

# Respiratory Exercises

## A. Breathing Exercises

### 1. Pursed Lip Breathing

You have probably noticed when shortness of breath occurs to an athlete during periods of exercise, they tend to blow the air out of their mouths by puffing out their cheeks. You may have done this as well when you've exerted yourself. This is a normal response to shortness of breath, and it provides for a quick and easy way to improve breathing patterns.

#### What Does It Do?

- Improves ventilation
- Decreases air trapping in the lungs
- Decreases the work of breathing
- Improves breathing patterns
- Causes general relaxation
- Prolongs exhalation—slows down the breathing rate
- Causes a slight back pressure in the lungs that keeps the airways open longer
- Improves the movement of old air out of the lungs and allows for more new air to get into the lungs Procedure

**REMEMBER**—Exhalation must be 3-4 times longer than inhalation, so do not force the air out.

1. Sit down but sit up straight, relaxed
2. Breath in, preferably through the nose
3. Purse lips slightly (as if to whistle)
4. Breath out slowly through pursed lips
5. Do not force the air out

Practice this procedure 4-5 times a day initially to get the correct breathing pattern. You should utilize pursed lip breathing when you are experiencing shortness of breath either at rest or with exertion, or if you feel nervous or apprehensive.

**IMPORTANT**—You may experience a lightheaded feeling while doing pursed lip breathing. This indicates that you are over ventilating yourself and you should breathe more slowly.

### 2. Diaphragm Breathing

The most efficient breathing muscle is the diaphragm. Many people with COPD no longer use this important breathing muscle effectively. This exercise is designed to help you better utilize this muscle in the act of breathing.

**IMPORTANT**—You will notice an increased effort will be needed to utilize this muscle correctly. You will notice, at first, that you'll get tired while doing this exercise. Keep at it, for in a short time you'll begin to notice that it will require less effort to breathe, and you'll be rewarded by being able to do it with less effort.

- Strengthens the diaphragm
- Coordinates diaphragm movement when breathing
- Less effort required to breathe
- Less energy utilized for breathing

### **How?**

- Correctly utilizes the most effective muscle for breathing In the beginning, practice this procedure for 5-10 minutes, 3-4 times a day.

You can gradually increase the length of your exercise period and perhaps the effort required by placing a book on the abdomen.

After you feel comfortable with this procedure, practice while sitting in a chair or while standing.

### **Procedure**

1. Lie on your back in a bed with your knees bent.
2. Place one of your hands on your abdomen.
3. Place your other hand on your upper chest.
4. As you inhale through your nose, make your stomach move out and keep your upper chest as still as possible.
5. As you exhale through pursed lips, let your stomach fall inward. Your hand on the upper chest must remain as still as possible during the entire procedure.

## **B. Walking Exercises**

### **Remember**

- If you have oxygen, check with your physician about the correct amount to use when you're walking.
- Do not attempt to walk and talk while beginning your exercise program.
- Inhale through your nose and exhale through pursed lips.
- Exhale at least twice as long as you inhale. Don't force the air out during exhalation.

### **Walking**

1. Start with short walks. Your breathing muscles and your walking muscles need to get into shape.

2. Use "rhythmic breathing". Count the number of steps you take while inhaling and double the number of steps for exhalation. Example: 2 steps -- inhale, 4 step -- exhale. Do not change the rhythm from inhalation to exhalation.
3. With practice you may find that a 3 to 1 rhythm is more comfortable than 2 to 1. Use the rhythm that is most comfortable for you.
4. Gradually increase your walking distance as you get stronger. Try to add a little more distance every week. Don't overextend yourself.
5. Set reasonable goals. Plan rest stops. Don't allow yourself to get over tired
6. During inclement weather, or times of the year when you're most uncomfortable, you can get your exercise in climate controlled areas like shopping malls or in a more formal environment like a hospital's rehabilitation area.
7. Remember, go slow, don't rush, get stronger and most of all, enjoy yourself.

## **C. Coughing Exercises**

### **➤ Hydration**

Thick , sticky mucus is difficult to cough up, especially with a weakened cough reflex. It is important that you drink enough fluids to keep your mucus thin and loose. Check with your physician to determine how much fluid you should drink daily to keep your cough effective.

Humidify your home or at least the room you sleep in and the room you spend most of your time in. Keep your humidifier clean as they are a possible source of infection.

Do not smoke as smoking takes moisture out of your mucus and makes the mucus thicker.

### **➤ Cough**

Remember, control your coughing as uncontrolled coughing can make you short of breath. Discuss with your physician which type of coughing exercise is best for you.

You should perform these coughing maneuvers whenever you feel the need to cough or as instructed by your physician. A good controlled cough is especially helpful when you first get up in the morning and about an hour before bedtime. Have a cup of coffee or tea first (or other drink recommended by your physician) and relax.

Sit up straight in a chair when attempting these coughing exercises. Have a tissue handy.

#### **○ Exercise A**

1. Sit up straight on a hard-backed, stable chair, relax.
2. Take in 2-3 deep breaths through your nose and exhale slowly through pursed lips.
3. Fold your arms across your abdomen.
4. Take in a comfortable deep breath through your nose.
5. Lean forward, pressing your arms against your abdomen and cough while leaning forward.

6. Relax, rest 5-10 minutes.
7. Perform again if needed.

○ **Exercise B**

1. Sit up straight, relax.
2. Take in 2-3 deep breaths through your nose and exhale slowly through pursed lips.
3. Take in a moderately deep breath, hold breath, expel air while saying H or K once.
4. When you feel comfortable with this exercise try and say the H or K 3-4 times while exhaling.

## **D. Relaxation Exercise**

The following relaxation techniques can help relieve the tension and anxiety that often accompanies your respiratory difficulties. This anxiety can even make you feel worse. By learning to relax your mind and body, you may feel better, and you will be decreasing the amount of oxygen that your body needs.

- To begin, lie down on a comfortable surface and place pillows under your head and knees. If you are more comfortable on your side, use pillows under your head and between your knees.
- Relax
- Lie quietly in a comfortable position. Take a slow deep breath through your nose. Hold the breath for several seconds; purse your lips, and slowly exhale. Relax.
- Take another deep, slow breath through your nose. Hold your breath and pull your toes towards your head and tighten your leg muscles (no longer than a count to 3). Feel the tension. Purse your lips, exhale slowly and relax your legs. Relax.
- Take another deep slow breath through your nose. Hold your breath and tighten your arm muscles. Feel the tension. Purse your lips, exhale slowly and relax your arms and hands. Relax.
- Take another slow, deep breath through your nose. Hold your breath and bite down as hard as you can and tighten your jaw muscles. Feel the tension. Purse your lips, exhale slowly and relax your jaws. Relax.
- Take another slow deep breath through your nose. Hold your breath and lift up your head and tighten your neck muscles. Feel the tension. Purse your lips, exhale slowly, let your head rest back on the pillow, and relax your neck muscles.
- Lie still and enjoy the relaxed feeling you're experiencing. You should do this relaxation technique several times a day, even if you do it while sitting in a chair.