MANAGEMENT OF CHRONIC OBSTRUCTIVE LUNG DISEASE

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Chapter One: Know Your Lungs

To really understand COPD, you must first have a clear understanding of how the lungs work.

Breathing is often taken for granted until it becomes an effort to get air into and out of the lungs. It might be helpful if you understand how air travels through your respiratory system and where the trouble spots can be when you have COPD.

If you take a close look at where the air goes when you breathe in and out, you'll see that the path resembles a tree turned upside down. This is why your respiratory system is often referred to as the **bronchial tree.**

Each time you take a breath, air enters through your nose or mouth and continues down the **trachea**, better known as the windpipe. From there it goes into two sponge-like organs located in your chest called the **lungs**. Air enters the lungs through two large branches of the trachea known as **bronchi**. The air then travels deeper into the lungs though smaller bronchi and about a million miniature passageways called **bronchioles**. The walls of the bronchioles are surrounded by bands of smooth muscle, which provide support. At the end of this maze of little branches are tiny, stretchy air sacs, which are called **alveoli**. Each individual air sac is called an alveolus and is surrounded by microscopic blood vessels.

The oxygen in the air you breathe travels across the walls of the alveoli and into your blood so that cells throughout your body can use it. At the same time, carbon dioxide – a waste product – passes from the blood back into the air sacs and leaves the body by traveling back up the same path. This exchange of oxygen and carbon dioxide is very important because every cell in the body needs oxygen to function. It takes a constant supply of oxygen for your cells to live.

The process of moving air in and out of your lungs is called **respiration**. A strong wall of muscle located below your lungs, the **diaphragm**, is the major muscle of respiration. As the diaphragm moves down, it creates suction in the chest and draws in fresh air, which expands the lungs. Then, as this muscle relaxes, it returns to its original position and the air is pushed out of the lungs.

What went wrong?

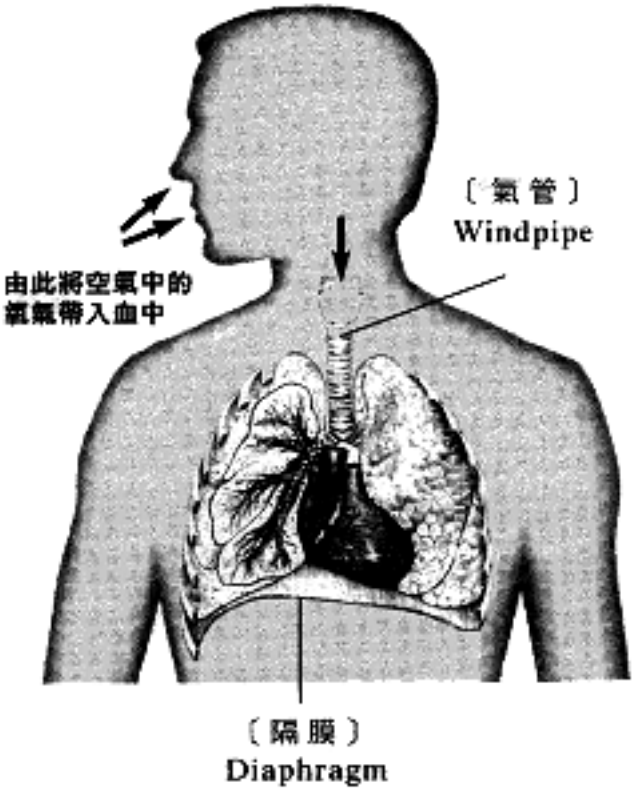
If you have chronic bronchitis, airways in your lungs have become narrow and partly clogged with mucus. If you have emphysema, some of the air sacs deep in your lungs have been damaged. They cannot push out stale air and bring in oxygen to your bloodstream.

What are the symptoms?
Prolonged coughing with mucus, wheezing, and breathlessness.

How do I know which disease I have?
Your doctor may want to take some tests. Other illnesses can cause the same symptoms. Often, there is more than one cause. Many people have both chronic bronchitis and emphysema. Your doctor can diagnose your problem.

Will I get better?
There is no miracle drug for emphysema and chronic bronchitis. But you can take steps now to improve your breathing and feel better.

How do I start?
The first step to helping yourself is to see your doctor. If you're already under a doctor's care for chronic bronchitis or emphysema, use this booklet to help you follow through with your treatments and learn ways to feel and live better.



Chapter Two:
What is Chronic Obstructive Pulmonary Disease (COPD)?

Conditions which obstruct the flow of air from traveling easily through the respiratory system are called **"Chronic Obstructive Pulmonary Disease" or COPD.** The two conditions most frequently referred to when discussing COPD are **emphysema** and **chronic bronchitis**. In each, when the flow of air is blocked, or obstructed, it makes it harder to get enough oxygen to meet the body's needs.

EMPHYSEMA

There are countless air sacs in the lung. Through the air sacs, oxygen from the air can be delivered to the red blood cells located in the thinnest vessels. Red blood cells can then push out carbon dioxide. Normally, this ability of the lung works continuously, so that enough oxygen can be supplied to the body. Emphysema damages the lung such that air sacs become very large and weak. Due to this damage, pressure in the lung elevates. Consequently, part of the heart is weakened. This condition cannot be cured but patients can have improvement in symptoms with the help of medication.

Symptoms

- Shortness of breath with exercise
- Increased breathing difficulty through time

Causes:

- Chronic bronchitis
- Long time smoking
- Heavy exposure to second-hand smoke
- Genetic (rare)

Treatment:

- Medications such as inhaled steroids, bronchodilators and antibiotics
- Quit smoking
- Avoid stress to the lung
- Severe cases may require continuous oxygen therapy

Prevention:

- Avoid smoking and being around others who smoke
- Early diagnosis and treatment
- Non-strenuous exercise
- Avoid pollution
- See your physician right away at time of code or any new respiratory symptoms

CHRONIC BRONCHITIS

Bronchitis is an inflammation of the smooth muscle in the large airways. There are acute and chronic types of bronchitis. Acute bronchitis may occur when the body's immune system is weak. When the bronchi are inflamed due to infections, clusters of thick mucus are formed. Acute bronchitis is not a threat to average healthy adults, but it can easily become a severe condition for infants or elderly. See a doctor right away for symptoms such as gasping or wheezing. The major problem of bronchitis is thick mucus blocking the bronchi. Chronic bronchitis occurs more often in smokers, older people, asthmatics, and people working in dusty environments.

Untreated chronic bronchitis can result in emphysema, heart failure, and pneumonia.

Symptoms

- Prolonged coughing with mucus. Coughing may be worse in the morning, in the evening, in areas of dampness or when the weather is cold
- Breathing with gasping sounds
- Shortness of breath after exercise or at rest
- Frequent episodes of acute bronchitis
- Body discomfort with slight chest pain

Causes:

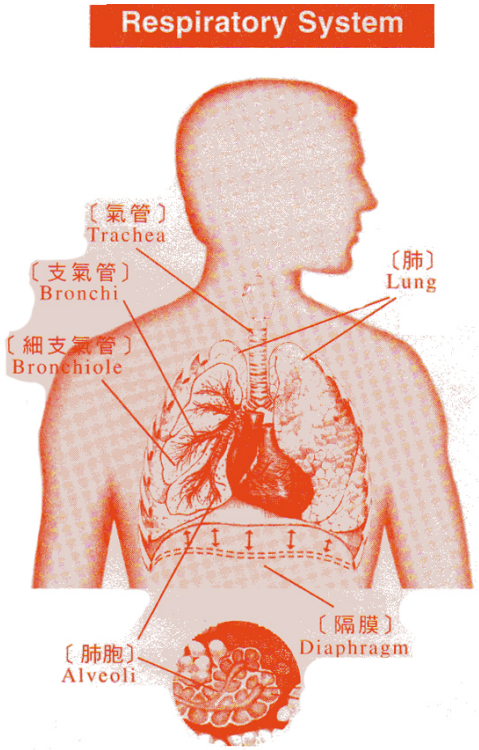
- Pollutants from the air, factories, cars and wood stove
- Smoking
- Uncontrolled asthma

Treatment:

- Inhaled steroids, /bronchodilators and antibiotics
- Quit smoking
- Severe cases may require continuous oxygen therapy

Prevention:

- Avoid smoking or second-hand smoke
- Seek treatment immediately if a cold or any new respiratory symptom develops
- Follow a nutritious diet
- Seek a balanced lifestyle, with adequate rest and exercise
- Ask your doctor about preventive shots for influenza and pneumonia
- Altering the environment may be necessary
- Avoid contacting people with the flu or cold



Chapter Three: Put Yourself In Control

LEARNING HELPFUL WAYS TO BREATHE

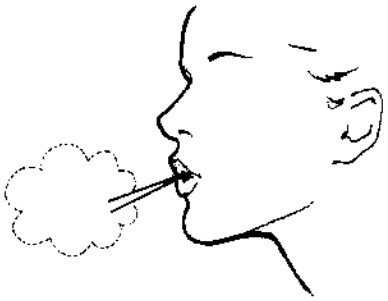
Learning helpful ways to breathe means learning to use your lungs smarter rather than harder

Shortness of breath is often a major symptom for those with COPD, especially when exerting energy, under stress, or occasionally, for no apparent reason. There are techniques in this handbook to help control your breathing and clear your lungs of excess mucus, which, with your doctor's approval, may help keep your airways open so you can breathe easier.

Controlling Your Breathing

Pursed-Lip Breathing

One of the simplest ways to control your breathing is **pursed-lip breathing** – a technique which helps keep the airways and air sacs open and slows down your breathing. By using this technique, any used air trapped within the lungs can be released, allowing fresh air to replace it.



To do pursed-lip breathing:

1. Slowly breathe in through your nose, keeping your mouth closed. It's not necessary to take a deep breath; a normal one will do.
2. Pucker your lips in a whistling position and breathe out slowly, gently tightening your stomach muscles to help push the air out through your lips.

Be sure to use enough pressure to make a sound, but do not force exhalation. Stay relaxed and exhale at least twice as long as you inhale. For example, when doing pursed-lip breathing, inhale through your nose for two counts… one-two. Then purse your lips and exhale for four counts… one-two-three-four. That's all there is to it! Practice this breathing when you are doing any physical activity or when you are short of breath.

When to do it

- As often as you can
- Whenever you do anything that makes you short of breath such as climbing stairs, bathing or doing housework.
- During the night, if you have a breathless spell, sit with your feet on the floor, and do pursed lip breathing until you feel better.

How does it work?

The air in your lungs is trapped, stale air. Before you can breathe in fresh air, you need to get the old air out. That's hard because of clogged, narrow airways or damaged air sacs deep in your lungs or both. When you breathe out slowly through pursed lips, you keep up the air pressure in your airways. This helps the airways to stay open so that you can breathe out more stale air.

Another breathing technique, which works hand-in-hand with pursed-lip breathing, is diaphragmatic breathing, more commonly known as belly breathing.

Diaphragmatic Breathing

Individuals with chronic respiratory disease often have a weakened flattened diaphragm (the major muscle of breathing). It's weakened because other less efficient muscles in the neck and chest are used to breathe. It's flattened because the air trapped in the lungs pushes down on the diaphragm and, in time, flattens it.

Diaphragmatic Breathing (or belly breathing) involves training and strengthening your diaphragm to ease the work required for each breath.

To do diaphragmatic breathing:

1. Start by placing one hand on your belly just below the ribs and the other hand on the upper part of your chest.
2. Breathe in through your nose so that your belly moves out against your hand as far as it will go. Keep the other hand on your chest, which should be as still as possible.
3. As you breathe out slowly and fully through pursed lips, press your belly gently upward and inward with your hand.
   * There are two important things to remember when doing belly breathing.
   Concentrate on exhaling at least twice as long as you inhale. Also, keep your chest still so that it is your diaphragm and not your neck and chest muscles that do the work of breathing.

Important: To be sure your diaphragm is moving properly, ask your doctor, nurse or physical therapist to go through the exercise with you.

How does it work?

When your airways get clogged with mucus, you have an urge to cough to get rid of it. To move the mucus, you need a strong jet of air behind it. A useless, hacking cough happens when you keep coughing because of a tickle in your throat, but you don't have enough air to move the mucus. Your cough seems out of control, and you feel helpless. When you learn to cough from deep in your lungs, you put air power into your cough. Learning to move your diaphragm more as you breathe will give you more push power to empty your lungs.

<u>Exercise Your Chest Muscles</u>

Breathing is easier when you use all your breathing muscles. The muscles around your lower rib cage are probably tight. The following exercise helps you get them moving. It will help your lower lungs expand better and make it easier for you to breathe deeply.

To exercise those muscles, follow these steps:

1. Place your hands on the sides of your lower chest.
2. Breathe in slowly through pursed lips. Your lower chest should move your hands out. Keep your shoulders and upper chest relaxed.
3. Breathe out slowly through pursed lips.

Practice that exercise several times a day for a few minutes at a time.

Rest if you feel dizzy.

Note: Exercise is helpful in some types of lung disease and not in others. Be sure to check with your doctor, nurse, or physical therapist before making it a part of your daily program.

When to do it

- As often as you can
- Whenever you are short of breath
- Every time you feel like coughing, follow the above steps. Do not try to keep yourself from coughing. Check with your doctor before using any cough medicine.

  Your goal is **not** to stop coughing. It is to use your cough to help clear your airways whenever you need to.

Clearing Your Lungs

In addition to shortness of breath, many people with a chronic breathing problem also have trouble with excess bronchial secretions at one time or another. For this reason, it may be helpful to discuss some effective methods for dealing with excess mucus when it becomes a problem.

A good way to help keep secretions thin and easy to bring up is to drink plenty of liquids throughout the day. One rule of thumb is to drink at least 6 to 8 eight-ounce glasses of water or other liquids per day, unless you have a problem with fluid retention. In that case, your fluid intake should be discussed with your physician.

Clear your lungs at least twice a day:

- Before breakfast to clear the mucus that has built up during the night.
- In the evening, at least an hour before bedtime, for a better night's sleep.
- If you have a cold or an infection, clear your lungs before meals to avoid upsetting your stomach.

I) Coughing Effectively

One of the simplest, most productive ways to clear excess mucus from the passageways in your lungs is by using an effective cough. When we speak of coughing as a technique to help clear the lungs, we're speaking of learning to control your coughing so that it comes from deep in the lungs and has enough air pressure to force out the excess mucus.

The best time to use an effective cough technique is upon waking up in the morning. This is when your cough will be most productive. To cough effectively, you should be in an upright position. You may wish to have a glass of water to rinse your mouth and a supply of tissues on hand to dispose of excess mucus.

To cough effectively:

1. Inhale slowly and deeply through your nose, pushing your stomach out as far as it will go.
2. Next, exhale slowly and fully with your lips pursed, remembering to breathe out twice as long as you breathe in. Your stomach should move back to its original position.
3. Now inhale slowly and deeply once again but instead of exhaling this time, bend slightly forward and cough two or three times. Keep your mouth open but covered with a tissue.

Be sure not to take any quick breaths between the coughs because they might interfere with the movement of secretions up and out of the lungs. It may also be helpful to gently push up on your stomach, while you are coughing, to help force the air out. This is one of the simplest and most effective ways of clearing your lungs and can be done just about anywhere.

To get the maximum benefit from any clearing technique, as well as from other techniques for controlling your breathing, it is important to be relaxed and comfortable. This includes:

- Wearing loose, comfortable clothing
- Clearing your mouth of all food or gum
- Not practicing on a full stomach

NOTE: Try to use this effective cough technique any time you cough or feel the need to cough.

Controlling your cough

Coughing spells can make you feel tired, frightened, and short of breath. When it happens in public, you may feel embarrassed.

You can control your cough and make it useful. A cough is useful when it brings up mucus and helps to clear your airways. A useful cough should not tire you or take your breath away, and it should not embarrass you. When you feel a cough coming on, follow these steps:

1. Breathe in deeply.
2. Hold your breath for a few seconds.
3. Cough twice, first to loosen mucus, then to bring it up.
4. Get rid of mucus. Use strong tissues or paper towels. Swallowing mucus can upset your stomach.

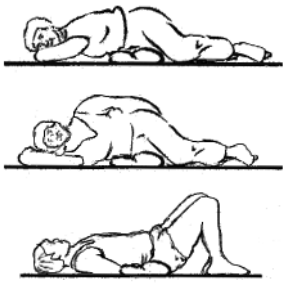
The best position for coughing usefully is to sit with your head slightly forward, feet on the floor.

II) Positions To Clear Your Lungs

The following three positions may help you clear mucus from your lungs. Your physician will choose one that best suits you. These mucus-clearing positions can decrease the amount of doctor and hospital visits.

Follow these steps:

1. Lie in the position ordered for you, with your hips on top of a thick pillow or cushion.



2. Practice pursed-lip breathing to open your airways.
3. When you feel like coughing, cough usefully to bring up mucus. Don't swallow it.
4. Stay in that position for the length of time prescribed. Cough to bring up mucus. Then repeat those steps in the other positions ordered for you. Stop and rest if you become very short of breath.

III) Exercises To Clear Your Lungs

Your physician will choose which kind is beneficial for you. These exercises will become easier after practice.

Knee Raising

- Lie down, with both knees bent, raise your right knee towards your chest as you breathe out.
- Breathe in as you lower your leg.
- Repeat with your left leg, then both legs.

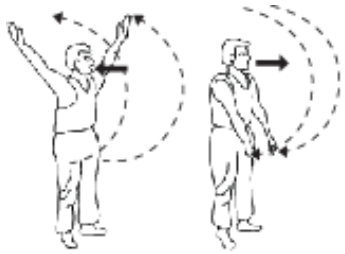
Note: If it's easier for you, you may breathe in while raising your legs and breathe out while lowering them.

Forward Bending

- Begin by sitting with your feet apart, flat on the floor. Keep your shoulders relaxed.
- As you exhale, lower your head to your chest and slowly roll your body forward towards your knees.
- Inhale slowly and return to an upright position.
- Relax and repeat.

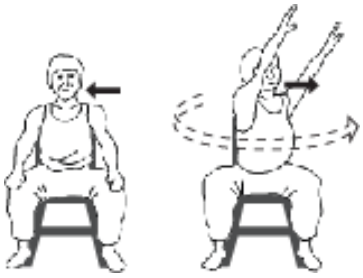
Arm Raising

- Raise your arms as you breathe in.
- Lower them slowly as you breathe out.



Trunk Turning

- Sit in a straight back chair with your shoulders relaxed and breathe in.
- As you breathe out slowly, turn your trunk to the left and reach your arms over your left shoulder, as if you were reaching behind you.
- Bounce your arms a few times.
- Rest and repeat on your other side.



Pelvic Tilt

- Lie down, relax as you breathe in.
- Tighten the muscle of your stomach and buttocks as you breathe out.
- Flatten your lower back against bed.

Head and Shoulder Raising

- Lie down, place your hands behind your head and breathe in.
- Breathe out while you raise your head and shoulders as far as you can.
- Feel your stomach muscles tighten.
- You don't have to raise yourself to a sitting position.

IV) Other Methods To Clear Your Lungs

Talk to your doctor, nurse, or physical therapist. Write his/her instructions in the spaces below.

- If your doctor prescribes medicines to open your airways, ask about using them before you begin postural drainage.
  Instructions:
  _____
  _____
  _____

- If you use a nebulizer or breathing machine, ask about using it before or during postural drainage.
  Instructions:
  _____
  _____
  _____

- Breathing in steam from a vaporizer or open pot makes mucus thinner, but steamy air may cause breathing difficulty for some people. Ask what you should do.
  Instructions:
  _____
  _____
  _____

- Clapping or vibrating your chest may help loosen mucus so that it will drain.
  Your physical therapist may do it for you and may teach a friend or family member to do it for you at home.
  Instructions:
  _____
  _____
  _____

- Drinking large amounts of water helps make mucus thinner. But it can be bad for you if it overworks your heart. Ask your doctor how much water you should drink.
  Instructions:
  _____
  _____
  _____

Important: It is dangerous to use any medicines, sprays, or devices unless your doctor orders them.

Chapter Four: Daily Living With COPD

Men and women with COPD know that any daily activity takes more effort and energy than it normally would. This doesn't necessarily mean you have to completely change your lifestyle, although you can benefit from learning simplified ways of doing household tasks, gardening, and even traveling. The sections in this chapter are filled with principles and tips to help you conserve energy.

Energy Saving Principles

1) **Plan Ahead**
   - Consider the best time and best way to accomplish tasks.
   - Try using the same methods each time you do a certain activity to improve your skill and conserve energy.
   - Avoid unnecessary steps by gathering everything you need before you start.
   - Don't do two tasks back-to-back which require a lot of energy.
2) **Prioritize**
   Schedule your day so that the most important activities get done before you run low on energy. It might be wise to eliminate unnecessary tasks on some days.
3) **Pace Yourself**
   Maintain a steady pace rather than rushing to conserve energy. Scheduling breaks throughout an activity and between tasks can help you complete your day with less strain.
4) **Correct Position**
   - Choose the most comfortable position for each activity.
   - Sit down whenever possible and avoid bending over as this interferes with breathing
   - Try to push and slide equipment rather than carrying or lifting it.
5) **Delegate**
   Like any good manager, you can get some jobs done by giving them to other people to do.

Tips to Help You Save Energy

- Pursed-lip breathing is probably the best way you can minimize shortness of breath. It slows down your breathing which allows more air to move in and out of your lungs. Use this breathing technique throughout an activity and also during rest periods. When carrying out any tasks, inhale while at rest and exhale while you exert yourself. Be sure to exhale for at least twice as long as you inhale. For example:
- Lifting: Breathe in slowly. Lift and place the object while you breathe out slowly.
- Pushing or pulling: Breathe in slowly. Push or pull the object as you breathe out slowly. Repeat until the job is done.
- Walking uphill or upstairs: Stop and breathe in slowly. Walk a few steps while you breathe out slowly. Keep your breathing even, and keep the same number of steps during each breath.
- Take a bath rather than a shower when possible as standing for any length of time consumes more energy. If showering, use a plastic stool or chair to sit on. Hot water and steam may make you short of breath and could cause drowsiness, so use lukewarm water instead. Keep the door open slightly to help eliminate steam build-up. Bathing is a strenuous activity and using prescribed oxygen while in the bathtub can help.
- You can save energy while shaving, brushing your teeth, washing your face, combing your hair, or applying make-up by sitting on a stool that's high enough for you to see into the mirror. You can even try propping your elbows on the sink.

- Energy-saving shortcuts for dressing include gathering all the clothes and accessories you plan to wear before you begin. Sit down while dressing. It's smarter to clothe your lower body first because it takes more energy. Bring your feet up to you rather than bending down to put on shoes, socks, and pants. Use a footstool for support if necessary.
- Keep a basket or sack at the bottom of the stairs to collect items that must go upstairs.
- Organize your work areas. Place supplies near where they will be used. This includes storing objects at shoulder or waist level to avoid bending or reaching.
- To reduce fatigue, sit down while you work and, whenever possible, use electrical appliances and other energy-saving devices.
- When moving anything heavy or awkward, use a utility cart or wagon.
- Learn to recognize your personal limits and schedule rest periods to prevent fatigue. In fact, whenever you change your body's position, you exert energy. It's a good idea to rest after each movement. This includes even simple chores like standing up and lying down. Be sure to pause at least a second or two between movements.
- Try to notice which jobs make you short of breath. Start a list. While you're resting, think of ways to make your tasks easier.

_____
_____
_____
_____
_____
_____

- Are there services in your community to help with meals, transportation, or housework? Ask your doctor, your nurse, or your local lung association.

Checklist For Travel

Here are a few things you may want to consider before traveling long distance:

- ❑ Have I scheduled driving or flying so that rest and relaxation are possible?
- ❑ Have I checked the local air quality or pollen index for the area I've decided to visit?
- ❑ Have I planned a route to avoid congested urban areas and highways, especially during rush hour?
- ❑ Have I considered the climate of possible vacation spots? Keep in mind that excessive heat, cold, dryness, or humidity may cause breathing difficulties.
- ❑ Have I checked the altitude of the area, remembering that some respiratory patients experience increased shortness of breath in altitudes over 5000 feet?
- ❑ Because allergies are a problem for me, have I planned to travel only in seasons when ragweed, pollen, or other airborne particles are least prevalent?
- ❑ Have I packed enough of my prescribed medications to last through the trip and for a few extra days incase I'm delayed? (For air travel, it is wise to carry all medications on board with you and not check them in with luggage.)
- ❑ Have I arranged to have my respiratory equipment and cleaning supplies waiting for me upon arrival? (Did I ask the local vendor for the name of a company that can assist me at my destination?)
- ❑ Since I use oxygen regularly and plan to travel by plane, did I notify the airline well in advance that I would need oxygen for the flight? (Cabin pressure may be a problem for me and should be discussed with my doctor before flying.)
- ❑ Am I carrying emergency identification, such as Medic Alert or a wallet card?
- ❑ Am I prepared to follow the guidelines I use at home for day-to-day comfort?

Chapter Five: Build Your Strength

Do you feel too tired to do many of the things you'd like to do? If you've been in a hospital or you've been resting at home because of your illness, your body is out of shape. You can build your strength with a daily walking and exercise program.

- Ask yourself. "What do I want to be able to do?" Do you want enough strength to walk to a store? Go back to work? Tend your garden?
- Ask your doctor what goals are realistic for you at this time and which of the exercises in this section you can do. Write down a goal or goals you and your doctor agree on:
  Goal(s):

  _____
  _____

- Set your mind and your will power for success. Expect steady progress but not overnight success. Promise yourself that you'll stay with it, even when you don't feel like exercising. Keep your goals in mind.

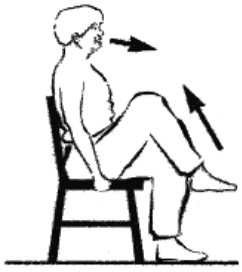
Walking

Walking is one of the most useful and enjoyable ways to strengthen your body. Here's how to build your strength by walking:

- Start with a short daily walk as far as you can go without getting short of breath. Outdoors is best if the weather is good, but you can walk in the house or inside a shopping mall or store.
- Walk with your arms hanging loosely, your chest and shoulders relaxed.
- Breathe slowly, using your diaphragm while you walk. Try to breathe out for twice as long as you breathe in.
- Find an easy, even speed. Take the same number of steps for each breath. For example, two steps while you're breathing in and four steps while breathing out. This will give you six steps to each breath. Find the number of steps that works best for you. The number may change from day to day.
- Try to walk a little farther each day, even if it's only a few feet, but don't push yourself too hard. If you become short of breath, stop and rest, and practice pursed-lip breathing.

Toning your legs and abdomen

- Sit upright in a chair with your feet flat on the floor. Inhale deeply.
- As you exhale, raise one knee toward your chest as far as possible without being uncomfortable. Inhale again as you lower the leg back to the floor. Relax.
- Repeat with other leg.



Exercise reminders

- Exercise before meals or allow enough time after eating to digest your food (two hours).
- As with any exercise, you may feel a little sore at first but this should subside as you practice regularly.
- Ask your doctor before starting any exercise program.

When to exercise

Make two daily appointments with yourself to do your exercises. The secret to success is doing it every day. The best times are in the morning and evening after you've cleared your lungs from mucus. Write your two daily exercise times here: _____ a.m. and _____ p.m.

How does it work?

Walking and other exercise in this section use many muscles, including your heart and breathing muscles. As you work them, they will slowly be able to do more work with less oxygen. That means you don't have to breathe in as much air to do the same amount of work. You're stronger and can do more before feeling tired.

When you do your exercises, follow these steps:

- Clear your lungs from mucus by coughing.
- Practice relaxing and deep breathing for a few minutes. Continue deep breathing as you exercise. Try to keep breathing out twice as long as you breathe in. Counting as you breathe can help. Breathe in: 1-2. Breathe out: 1-2-3-4. Remember not to hold your breath.
- Do each strength-building exercise three times slowly.
- If you feel tired or short of breath, stop and relax a few minutes, then continue.
- When it becomes easy to do each exercise three times, do it four times, and then five times. Continue to do more as your strength builds.

How much is too much?

You can use the Dyspnea scale or Shortness of Breath scale during exercise to measure the intensity of your exercise. The scale runs from 0 to 10, 0 being slightly short of breath and 10 being extremely short of breath. Try to keep your level between 3 to 4 (moderate) so as not to overexert yourself. For more individualized recommendations, ask your doctor.

You should also be able to recognize the signs and symptoms that you are overexerting yourself and may need to stop. They are:

- Weakness
- Excessive sweating
- Chest pain or pain of any kind
- Dizziness or lightheadedness
- Increased shortness of breath that does not return to normal within a few minutes

Chapter Six: Relax to Breathe More Easily

How many times have you said to yourself, "I wish I could RELAX!" Well maybe now you can…

The following step-by-step process helps relax all the major tension areas of your body. You may want to make a tape recording of this guide, allowing sufficient time to complete each step. Then you can just listen to the tape while you relax. Your spouse or a friend could also recite the guide to you in a soothing voice as you practice. Another suggestion is to use your favorite music to help you relax. Put on a recording that brings back fond memories or one that you find particularly soothing.

Once this technique of RELAXATION becomes part of your everyday life, you may find you have a different perspective on what's going on around you. In addition it should also help you BREATHE BETTER. It can generally be done anytime and anywhere you can find a few moments of peace and quiet.

Relaxation Guide

- Go to a quiet place. Get into a comfortable position with your arms and legs supported.
- Close your eyes.
- Concentrate on your breathing. Take a deep breath through your nose and exhale slowly through pursed lips. Each time you exhale, imagine yourself breathing out tension as you think RELAX.
- Begin counting slowly to 10. One-two-three-four-five…take a deep breath and exhale…six-seven-eight-nine-ten.
- Now, take another deep breath. Exhale slowly and think RELAX.
- Learn to recognize tension. Make a fist and squeeze your hand tightly. Slowly open your fingers and feel the tension leave. Your hand should feel lighter and relaxed.
- Take a deep breath – exhale slowly through pursed lips – think RELAX.
- Now you can relieve tension all over your body simply by contracting and relaxing each set of muscles.
- Begin with your head and neck and progress to other body parts.
- Take a deep breath – exhale slowly through pursed lips – think RELAX.
- Wrinkle your forehead and clench your teeth. Now release these muscles and feel the tension flow from your head. Your face is now relaxed.
- Take a deep breath – exhale slowly through pursed lips – think RELAX.
- Now slowly raise your shoulders as high as you can. Feel the muscles tighten in your back and neck. Gently lower your shoulders and feel the muscles relax.
- Think about the muscles in your upper arms. Allow them to relax. Think about the muscles in your lower arms and wrists and allow them to relax. Tighten both fists – open them up slowly – think RELAX. Your arms are now relaxed.
- Think about the weight and heaviness in your chest. Imagine someone lifting off this weight so that you can breathe easier.
- Take a deep breath – exhale slowly. Allow the tension to leave your chest.
- If the heaviness is not completely gone, do not be concerned. With practice you will be able to lift off more of the weight each time.

- Take a deep breath – exhale slowly – think RELAX. With every breath you exhale more tension.
- The muscles along your back are pulled and tight. Imagine someone massaging these tense muscles along your spine with firm but gentle fingers.
- Feel the tension in your hips and allow them to sink into your bed or chair. Tighten your legs for an instant, and then let them relax. Feel the warmth going form hips to your thighs to your knees to your ankles to your toes, taking with it all the tension in your legs. Your legs are now relaxed.
- Take a deep breath and exhale slowly. Think RELAX. Each time you exhale, try to relax a little more.
- You should now be completely relaxed from head to toe. Take this time to imagine a relaxing scene.

For example:
You are at the ocean. The day is warm but there is a cool breeze blowing gently against your hair and skin. Hear the waves break against the shore. Here the soft cry of the seagulls in the distance. See the sunlight sparkle on the water's surface. Gaze at the changing blues and greens of the ocean as the waves repeatedly meet the shore. Hear the fizzing sound made by each wave as it spreads out over the sand and retreats back to the ocean. Sniff and taste the salty air. Feel the spray against your face. Smell this combination of sea, salt, sand, and sunshine. It is a beautiful day. You are happy and are in control. [PAUSE]

- Take a deep breath – exhale slowly through pursed lips – think RELAX. Now slowly count backwards from 10. Ten-nine-eight-seven-six…you are relaxed…five-four-three-two-one. You should feel relaxed and refreshed.

Shoulder Shrugging

- Stand or sit with your feet apart and your arms relaxed.
- Shrug your shoulders and tighten the muscles as much as possible.
- Relax and rest.
- Repeat.

Elbow Circling

- Sitting comfortably, place your hands on your shoulders.
- Circle your elbows forward four times and backward four times.
- Relax.

Head Circling

- Roll your head loosely from side to side in a forward semi-circle.
- Don't roll your head back.
- Relax.

Chapter Seven: Use Your Breathing Aids

Several kinds of devices are used to treat chronic lung disease. Most of them help put medicines, oxygen, or moist air deep into the lungs and help clear mucus out of your airways.

Perhaps you're wondering if you should be using a breathing aid. If you know what each kind is for and how it works, you'll be able to discuss your needs with your doctor.

If you're already using one of the devices, this information may help you get more benefit from it.

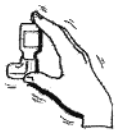
Inhalers and Nebulizers

An inhaler is a sprayer made to deliver a dose of medicine that you can breathe deeply into your lungs. In a metered-dose inhaler, the medicine comes packaged in a spray container. Nebulizers plug into electric outlets in the wall and operate with compressed air or oxygen.

If your doctor orders a nebulizer, a nurse or a respiratory therapist should show you how to use and clean it. Tell your doctor if you feel you need nebulizer treatments more often than they're prescribed.

Here are some steps to follow when using a handheld nebulizer:

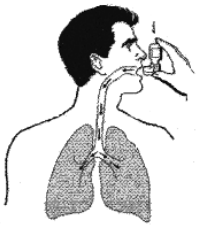
1. Assemble your device for use.



2. Empty your lungs by breathing out slowly through pursed lips.

3. Put the end of the nebulizer into your mouth, just past your front teeth.

4. Keep your mouth open so that you can breathe in extra air. That helps carry the medicine deep into your airways.



5. After each inhalation, hold your breath for at least a few seconds. This lets your medicine settle deeply in the airways.
6. Breathe out slowly.
7. Stop to cough up mucus.
8. Repeat as often as your doctor directs.

Here are some steps to follow when using an inhaler:

1. Remove the cap from the mouthpiece. Shake the entire unit.
2. Breathe out completely.
3. Hold the inhaler properly by placing your index finger on the top of the metal canister and your thumb on the bottom of the plastic mouthpiece. Place the inhaler one or two inches away from your mouth.
4. Press the top of the canister down firmly. At the same time, inhale deeply and slowly through your mouth.
5. Continue to inhale deeply. Hold your breath for 5 to 10 seconds.

6. Release the canister and remove the canister from your mouth. Breathe out slowly.
7. If your doctor has ordered more than one puff, wait at least 1 minute before the next puff. This allows the first puff to open your airways, enabling the second puff to penetrate more deeply.
8. Repeat above steps for each puff.
9. Do not increase the number or frequency of puffs without asking your physician.

Care of your inhaler

1. Wash your inhaler thoroughly at least once a day. The mouthpiece may get blocked unless cleaned daily.
2. Remove the metal canister and rinse the mouthpiece and cap in warm water.
3. Dry thoroughly.
4. Do not puncture or destroy your inhaler by fire because its contents are under pressure. Do not store or use near heat or open flame.

Rinse your mouth with water or mouthwash after using your nebulizer or inhaler. Swallowing the medicine could upset your stomach.

Ask your doctor to advise you about what approach is best for you. Your doctor and pharmacist may also provide a “spacer”, if needed that extends your inhaler to help you deliver more medicine into your airways.

Oxygen

If there is too little oxygen in your blood, your doctor may order oxygen equipment for you to use at home.

Oxygen is a medicine. You need to take the right amount at the right times. To do that, you need to understand how to use the equipment that delivers the oxygen to your lungs. If you’re using oxygen equipment at home, a nurse, therapist, or technician should show you:

- How to use the equipment.
- How to take care of it.
- How to tell when it’s time to order more.

Your doctor will tell you:

- What kind of equipment to use.
- What flow rate you should set it at.
- When to use it and for how long.

Never set the flow rate higher or use oxygen more than what your doctor prescribes. Too much oxygen can damage your lungs and even slow your breathing.

For Safety: Your oxygen tank will not explode or burn. Oxygen does not burn, but it does help other things burn faster.

To prevent fires:

- There should be no smoking in the room where oxygen is being used.
- Keep the tank at least 10 feet from an open flame, gas stoves, pilot lights in water heaters and furnaces, and wood-burning stoves.
- Keep the tank at least 10 feet from electrical equipment that may spark.

Humidifiers and Vaporizers

If your fluid intake is not adequate, dry air can make the mucus in your lungs sticky and hard to cough up. When mucus stays in your lungs, it clogs your airways and supplies a place for infections to grow.

A humidifier or a vaporizer puts moisture in the air. When you breathe in, it helps soften and loosen the mucus. Then you can cough it up. However, a humidifier or vaporizer can also become a place where germs grow. The equipment must be cleaned carefully, at least once a week, according to the directions that come with it.

Note: The best way to thin mucus is to drink more fluids. A humidifier or vaporizer may not be necessary unless your doctor limits your fluid intake. Ask your doctor to be sure.

Other equipments
Other kinds of equipment are sometimes used at home. They should be used only with your doctor's approval.

- Air filters or purifiers may be useful, especially if you live in an area of high pollution or if allergies complicate your lung disease. However, many of these devices produce ozone, a gas you should not breathe. Check with your doctor and medical equipment supplier before buying one.
- Electric vibrators or percussors may be recommended if chest vibration is part of your home physical therapy routine and if your home-helper is unable to do it without one.
- A suction apparatus is used to remove mucus after some kinds of surgery and in some cases when other treatments fail to remove mucus.

Before you buy: Ask your doctor's advice before spending your money on any device to treat your lung disease. Some products being advertised are not helpful and may be dangerous for you, and insurance companies will not pay for devices you buy without a prescription.

If your doctor prescribes a breathing aid, shop as you would for a new power tool or washing machine. Ask suppliers about prices and especially about service. Find out how they handle the need for repairs and replacement parts.

Chapter Eight: Help Your Medicines Help You

Perhaps you've been told that there are no wonder drugs to cure your lung disease. There are, however, several kinds of medicines that may help you control it and live with it.

You and your doctor need to work together to find the best medicines and the right amounts for you. That isn't always easy because no two persons with lung disease are alike. You may have to try many products before finding which ones help you the most. You'll get the best help from your medicines if you, your doctor, and your pharmacist work together as a team.

Isn't it my doctor's job to worry about my medicines?
Your doctor's part is to decide which medicine to use and to give you directions for using them. The rest depends on you.

How can I work with my doctor on medicines?
Your doctor needs to know how your medicines affect you. Carefully report good effects and also any unwanted effects.

- Do your best to take your medicines on time and in the correct amounts. If you want to stop taking any medicine for any reason or if you want to take more or less than directed, be sure to discuss it with your doctor first.
- Tell your doctor about all the medicines you use. Include prescriptions from other doctors and over-the-counter products, even if you don't use them every day. Don't forget cough medicines, sprays, nebulizers, aspirin, laxatives, antacids, birth control pills, vitamins, food supplements and herbs. When you get a new prescription, ask your doctor or pharmacist if this will affect the use of your other medicines.
- Keep the medicines you're using in a box or tray separate from others you may have. Keep them in the containers they come in. If you go to a new doctor or to a hospital emergency room, take them with you. That can save time and avoid mistakes.
- Tell your doctor if any medicine is too expensive for you to keep buying. There may be a cheaper substitute.

I don't think the doctor I'm going to is helping me. My medicines don't help much. What should I do?
It's always your right to ask for a second doctor's opinion on your treatment. Your doctor can give you the name of someone else to see or you can call your Lung Association. But remember, there's no cure for your disease. Doctor shopping can waste time and money. You'll get more help if you find and stay with a doctor who is knowledgeable about lung disease and who shows an interest in helping you.

What are you taking?
Several kinds of medicines may be used to treat chronic lung disease. Ask your doctor or nurse to help you, and write the names and directions for each of your medicines in the spaces below and in the groups they belong to.

Bronchodilators

Bronchodilators are for opening your airways to let more air in and out. They come in several forms, including pills, liquids, and sprays. Tell your doctor if they make you feel nervous, if you can't sleep, if your stomach is upset or if your heartbeat feels fast. To help avoid side effects, be sure to use them as prescribed by your doctor.

Inhaled Bronchodilators

The inhaler form is designed to deliver the drug directly into the lungs, without much of an effect on the rest of the body. (Bronchodilators in pills form may be easier to take, but they may also affect the rest of the body. Examples are Proventil SR*, Volmax and Terbutaline. Also, bronchodilators in pills will not give you immediate relief).

When should I use the inhaler?

Use the inhaler as often as your doctor prescribes. Metaproterenol and albuterol inhalers are used during an acute attack of shortness of breath. If you do not receive relief from the prescribed dosage, notify your doctor. Do not use the inhaler more often than directed since excessive use may increase the chance of serious side effects.

What should I do while I am on this medication?

Know the generic (chemical) and trade (brand) name of your inhaler.
Examples are:

GENERIC	TRADE
METAPROTERENOL	ALUPENT, METAPREL
ALBUTEROL	PROVENTIL, VENTOLIN
IPRATROPIUM	ATROVENT (NOT FOR ACUTE ATTACKS)
TERBUTALINE	BRETHAIRE
PIRBUTEROL	MAXAIR
TIOTROPIUM	SPIRIVA
FORMOTEROL	FORADIL
ALBUTEROL + IPRATROPIUM	COMBIVENT
SALMETEROL	SEREVENT

- Keep a list of your medications with you at all times.
- To deliver the correct dose the inhaler must be used in the upright position – sit up or stand.
- Shake inhaler before EACH puff.
- You may need a "spacer" device to improve the delivery of these inhalers.
  e.g. – Inspirease
  - Aerochamber
- If inhaling more than one puff per dose, wait at least 1 minute before taking the second puff.
- If you use a steroid inhaler in addition to an inhaled bronchodilator, use the bronchodilator first and wait 5 to 10 minutes before using the steroid inhaler. Then rinse your mouth with water afterwards.
- To obtain maximum benefit from your inhaler, it is important to know how to use it properly. If you have any questions, ask your doctor or pharmacist.
- Clean inhaler regularly with warm water.

Common side effects
Palpitations, nervousness, hand tremors, headache, nausea, dry mouth or throat, and cough. Notify your physician if you experience chest pain, dizziness, or any bothersome side effects occur.

Other Oral Bronchodilators
(THEOPHYLLINE, AMINOPHYLLINE)
They are used to treat asthma, chronic bronchitis, and emphysema. This medicine works well in combination with inhaled bronchodilators. It is important to strictly follow directions when using these medications.

When should I take this medication?
- Take the medicine exactly as directed, at regular intervals even if you feel well.
- If you miss a dose, take it as soon as possible. Do not double-up on the next dose since overdose can be serious.
- If you are taking extended-release tablets (e.g.: THEODUR), do not chew or crush.

What should I do while I am on this medication?
- Know the generic (chemical) and trade (brand) name of your medication.

GENERIC	TRADE
THEOPHYLLINE SR	THEODUR
	UNIDUR, UNIPHYLL
	THEOCHRON
	THEO-24 SLOBID
AMINOPHYLLINE	PHYLLOCONTIN
	TRUPHYLLIN

- Keep a list of your medications with you at all times.
- You need a certain amount of medicine in your body for its maximum effect. Your doctor will perform a periodic blood test to check the level and adjust the dose accordingly.
- Do not increase the amount you take when you are not feeling well. To do so may increase the chance of serious side effects.
- Do not take other medicines, including nonprescription medicines without checking with your doctor.
- Several medications interact with oral bronchodilators, so your dosage may need to be adjusted.

Common side effects
Nausea, vomiting, loss of appetite, nervousness, seizures, lightheadedness, insomnia, headache, dizziness, and palpitations.
Notify your doctor if side effects occur because your dosage may need to be adjusted.

Steroid Inhalers
What is a Steroid?
A STEROID is a hormone that reduces inflammation and is often used as part of the treatment for a number of different diseases. As an inhaler, it is used to treat breathing problems. It is used on a chronic basis to prevent acute attacks of breathing difficulties. The inhaler form is designed to deliver the drug directly into the lungs, without much of an effect on the rest of the body. Steroids also come as pills (e.g. **Prednisone**, **Deltasone**, **Medral**) and as injections. Your doctor may also choose an anti-inflammatory inhaler that doesn't contain steroids. Examples are INTAL (Cromyln Sodium) and TILADE (Nedocromil).

When should I take this medication?

- Take this medication on a regular schedule as your doctor prescribed to prevent acute attacks.
- DO NOT use this medication during an acute attack. It will NOT relieve your difficulty in breathing.
- Allow at least one minute between inhalations (puffs).
- If you are also on a bronchodilator (ATROVENT, ALBUTEROL, ALUPENT) use your steroid inhaler several minutes after the bronchodilator.

What should I do while I'm on this medication?

- Know the generic (chemical) and trade (brand) name of your inhaler.

GENERIC	TRADE
BECLOMETHASONE	Q-VAR
TRIAMCINOLONE	AZMACORT
FLUNISOLIDE	AEROBID, AEROBID M
FLUTICASONE	FLOVENT
BUDESONIDE	PULMICORT

- Keep a list of your medications with you at all times.
- Rinse your mouth with water or mouthwash after each use to help reduce dry mouth, mouth infections and hoarseness.
- Notify your doctor if sore throat or mouth sores occur.
- DO NOT stop taking this medication without first checking with your doctor. If you stop taking steroids suddenly, you can become seriously ill. Steroids must be stopped gradually.
- This medication takes weeks to months of regular use before its beneficial effects can be felt. Do not be discouraged if you do not feel its effects right away.
- Know the technique of using an inhaler. If you have any question, ask your doctor or pharmacist.

Common side effects

Throat irritation, hoarseness, dry mouth, coughing, weight gain, skin discoloration, and stretch marks.

Notify your doctor if you notice any of the following: mouth sores, sore throat, fatigue, nausea, vomiting, weight loss, decrease appetite, frequent infections, weakness, and dizziness.

Name:

_____

Directions:

_____

Combination Bronchodilator and Steroid

Inhaled medications are now available that combine a long-acting bronchodilator with an inhaled steroid. These are for maintenance only and not for rescue. Examples are Advair, Symbicort and Dulera.

ANTIBIOTICS USED FOR LUNG INFECTIONS

Antibiotics are used to treat infections caused by bacteria. The antibiotics are taken by mouth or are injected with a needle. When you need an antibiotic, your doctor will choose the best one for attacking the kind of infection you have. If you think you're getting an infection, call you doctor right away. Don't wait. Don't take a medicine left over from another illness or one that was ordered for someone else. Tell your doctor if your antibiotic upsets your stomach, causes diarrhea, or causes a skin rash. Ask your pharmacist if there are special instructions with your medicine, such as avoiding milk or food.

When should it be used?
Antibiotic therapy is usually begun within 24 hours of sputum changes. These changes in sputum can include increased production, thicker consistency, or a yellow, green or brown color. There may be fever, chills or sweats.

Doses should be taken at regularly spaced intervals. Follow the instructions on your prescription label carefully, and ask your doctor or pharmacist to explain any information that you do not understand.

What should I do while I am on this medication?

- Know the name of the antibiotic you are on. Some antibiotics commonly used to treat lung infections include: AMOXICILLIN, AUGMENTIN, ERYTHROMYCIN, TRIMETHOPRIM-SULFA (SEPTRA, BACTRIM), CIPRO, BIAXIN, ZITHROMAX, CEPHALEXIN, CEFACLOR, CEFTIN.
- Take all the medication as prescribed, even after you begin to feel well, to make sure that all the bacteria have been killed. If you still have signs of infection after taking all of your medication, contact your doctor.
- If you have had a reaction to an antibiotic before, write down the name of the antibiotic and keep it with you at all times.

Side effects
Antibiotics are usually well tolerated. Notify your doctor if skin rash, itching, hives, shortness of breath, or severe diarrhea occurs.

Name:

_____

Directions:

_____

Oxygen
Oxygen comes in tanks and small units that you can carry. If you have too little oxygen in your blood, your doctor may order oxygen for you to use at home. Your blood oxygen may be low even though you don't feel particularly short of breath. Small units with shoulder straps can be carried outdoors to let you be more active.

Some people refuse to use an oxygen device because it makes them feel self-conscious or because they believe it is only for patients who are terribly ill. Today, oxygen therapy is often used for persons with heart and lung diseases who are well enough to be at home. Using a portable unit is a lot like using crutches, glasses, or a hearing aid. Oxygen therapy isn't for everyone, but if your doctor orders it for you, it can be a safe way to help you be more active and less short of breath.

Treat oxygen like any other medicine. Don't hesitate to use it if your doctor says you need it. And don't use more than your doctor prescribes.

Directions:

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_____

Diuretics

Diuretics (water pills) are used to get rid of extra fluid in your body. Your doctor will decide whether you need them. You may be able to manage a fluid problem simply by cutting down on the amount of salt you eat. Tell your doctor if diuretics cause weakness or muscle cramps.

Name:

_____

Directions:

_____

Potassium Supplements

Potassium Supplements may be needed, especially if you're taking diuretics. Diuretics can cause your body to lose potassium. Instead of prescribing supplements, your doctor may suggest high-potassium foods like orange juice, bananas, dried fruits and skim milk.

Name:

_____

Directions:

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Sedatives and Tranquilizers

Sedatives and Tranquilizers can help you relax and sleep. But they can also slow your breathing dangerously if you take too many. Be sure that the doctor treating your lung disease knows about any sedatives or tranquilizers you take. If you think you need more than the amount prescribed, ask your doctor.

Name:

_____

Directions:

_____

Vaccines

Vaccines are important to help fight off some types of flu and pneumonia. Those illnesses can be dangerous to you. Keep your vaccine shots up-to-date.

Next flu shot needed (date):

_____

Pneumonia shot needed:

_____

Others

In the space below, write down names of all other medicines you use and your doctor's directions for using them. Add the products you buy over-the-counter.

Name:

_____

Directions:

_____