Breathing Better

A handbook for people with COPD and other chronic lung conditions
This booklet can help you learn how to breathe better, do more, and live well with lung disease.
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About COPD and Other Chronic Lung Diseases

Every cell in your body needs oxygen to live. Breathing (respiration) brings oxygen into the body. Breathing also allows you to release carbon dioxide, a waste product made by the body’s cells. Here’s a closer look at how this normally works and how COPD and other chronic (long-lasting) lung diseases affect breathing.

Normal lungs and breathing

Parts of the respiratory system

The **diaphragm** is a large muscle that goes up and down to help move air into and out of the lungs.

The **trachea** is also called the windpipe.

The trachea branches into two large airways called **bronchial tubes**.

The bronchial tubes branch into smaller airways called **bronchioles**.

The bronchioles lead to many small, elastic air sacs (alveoli) deep within the lungs.

The **diaphragm** is a large muscle that goes up and down to help move air into and out of the lungs.

The breathing process

**Breathing in...**

The diaphragm contracts (moves down) to expand the lungs and pull air in through your nose and mouth. Air moves down through your airways to the alveoli.

**Exchanging O₂ and CO₂...**

When the air reaches the alveoli, oxygen (O₂) from the air passes into the blood vessels. At the same time, carbon dioxide (CO₂) passes from the blood vessels into the alveoli.

**Breathing out...**

The diaphragm begins to move up, pressing on your lungs and forcing waste air out of your airways and back through your nose and mouth.
Breathing with COPD
(chronic obstructive pulmonary disease)

Chronic obstructive pulmonary disease (COPD) is a common lung disease. About 12 million U.S. adults have received a COPD diagnosis, and it’s likely that millions more have the disease without knowing it. Although COPD is more common in men, the number of women with the disease is steadily increasing.

COPD and your airways

The diagnosis of COPD includes chronic bronchitis and emphysema. Many people with COPD have both of these conditions. Here’s what happens with each:

- **With chronic bronchitis**, the airways are swollen and inflamed, and tend to produce too much mucus. The swelling and excess mucus narrow the airways and make breathing difficult.

- **With emphysema**, the small airways (bronchioles) and air sacs (alveoli) are damaged and lose their normal elasticity. Like worn-out balloons, the alveoli become over-expanded, and they don’t contract to push air out as easily when you breathe out. Stale air tends to stay trapped inside, and fresh air has a hard time getting in. This limits the oxygen going into your bloodstream and the carbon dioxide going out. These problems are worsened by the fact that the blood vessels around the alveoli are also damaged.

COPD and your diaphragm

In normal breathing, the strong, dome-shaped diaphragm muscle goes up and down to help move air into and out of the lungs. But with COPD, the air trapped in the damaged airways and air sacs keeps your lungs over-expanded. The lungs press down on the diaphragm, flattening its normal curve.

A flattened diaphragm is weak. It can’t move up and down easily, and so it isn’t much help moving air in and out of your lungs. To compensate, people with COPD tend to use their neck and chest muscles to help with the work of breathing. This is an inefficient and tiring way to breathe.
COPD symptoms and causes

Symptoms of COPD include shortness of breath and coughing, especially during physical activity. You may notice a lot of mucus with your cough, and you may have chronic wheezing (a faint whistling sound when you breathe). As your COPD worsens, you may also have fatigue, ankle swelling, and poor concentration.

COPD takes many years to develop, and most people only seek medical help for their symptoms when they are between 50 and 70 years of age. The most common cause of COPD is cigarette smoking. Certain dusts, fumes, and chemicals in the air can also cause COPD if you’ve breathed them for a long time. However, not all COPD comes from breathing bad air. Previous lung illness and heredity can also play a role. People with alpha-1 antitrypsin deficiency, for example, have an inherited form of emphysema.

Living with COPD

COPD doesn’t go away on its own, and it can’t be cured. However, there are many things you can do to help control its symptoms, slow its progression, and feel better. The next sections of this booklet explain how COPD is treated and — most importantly — what you can do to manage your COPD.

Other chronic lung conditions

In addition to COPD, other chronic lung conditions affect normal breathing and may require the ongoing management described in this booklet. A few of these conditions are described below. Keep in mind that these descriptions are only summaries, and that your healthcare team can give you more complete information about your specific condition.

Interstitial lung disease (pulmonary fibrosis)

The diagnosis of interstitial lung disease includes several conditions characterized by:

- Damage to lung tissue
- Inflammation of the walls of alveoli
- Eventual scarring of the tissues between the alveoli, called the interstitium. This scarring, called fibrosis, is why interstitial lung disease is sometimes called pulmonary fibrosis.

Interstitial lung disease stiffens the lungs and makes breathing more difficult. A person with interstitial lung disease may also have a dry cough and wheezing (a faint whistling sound when breathing out or in).

The damage and scarring of interstitial lung diseases can be caused by many different factors or conditions. Exposure to pollutants — inhaling metal dust or asbestos, for example — can trigger inflammation and lead to scarring. So can certain medications, viruses, and autoimmune disorders. Yet many cases of instistitial lung disease have no known cause. These are called idiopathic cases.

Examples of interstitial lung disease

Examples of interstitial lung disease include:

- **Sarcoidosis**: inflammation that causes tiny, grain-like lumps (granulomas) to form. Granulomas in the lungs block the alveoli and limit oxygen absorption.
- **Hypersensitivity pneumonitis (HP)**: inflammation caused by long-term, repeated inhalation of certain fungal, bacterial, or other irritating particles.
**Pulmonary hypertension**

Pulmonary hypertension is high blood pressure in the arteries that carry blood from your heart to your lungs. The extra pressure comes from narrowing, scarring, and blood clots in these important blood vessels.

There are several types of pulmonary hypertension and many different causes, including other lung diseases. Pulmonary hypertension causes symptoms such as shortness of breath, tiredness, chest pain, and a racing heartbeat. As the disease worsens, blood flow from the heart through the lungs is limited. Symptoms become worse and may eventually prevent most physical activity.

**Asthma**

Like COPD, asthma is a common lung disease. It, too, is caused by inflammation in the airways and brings symptoms such as shortness of breath, coughing, and wheezing. Although a person may have both COPD and asthma, they are two distinct diseases. Key differences include:

- Asthma affects both children and adults. COPD mostly affects older adults.
- Asthma symptoms tend to vary from day to day and are often “triggered” by allergies. COPD symptoms are more constant.
- Asthma inflammation usually responds well to treatment. And when it’s well controlled with treatment, asthma won’t permanently damage the lungs.

Asthma can be serious, but with treatment most people can lead active and normal lives.

“Here’s what I say to people who’ve just learned they have COPD: ‘You have lung disease, but you’re not powerless. There’s a lot you can do to breathe better.’ It might take some changes and hard work, but it’s worth it. Breathing better makes your whole life better.”

*Cal J.*
Assessment and Treatment Overview

This section summarizes the techniques, tests, and methods used to assess and treat chronic lung disease. Your doctor can give you more detailed information as needed.

Initial assessment

To diagnose COPD or another lung disease, your doctor will begin with a medical history and physical exam. Imaging tests and lung procedures may also be part of this initial assessment.

- **Medical history.** Your doctor asks questions about your symptoms (“How long have you had this problem?”), your family history (“Does anyone in your family have this problem?”), and your lifestyle (“Have you ever smoked?”). This conversation gives the doctor clues about what may be causing the breathing problem or making it worse.

- **Physical exam.** Your doctor examines your body — for example, looks at your skin color or listens to your chest as you breathe — for more information about your health.

- **Imaging tests.** Your doctor may order imaging tests to get pictures of the inside of your chest and lungs. A chest x-ray is a common imaging test. Other imaging tests used to assess breathing symptoms are echocardiograms and CT scans.

- **Lung procedures.** Several procedures are used to look inside the lungs and chest or remove tissue for testing. For example:
  - A bronchoscopy allows the doctor to see inside your airways and remove a sample of the tissue.
  - Sometimes bronchoscopy is combined with bronchoalveolar lavage (BAL). With BAL, fluid is squirted into your lungs, then recollected and tested.
  - A biopsy (such as a pleural biopsy or lung biopsy) is done to obtain a tissue sample from the lungs or chest wall.

Your healthcare team

Several healthcare providers may help to diagnose and manage your lung condition:

- **Primary care provider.** This is the person you usually see for health problems. Your primary care provider could be an internist, family practice doctor, physician assistant, or nurse practitioner.

- **Pulmonologist.** This is a doctor who specializes in lung and breathing problems.

- **Respiratory therapist.** A respiratory therapist (RT) can help your doctors assess your lung problem and teach you how to manage it. RTs often lead pulmonary rehabilitation programs.

- **Pharmacist.** This is the person who dispenses and helps explain your prescription medications.

- **Care manager.** A care manager can provide support and education for self-management.

As you work with these providers, keep in mind that you are the most important person on your healthcare team. You’ll need to learn about your condition, communicate with your team, and follow your daily treatment plan.
Lung function tests (pulmonary function tests)

Lung function tests are important to all phases of care. They can help your doctor diagnose a lung condition, check your response to treatment, and measure your condition over time. Common types of lung function tests are:

- **Breathing tests** measure the size of your lungs, how much air you can breathe in and out, and how fast you can breathe air out. Examples include spirometry and lung volume measurement.

- **Tests of oxygen level** assess how well your lungs deliver oxygen to your bloodstream. For example, pulse oximetry uses a special light clipped to your finger to measure oxygen in your blood. Overnight oximetry checks your oxygen levels during sleep and can help assess for a sleep disorder. An arterial blood gas test measures the oxygen in a blood sample taken from your artery.

- **Exercise tests** are sometimes combined with tests of your oxygen level, as in the 6-minute walk test. These tests help your doctor know how your heart and lungs respond to the stress of physical activity. They can also help your doctor determine the severity of your condition.

Treatments for lung disease

Treatment for lung disease depends on your condition, your daily habits, and your overall health. Generally, treatment includes:

- **Quitting smoking**, if you still smoke
- **Pulmonary rehabilitation**
- **Medication**
- **Oxygen therapy**
- **Physical exercise and breathing techniques**
- **More steps to better breathing**, such as easing stress and avoiding infection

These topics are discussed in the next sections of this booklet. Read them carefully, ask your doctor questions, and seek support from your medical team as you need to.

For a small number of people with lung disease, surgery may be an option. For example, lung volume reduction surgery may improve a COPD patient’s breathing by removing damaged lung tissue and perhaps also allowing the diaphragm to return to its normal shape.

If your doctor recommends surgery, you’ll discuss the potential risks, benefits, and alternatives of the surgery before you schedule it. You’ll receive detailed information and have a chance to ask questions at that time.
Quitting smoking

The most important thing you can do for your lung health is to quit smoking. Quitting now will help you:

- **Prevent further damage to your lungs.** Every cigarette you don’t smoke is damage you don’t do.
- **Slow the deterioration of your lungs.** You can slow the progression of the disease.
- **Improve your symptoms.** Your coughing, sinus congestion, fatigue, and shortness of breath will all decrease.
- **Lower your chance of stroke, heart disease, and lung cancer.** Smoking hurts your health in many ways.
- **Stay out of the hospital.** Studies show that episodes of severe breathing problems (exacerbations) decrease when a person quits smoking.

Accept that you may need help to quit. Ask your doctor for medication or nicotine replacement therapy to help manage withdrawal symptoms and the urge to smoke. Ask for Intermountain’s *Quitting Tobacco: Your Journey to Freedom*. This booklet is full of information, resources, and strategies to help you quit.

Pulmonary rehabilitation

If your doctor recommends a pulmonary rehabilitation program (pulmonary rehab), you owe it to yourself to go. Pulmonary rehab is an exercise and education program for people with COPD and other breathing problems. It’s run by a team of medical specialists and includes:

- **Exercise** to strengthen your body and help you be more active with less fatigue
- **Nutrition counseling** to teach you how to eat for better health
- **Education** on your condition and on the skills that will help you breathe better
- **Support and counseling** to help you cope with the difficulties that often come with lung disease

Your doctor can refer you to a program in your area. Many health insurance companies will cover the cost for up to 12 weeks. If you can’t attend a program, you can at least follow the advice in this booklet. It contains most of the core information and exercises. And you can always check the online resources for ways to connect to others for the support you need.
Medication

Understanding your medication — and taking it as directed — is an important part of your treatment. This section explains the different types of medications, what they do, and how they’re used and taken.

Medication basics

• Make sure you understand exactly how to take your medication. Some medications need to be taken every day, while others are used only when your symptoms get worse. Many lung medications are inhaled (breathed in), but others come in pills to swallow. Make sure you know when, why, and how to use each of your medications. Use the My Plan section of this booklet to help you keep track — and ask your healthcare provider if you have any questions. Also, see the instructions on pages 15 to 20 for steps on using your inhaler or nebulizer.

• Tell your doctor or pharmacist if you’re taking medication for conditions besides your lung condition. Include any over-the-counter medication, herbs, vitamins, and supplements. They can help you avoid harmful interactions between drugs.

• Be consistent and stay on schedule. Set an alarm clock to remind you when it’s time to take your medication. Or, take your medication at the same time you perform other regular activities. For example, take it right before brushing your teeth in the morning or while watching the evening news.

• Watch your refills. Order more medication when you’re down to a 2-week supply. Pharmacies sometimes have a delay in filling orders — and it’s important to avoid running out of your prescription. For convenience, ask your pharmacist about getting a 90-day supply of medication or about receiving your prescriptions by mail.

Why is it important?

Medication can help most people with chronic lung disease. Many people take a combination of medications.

• Quick-relief medications are taken when needed to relieve episodes of severe shortness of breath.

• Daily medications help control symptoms.

• Other medications taken for short periods of time may treat infections or exacerbations (flare-ups) of your lung disease symptoms.

My Plan

Use the My Medication chart on page 45 to help make sure you take the right medication at the right time.
## Medication types

### Bronchodilators

Bronchodilators relax tightened muscles around your airways, opening the airways and making it easier to get air in and out of your lungs. There are several different bronchodilator medications. Your doctor may prescribe only one kind or treat you with a combination of bronchodilators.

#### Possible side effects of bronchodilators:
- racing heart
- nervousness
- shakiness
- nausea
- dry mouth
- headache

#### Bronchodilators used for quick relief

**How used:**
These bronchodilators are used as “quick relief” or “rescue” medication. Carry the medication with you and use it only when you need fast relief for shortness of breath.

**How taken:**
These medications are inhaled (breathed in).

**Examples:**
- **albuterol** (ProAir HFA, Ventolin HFA, generic albuterol for the nebulizer)

#### Bronchodilators used for everyday control

**How used:**
These bronchodilators are taken every day to help control symptoms.

**How taken:**
These medications are inhaled.

**Examples:**
- **tiotropium** (Spiriva)
- **salmeterol** (Serevent)
- **formoterol** (Foradil)

#### Combination medications

Sometimes two medications are combined in a single product.

**Examples:**
- **Symbicort** (budesonide + formoterol)
- **Combivent** (ipratropium + albuterol)
- **Advair** (fluticasone + salmeterol)
# Corticosteroids (steroids)

Steroids help reduce swelling and inflammation. Inhaled steroids are commonly used as daily treatment for a variety of lung diseases.

### Inhaled steroids

**How used:**
These medications can ease swelling in your airways. Because they’re inhaled, the medication goes directly to your lungs and doesn’t affect the rest of your body.

**How taken:**
These medications are inhaled.

**Possible side effects of inhaled steroids:**
- mouth and throat dryness
- irritation

Talk to your doctor about the side effects of oral steroids.

**Examples:**
- **budesonide** (Pulmicort)
- **fluticasone** (Flovent)

### Oral steroids

**How used:**
These steroids reduce inflammation and allergic reactions. They are powerful medications that affect the whole body. They’re often given on a temporary basis, to treat a symptom flare-up.

**How taken:**
These medications are taken as pills.

**Examples:**
- **prednisone**, **methylprednisone** (Medrol)

## Other medications

Other medications commonly used for lung disease are antibiotics and smoking cessation medications.

### Antibiotics

Antibiotics help treat bacterial infections in the lungs. They are usually taken for a short time only, until the infection has cleared.

Antibiotics are usually taken as pills. Always take all of the pills in your prescription, even if you feel better.

Antibiotics commonly prescribed for lung infections include **azithromycin** (Zithromax), **doxycycline** (Vibramycin), **amoxicillin**, **amoxicillin/clavulanate** (Amoxil, Augmentin).

### Smoking cessation medications

Several medications help smokers kick the habit:

- Medications such as **varenicline** (Chantix) and **bupropion** (Zyban) help block nicotine’s effect on the brain and reduce your craving to smoke. Both medications are taken as pills.
- **Nicotine replacement therapy (NRT)** eases withdrawal by giving a steady supply of nicotine in gradually decreasing doses. It comes in several forms: nicotine chewing gum, skin patches, inhalers, nose sprays, and lozenges. Some types of NRT are available over the counter, while others require a prescription.
Medication delivery devices

Several different devices help people take inhaled medication:

• **Metered-dose inhaler (MDI).** This type of inhaler (or “puffer”) delivers medication from a pressurized canister. It’s often used with a spacer to help ensure that the medication reaches deep into the small airways. See the next page (page 15) for basic instructions on using this type of inhaler.

• **Dry-powder inhaler (DPI).** This type of inhaler delivers powdered medication to your lungs when you breathe in through a mouthpiece. There are many different kinds of dry-powder inhalers. Some require you to load a small capsule of medication into the inhaler device before each use. Other devices come pre-loaded with doses of dry-powdered medication inside. Always follow the instructions that come with your medication. See pages 17 and 18 for instructions on how to use the most common types of dry-powder devices.

• **Nebulizer.** A nebulizer turns liquid medication into a fine mist. You breathe the medication into your lungs through a mask or mouthpiece. See the basic instructions on page 19.

Which device does the best job delivering medication to your lungs? Studies show that there’s no difference. MDIs (used with spacers), DPIs, and nebulizers all work well. However, cost, convenience, or your condition may prompt your doctor to recommend one particular device for you. Talk to your doctor or pharmacist if you have any questions.
How to use an MDI (metered-dose inhaler)

1. Remove the cap from the inhaler, and from the spacer if necessary.
2. If necessary, prime the inhaler by squirting a puff into the air. Check the package insert for specific instructions. Some MDIs don’t need to be primed, and others need one, two, or more priming puffs.
3. If you’re using a spacer, insert the inhaler into the rubber end of the spacer.
4. Immediately before each puff, shake the inhaler well to mix and warm the contents.
5. Breathe out.
6. Use one of the two following techniques to inhale the medication:

   using a SPACER (such as the AeroChamber or OptiChamber)
   a. Place the mouthpiece fully into your mouth between your teeth, holding the inhaler upright and closing your lips around the mouthpiece.
   b. Press the canister down to release a puff of medication.
   c. Breathe in deeply and slowly — for 3 to 5 seconds — through your mouth.
   d. Hold your breath for 10 seconds. Remove the spacer from your mouth. After 10 seconds, breathe out slowly.

   7. Repeat steps 4 through 6 for each inhalation prescribed by your doctor.

   using the OPEN-MOUTH TECHNIQUE
   a. Position the canister mouthpiece about 1½ to 2 inches in front of your OPEN mouth. (Do not place the mouthpiece in your mouth with your lips closed around it.)
   b. Start breathing in deeply and slowly — for 3 to 5 seconds — through your mouth while pressing the canister down to release a puff of medication.
   c. Hold your breath for 10 seconds, then breathe out slowly.

   7. Repeat steps 4 through 6 for each inhalation prescribed by your doctor.

MDI tips

- Many — perhaps most — people have trouble coordinating the “press and breathe” actions when using an open-mouth technique. This means the medication may not reach deep into the lungs. The solution? Use a spacer whenever you can.
- If you’re using an inhaler with a steroid, rinse your mouth with water after each use.
Tracking your doses

Some inhalers have a built-in counter that shows how many “puffs” are left inside. But many don’t. In this case, you’ll need a way to know how much medication is left in your inhaler. Shaking or “puffing” your inhaler won’t tell you. Even an empty inhaler can puff or feel full, since the canister usually retains some of the propellant used to push the medication out. Tracking your doses is the only way to know how much medication is left.

**Tracking your daily controller medications**

1. Check the canister label to see how many “puffs” (metered doses) it contains.

2. Figure out how many puffs you will take per day (for example, 2 puffs, 2 times a day = 4 puffs a day).

3. Divide your answer from step 1 by your answer from step 2.

4. On the canister, write the date that you start the inhaler. Also write the date you should discard it (based on your calculations).

5. When you reach the “discard date,” throw away the canister and start a new one. If you keep an empty canister lying around, you’re likely to get it mixed up — and then you won’t have medication when you need it.

**Tracking your quick-relief medications**

Since quick-relief medications aren’t usually taken on a regular basis, the guidelines above won’t work. Instead, place a blank mailing label or piece of adhesive tape on the inhaler, and mark off each dose you use, including any priming puffs.
How to use a DPI (dry-powder inhaler)

There are many different dry-powder devices, and they all work differently. It can be confusing at first. To help make sure you’re using your DPI correctly, do the following:

• Read, keep, and follow the printed instructions that come with each medication you use.

• Do NOT use your DPI with a spacer.

• If your DPI uses medication capsules packaged in foil cards, do NOT swallow the capsules and do NOT get out more than one capsule at a time.

• Have your doctor or respiratory therapist watch you take a dose of medication with your DPI to check your technique.

• If you use a Diskus-type inhaler, review the directions below. If you take Spiriva, follow the directions on page 18.

Basic steps for using a Diskus-type inhaler

Some DPI medications — such as Advair and Serevent — come in a Diskus device. The Diskus is a circular container with a mouthpiece and a thumb grip. The Diskus releases medication only when you inhale through the mouthpiece. Basic instructions for using the Diskus appear below.

1 Open the Diskus. Hold it level in one hand, and open it with the thumb of your other hand. Push the thumb grip as far as it will go toward the mouthpiece to open the Diskus.

2 Get the medication ready to be breathed. Slide the lever away from the mouthpiece until you hear a click. (Note that some medications require two clicks — follow the instructions that come with your medication.)

3 Take a preparation breath. With your mouth away from the Diskus, take one deep breath in, then breathe out normally.

4 Inhale the medication. Holding the Diskus level, put your mouth tightly around the mouthpiece. Breathe in as quickly and deeply as you can. This pulls the medication into your lungs.

5 Take the Diskus away from your mouth and hold your breath. Hold your breath for up to 10 seconds, then breathe out. Be careful NOT to breathe into the Diskus.
Basic steps for using the HandiHaler device  
(for Spiriva medication)

The HandiHaler device is used with Spiriva, a dry-powder medication that comes in small capsules. (The device is NOT to be used with any other medication.) This page contains instructions for handling this medication and device.

1 Get out one Spiriva capsule. To do this, peel the foil backing on the card containing the capsules. Only peel back as far as you need to get out the ONE capsule you are taking right now. (The medication won’t work if it’s exposed to the air for too long, so don’t get out more than one capsule at a time.)

2 Open the HandiHaler and put in the capsule. 
To open the device, press the button to open the dust cap. Next, open the mouthpiece. Put the Spiriva capsule in the chamber underneath the mouthpiece. (There’s no “up” or “down” on the capsule — it doesn’t matter which end you put in the chamber).

3 Close the mouthpiece until you hear a click, then press the green button. The green button pierces the capsule, so that when you breathe in, the powder medication will come out.

4 Breathe out completely, then put the mouthpiece in your mouth, closing your lips tightly around it.

5 Breathe in deeply with your head upright. 
As you breathe in, you should hear the capsule rattle a bit inside the chamber. Breathe until your lungs are full.

6 Remove the mouthpiece, and breathe out. 
Repeat steps 4 and 5 to make sure you have breathed in all of the medication that was inside the capsule.

7 Open the mouthpiece and tip the empty capsule into the trash. Don’t touch the pierced capsule with your finger. (If the powdered medication is on your finger and you rub your eye, the medication can irritate your eye.)
How to use a nebulizer

A nebulizer uses forced air to turn medication into a fine mist so that it can easily be breathed into the lungs. For some people — and with some medications — nebulizers are the most effective way of delivering inhaled medications.

A nebulizer has the following parts:

- A compressed air machine
- A medication cup to contain the medication
- Thin plastic tubing that connects the medication cup to the compressed air machine
- A mouthpiece or facemask used to breathe in the mist

Basic steps for using a nebulizer

If a nebulizer is recommended for you, your doctor or respiratory therapist will show you how to use it. Here are some general instructions:

1. Fill the medication cup with the prescribed amount of medication.
2. Screw the mouthpiece (or facemask) on top of the medication cup.
3. Sitting up straight and holding the medication cup upright, put the mouthpiece into your mouth (or the mask over your mouth).
4. Turn the machine on and breathe slowly and deeply through your mouth.
5. Tap the medication cup if the contents begin to sputter before the medication is gone.

Cleaning and maintenance

The parts of the nebulizer need regular cleaning and inspection. Clean each part of the nebulizer after you use it, and replace the parts according to the manufacturer’s recommendations. Sometimes the company that provides you with the equipment will check the equipment for you.
Watch outs: Common problems when using inhaled medications

Get the most good from your medication. Watch out for the following common problems:

**Problem:** You use the wrong medication at the wrong time. Some medications are “maintenance” or “controller” medications meant to be used every day, regardless of your symptoms. Others are “quick-relief” or “rescue” medications to ease severe symptoms quickly. Mixing up these medications can mean trouble. You can miss your chance to help prevent daily symptoms, or fail to get the help you need during a symptom flare-up.

**Solution:** Know your medications. Check the charts on pages 12 and 13 and fill in the My Medication chart on page 45. Label your quick-relief inhaler clearly with a piece of tape, and take your maintenance medications exactly as prescribed, every day.

**Problem:** You’ve got white patches on your tongue and on the back of your mouth. You’ve got a yeast infection in your mouth (oral thrush). It’s probably caused by your inhaled steroid. Thrush is a common side effect of these medications.

**Solution:** First, see your doctor about treating your thrush. Then, to prevent thrush in the future:

- Always rinse your mouth after each use of inhaled steroid (gargle and spit out the water).
- Use a spacer with your inhaled steroids.

**Problem:** You take out several of your dry-powder capsules at one time, and put them in your pill box.

**Solution:** Only open one capsule at a time, right before you inhale it. A capsule open to the air too long won’t work well.

**Problem:** You keep your medication in the car. Or on the windowsill. Or on the back of the stove. Or in a damp medicine cabinet....

**Solution:** Keep your medications in your house, in a dry place with an even temperature. Your lung medication — inhalers, capsules, or nebulizer respules — shouldn’t get too hot or too cold.
Oxygen Therapy

Not everyone with lung disease needs oxygen therapy. But many people do. If your doctor has prescribed oxygen therapy for you, read this section to learn the basics of oxygen therapy and get tips for using oxygen at home and on the go.

Oxygen therapy basics

What is oxygen therapy?
Oxygen therapy works by increasing the amount of oxygen in the air you take into your lungs (not by forcing more air into your lungs). More oxygen in your lungs means more oxygen in your bloodstream and all throughout your body. The goal of oxygen therapy is to get your blood oxygen level — the amount of oxygen in your blood — as close to normal as possible.

Why do I need it?
If your doctor has prescribed oxygen for you, it’s because tests have shown that you have low blood oxygen at rest, during exercise, or at night (nocturnally). Oxygen therapy can raise your low blood oxygen level. This can help you feel better, do more, and be healthier. Although oxygen can feel awkward at first, most people find that it improves their lives.

Do I need to use it day and night?
Your doctor will tell you if you need oxygen all the time or just during certain activities. For example, it’s common for oxygen levels to drop during sleep, so many people need to use oxygen at night. Others use oxygen only during exercise or at certain altitudes. Many people use oxygen around the clock.

How does the oxygen get to my lungs?
Most people receive oxygen therapy through a nasal cannula (a section of tubing that goes under your chin, up over your ears, and down to your nostrils). The nasal cannula attaches to more tubing that leads to the oxygen delivery system — the tanks or oxygen concentrator (see the next page). Some people connect to the delivery system through a device inserted in their throat (transtracheal oxygen delivery).

What is a flow rate? What does “pulsed” mean?
Your oxygen therapy prescription includes a recommended flow rate. A flow rate is the amount of oxygen you receive, measured in liters per minute (L/min). You might have one flow rate for day use and another for use while you’re sleeping.

The prescription may also indicate whether, for portable oxygen systems, you need to receive oxygen continuously (continuous flow) or only when you breathe in (pulsed flow). Not every person on oxygen can use pulsed flow — your doctor or respiratory therapist can check to see if it’s okay for you.
## Oxygen delivery systems

The list below shows some options for oxygen delivery and describes how they’re often used and combined. Your doctor will recommend an oxygen system based on your lifestyle, health, and preferences.

<table>
<thead>
<tr>
<th>Delivery device</th>
<th>Description</th>
<th>Typical use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard oxygen concentrator</strong></td>
<td>This machine plugs into an electrical outlet and works by removing nitrogen from the air to make and deliver 95% pure oxygen. Although the concentrator has wheels, it generally stays in one place in the home. You set the flow rate with a knob on the machine, and connect to the machine with long tubing.</td>
<td>At home (for outings, people often use gas tanks)</td>
</tr>
<tr>
<td><strong>Compressed gas tanks</strong></td>
<td>Compressed gas tanks are delivered to your home by a service. A regulator placed on the tank controls the flow rate and determines whether the flow is continuous or pulsed. Tanks come in four sizes — B, C, D, E — with the E tanks being the largest. Your tanks are portable when you use a wheeled caddy (for larger tanks) or a shoulder carrier (for smaller tanks).</td>
<td>Outside the home</td>
</tr>
<tr>
<td><strong>Home-filled gas tanks</strong></td>
<td>These oxygen tanks can be filled at home with your concentrator. They have a built-in regulator that provides a pulsed flow of oxygen (not continuous).</td>
<td>Outside the home</td>
</tr>
</tbody>
</table>
| **Liquid oxygen system**    | This system uses tanks of two sizes and types:  
  • The large tank is delivered to your home. It’s generally used at home and is refilled every 1 to 3 weeks.  
  • The small tank is lightweight and portable. You fill it at home from the large tank.                                                                 | At home and outside the home (when both tank sizes are used) |
| **Portable oxygen concentrator** | This is a smaller version of the standard concentrator. It runs on batteries and is placed in a wheeled cart.                                                                                           | Outside the home                                 |
Common questions

How do I use my oxygen concentrator?
If you use an oxygen concentrator at home, place it at least 3 inches away from the wall. To lower the noise, you can keep it out of your main living area — but don’t put it in the room where you sleep. The picture below shows a typical concentrator and gives additional notes on its use and maintenance. Always follow the instructions that come with your own concentrator.

I’m feeling more out-of-breath than usual. Can I just turn up my flow rate?
No, not unless your doctor has given you specific instructions to do so. Changing settings can cause problems. For example, too much oxygen can send a message to the brain to slow your breathing, which can be dangerous. Too little oxygen may hurt your brain, heart, and other organs. So stick with your prescribed flow rate unless your doctor okays a change. A few more comments:

- Your doctor may already have suggested that you turn up your flow rate during exercise or other physical activity. If so, that’s fine — just remember to turn it back down afterward.
- If you’re still out of breath an hour after exercise or your symptoms are getting worse in general, call your doctor. Your doctor might need to adjust your treatment.

My nose is sore! What can I do?
This is a common problem when a person first starts using oxygen, but it usually gets better with time. In the meantime, put some olive oil or a water-based lubricant (like KY Jelly or aloe gel) on the nasal prongs. (Do NOT use Vaseline or any petroleum-based product.) Use the water-bubbler humidifier on your concentrator. The moisture may soothe your dry sinuses.
Is oxygen really safe?

It’s safe to use oxygen if you use it properly. Your oxygen supplier will give you a complete list of safety measures to follow. A few key measures:

• Do NOT smoke while using oxygen — and stay at least 10 feet away from anyone who is smoking (this includes your oxygen tubing: keep it 10 feet away from any lit cigarettes).
• Stay at least 10 feet away from any open flame. This includes candles, gas stove tops, and fireplace fires. Oxygen can feed a flame.
• Don’t use petroleum-based products. Examples include WD-40 household oil, Vaseline, Vicks VapoRub, and other skin and hair products. Oil and oxygen together can ignite and burn rapidly.
• Keep oxygen tanks (cylinders) from rolling around, falling over, or being struck. In the car, for example, wedge or fasten them in an upright position. The tanks are very durable, but the contents are under pressure, and you want to make sure the tanks don’t crack.
• Watch out for your oxygen tubing. Use the length of tubing you need — but not any longer than you need. The longer the tubing, the greater the chance of someone tripping on it. Long tubing is also more likely to become knotted, which can cut off your oxygen.

Will I get addicted to oxygen? Should I wean myself off of it?

Everyone needs oxygen to live, so a person on oxygen therapy is no more “addicted” than anyone else. If you have low blood oxygen, this therapy is simply what you need to be healthier. So don’t worry about getting “addicted” — and don’t imagine that going without your oxygen is helping you. In fact, the opposite is true. Going without (or cutting back on) your oxygen therapy puts extra stress on your heart. For your health, use your oxygen exactly as your doctor has prescribed it.

I want to go on a trip. Can I travel with oxygen?

Yes! It’s safe to travel with oxygen — but it does require some planning. Here are some tips:

• When traveling by car, make sure your oxygen equipment is secure in an upright position. Bring more oxygen than you think you’ll need — just in case. Also, as you travel, be sure to get out and stretch every hour or so.
• Different plane, train, ship, and bus companies have different regulations about passengers traveling with oxygen. Contact the company about their regulations several weeks before you plan to travel. A note about air travel: try to book direct flights. Some airlines charge for oxygen by each leg of the trip, and you may need to be off oxygen during part of your layover.
• Discuss your travel plans with your oxygen company. They can help arrange for oxygen at the airport and at your travel destination. Also, check out the Internet resources on page 43 of this booklet. Several sites have information about traveling with oxygen.
• Bring an oxygen prescription from your doctor. (It should include your diagnosis, your present condition, a statement that it is safe for you to travel and your oxygen prescription.) Also carry the contact numbers of your doctor and oxygen supplier.
Why is it important?

Exercise is good for everyone. But it’s vital for people with lung disease. Regular exercise can:
• Help you use oxygen more efficiently.
• Make it easier to do everyday activities like shopping, cooking, and cleaning.
• Help you sleep better.
• Make it easier to maintain a healthy weight.
• Improve your mood and motivation.
• Help you stay healthier and out of the hospital.
• Help you maintain independence.

Physical Exercise and Breathing Techniques

If you’re like most people with lung disease, you know the dilemma:
• You don’t exercise because you get tired and short of breath.
• Part of the reason you get tired and short of breath is that you don’t exercise.

This section gives you some ways to move past this dilemma to improve your fitness — and your life. It also teaches three breathing techniques that can help you feel better and do more.

Tips to begin and enjoy regular exercise

Realize it’s not too late — and it’s worth it!

If you’ve been inactive for a while or are very short of breath, you might feel like it’s too late to improve your fitness. Or you might think you simply won’t be able to exercise.

The truth? Hardly anyone is too old, inactive, sick, or overweight to exercise and to benefit from it. Your lung disease is no excuse. In fact, it’s an incentive. Better fitness lets you do more and feel better. That’s why lung experts say that exercise is one of the most important aspects of treatment. It won’t reverse your disease, but it lets you do more with the lungs you have.

Take it slowly, but do it consistently

As you begin an exercise program, be patient with yourself. Your doctor, respiratory therapist, or exercise therapist can help you set appropriate goals and guidelines. At first, you might exercise for just a few minutes, once or twice a day. As your fitness improves, you might increase the minutes you go at a stretch, or the number of times you exercise during the day.

As you gradually build your exercise, one aspect of your routine should not change: your consistency. Exercise every day — or at least 5 days of the week. The best way to make exercise happen is to make it a habit, like brushing your teeth. And if you mess up for a few days? Start back in.

“Exercise has become a regular part of my day. It’s done me a lot of good — helped me stay active in the community, help others, feel good about myself.”

Alex H.
Set goals
Know where you’re going. With your doctor, respiratory therapist, or exercise therapist, set fitness goals for yourself. Be specific and realistic. For example, your goals might include exercising every day or building up to a 20-minute walk.

Track it
Studies show that keeping a daily record helps people stick to an exercise program. Try it yourself. Use the My Exercise pages in the back of this booklet, or make your own chart. It may help you stay focused on your goals and your progress.

Mix it up
If you’re like most people with lung disease, you’ve become “deconditioned” from lack of activity — you’ve lost muscle strength, flexibility, and overall endurance. A good exercise program helps improve all these aspects of fitness. The next few pages present some basic guidelines.

Things to keep in mind

• **Dress smart.** Wear comfortable shoes that won’t trip you up. Wear loose, comfortable clothing. For outside exercise, put on sunscreen and a hat.

• **Ask your doctor about oxygen and medication for exercise.** Your doctor may recommend using a bronchodilator medication or (extra) oxygen during your workouts.

• **Watch pollution levels and weather.** Don’t exercise outside on high-ozone days (see page 42). Also avoid outside exercise on days that are very cold, hot, or humid.

• **Suit yourself!** Choose activities that match your interests. You’re more likely to stick with an exercise program that you enjoy. So walk the dog, dance, bowl, golf, or garden. Have fun!

• **Forget “no pain, no gain.”** Don’t push too hard or rush through your workouts. Build fitness slowly and consistently. Stop and rest if you:
  – feel dizzy or light-headed
  – have very severe shortness of breath
  – feel any chest pain
Call the doctor if these symptoms don’t go away with rest.
**Endurance exercise (aerobic exercise)**

**Why?** Endurance exercise conditions your body, helping it to use oxygen more efficiently. With better conditioning, everything you do — walking, standing, showering, laughing — becomes easier.

**When?** **Do some endurance work every day.** Schedule specific times throughout the day to make sure it happens.

**How?** Do activities like walking, cycling, swimming, water aerobics — anything that gets your heart pumping a little harder. Begin slowly, with just a few minutes a day. Gradually build up the minutes you can go at a stretch. (If you walk outside, take a test walk first to see how far you can go before you need to turn and head for home. You don’t want to get stranded.)

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Get in some endurance exercise every day — in or out of your house, alone or with friends. Use the pursed-lips breathing technique (shown on page 32) if you need to.

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**Benefits of pulmonary rehab**

Pulmonary rehab programs make a big difference for people at all stages of lung disease. Studies show that participation in this program can:

- Ease your shortness of breath
- Build your capacity for exercise and activity
- Reduce anxiety and depression caused by lung disease
- Help you stay out of the hospital
- Improve your quality of life
Strength exercise

**Why?** People with lung disease should do some strength-building exercise. Stronger muscles use less energy, so daily activities are less tiring. Stronger chest and arm muscles are especially important. They can ease the strain on other muscles and help you breathe more easily.

**When?** Do strength exercises about 3 times a week. Take a day off in between strength training sessions to give your muscles a chance to rest.

**How?** You don’t need to struggle with a heavy barbell, and you definitely should NOT hold your breath! Instead, begin with a weight or exercise that you can do slowly and in a controlled way. Start by doing it 5 times, then gradually work up to 20 or more repetitions. Shown below are a few favorites that use simple (or no) equipment.

*For your arms...*

Use light weights — 5 pounds or less. A soup can or water bottle will work fine, too.

**ROWING**

1. Hold the weights at your sides.
2. Row: lifting your forearms horizontally, pull the weights up close to your chin, then lower them slowly.

**SHOULDER PRESS**

1. Begin with your elbows bent and your hands at shoulder level.
2. Slowly extend one arm above your head.
3. Stop when your elbow is almost straight. Slowly lower your arm and repeat on the other side.

**ARM CURLS**

1. Begin with arms at your sides. (If you’re sitting, make sure your arms are hanging down on either side of your seat.)
2. With your elbows still at your side, curl one forearm and hand up toward your face.
3. Stop when your arm is bent and the weight is near your chin. Slowly lower your arm and repeat on the other side.
For your legs...

**LEG EXTENSIONS**
Sit in a chair.

1. Start with your feet flat on the floor, and your hands tucked under your thighs for extra support.
2. Straighten one leg out in front of you. Slowly lower it. Repeat on the other side.

**MINI SQUATS**
Stand holding onto the back of a chair.

1. Start with your feet apart for balance.
2. Slowly bend your legs until your knees are over your toes. (Don’t bend further than this — you should always be able to see your toes during this exercise.) Straighten up again.

**LEG KICKS TO THE SIDE**
Stand holding onto the back of a chair.

1. Start with your feet apart for balance.
2. From the hip, raise one leg straight out to the side. Go only as far as you can without straining or feeling off-balance. Slowly lower your leg and repeat on the other side.

**SITTING TOE RAISES**
Sit in a chair.

1. Start with your feet flat on the floor.
2. Raise your heels off the floor, while keeping your toes on the floor. Lower your heels.
Flexibility exercise (stretching)

**Why?** Stretching helps your range of motion and balance, which may help prevent injuries and falls. Stretching also feels good and helps you relax.

**When?** Stretch every day (or most days). The best time to stretch is right after you’ve warmed up with some endurance exercises.

**How?** Stretch slowly and gently, without bouncing or jerking. Shoulder and neck muscles tend to be tight in people with lung disease, so always include neck and shoulder stretches. Next best are arm and leg stretches.

*For your neck and shoulders…*

**NECK ROLL**
Sit or stand for this exercise.

1. Begin with your back straight and your shoulders relaxed — and try to keep this posture in each of the positions below.

2. Slowly drop your chin down toward your chest. Feel the stretch in the back of your neck.

3. Gently roll your head from side to side in a forward half-circle. Stay relaxed and let the weight of your head help to stretch the sides of your neck. Raise your head back to an upright position.

**SHOULDER SHRUGS**
Sit in a chair.

1. Begin with your back straight and your shoulders relaxed.

2. Lift your shoulders toward your ears as you breathe in deeply. Breathe out and slowly relax your shoulders back down.
**For your arms and sides...**

**OVER-THE-HEAD SIDE STRETCH**
You can sit or stand to do this exercise.

1. Begin with your back straight and your shoulders relaxed.
2. Slowly lift one arm up over your head.
3. Continue to stretch up and slightly over to the side opposite your raised arm. Stop when you feel a good stretch along the side of your body. Slowly lower your arm and repeat on the other side.

**CROSSOVER PULL**
You can sit or stand to do this exercise.

Cup your right elbow in your left hand. Gently pull your right elbow toward your left shoulder until you feel a mild stretch. Hold for 15 seconds. Repeat on the other side.

**TRICEP STRETCH**
You can sit or stand to do this exercise.

Begin by putting one hand over your shoulder on the same side. (Pat yourself on the back!). Use your other hand to gently push your bent elbow up toward the ceiling. Feel the stretch along the bottom of that arm (this is the tricep muscle). Lower your arms and repeat on the other side.

**For your legs...**

**THIGH STRETCH**
Hold onto the back of a chair.

Bending at the knee, lift one leg behind you. Reach down with the same-side hand and grab your ankle (or pantleg). Gently pull your heel toward your buttocks. Hold for 15 seconds and repeat on the other side.

**HAMSTRING STRETCH**
Sit in a chair in front of a low stool, table or chair.

Place the heel of one foot on the stool in front of you. Flex your toes back toward your body. Feel the stretch along the back of your leg. Hold for 15 seconds, then repeat on the other side.
Three breathing techniques

The breathing techniques explained here can help during physical exercise or at other times when you feel out of breath or need to relax. Practice them regularly, even when you feel fine. You'll get better at them, and the practice may even help prevent shortness of breath.

Pursed-lip breathing

**Why?** This technique helps temporarily raise your oxygen level. It helps you relax and improves your ability to exercise.

**When?** Practice pursed-lip breathing when you're exercising or exerting yourself in any way. Do it whenever you feel tense or out of breath.

**How?** In this technique, the key is making sure you’re breathing OUT for a longer time than you’re breathing IN. Here are the steps:

1. Relax your shoulder and neck muscles. Breathe in slowly through your nose for a count of 2.
2. With your lips puckered (pursed) like you’re whistling, breathe out slowly through your mouth for 4 to 6 seconds.

Belly breathing (also called diaphragmatic breathing)

**Why?** In this technique, your stomach (belly) muscles help your diaphragm move air in and out of your lungs more easily.

**When?** Practice belly breathing two times a day, along with pursed-lip breathing. Also use this breathing technique any time you feel short of breath or tense.

**How?** The steps below show you how to combine belly breathing with the pursed-lip technique:

1. Sit in a comfortable position, and relax your shoulder and neck muscles. With one hand on your stomach and one hand on your chest, breathe in through your nose to the count of 2. Think of “breathing into” your belly — feel your stomach muscles relax and push out. Your chest shouldn’t move much.
2. Tighten your stomach muscles and breathe out through pursed lips to a count of 4. (As your stomach muscles tighten, they will go in and up.) Again, keep your chest still.
Controlled coughing (huff coughing)

**Why?** Coughing helps rid your lungs of mucus. So coughing is helpful — but it’s also tiring. This technique show you how to cough in a way that conserves your energy.

**When?** Use this technique whenever you need to cough.

**How?** Follow these steps:

1. Sit comfortably in a chair. Take several slow breaths, using the belly breathing and pursed-lip techniques described above. Then take in a normal breath and lean forward slightly from the waist.

2. Make two short, sharp coughs — squeezing with your stomach muscles to help force out the air. (The first cough loosens the mucus, and the second clears it upward.) Your cough may make a “huff” sound.

3. Breathe lightly as you rest. (A big breath right after coughing might suck the mucus back into your lungs.)

“I do my pursed-lip breathing when I’m moving around, getting a little out of breath. It really does help.”

—Marni L.
More Steps Toward Better Breathing

Life with lung disease is easier if you follow your doctor’s advice about medication, oxygen, and exercise. But there are many more ways to help yourself feel better and live better. This section shows you the steps.

Easing stress

Thoughts and feelings can have a big effect on your breathing. Read below to learn how this works and what you can do to breathe easier.

The psychology of breathing

Stress and anxiety make breathing more difficult for everyone. That’s why people tend to sigh when they’re feeling tense or frustrated: they’re trying to relax and take more air into their lungs.

When you have lung disease, stress can be particularly harmful. It can make breathlessness worse, which makes you more anxious. This in turn causes you to breathe faster, tire more, and get even more out of breath. Unless it’s interrupted, this cycle of stress can lead to real panic and real trouble breathing.

“It’s not easy to make changes in your life. I had to quit smoking. I had to learn to exercise and take the medication and eat right. All that was hard, really hard. But I can say now that it’s worth it. I want to do something good for my family and for myself, and this is it.”

Gene J.
Training your brain (and your body) to relax

You can end the stress cycle by relaxing. Easy to do, right?

Not really. Stress is a habit like any other behavior. It takes real training and practice to change it. Here are some training tips and exercises:

- **Take a time-out.** When you first notice tension or breathlessness, stop what you’re doing (or thinking). Sit down and practice a breathing technique for a few minutes. Finish by closing your eyes and revisiting a happy, calming memory.

- **Adjust your outlook.** Your reaction to stress begins with how you perceive stress. Do you tend to imagine worst-case scenarios, obsess over details, or take things too personally? See if you can adjust your perceptions. Try to see the humor in difficult situations, and give others the benefit of the doubt. Finally, try to put things into perspective by asking, “Will this matter in five years?”

- **Re-prioritize your time.** Are you busy with things you don’t really enjoy? Or do you find yourself with too much free time (which invites you to worry more)? If so, schedule your time to reflect your interests. Do more of what you like to do, less of what you don’t. Delegate. Learn to say no.

- **Distract yourself.** Don’t give yourself a chance to brood. Escape from your worries with healthy distractions like socializing, exercising, or your favorite hobby. Read a book or watch a movie.

- **Practice progressive relaxation.** Tense up — and then slowly relax — each part of your body, starting at your toes and working your way up. Do this several times. If you like, repeat a positive message as you do this exercise (“Let go…relax…let go”). Practice every day. Remember: it takes about a month to acquire a new habit, including the habit of relaxation.

- **Try to laugh every day.** The best thing is to laugh at yourself and your situation. (Have you gotten tangled in your oxygen tubing lately...?) Laughter feels great and helps put some distance between you and what you’re coping with.

- **Focus on what’s going well in your life.** It’s tempting for all of us to dwell on what we’ve lost or wish we’d done. But that never helps. So instead, pay attention to what’s working in your life. Think of what you can do, not what you can’t.

- **Exercise.** Physical activity releases “feel-good” chemicals in your brain and helps you work off the day’s tension. The mood-boost can last for hours after you’ve stopped exercising.
Should I see my doctor about my mood?

Living with lung disease can be full and satisfying. But it’s not always easy, and you’ll probably have some “down days.” Still, if you feel down for more than two weeks or have any of the symptoms listed below, see your doctor. You could have clinical depression or anxiety. These conditions can and should be treated. Talk to your doctor if you notice any of the following:

- **Loss of pleasure.** You don’t take interest in things you used to enjoy.
- **Change in sleep patterns.** You sleep too much, too little, or poorly.
- **Change in appetite.** You eat more or less than usual.
- **Trouble concentrating.** You can’t watch a TV program or read an article because other thoughts or feelings get in the way.
- **Nervousness or fidgeting.** You always feel anxious, or you have trouble sitting still.
- **Guilt.** You feel you “never do anything right” and worry that you’re a burden to others.
- **Suicidal thoughts.** You feel you want to die or are thinking of ways to hurt yourself.

It’s important to care for your mental health as well as your physical health. Practice the stress-relieving techniques described in this booklet and be alert to signs of depression and anxiety. (These are listed at right on this page.) See your doctor if you have any of these signs — you deserve to feel better.

“My doctor brought it up, and I’m grateful he did. I just always had that heavy feeling, that anxiety…it was a relief to hear how common depression is, and that you can get help.”

Stephen B.
Spending your energy wisely

Lung disease can tire you out and make it hard to get things done. You'll feel better and get more accomplished if you learn to conserve your energy throughout the day. Here are a few tips:

- **Move slowly.** Pace yourself. Break big jobs into smaller tasks and rest in between them. Taking things slowly is better than moving too quickly — and then having to stop to catch your breath.

- **Sit down for tasks around the house.** Get a high stool to use while you cook or do dishes in the kitchen. Sit down to shave or put on makeup.

- **Use a rolling cart.** You can save trips in the house if you use a cart to help set the table or put away clean laundry.

- **Re-arrange things.** Try to put things at waist level so you won’t have to reach up or bend down to get them. In the kitchen, for example, move food to shelves in easy reach. Put your hat in a drawer rather than on top of the coat rack. Lift your shoe rack up off the floor of the closet.

- **Change your bathing routine.** Buy a shower chair and handheld sprayer so you can sit down while you bathe. Afterword, put on a terry cloth robe rather than drying off with a towel. If steam makes breathing more difficult, turn on the fan or open a window for more ventilation.

- **Rest after meals (and any other time you need to).** A 20-minute catnap can work wonders.

- **Ask for help.** Some jobs are hard to do alone. Other jobs are just not enjoyable. So ask for help with these things. You're not being weak — you're being smart. You're saving your energy for other things.

Get a grabber.

Long, handheld tongs can help you reach things up high or down low. People call this tool a “grabber,” “grasper,” or “reacher.”

“I don’t rush. I don’t hurry. I take my time and I get it all done eventually.”

Robert M.
Eating smarter
Making smart choices about food will help you stay healthy and feel better. This section presents five key messages for people with lung disease.

Reach — and keep — a healthy weight
This means different things for different people, for example:

- **If you’re losing weight (without needing to),** focus on better nutrition and more calories. Many people with lung disease have trouble keeping weight on. They lose muscle and become weaker. If this is happening to you, talk to your doctor about a nutritional supplement. Also, make an effort to eat regular, healthy meals and snacks. Maintaining a normal weight is important for your health.

- **If you’re overweight,** slim down gradually. Excess weight makes your heart and lungs work even harder. So make smart choices — and above all, watch your portion sizes. Ask your doctor to recommend a dietitian for more advice and support.

Eat small meals and snacks throughout the day, rather than three big meals
Your stomach is right under your lungs. If your stomach is too full it can put pressure on your diaphragm — and interfere with breathing.

Try to avoid getting gas
A stomach swollen with gas can also interfere with breathing. So avoid carbonated drinks and gas-producing foods like beans, broccoli, brussels sprouts, cabbage, corn, and cucumbers. Also, eat slowly and don’t talk too much while you’re eating. You’ll swallow less air.

Get plenty of fluids
Fluids help thin mucus and keep your airways more clear. Drink 8 glasses of water every day, and choose soups and broths often. (Try to take your fluids between meals, so they won’t interfere with your appetite at mealtimes.) Limit your caffeine intake, though — it can make you nervous and may interfere with some of your medications.

Why is it important?
Life with lung disease requires a lot of energy. Food is your fuel. Healthy eating can:

- Help keep your diaphragm and other muscles strong.
- Help your body fight infection.
- Maintain healthy bones and a healthy weight.
- Give you more energy to do daily tasks.

More healthy tips
- Take a daily multivitamin.
- Drink a vitamin and energy supplement, such as Ensure or Boost.
- When you cook, cook enough to have leftovers.
- Stock up on healthy snacks like crackers and cheese, peanut butter and apples, nuts, fruit, and vegetables.
Build better meals with the 6 nutrition building blocks

The building blocks are explained below.

**Eat lots of fruits and vegetables**

- Try for 5 servings of fruits and vegetables EVERY DAY — and include lots of these potassium-rich foods: bananas, dried fruit, mushrooms, oranges, peanuts, potatoes, spinach, tomato products, winter squash, and yams.
- Snack on vegetables and fruits, not chips and candy.
- Buy pre-washed, pre-cut vegetables for quicker salads and snacks.
- Consume whole fruits more often than juices, and watch out for syrup or other added sugars in canned and frozen fruit.
- Eat more dark green, orange, and yellow vegetables.

**Eat more whole grains**

- Choose bread and tortillas made from whole wheat or corn, not white flour.
- Switch to brown rice.
- For breakfast, eat oatmeal or cold cereals with a whole grain as the first ingredient on the label.

**Choose unsaturated fats and oils**

- Most often, choose monounsaturated fats. Olive, canola, and peanut oil are in this category.
- Less often, choose polyunsaturated fats like corn, sesame, and safflower oil. Salmon and tuna are also healthy sources.
- Limit saturated fat. High-fat meat and dairy products have a lot of saturated fat, as do tropical oils like coconut and palm oil.
- Avoid trans fat. This harmful fat is found in foods containing hydrogenated or partially hydrogenated oil. (Read the label!)

**Choose heart-healthy proteins**

- Get at least 2 servings of protein-rich foods every day. Protein gives you long-lasting energy and helps maintain bone and muscle strength.
- If they don’t give you gas, eat more beans and peas. They’re a great source of fiber as well as protein.
- Eat fish and shellfish 2 to 3 times each week.
- Go for skinless, white-meat chicken and turkey.
- Choose lean cuts of red meat, and keep your servings about the size of a deck of cards.
- Snack on nuts. Some good options are almonds, peanuts, and walnuts.

**Select low-fat dairy products**

- Get at least 3 dairy servings every day. The protein and calcium in dairy is especially important for people with lung disease. *(But note: if you have problems with thick mucus, you may need to cut back on dairy products.)*
- Buy low-fat milk, cheese, and yogurt.
- If you’re lactose-intolerant, choose soy milk or lactose-free milk.

**Limit salt**

- Keep your salt intake to 2,400 mg a day or less. Salt makes you retain fluids, which can make breathing harder.
- Lose the salt shaker and cut down on packaged foods.
- Buy low-sodium brands of soup, crackers, and so on.
Sleeping well

Being well rested helps you stay healthy and feel good. So do the following:

• **If breathing problems keep you awake, lift the head of the bed slightly.** A more upright position can ease breathing.

• **If your doctor has prescribed oxygen for nighttime, use it!** Some people think that since they’re resting, they don’t need oxygen at night. In fact, oxygen levels tend to drop during sleep. You may need oxygen even more then.

• **Practice good sleep habits, for example:**
  – Try to go to bed and wake up at the same time each day, even on weekends and days off work.
  – Create a bedtime routine you can go through for about 30 minutes before going to bed. Do quiet activities such as reading or watching TV, listening to quiet music, or taking a bath.
  – Avoid caffeine (as in coffee or soda) and alcohol within 6 hours of bedtime.
  – Make your bedroom a room for sleep. Watch TV, read, and do your paperwork in another room. Make sure your bedroom is quiet and dark. Get heavy curtains that block outdoor light, and cover lighted clocks in the room. Also make sure your room is a comfortable temperature — a little on the cool side is best for sleep.
  – If you can’t get to sleep within 15 minutes, get out of bed. Go do a quiet activity in another room. If worries come to mind, write them down in a journal and close it until morning. Go back to bed only when you’re sleepy. If you still can’t sleep, leave your bedroom again until you’re sleepy.

• **Talk to your doctor if you often have trouble sleeping or don’t feel refreshed after sleep.** Your doctor can look for a cause or suggest additional help.

About sexuality....

Your sexual feelings don’t end when you have lung disease, and your sex life doesn’t have to end either. Here are some things to keep in mind about sexuality with lung disease:

• **You can almost certainly manage the physical effort of sexual activity.** The energy required for sex is about the same as that required to climb a flight of stairs. A few adjustments can help. Try going more slowly, using a quick-relief bronchodilator or oxygen beforehand, and having sex less often. Also, try using a side-by-side position or a position that allows your partner to be more active. Finally, remember to keep up with your daily exercise! Better fitness can make sexual activity easier, too.

• **Sex is safe.** Studies have shown that sexual activity does NOT raise your blood pressure, heart rate, or respiration rate to dangerous levels.

• **Try to time it right.** Sex may be more tiring right after a big meal, after drinking alcohol, or when you’re feeling stressed. Wait until you’re relaxed and well rested.

• **Realize that your age and medications may play a role.** Talk to your doctor about changes in your sexuality and what may be causing them.

• **Be with your partner in other ways, too.** Sexual activity is wonderful. But it’s not the only way to feel close or to share love. Holding hands, laying down together, sitting side by side on the couch — all of these can help you stay connected.
Preventing infection and avoiding lung irritants

You can't live your life in isolation, and you shouldn't! Living well with lung disease means going out, seeing people, and living as normally as possible. Still, it’s worth taking a few measures to avoid illness and help prevent symptom flare-ups. With lung disease, even a “minor” illness or irritant can have a serious effect on your health.

This section gives you six important steps to help you prevent infection and cope with irritants that make breathing more difficult.

1 Wash your hands often

The most powerful thing you can do to avoid infection is also the simplest: washing your hands. Get in the habit of washing your hands (or cleaning them with sanitizer) at these times:

- Before and after every meal. Soap and water is best, but put some sanitizer on the table for times when you don’t want to get up.
- After every trip to the bathroom.
- Before you prepare a meal or snack.
- While you’re out. Carry some sanitizer with you to clean your hands after you touch handrails, elevator buttons, grocery carts — anything that’s likely to have germs on it.

2 Get all the vaccines recommended by your doctor

It’s important to do everything you can to protect against lung infections like influenza (the flu) and pneumonia.

- Get a flu shot every year. The flu season begins in September or October and continues until the spring — get your shot early in the flu season if you can.
- Get a pneumonia (pneumococcal) vaccine. This vaccine is generally good for a lifetime, but you may need a second dose depending on when you received the first one. Ask your doctor.
3 Watch out for other people's germs
Socializing is good for you! Don’t limit visitors or feel that you have to stay in. Just do the following:

- Let friends and family know that if they have a cold or flu, they should probably not visit until they feel better. (Or, if they do visit, they should at least skip the kisses this time.)
- If other people use your phone or remote control, clean it with a sanitizer afterward.

4 Watch out for your own germs, too
Even your own germs can cause you problems. Do the following:

- Cover coughs and sneezes with your elbow.
- Change your sheets at least once a week.
- If you use oxygen, change the cannula once a month — or more often if you have a cold.
- Use straws and toothpicks just once.
- Get a new toothbrush after every cold or symptom flare-up.

5 Avoid ozone and other air pollution
Ozone is created when the sun’s heat and light act on gases and pollution in the air. It’s bad to breathe — especially for people with lung disease, and especially during May to September. This is the “ozone season” when ozone levels are highest. Protect your health by following these tips:

- From May to September, get your outdoor physical activity before noon or after 6:00 PM.
- If you are physically active between noon and 6:00 PM, stay indoors or keep your physical activity light to moderate.
- Check out the air quality in local newspaper, radio, or TV. Visit [www.cleanair.utah.gov](http://www.cleanair.utah.gov) for see today’s air quality report, to sign up for air quality alerts, and to learn what you can do to protect air quality and your lungs.

6 Control your allergies
Check for common allergy symptoms. Do you sneeze, wheeze, have a runny nose or itchy eyes during certain times of the year or in certain environments? If so:

- Talk to your doctor about possible allergies.
- Take any allergy medication as prescribed.
Resources for People with Lung Disease

These organizations can provide more information and support for people with COPD and other chronic lung diseases.

- **American Lung Association**: [www.lungusa.org](http://www.lungusa.org)
  Information and news from a leading lung health organization.

- **COPD International**: [www.copdinternational.com](http://www.copdinternational.com)
  Education and networking for COPD patients and caregivers around the world.

- **COPD Support**: [www.copd-support.com](http://www.copd-support.com)
  Online support, advice, and encouragement from other people affected by COPD.

- **Free & Clear**: [www.freeclear.com](http://www.freeclear.com)
  A 12-month, confidential, phone-based smoking cessation program that is free to all SelectHealth members.

- **Intermountain Healthcare**: [www.intermountainhealthcare.org](http://www.intermountainhealthcare.org)
  Education and resources to support you and your family.

- **National Jewish Health**: [www.nationaljewish.org](http://www.nationaljewish.org)
  Medical information from one the nation’s leading respiratory hospitals.

- **National Lung Health Education Program**: [www.nlhep.org](http://www.nlhep.org)
  Lung health education from a division of the National Institutes of Health.

- **Smokefree.gov**: [www.smokefree.gov](http://www.smokefree.gov)
  Links to tools and resources — online, phone, or in-person — to help you kick the tobacco habit.

- **Utah Choose Clean Air**: [www.cleanair.utah.gov](http://www.cleanair.utah.gov)
  Get daily air quality reports and see what you can do to protect air quality and your lungs.

- **Your Lung Health**: [www.yourlunghealth.org](http://www.yourlunghealth.org)
  Information on lung disease, treatment, and daily management from the American Association for Respiratory Care.

“When my doctor told me I had COPD, I decided to try to learn more. I started searching the Internet and found there were people out there just like me. In one COPD chat room, I met several people who became close friends.

We meet online every day now just to give each other a ‘hello,’ a pat on the back, or even a kick in the pants when somebody needs to get back to exercising. I don’t like lung disease, but I’m grateful for the friendships it’s brought me.”

*Larry T.*
This section contains more resources and tools to help you manage your lung disease. Make these pages your own. With your healthcare team, create an individualized plan that will help you breathe better — and live better.

### My Healthcare Contacts

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<thead>
<tr>
<th>Role</th>
<th>Name</th>
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<td>Primary care doctor</td>
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<td>Pulmonologist (lung specialist)</td>
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<td>Respiratory therapist</td>
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<td>Care manager</td>
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<td>Health insurance</td>
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<td>Oxygen supply company</td>
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<td>Pulmonary rehabilitation</td>
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<tr>
<td>Emergency contact (family or friend to notify)</td>
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**Other notes and numbers:** __________________________________________
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**My Medication**

Fill in this chart to help you keep track of your medications. You can tear it out, copy it, and carry the copy with you for quick reference.

**Lung medications.** People with chronic lung disease often take a combination of lung medications. List yours here, starting with your quick-relief (rescue) medication.

<table>
<thead>
<tr>
<th>Name of my quick-relief medication</th>
<th>Looks like? (color of inhaler?)</th>
<th>How much? (number of puffs)</th>
<th>How often? (times a day)</th>
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<th>Name of my daily maintenance medication</th>
<th>Looks like? (color? inhaler, pill, or liquid?)</th>
<th>How much? (number of puffs, pills, respules?)</th>
<th>When to take? (circle time of day)</th>
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**Other medications.** Do you take medications for conditions other than lung disease? List them here.

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<tr>
<th>Name of medication</th>
<th>What is it for? (blood pressure, diabetes, depression, etc.)</th>
<th>Looks like? (color or shape of the pill or packaging?)</th>
<th>How much? (number of pills, drops, etc.)</th>
<th>When to take? (circle time of day)</th>
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Any medication allergies? yes / no
If yes, list:_________________________________

My pharmacy:
name:____________________ phone:__________
My Oxygen Therapy

Fill in this sheet with your doctor or respiratory therapist.

My oxygen supply company

Call for more supplies (tanks, tubing, etc.), with questions about your equipment, and for advice about traveling.

Name: ___________________________________________________ phone: ________________________________

Day/time of regular deliveries or visits? ________________________________

My flow rate

Your flow rate is the amount of oxygen that flows to you through the tubing. Circle the prescribed liters per minute (L/min) and the time(s) and mode(s) of use.

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My oxygen delivery system

Depending on your needs, you may use a combination of delivery systems. Fill in the spaces that apply to you.

☐ Home O2 concentrator. ________________________________ (name, details)

☐ Compressed gas tanks. Circle the tank size(s) you typically use: B C D E

☐ Home-filled tanks.

☐ Liquid oxygen system. ________________________________ (name, details)

☐ Portable concentrator. ________________________________ (name, details)

Remember:

- Do NOT smoke while using oxygen.
- Stay at least 10 feet away from anyone who is smoking and any open flame — candles, gas stove tops, fireplace fires, etc.
- Don’t change your oxygen flow rate unless your doctor has okayed the change.
**My Exercise**

Use these pages to stay on track with regular exercise.

- **Across the top of the chart**, write down the exercise goals you’ve identified with your healthcare team. Note that your goals may change as you become more fit.
- **In each of the rows**, track your progress.
- **In the Notes section**, record any extra information that will help you gauge your progress or your body’s response, such as how short of breath you were, how hard the exercise seemed to you, which size hand weights you used, etc.

### Goals
- **Endurance**: aim for 5+ days per week
  - *Do some aerobic activity* (walk, bike, etc.)
  - for _______ minutes

- **Strength**: aim for 2 or 3 days a week
  - exercise ________ repetitions (reps)________
  - exercise ________ reps __________
  - exercise ________ reps __________
  - exercise ________ reps __________

- **Flexibility**: aim for 5+ days per week
  - head & neck
  - arms & sides
  - legs

### Track your progress

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### My Exercise

**Goals**

**go here**

**Track your progress here**

**Endurance:** aim for 5+ days per week  
*Do some aerobic activity* (walk, bike, etc.)  
for _______ minutes

**Strength:** aim for 2 or 3 days a week  
exercise __________ repetitions (reps) __________  
exercise __________ reps __________  
exercise __________ reps __________

**Flexibility:** aim for 5+ days per week

- [ ] head & neck
- [ ] arms & sides
- [ ] legs

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# My Exercise (continued)

**Goals**
go here

**Track your progress here**

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My Symptoms and Action Plan

Pay attention to your symptoms so that you can:

- Communicate with your healthcare team about your health and your treatment
- Catch an exacerbation (flare-up) early, when you have the best chance to treat it effectively
- Know when to call your doctor or seek emergency care

What to watch for — and why it’s important

- **Increase in shortness of breath.** If you’re having more trouble than usual catching your breath, you may be having bronchospasm because of stress, an irritant in the air, or a lung infection.

- **Chest tightness or chest pain.** A tight or full feeling in your chest can also be a sign of bronchospasm. Chest pain can come from many different things, but sudden or severe chest pain may be an emergency.

- **Wheezing.** A whistling sound when you breathe out or in can be caused by bronchospasm or an infection that creates more mucus.

- **Change in the mucus you cough up.** Changes in the color or thickness of the mucus may signal a lung infection.

- **Sudden weight gain** (more than 3 or 5 pounds overnight). A sudden weight increase is probably from fluid retention (water weight gain). It can be a sign of heart trouble or an infection.

- **Sore throat or runny nose** (with green or yellow secretions). These symptoms could signal a cold or sinus infection.

- **Extreme fatigue, drowsiness, or irritability.** These could mean low oxygen levels or high carbon dioxide levels.

- **Fever or chills.** These usually mean an infection of some kind.

- **Trouble sleeping, eating, or concentrating; trouble finding energy for everyday activities.** These could mean anxiety or depression. It could also signal other health problems.

Tracking the trends...and talking to your doctor

The Action Plan on the next page tells you what to do when you notice a significant change or worsening of your symptoms. Yet you also need to be aware of smaller, gradual changes over time. Make note of these trends, and discuss them with your doctor at your next appointment. Some examples to note:

- Changes in your overall mood
- Weight loss or gain
- Changes in your ability to do daily activities or care for yourself
- Patterns in your symptoms — for example, what makes breathing easier or harder? What time of day do you feel best? Which treatments help? Which don’t help?
- Change in appetite
# MY ACTION PLAN  
*a tool for people with COPD or other chronic lung disease*

To help you manage your lung disease, review and complete this Action Plan with your doctor.

**Name** ____________________________________________  
**Date** ____________________________________________

## How you feel—your symptoms

### I’M DOING FINE
- Breathing is okay
- Mucus is easy to cough up
- Able to do daily activities
- Able to exercise as my doctor advises
- Sleeping well
- Good appetite
- Thinking clearly

### I FEEL WORSE
(May have one or more of the symptoms below)
- Short of breath
- Mucus is thicker than usual or colored
- Coughing or wheezing more
- Chest feels tight or “full”
- Some trouble with daily activities
- Trouble concentrating
- No appetite
- Feeling very tense or restless
- Sore throat and runny nose
- Fever and chills
- Sudden weight gain (3 to 5 pounds overnight) and swelling in ankles

### I FEEL I’M IN DANGER
(May have one or more of the symptoms below)
- Feel like I can’t breathe — very short of breath — and quick-relief medication doesn’t help
- Coughing a lot, can’t cough up mucus
- Blood in mucus
- Can’t do my normal activities
- Feel confused or faint
- Sudden or severe chest pain

## What to do—your Action Plan

### GO
- Keep up with medication, exercise, and other aspects of your treatment.
- Other: __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________

### CAUTION
- Continue with daily control medications.
- Add or increase quick-relief medication and increase oxygen as your doctor advises.
- Do breathing exercises and stress relief exercises.
- If your mucus is thick, cut back on dairy products and take guaifenisin (available over-the-counter as Mucinex and other brands).
- Avoid anything that makes you feel worse.
- If you live alone, call a friend or family member to let them know you’re feeling worse.
- Other: __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________
- __________________________________________

Call your doctor if these symptoms last longer than a day. **Doctor’s name and phone number:** __________________________

### STOP
- CALL 911 NOW.  
Don’t drive yourself to the hospital.
- Bring your quick-relief medication with you.