better, too. Food gives you fuel to breathe. Moving air in and out of your lungs takes more work and burns more calories when you have COPD.

Maintaining good nutrition on top of dealing with COPD doesn’t have to be boring or difficult. Keep it simple. Try these healthy lifestyle tips.

1. Stay Balanced
A healthy diet includes variety of foods. Try to include the following foods in your daily diet.

- **Low-fat protein:** These include lean cuts of meat, poultry, fish, and others.
- **Seafood:** Particularly helpful are oily fish like salmon, mackerel, and sardines.
- **Whole grains and beans:** Try whole-grain bread, bran, brown rice, lentils, quinoa, beans, and oats—these foods are also high in fiber, which helps improve the function of the digestive system.

- **Fruits and vegetables:** These contain essential vitamins and minerals, and fiber, which will help keep your body healthy. Foods containing high levels of potassium, such as bananas, oranges, avocados, dark leafy greens, tomatoes, asparagus, beets, and potatoes can be especially useful if you have been prescribed a diuretic medication.

2. Be Cautious
Certain foods can cause problems such as gas and bloating, contain too much fat, or have too much “added” sugar.

**Limit “Added” Sugar**
- How much can I have?
  - Women: 6 tsp. (24 grams) a day
  - Men: 9 tsp. (36 grams) a day
- Read food labels to cut back on added sugar, especially on foods such as:
  - Cereal, instant oatmeal, fruit yogurt, non-dairy coffee creams, soups, ketchup, barbeque sauce, spaghetti sauce, breads, jam/jelly, and marinades
- Eat fewer and smaller desserts.
- Reduce sugar in recipes when cooking.
- Choose fresh fruit over processed sweets.
- Drink coffee without added sugar.
- Choose something other than sweets as a reward.

**Limit Salt**
- Too much sodium or salt in your diet causes water retention, which may affect your ability to breathe.
- Be cautious about or limit processed foods. Despite what many people believe, most sodium intake doesn’t come from the salt shaker, but from what’s already in the food.
- Read labels of the foods you buy and avoid any containing more than 300 milligrams of sodium per serving for snacks, and more than 600 milligrams for whole meals.
- Use unsalted herbs and spices to flavor food instead of salt.
3. Be Mindful of Your Fluid Intake
• People with COPD should try to drink plenty of fluids throughout the day, about 6-8 (8-ounce) glasses. Adequate hydration keeps mucus thin and makes it easier to cough up.
• Ask your healthcare provider about alcohol. You may be advised to avoid or limit alcoholic beverages, as they can interact with medications. Alcohol may also slow down your breathing rate and make it more difficult to cough up mucus.
• Talk to your healthcare provider if you have diagnosed heart problems as well as COPD. Sometime it’s necessary for people with heart problems to limit fluid intake.

4. Watch Your Weight – in Both Directions
People with chronic bronchitis have a tendency to be overweight or obese, while those with emphysema have a tendency to be underweight. This makes individual diet and nutrition assessment a vital part of COPD treatment.

If You're Underweight
Some symptoms of COPD, such as lack of appetite, depression, or feeling unwell in general, can cause you to become underweight. If you’re underweight, you may feel weak and tired or be more prone to picking up infections. Because COPD requires you to use more energy when breathing, you may need more calories per day than a person without COPD.

If you’re underweight, you need to include healthy, high-calorie snacks in your diet. Items to add to your grocery list include:

• Whole Milk
• Butter
• Eggs
• Oats, quinoa, beans
• Olive oil
• Cheese
• Avocado
• Nuts and nut butters
• Granola

Some Vegetables
• There’s a long list of vegetables known to cause bloating and gas. What matters is how your body works.
• You can continue to enjoy these vegetables if they don’t cause a problem for you: beans, brussel sprouts, cabbage, cauliflower, corn, leeks, onions, peas, peppers, and scallions.
• Soybeans may also cause gas.

Dairy Products
• Some people find that dairy products, such as milk and cheese, make phlegm thicker. However, if dairy products don’t seem to make your phlegm worse, then you can continue to eat them.
• Lactose is the natural sugar found in dairy products. Some people have a hard time digesting lactose, which causes bloating. If you suffer from lactose intolerance, limiting foods high in lactose, like dairy milk, is recommended.

Limit Fried Foods
• Foods that are fried, deep-fried, or greasy can cause gas and indigestion.
• Heavily spiced foods can also cause discomfort and may affect your breathing.
• Limit these foods when possible.
Nutrition and COPD

If You’re Overweight
When you’re overweight, your heart and lungs have to work harder, making breathing more difficult. Excess body weight may also increase the demand for oxygen. Your healthcare provider or dietitian can advise you on how to achieve a healthier body weight by following a healthy eating plan and an achievable exercise program.

5. Have a Plan
COPD can be challenging to live with, so it’s important to make food preparation a straightforward and stress-free process. Make mealtime easier and stick to a healthy eating program by following these general guidelines:

• Try eating 5-6 small meals per day with a variety of foods, rather than 2-3 three large meals. Eating smaller meals may help you avoid filling up your stomach too much and give your lungs enough room to expand, making breathing easier.
• Try to eat your main meal early in the day; this will boost your energy level for the whole day.
• Choose foods that are quick and easy to prepare to avoid wasting your energy.
• Sit down when preparing meals so you aren’t too tired to eat, and ask family and friends to assist you with meal preparation if necessary. You may also be eligible for a meal home delivery service.
• Sit up comfortably in a high-back chair when eating to avoid putting too much pressure on your lungs.
• If you use oxygen, make sure to wear your oxygen during mealtime.
• When making a meal, make a bigger portion so you can freeze some for later and have nutritious meals available when you feel too tired to cook.

The Takeaway
It’s important to stay mindful of your overall health when you have COPD, and nutrition is a big part of that. Planning healthy meals and snacks can help you manage symptoms and minimize complications.

GERD and COPD
Gastroesophageal reflux disease (GERD), also called acid reflux is a condition in which the contents of the stomach back up into the esophagus or mouth. Symptoms can include heartburn, regurgitation, vomiting, difficulty or pain with swallowing, and hoarseness. Stomach contents can even be inhaled into the lungs without a person realizing it. This is called aspiration. There is a possibility that “silent” aspiration can cause COPD exacerbations.

Lifestyle treatment for GERD consists of losing weight, quitting smoking, and avoiding large and late meals. An effective measure to avoid aspiration while sleeping is to raise the head of the bed with a wood block or foam wedge by 6-8 inches. Don’t use pillows because that can make reflux worse. Also, avoid eating foods known to make GERD worse (excessive caffeine, alcohol, fatty foods, chocolate, and peppermint).

Medications to treat GERD include histamine antagonists like ranitidine (Zantac) or famotidine (Pepcid) and proton pump inhibitors, which are stronger. Examples include omeprazole (Prilosec), lansoprazole (Prevacid), and esomeprazole (Nexium). If you believe you might have GERD, try the lifestyle measures first. If your symptoms are severe, talk to your doctor because you may likely need medication.
**Living with a Chronic Illness**

**What is a chronic illness?**

A chronic illness is a disease that lasts for a long time (three months or more). Chronic diseases generally can’t be prevented by vaccines or cured by medication, nor do they just disappear. They’re also more common as people age.

COPD is a chronic disease, as is heart failure, arthritis, diabetes, and many others. People living with these diseases know that while their illness might be controlled, it can’t be cured. This realization often brings about a sense of loss and grief.

**What does grief have to do with it?**

Anytime we suffer a loss, whether leaving a job, letting go of someone we love, or facing a chronic illness, we mentally and emotionally go through a grieving process. This is a natural part of managing painful experiences and change.

**Stages of Grief**

Knowing what to expect—and understanding that what you’re feeling is natural and normal—sometimes helps you manage the process in a healthier way. The primary stages of grief are the emotional and mental processes most of us experience when faced with loss.

- **Denial:** “I feel fine. This can’t be happening, not to me.”
- **Anger:** “Why me? How did this happen to me? Who’s to blame?”
- **Bargaining:** “Just let me live to see my children graduate.” “I’ll do anything to live just a few more years.” “I’d give my life savings if . . .”
- **Depression:** “I’m so sad, why bother with anything? I’m going to die anyway, what’s the point?”
- **Acceptance:** “It’s going to be okay. I can’t fight it. I may as well prepare for it.” In this last stage, you begin to come to terms with your illness.

These stages don’t happen in neat steps or progress evenly from one to the next. Instead, you could experience several stages in one day or cycle through various stages over the course of months. Talk to your healthcare provider if you feel overwhelmed by grief or stuck in unhealthy patterns of anger and depression.

**What kinds of changes can you expect?**

Chronic illness impacts every aspect of life. Illness is often erratic and unpredictable, which means you’ll likely have to make frequent readjustments to your lifestyle and habits. You may feel as if you’ve lost control and power over not only your body, but over your life. This can lead to what feels like a whole new identity—as if you’re not the same person you once were. It’s normal and natural for these feelings to create a sense of loss and grief.
Loss with Chronic Illness

It may seem as if you face constant losses—physical, intellectual, psychological, emotional, social, and spiritual. You may feel like your grief will never end. It’s often overwhelming and exhausting, especially while managing your health, too.

Though it’s certainly not easy, it’s important to prepare for the many ways that chronic illness can affect your life. These may include mobility, physical abilities, income, career, self-esteem, freedom, and other issues specific to your individual situation.

How chronic illness may impact your life:

- Financial security can be challenged with medical costs, leading to changes in hopes and dreams for the future.
- Family roles may shift due to the need for care.
- Family members also experience grief and loss of their own.
- Sometimes your illness may seem invisible to others, leading to changes in friendships.
- Your living environment may change to accommodate new needs and limited mobility.
- You might have to rely on others for transportation or assistance in going places.
- Most things, from grocery shopping to getting to appointments, require extra planning and preparation.
- You may experience intense emotions such as guilt, regret, anger, and sadness. These can feel very intense and isolating.

How might you manage these changes and feelings?

- Keep in touch with friends and seek out support groups. Staying connected to a network of peers in a supportive environment can help you process difficult emotions, including feelings of grief and loss, and better manage the changes in your life.
- Take time for yourself. Self-care, such as relaxation, writing, massage, mindfulness, and prayer, can be very beneficial tools in managing chronic illness. Create space in your life, amid all the changes, for activities you enjoy and that bring feelings of peace.
- Be kind to yourself. Each person’s experience living with a chronic illness is unique. Although you face similar challenges to others with COPD, you’ll manage the changes and accompanying feelings of grief in your own way. There is no right timeline or progression.
- Ask for help. Talk with your healthcare provider if you feel you need more support and guidance in dealing with the changes in your life, managing the adjustment process, or facing the strong emotions of grief and loss.
Depression

Am I at risk for depression?
Yes. A new diagnosis can trigger depression or difficulties adjusting. Many patients need treatment during this time to process grief and loss through talk therapy or medication. This is often a short-term need until you’re better adjusted to the changes in your life; some people may need longer-term care.

What are the symptoms of depression?
There are some warning signs that you might be depressed beyond what is natural and normal for someone living with a chronic illness:

- Irritability or frustration, even over small matters
- Reduced sex drive
- Angry outbursts
- Trouble remembering things, mental fog
- Crying spells for no apparent reason
- Unexplained physical problems like back pain or headaches

The criteria for diagnosing a person with major depression are:

1. Depressed mood and/or loss of interest or pleasure

AND

2. Experiencing the symptoms below for at least two weeks.

If you’re experiencing at least five of these symptoms and they’re causing significant distress, major depression might be the cause.

- Depressed mood
- Diminished interest in pleasurable activities
- Significant weight loss or gain
- Insomnia or hypersomnia (excessive sleepiness)
- Psychomotor agitation (unintentional movement or motions without purpose, often stemming from anxiety, such as pacing or wringing hands)
-Slowed movements noticed by others
- Fatigue or loss of energy
- Feelings of worthlessness or guilt
- Diminished ability to concentrate, indecisiveness
- Recurrent thoughts of death

What is the treatment for depression?
In some cases, if you feel you need significant help managing your depression or anxiety, your healthcare provider can prescribe medications. Psychotherapy or talk therapy can also help you process feelings of loss and grief, recognize the causes for your depression, allow you to identify and accept your body’s new limitations, and focus on things you can still do to create joy in your life. Participating in counseling can both ease feelings of hopelessness or anger and provide you with a variety of coping strategies.
Caregivers face various and unique challenges when caring for a family member with a chronic illness. There is often a change in the familial dynamic, such as the parent-child relationship, which is difficult and stressful. Depending on the level of care needed for a loved one, caregivers can also experience a lack of freedom due to new, time-consuming responsibilities and extra needs such as transportation and going out in public.

Often, caregivers have responsibilities and stressors in their lives in addition to providing care for their loved one. These may include managing a job, relationships, and children. Financial burdens may also play a part in creating tension and anxiety. This continual strain can cause physical, emotional, psychological, and spiritual exhaustion, leading to what’s called “caregiver burnout.”

**What is caregiver burnout?**
Caregiver burnout is the result of providing extensive care for another person without the balance of caring for yourself. It’s characterized by a *cluster of symptoms:*

- You feel furious one minute and sad or helpless the next. This can feel like an emotional roller coaster.
- You catch every bug that comes your way. This is due to exhaustion that results in a compromised immune system.
- You find yourself snapping at everyone or overreacting in many situations.
- There’s little to no time for exercise, eating well, or spending time with friends.

**What do I do if I have caregiver burnout?**
The best ways to prevent or recover from burnout involve taking time to care for yourself.

- **Physical:** Care for your body. Eat healthy, exercise, and sleep well.
- **Emotional:** Spend time with people who refresh you. Share your troubles with trusted family and friends, or talk with a counselor.
- **Mental:** Practice mindfulness; be present to moments and activities. Feed your brain and learn new things.
- **Spiritual:** Take the time to meditate, pray, or even just sit quietly. Perhaps unplug from technology and connect to nature. Take regular time-outs and seek respite (a break) when needed.

You can also follow the “Three R” approach, which helps you become more resilient to stress and avoid burnout:

- **Recognize** burnout by identifying the symptoms.
- **Reverse** and undo the damage of burnout by managing stress and seeking support.
- **Become resilient** to burnout by taking care of your physical and emotional health regularly.

**Other strategies for avoiding caregiver burnout:**

1. **Make yourself a priority.**
2. **Monitor your stress level** every day, making changes and adjustments when possible.
3. **Participate in activities you enjoy.**
4. **Ask yourself,** are you maintaining **appropriate boundaries?** What can you say “no” to?
5. **Try to always ask for help** when you need it.
6. **Whenever possible, practice gratitude.** Studies show that practicing gratitude daily can improve your health, resilience, and optimism. You might do this through prayer or meditation, by keeping a gratitude journal, or by letting the people you love know how grateful you are for their presence in your life.
What resources are available for caregiver support?

- People with chronic illnesses may be eligible for disability benefits, Medicare, or Medicaid.
- With Medicaid, there are multiple resources for in-home assistance or placement. There are also dozens of home care agencies in our area that provide a variety of supplemental care and respite services. Their costs range from approximately $17 to $21 per hour.
- Meals on Wheels and Homestyle Direct may also be available, depending on where you live, for meal delivery directly to your home.
- Consider home care and hospice services for your loved one, as appropriate.
- Make sure that you discuss your final wishes with your family and other loved ones. Complete an advance directive so family members won’t have to make those difficult choices when the time comes.

If you need help identifying and locating these resources, talk with your healthcare provider or a member of your pulmonary rehabilitation team.

Palliative Care

As COPD progresses, the body works harder and becomes weaker. This affects other parts of the body, as they’re not getting enough oxygen. COPD has now entered the end stage of its progression. Talk with your family or other loved ones about your healthcare wishes, and discuss palliative care and hospice options with your healthcare provider. It’s important for your peace of mind to make your wishes known ahead of time.
St. Luke’s is dedicated to helping people with COPD achieve and maintain their best quality of life. We strongly encourage you to learn everything you can about your lung disease and treatment, and to take advantage of the resources available to help you stay as stable and independent as possible. Listed below are some of the people and resources important to your best health.

**Patient Educators:** While you’re in the hospital, COPD patient educators will assess your education needs and provide you and your loved ones with education about the disease.

**Primary Care Provider (PCP):** This is the healthcare provider who oversees all your healthcare needs. You should follow up with your PCP within one week after any hospitalization. If you don’t have a PCP, you need to find one and schedule an initial visit to establish care. St. Luke’s can help you find a PCP and schedule this visit. Just call (208) 381-9000 in the Treasure Valley and (208) 814-8000 in the Magic Valley.

**Pulmonologist:** This physician specializes in the care of lung problems. Your PCP may make a referral for you to establish care with a pulmonologist, if you don’t already have one.

**Sleep Clinic:** The staff at St. Luke’s Sleep Medicine Institute are highly trained professionals skilled in diagnosing and treating sleep disorders.

**Home Care:** Your pulmonary care team will work with St. Luke’s Home Care and other local home health agencies, if you qualify for home care services. Home health professionals will take care of your medical needs and teach you and your family how to best manage your condition. In your home, they can evaluate and help modify environmental risks, guide you as you adjust to recommended medication programs, and help you progress toward and maintain your best possible functional capacity for everyday living.

**Care Transition:** This St. Luke’s program includes nurses, social workers, respiratory therapists, and paramedics who make home visits free of charge to follow up with you after you leave the hospital. These professionals help you make sure your medications are correct, you’re following your healthcare provider’s treatment, and you’re getting appropriate follow-up care.

**Palliative Care:** This program is designed to ease distressing symptoms and pain that can be associated with COPD, and help you and your loved ones with decisions and choices about treatment, health goals, and quality of life. Palliative care staff can also help with a transition to hospice, should that become necessary.

**Hospice:** St. Luke’s Hospice and other area hospice providers are here for patients and their loved ones, when needed. These highly specialized professionals and compassionate volunteers are trained to provide care and support as patients and families experience the dying process, helping patients live as fully as possible until the time of death.
Resources

Pulmonary Rehabilitation
St. Luke’s Heart Health and Rehabilitation Center
3525 E. Louise Drive, Suite 500
(Meadowlake Building)
Meridian, Idaho 83642
(208) 706-7050

St. Luke’s Cardiopulmonary Rehabilitation Clinic
2550 Addison Avenue E., Suite C
Twin Falls, ID 83301
(208) 814-7770

Equipment
You may need items that will increase your independence and decrease shortness of breath during daily activities. These are called durable medical equipment and include items such as walkers, shower chairs, and dressing aids.

Norco
Phone: (208) 898-0202
Online: www.norco-inc.com

Knights of Columbus
Phone: (208) 888-3782

Lincare
Phone: (208) 323-6050
Online: lincare.com

Bennett Medical
Phone: (208) 994-5179
Online: bennettmedical.com

Home Care
After leaving the hospital, you may need continued therapy at home. Your home care team can make sure you’re safe and help you increase your independence with daily activities. They can also help prepare you to be able to participate in pulmonary rehabilitation.

My home care provider is: ____________________________
Phone: ____________________________

Care Transition
This St. Luke’s program includes nurses, social workers, respiratory therapists, and paramedics who make home visits free of charge to follow up with you after you leave the hospital. These professionals help you make sure your medications are correct, you’re following your healthcare provider’s treatment, and you’re getting appropriate follow-up care.

Phone: (208) 514-5549

Support Groups
Idaho Alpha Community Outreach
Phone: (208) 345-8177

Better Breathers Club
Phone: (208) 345-5864
Online: lung.org

Idaho Pulmonary Fibrosis Support Group
Phone: (208) 880-4503
Online: pulmoanryfibrosis.org

Other Resources
St. Luke’s Tobacco Cessation Program
Treasure Valley: (208) 322-1680
Magic Valley: (208) 814-3672

projectfilter.org
Toll-free: 1-800-QUITNOW
Online: quitnow.net/Idaho

Smokefree.gov
Online or call toll-free: 1-800-784-8669

Cancer.gov
Online or toll-free: 1-800-422-6237

American Association of Cardiovascular and Pulmonary Rehabilitation
Online: aacvpr.org

American Lung Association
Toll-free: 1-800-727-8462
Online: lung.org

Air Quality Index
airquality.deq.idaho.gov

National Home Oxygen Patients Association
Email: ExecOffice@homeoxygen.org

Senior Health Insurance Benefit Advisors (SHIBA)
Online: shiba.idaho.gov
Glossary of Terms

**Action plan:** A plan to help you stay well and prevent COPD flare-ups.

**Air sacs (alveoli):** Tiny balloon-like sacs at the end of your airways that exchange oxygen and carbon dioxide to and from your body.

**Airways (bronchial tubes):** Air passes through these tubes that go from the windpipe (trachea) into the lungs.

**Antibiotics:** Medications that help treat infections.

**Anticholinergics:** Medications that help relax and open the airways.

**Anti-inflammatory:** A group of medications, often corticosteroids, that reduce inflammation and swelling in the airways.

**Bronchioles:** Small airways that branch off from the main bronchial tubes and connect to the air sacs (alveoli).

**Bronchodilators:** Medications that help relax and open the airways and decrease wheezing and shortness of breath. These include quick-relief (rescue inhalers) and long-acting medications.

**Carbon dioxide (CO\textsubscript{2}):** A waste gas that's removed from the body when you breathe out.

**Chronic bronchitis:** Damage to the lung that causes inflammation (swelling) and constant irritation. The lungs produce more mucus than normal.

**COPD:** Chronic obstructive pulmonary disease. Two common diseases that fall under this category are chronic bronchitis and emphysema.

**COPD exacerbation (flare-up):** A bad attack of your COPD, sometimes caused by an infection that worsens your symptoms. Increased mucus, coughing, and shortness of breath are some of the symptoms.

**Corticosteroids:** Medications that decrease inflammation and swelling. They may be inhaled or taken in pill form.

**Diaphragm:** A muscle that sits just below the lungs and is one of the most important muscles used in breathing.

**Dyspnea:** Having a difficult time breathing, or feeling short of breath.

**Emphysema:** Damage to the lungs that causes them to collapse as you breathe out. This causes the air sacs to enlarge and makes breathing difficult.

**Inhaler:** A device that gives a measured dose of medicine directly into your lungs. The medicine is a mist or spray you breathe in.

**Lung volume reduction surgery:** Surgery to remove the damaged parts of the lung, which helps the healthy parts of the lung work better.

**Mucus:** A sticky secretion naturally produced in the body. In COPD, too much mucus is produced and blocks your airways.

**Nebulizer:** A machine that changes liquid medication into a fine mist that can be breathed in.

**Oxygen (O\textsubscript{2}):** A gas your body needs to function. You breathe in oxygen and it travels down through the airways to your air sacs and then to the rest of your body.

**Pulmonary rehabilitation:** A program that connects you with a team of specialists dedicated to helping you manage your COPD through exercise, nutrition, education, and skills for daily living.

**Reactive airway disease (RAD):** A reversible narrowing of the airways, often used to refer to asthma. Some people with COPD have RAD.

**Spirometry:** A breathing test that measures how much air enters and exits the lungs. This test is helpful in managing and diagnosing COPD.

**Windpipe (trachea):** Air flows down this tube from your mouth and nose into the lungs.
## COPD Discharge Plan

### Short-Acting Medications

- As needed for increased shortness of breath

- **Combivent Respimat**: 1 puff 4 times a day as needed
- **Albuterol (ProAir, Ventolin, Proventil)**: 2 puffs use with spacer, **OR** Nebs, every 4-6 hours as needed
- **Levalbuterol (Xopenex)**: 2 puffs use with spacer, **OR** 0.63mg Neb, 1.25 mg Nebs, every 4-6 hours as needed
- **Other**

### Long-Acting Medications

- **Spiriva**: 18mcg one time a day
- **Formoterol (Perforomist); Dry powder Inhaler (DPI)**: 12mcg **OR** Neb 20mcg/mg two times a day
- **Other**

### Combination Inhaled Medications

- Gargle or rinse mouth after use

- **Fluticasone/salmeterol (Advair Diskus)**: 100/50, 250/50, 500/50 Two times a day
- **Fluticasone/salmeterol (Advair HFA)**: 45/21, 115/21, 230/45 Two times a day
- **Budesonide/Formoterol (Symbicort)**: 80/4.5, 160/4.5 Two times a day **use with spacer**
- **Mometasone/Formoterol (Dulera)**: 100mcg/5mcg, 200mcg/5mcg Two times a day
- **Other**

### Oral Corticosteroids

- ________________________________

### Antibiotics

- ________________________________

### Home Oxygen Flow:

- Sleep: _______ LPM  Rest: _______ LPM  Activity: _______ LPM

Follow up with your provider: ________________________________

Telephone Number: ________________________________ Date: _________ Time: _________

Your COPD plan should be updated at your next provider visit. I have received a copy of my COPD action plan.

- RT Signature: ________________________________  Patient Signature: ________________________________
- Date: _________  Time: _________  Date: _________  Time: _________

FEV1___FEV1%___CAT score_______
# My COPD Action Plan

The green, yellow, and red zones on the chart below show progressive worsening of COPD symptoms. The list of symptoms is not necessarily complete; you may experience other symptoms. The left side shows how you may be feeling and the right shows what treatment or action you should take. Your healthcare provider will prescribe medications that will help you prevent a flare-up. This plan should be discussed and updated as needed at every visit with your provider.

## Daily Checklist

- I took my medicine and inhalers correctly.
- I’m using my oxygen and/or sleep apnea device correctly.
- I’m using breathing and airway clearance techniques.
- I’m balancing energy with rest periods.
- I’m avoiding irritants and allergens that make my breathing worse.
- I’m exercising and/or attending pulmonary rehab.

## Special Instructions When I Am Doing Well

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GREEN ZONE = Doing well</strong></td>
<td><strong>Getting Worse</strong></td>
</tr>
<tr>
<td>No wheezing, no chest tightness, no shortness of breath.</td>
<td>Continue to take regular medicine and inhalers.</td>
</tr>
<tr>
<td>Able to do usual activities.</td>
<td>Avoid things that make breathing worse.</td>
</tr>
<tr>
<td></td>
<td>Continue regular activities.</td>
</tr>
</tbody>
</table>

## Special Instructions When I Am Getting Worse

- Call your doctor at ____________________________

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased cough, wheeze, chest tightness, or increased shortness of breath.</td>
<td>Continue to take regular med and inhalers every day.</td>
</tr>
<tr>
<td>Waking up at night because of difficulty breathing.</td>
<td>If you have an action plan from your doctor, begin it now.</td>
</tr>
<tr>
<td>Unable to complete activities due to shortness of breath and fatigue.</td>
<td>Use <strong>rescue nebulizer or inhaler</strong> as directed.</td>
</tr>
<tr>
<td></td>
<td>If not back to the Green Zone within one hour, contact doctor and take an additional dose of <strong>rescue inhaler or nebulizer</strong>.</td>
</tr>
</tbody>
</table>

## Special Instructions When I Am Having A Medical Emergency

- Very short of breath or wheezing.
- Rescue inhalers or nebulizers haven’t helped.
- Unable to do usual activities.
- Take **rescue inhaler or nebulizer** every 20 minutes **AND**...
- **Go to the emergency room or call 911!**
- Symptoms are the same or getting worse after 24 hours in the yellow zone.

**Call 911 if trouble walking or talking due to shortness of breath or if lips or fingernails are gray or blue.**