Living with Lung Disease
Strategies for Breathing Easier

A HANDBOOK FOR PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

VNA of Middlesex-East
Home Health and Hospice
Hello!

The VNA of Middlesex-East is pleased to help you manage your pulmonary rehabilitation and hopes this booklet will further assist you in reaching your optimal health.

Chronic Obstructive Pulmonary Disease (COPD) is a serious condition but many people lead a full, enjoyable life when the condition is managed with medications and healthy lifestyle changes. We are here to help you incorporate these changes in your life.

While we are caring for you, you will learn about your disease and receive recommendations on how to manage your lifestyle. Advice will be given on appropriate medication management, diet tips, breathing techniques and exercise plan. The habits you learn from our COPD program can help alleviate your symptoms, slow the disease’s progress, and improve everyday life for you.

Please do not hesitate to call your nurse or rehabilitation therapist at any time.

Good luck on taking control of your life!

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Chronic Obstructive Pulmonary Disease

Understanding your condition will help you better manage your health. The following information will give you an overview of pulmonary disease.

What is COPD?

Chronic obstructive pulmonary disease (COPD) is a condition that affects the lungs and airways. Chronic means the condition is long term. You will have it the rest of your life, but you can learn how to manage it. COPD refers to a number of chronic lung disorders that obstruct the airways. The most common form of COPD is a combination of emphysema and chronic bronchitis.

Emphysema occurs when some of the alveoli (air sacs) deep in your lungs have been damaged. The walls of the air sacs lose their ability to stretch and recoil and then begin to enlarge. It is then difficult for the lungs to absorb enough oxygen or expel enough carbon dioxide. Emphysema causes irreversible lung damage.

Chronic bronchitis occurs when the lining of the bronchioles become inflamed and produce too much mucus. The swelling and excess mucus narrow the airways and restrict airflow into and out of the lungs.

How Does COPD Feel?

Here are some common symptoms of COPD. You may have several of these symptoms or only one. The frequency of the symptoms may vary. Your nurse will instruct you and your family on how to control each symptom at home. This will enable you to take control of your symptoms at home and prevent hospitalizations.

- Weakness or tiredness
- Increased mucus
- Cough
- Shortness of breath, particularly with increased activity
- Periods of high anxiety
- Dizzy spells
- Swelling in the feet and/or ankles
- Insomnia
How Your Lungs Work

The primary role of your lungs is to get oxygen to your blood. Breathing is your body’s way of doing this. Normally, your lungs take in oxygen when you inhale fresh air and push out carbon dioxide when you exhale. As you inhale the fresh air, the oxygen is absorbed into the bloodstream and the carbon dioxide is removed. The lungs also act as a filter, cleaning the air you breathe in. The lungs ability to function is dependent on three major components; the bronchi, alveoli, and the diaphragm.

The Bronchi
The bronchi are air passages connecting the windpipe (trachea) with the sacs of the lung (alveoli), where oxygen is taken up by the blood. Like a branch, each bronchus divides again and again, becoming narrower and narrower.

The Alveoli
When air enters your lungs, it goes through a maze of smaller and smaller tubes (bronchi) until it reaches tiny sacs called alveoli. The sacs look like bunches of grapes at the end of the bronchial tubes. The alveoli are where the oxygen from the air enters your blood, and the carbon dioxide from your body goes into the air. Alveoli are very tiny, but you have a lot of them in your lungs. In fact, you have 300,000,000 alveoli in each lung. That’s six hundred million in total – and your body needs them all to get enough oxygen into your blood.
The Diaphragm
The diaphragm is a big sheet-like muscle that’s at the bottom of your chest cavity. The diaphragm helps you get air in and out of your lungs by moving up and down. When your diaphragm moves up, you breathe out. Try taking a deep breath. Can you feel a stretching feeling in your stomach? That’s your diaphragm moving down as you breathe in. Now breathe out – try until no more comes out. The tightness you feel below your chest is your diaphragm pushing up to get the air out. Without your diaphragm, your lungs could not fill up with air or push old air out.
COPD and Good Nutrition

Eating a balanced diet will make your body stronger. You should eat a variety of food every day. When you have COPD, eating large meals may lead to shortness of breath.

**Eat six small meals each day, instead of three large meals.** Chewing and digesting food uses up oxygen. When you eat a small meal, you use up less oxygen than when you eat a large meal. In addition, a large meal fills your stomach. A full stomach presses on your diaphragm. The diaphragm is the main muscle we use to breathe. When your stomach presses on your diaphragm, it is harder for you to breathe.

**Avoid gas-forming foods** Some foods form gas that can cause pressure against your diaphragm. Avoid these foods:
- all beans (except green beans)
- broccoli
- brussels sprouts
- cabbage

- cauliflower
- cucumbers
- melons
- onions
- raw apples
- turnips

**Tips for Healthy Eating**
- A healthy eating program is made up of carbohydrates, protein, and fats.
- A diet with less than 2000 mg. of sodium a day helps control blood pressure and decreases fluid in your lungs and extremities.
- Eat fresh fruits, vegetables and meats, poultry and fish; processed, cured, canned, pickled, or instant food are usually high in sodium.
- Put away your saltshaker! Cook with and add spices, garlic, or lemon to your foods to enhance flavor.
- Fresh herbs and spices along with different vinegars make tasty alternatives to salt.
- When dining out, request your food to be prepared without salt, have dressings and sauces served on the side; avoid bacon bits, prepared pasta and potato salads, cheeses, and croutons.
- Salt is an acquired taste. Your taste buds can be retrained in less than two to three weeks.
Your Pulmonary Rehabilitation

Rehab therapy will help you understand different shortness of breath levels as well as breathing exercises to diminish that shortness of breath. Your therapist will work with you on what positions and exercises are best for you. Remember, you are an individual and your symptoms will respond to a specific plan of care.

Action Guidelines for Levels of Shortness of Breath

**Level 1**
NO SHORTNESS OF BREATH

**Symptoms:**
- Slight awareness of the need to breathe.
- Able to carry on a conversation without shortness of breath.
- Count to ten in one breath.

**Action to take:**
- None

**Level 2**
MILD SHORTNESS OF BREATH

**Symptoms:**
- Only able to converse in short sentences.
- Must breathe after each sentence.
- Need an additional breath when counting to ten.

**Actions to take:**
- Stop all activity (you don’t need to sit) and do deep breathing.
- Resume activity when you return to Level 1.

**Level 3**
VERY SHORT OF BREATH

**Symptoms:**
- Breathing is rapid.
- Only able to speak in very short phrases of three to four words.
- Two or more breaths required to count to ten.

**Actions to take:**
- Stop activity and sit down, do deep breathing.
- Do not resume any activity until you return to Level 1.
Coping Strategies for Shortness of Breath

The following coping strategies from the American Lung Association can help you regain a comfortable breathing pattern. Choose the positions that work for you.

**Sitting**... Sit with your back against the back of a chair. Your head and shoulder should be rolled forward and relaxed downwards. Rest your hands and forearms on your thighs, palms turned upwards. Do not lean on your hands. Your feet should be on the floor, knees rolled slightly outwards. Maintain this position until breathing is normal.

**Sitting**... Lean back into the chair in a slouched position, your head rolled forward, shoulders relaxed downward. Rest your hands gently on your stomach. Keep your feet on the floor, knees rolled outward. Maintain this position until breathing is normal.

**Standing**... Lean with your back to the wall, or pole, etc. Place your feet slightly apart and at a comfortable distance from the wall, with your head and shoulders relaxed. Maintain this position until breathing is normal.

**Standing**... Place your arms on a kitchen counter or back of chair, etc. and rest your head on your arms. Do not lean on your arms. Bend knees slightly, with one foot in front of the other. Maintain this position until breathing is normal.
How to Control Your Breathing

Knowing how to control your breathing will help you to remain calm when you are short of breath. Try these techniques:

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

- Breathe in slowly through your nose for 1 count
- Purse your lips as if you were going to whistle and breathe out gently through pursed lips for 2 slow counts (exhale twice as slowly as you inhale) – let the air escape naturally and don’t force the air out of your lungs.
- Keep doing pursed lip breathing until you are not short of breath.

That’s all there is to it! After practicing this technique regularly, you’ll see that it will become a natural way of breathing when you are doing any physical activity or when you are short of breath.

**Diaphragmatic Breathing**
Individuals with chronic respiratory disease often have a weakened and flattened diaphragm (the major muscle of breathing). Diaphragmatic breathing (or belly breathing) involves training and strengthening your diaphragm to ease the work required for each breath.

- Put one hand on your upper chest, and the other on your abdomen just above your waist.
- Breathe in slowly through your nose – you should be able to feel the hand on your abdomen moving out (the hand on your chest should not move).
- Breathe out slowly through your pursed lips – you should be able to feel the hand on your abdomen moving in as you exhale.
Controlled Coughing

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 clear your airways. A useful cough should not tire you or take your breath, or 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. Breathe in by sniffing gently.
5. 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.

When to do it
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 medicines. Your goal is not to stop coughing. It is to use your cough to help clear your airways whenever you need to.

How does it work
When your airways are 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 are deep 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.

Conserve Your Energy

Energy conservation means avoiding fatigue by finding the easiest ways of doing your work, and achieving a good balance between work and rest.

General Principles of Energy Conservation

Pacing
- Balance activities and rest
- Steady work = decreasing efficiency
- Periodic breaks = maintained efficiency
- Rest following meals
- Use slow rhythmic movements

Planning
- Time management is important
- Develop a healthy schedule

Prioritizing
- Set priorities
- Eliminate unnecessary tasks

Posture
- Make correct use of your body in all tasks
- Keep your work within easy range
- Change positions frequently
- Make sure your work is at the proper height

Proficiency
- Organization is essential
- Use equipment that is best suited to the job and requires the least amount of work
Take Care of Your Emotional Health

Your emotional health is as important as your physical health. They both play an equal part in how you are feeling. It is no secret that shortness of breath and anxiety do not mix well. Below is an example of how anxiety can increase physical discomfort.

Stop the Cycle!

The key to controlling panic is to break the cycle before it starts. When you feel yourself becoming short of breath, stop what you are doing. Assume a "shortness of breath position" and begin pursed lip breathing. Breathe in slowly and deeply, then exhale slowly and fully. Take at least twice as long to exhale as to inhale. Continue to do this until you feel more in control of your breathing. Follow this with your choice of relaxation tips.
The Cycle of Debilitation from Respiratory Disease

You first feel short of breath from moderate exertion.

You then avoid such activities to control shortness of breath. But lack of activity causes muscles to weaken and weak muscles use more oxygen than strong ones.

You soon feel short of breath from mild exercise such as walking, and may make the mistake of further avoiding exercise.

As the body further weakens, you can become short of breath when bathing, dressing and even at rest.

Break this downward cycle!

Exercise and stay active!!
Exercise

You can benefit from exercise training at all stages of COPD. Exercise is very important. It builds your endurance, strength, and flexibility. Some people try exercise and become short of breath, so they stop. They may think shortness of breath, fatigue, or muscle weakness makes exercise impossible. The truth is the less active you are, the weaker your muscles become. Your muscles then need more oxygen, and you become more short of breath. But you can work to get your body into better shape. Regular exercise can condition your muscles and make them more efficient. You then may feel less short of breath when you perform activities of daily living.

The therapist and/or nurse will assist you in learning and determining how often you should perform the following exercises:

Arm raising
Raise one arm above head as you breathe out. Hold and slowly lower your elbow to waist level again, while breathing in. Repeat with the same arm, then swap to the opposite arm. (In time, consider adding a weight (such as a can of beans.)

Arm extension
Begin with arms by sides. While breathing out, lift right arm up to shoulder level keeping arm straight (like a bird flying). Return arm to side while breathing in. Repeat with other arm.

Elbow circles
Sit or stand with your feet slightly apart. Place hands on shoulders, with elbows at shoulder level. Circle elbows forward, up and out. Breathe out as elbows move forward and up and breathe in when returning to starting position.

Elbow breathing
Sit with feet slightly apart. Lift elbows to shoulder level with fingertips touching at front of chest. Pull elbows back while breathing in, so finger tips come apart. Breathe out and return finger tips to starting position.
**Side bend**
Place right arm across body with right hand on left lower ribs. While breathing in slowly through your nose bend over to your left, dropping left hand towards the floor. Breathe out through pursed lips as you return to upright position. Repeat this exercise with left arm.

**Hand behind head**
Stretch right arm above head, then bend right elbow and lower right hand to back of neck. Then straighten elbow and stretch hand upward to return to starting position. Repeat 3 times and then repeat with left arm above head.

**Knee extensions**
Sit with feet slightly apart. Straighten one knee as you breathe out. Breathe in as your foot returns to the starting position.

**Leg lifts**
Sit with feet slightly apart. Lift one knee up towards your shoulder as you breathe out. Breathe in as you return your knee to the starting position.

**Step ups**
Find a small step near something you can hold on to. Breathe out as you step up onto the step. Breathe in as you step down. Change to other leg and repeat.
Using Breathing Equipment and Aides

Oxygen

If your lungs are damaged and not properly carrying oxygen to your blood, your doctor may prescribe oxygen. Oxygen is a medicine that is commonly delivered as a gas from an oxygen cylinder and/or concentrator through a facemask or nasal cannula. The oxygen prescribed by your doctor will increase oxygen in your blood thereby decreasing shortness of breath and other symptoms.

The amount of oxygen needed varies from person to person so your doctor will prescribe the amount that is best for you. It is important to treat your oxygen as any other medicine. Don't hesitate to use it if your doctor says you need it but don't use more than your doctor prescribes. Oxygen is supplied by medical equipment companies. Your nurse will contact the company and provide them with your doctor's order for the oxygen. A respiratory therapist will then deliver the oxygen and instruct you and your family on the proper use and maintenance of the equipment. Your nurse will also provide instruction.

Oxygen Safety Guidelines

Oxygen itself does not catch fire, but it supports fire. If anything near the oxygen source ignites, it will flame very quickly.

● Never smoke while you are wearing oxygen
● Do not allow anyone to smoke around you. Put a “No Smoking” sign on your door.
● Do not use oxygen while cooking with an open flame. Appliances such as gas stoves, gas grills, and charcoal grills have an open flame. You can be very badly burned by an open flame that flares near oxygen. Talk to your doctor if you have an appliance with an open flame.
● Keep yourself and your oxygen equipment and tubing at least 5 feet away from any heat source that could ignite it. Some of these sources are hot pipes, candles, fireplaces, matches, stoves, and space heaters, even when not in use. Talk to your home oxygen supplier about a safe place and safe distance for your oxygen equipment in your home.
● Do not use appliances that may create a spark while you are wearing oxygen. These include hair dryers and electric shavers.
● Be careful when you unplug any appliances while you are wearing oxygen.
● Do not use any oil-based creams or lotions, vapor rub, petroleum jelly, or hair dressings such as hair spray or gel when you are using oxygen.
● Do not use flammable products while wearing oxygen. These include cleaning supplies and aerosol sprays.
● Do not store large amounts of paper, fabrics, or plastic near oxygen containers.
● Store oxygen containers upright in an open, well-ventilated area. Be sure the containers cannot tip over.
● In a car, secure the container in an upright position. Keep the windows cracked. Never store oxygen in the trunk or leave it unattended in the car – wear your oxygen.
Oxygen Devices

Your doctor will prescribe the type of oxygen device, the flow rate, and how and when to use it. You should think of oxygen as a medicine. Use it as your doctor prescribes. You need to wear the oxygen as prescribed even when you feel fine. Talk to your doctor about changes in your oxygen prescription.

With any oxygen device, you can use 50 feet of tubing to move easily around your home. Be careful not to get caught or trip on the tubing. The following describes three types of oxygen devices.

Liquid
Liquid oxygen is the most portable type. This system is the easiest method for people with an active lifestyle. The device you carry weighs only about seven pounds and allows you to move easily. You keep a base tank at home that must be refilled every seven to 10 days. You fill the portable tank from the base tank as needed. How long the portable tank lasts depends on its size and the amount of oxygen you use. (The oxygen used is measured in liters per minute.) You must learn to plan ahead. You cannot let your portable tank become empty when you are away from the base tank.

Compressed gas
This type of oxygen is compressed into a cylinder and stored as a gas. The cylinders come in different sizes and must be replaced when almost empty. When you leave the house, there are smaller, portable cylinders of oxygen (“take-out” gas) to carry with you. You must plan ahead for how long the oxygen in your portable cylinder will last. Your home oxygen company will help you to calculate how much you need. In most cases, these cylinders cannot be refilled at home. They must be replaced. Be sure to store and safely secure all compressed oxygen cylinders.

Concentrator
This device stays in your home. It pulls oxygen from the air, concentrates it, and stores it. There is no need to have tanks refilled. Concentrators run on electricity and may increase your electric bill. Keep a compressed cylinder at home as a back-up in case of a power outage.

Traveling with Oxygen

Don’t let your need for oxygen stop you from traveling. You can travel by air, car, bus, train or boat when you plan ahead. Your doctor and home oxygen company can help you to arrange for travel. Before taking a plane trip, it’s very important to talk to your doctor about extra oxygen for your flight. Special arrangements with the airline will be necessary. You also need to give advance notice for travel by bus, train or cruise ship to arrange for oxygen with the carrier. You may need to get a prescription from your doctor. Request seating in a no-smoking area. For travel by car, do not allow smoking in the car.
Other Breathing Aides

Nebulizer
Your doctor may also prescribe a nebulizer. A nebulizer is a sprayer that delivers a mist of medicine for you to breathe deeply into your lungs. It plugs into the wall and operates with compressed air or oxygen. Your medicine goes into a special cup in a liquid form. The compressed air then turns the medicine into a mist. When the mist is inhaled properly, medicine enters your lungs and helps to open your airways, making it easier to breathe. Follow these steps when using a hand-held nebulizer:

- Assemble your devise for use.
- Empty your lungs by breathing out slowly through pursed lips.
- Put the end of the nebulizer just in front of your mouth.
- Keep your mouth open so that you can breathe in extra air. That helps carry the medicine deep into your airways.
- Inhale deeply, closing your lips around the mouthpiece of the nebulizer.
- Hold your breath for at least a few seconds in order for your medicine to settle.
- Breathe out slowly through pursed lips.
- Stop to cough up mucus.
- Repeat as often as your doctor directs.
- Rinse your mouth with water or mouthwash as swallowing the medicine could upset your stomach.

Spray Inhaler
You may need to use inhaled medicines. A spray inhaler is easy to use. Remember to breathe in slowly.

1. Take off the cap. Shake the inhaler.
2. Stand or sit up tall. Breathe out.
3. Put the inhaler in your mouth or put it just in front of your mouth. As you start to breathe in, push down on the top of the inhaler and keep breathing in slowly.
5. Repeat if so instructed.
Maintaining Your Pulmonary Health

Daily Activities

Take your medications as prescribed
- Never stop taking your medication or change the dose of your medication unless instructed to do otherwise by your nurse or doctor.
- If you have problems keeping up with your medications, your nurse can help you choose a system that works well for you.

Report any medication side effects
- Medications may have undesired side effects
- Check your medication profile to be certain of dosage and side effects
- Notify your nurse if you experience any of the side effects listed on your medication profile.

Weigh yourself
- Weigh yourself first thing each morning
- If you have a weight gain of 2 to 3 pounds in a normal day of eating – or rapid weight gain within a few days, it could be due to excess fluid in your body.
- Follow the diuretic (water pill) procedure described by your nurse and notify the nurse of the weight gain.

Eat Well
- Eat six small healthy meals a day.
- Follow nutritional guidelines described in this booklet.

Exercise
- Do exercises as described by your therapist daily.

Telemonitoring
- Use the telemonitoring system at the predetermined time.
- If you are experiencing problems with your unit, call us.

Healthy Lifestyle Tips

Plan rest periods with activity
It may be difficult for you to do things that may have been easy in the past. Take your time and plan frequent rest periods.

Don’t smoke
Smoking narrows blood vessels and makes breathing difficult; avoid secondhand smoke.

Avoid alcohol
Drinking can make COPD worse.

Wear loose clothing
Tight clothing can restrict blood flow and lead to clots.

Avoid people with colds and flu
The less stress you put on your respiratory system, the better.

Create a healthier personal environment
Reduced dust and humidity will help you to breathe easier.

Share your feelings
Talk about your anxious feelings with family members, friends, or healthcare personnel.

Learn to relax
Meditation, listening to music, imagining peaceful scenes may help you relax. Take time to do restful activities.

Set realistic goals
You may not be able to walk to the end of your road but you may be able to walk in the yard. With any activity, allow for rest periods.

Participate in your health care decisions
Active involvement in medical and lifestyle decisions will help you to feel more in control of your life.
Congratulations!

You have now successfully completed the COPD teaching program. Our hope is that you are now comfortable and feel you have the control to manage your illness in order to maximize your quality of life.

Remember, much of your continued success rests in your hands; however if there is anything VNA of Middlesex-East can do to help, please call us. Even if you have what you may think is a simple or redundant question, do not hesitate to call us!

Call 1-800-607-4299; press 0 for the operator and ask to speak to a clinical manager.

Thank you for entrusting us to help you enhance your lifestyle.