

Objectives/What You Will Learn:

- How the lungs works
- Symptoms of Chronic Obstructive Pulmonary Disease (COPD)
- The aide's role in assisting client's with COPD

The lungs are a pair of spongy, air-filled organs located on either side of the chest (thorax). The trachea (windpipe) conducts inhaled air into the lungs through its tubular branches, called bronchi. The bronchi then divide into smaller and smaller branches (bronchioles), finally becoming microscopic.

The bronchioles eventually end in clusters of microscopic air sacs called alveoli. In the alveoli, oxygen from the air is absorbed into the blood. Carbon dioxide, a waste product of metabolism, travels from the blood to the alveoli, where it can be exhaled. Between the alveoli is a thin layer of cells called the interstitium, which contains blood vessels and cells that help support the alveoli.

The lungs are covered by a thin tissue layer called the pleura. The same kind of thin tissue lines the inside of the chest cavity -- also called pleura. A thin layer of fluid acts as a lubricant allowing the lungs to slip smoothly as they expand and contract with each breath.

Sources- Mosby's textbook for the Home Care Aide, third edition; HHQI Best Practice Intervention Package- Cross Settings II Improving Care Transitions for Chronic patients; WebMD- Lung Disease and Respiratory Health Center

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Kathie Smith, RN: Director of Quality Initiatives and State Liaison AHHC;
Editor in Chief

What does Chronic Obstructive Pulmonary Disease (COPD) mean?

- COPD is a lung disease
- The airways that carry air to the lungs become narrowed and it becomes harder to breathe.
- There are tiny air sacs where the airways end in the lungs.
- These air sacs don't empty and the lungs feel full when someone has COPD.
- Besides feeling short of breath, your client may cough more often and cough up mucous.
- Shortness of breath may keep your client from doing things they would like to do.

- ✓ COPD is a term used to describe a group of chronic diseases (adult asthma, chronic bronchitis, and emphysema) that causes the client to have difficulty inhaling and/or exhaling air from the lungs.
- ✓ Usually there are permanent physical changes in the lungs and alveoli.
- ✓ This condition is also known as chronic lung disease
- ✓ Smoking, lengthy exposure to air pollutants and chronic irritation from dust and fumes in the workplace are factors that contribute to COPD.



More than 12 million Americans are living with chronic lung disease.

Remember * COPD self-care management poses significant challenges for the patient and caregiver. In addition to managing oral medications, patients often must manage oxygen delivery systems and various inhalers.

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The Aide's role in assisting clients with COPD:

- Assist the client to monitor for changes in symptoms and report increased shortness of breath with usual activity level, changes in cough or sputum production.
- Encourage clients to take medications as prescribed and use inhalers correctly, to use oxygen therapy as prescribed.
- Encourage clients to eat a balanced diet with adequate fluids and fiber and to use strategies to minimize shortness of breath during eating.
- Encourage clients to stop smoking – even when already diagnosed with COPD, smoking cessation is the single most effective intervention in stopping disease progression.
- Encourage clients to reduce infection risk through good hand washing and avoiding exposure to others with upper respiratory infections
- Encourage clients to reduce exposure to lung irritants such as extreme temperatures, poor air quality, indoor pollutants, and tobacco smoke.
- Encourage clients to get adequate sleep.
- Encourage clients to increase activity/exercise and use strategies for energy conservation as prescribed by their physician
- Observe for changes in your client and report to your supervisor if the client :
 - ✓ Has increased shortness of breath with usual activity
 - ✓ Is coughing more than usual
 - ✓ Has increased sputum or changes in color
 - ✓ Is using short acting medicines more often
 - ✓ Feels more tired or restless

Never smoke in a home where oxygen is being used!

OXYGEN:

If your client's blood level is low, their doctor will prescribe oxygen. Your client may need to use it all of the time, just during certain times of day, or with activities such as sleep or exercise.

It is very important that your client use their oxygen as the doctor has ordered it – oxygen will help your client feel better and be more active. A medical supply company will deliver and teach your client about their oxygen.

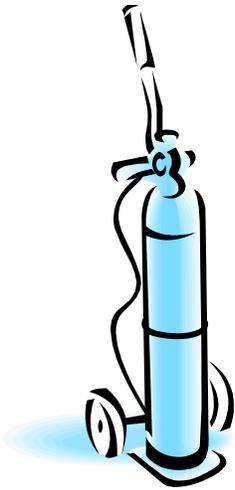
Be sure to follow Oxygen safety precautions- see the additional information at the end of the newsletter for more on Oxygen! Check with your agency and follow policies and procedures related to Oxygen safety. Follow fire safety precautions with Oxygen use in the client's Home. The danger of fire and explosion in the home is always present when oxygen is being used!

Conserving Energy:

Teach your clients how to pace their activities or do them in an easier way. They will do more and be less short of breath.



For more information on AHHC's endorsed risk management and insurance program, visit:
<http://www.homeandhospicecare.org/insurance/home.html>



From the American Lung Association

Supplemental Oxygen

Oxygen is an element, a gas, and a drug that can help people who have certain lung diseases. The cells in the body get their energy from the interaction of oxygen with food. The energy produced is used to do everything from breathing, to carrying out bodily functions, to going to the grocery store. Sometimes with COPD, lung function is reduced to the extent that supplemental oxygen (also called ***oxygen therapy***) is needed to continue normal bodily functions and may also help them be more active.

For people who do not get enough oxygen naturally, supplements of oxygen can have several benefits. Oxygen therapy can improve their sleep and mood, increase their mental alertness and stamina, and allow their bodies to carry out normal functions. It also prevents heart failure in people with severe lung disease.

There are three ways oxygen therapy is supplied:

Compressed oxygen gas and ***liquid oxygen*** are two ways to have oxygen delivered to the home. Oxygen gas is stored in tanks or cylinders of steel or aluminum. These tanks come in many sizes; larger ones are usually used at home, and smaller ones are used for leaving the house. Liquid oxygen is made by cooling the oxygen gas, which changes it to a liquid form. It is often used by people who are more active because larger amounts of oxygen can be stored in smaller, more convenient containers than compressed oxygen. The disadvantage is that it cannot be kept for a long time because it will evaporate.

Oxygen concentrators are also available to use in the home. An oxygen concentrator is an electric device about the size of an end table. It produces oxygen by concentrating the oxygen that is already in the air and removing other gases. This method is less expensive, easier to

maintain, and doesn't require refilling. Some oxygen concentrators, however, give off heat and are noisy. Other drawbacks are that you may notice an increase in your electricity bill, and you will need a back-up source of oxygen in case of a power failure. There are now several reliable **portable oxygen concentrators** that allow people using them to easily leave the home, go to work, enjoy recreational activities and travel.

You might need oxygen therapy all of the time or just part of the time. A doctor's prescription is required for supplemental oxygen.

There are **important safety factors** to keep in mind when using oxygen. Oxygen is a safe gas and is non-flammable, however, it supports combustion. Materials burn more readily in an oxygen-enriched environment. The American Lung Association offers the following safety tips for oxygen use:

- Avoid open flames in the presence of oxygen use - e.g. matches, cigarette lighters, candles, and burning tobacco. Insist that people who wish to smoke step outside your home to protect your lungs and your home.
- Caution must also be used around other sources of heat, such as electric or gas heaters and/or stoves – at least 5 feet is a recommended distance between oxygen and other heat sources.
- People using oxygen should avoid using lotions or creams containing petroleum. The combustion of flammable products containing petroleum can also be supported by the presence of oxygen. Use water-based products instead.
- It is important to store cylinders safely - cylinders should be upright and secure, in an approved cart or device for storage.
- Remember when not in use, oxygen supply valves should be turned off.
- Always follow the instructions of your oxygen supply company regarding safe usage.

For more information call the [American Lung Association Lung HelpLine](#) at 1-800-LUNG-USA (1-800-586-4872)

OSHA[®] FactSheet

Protecting Yourself When Handling Contaminated Sharps

Sharps are objects that can penetrate a worker's skin, such as needles, scalpels, broken glass, capillary tubes and the exposed ends of dental wires. If blood or other potentially infectious materials (OPIM), as defined in the OSHA Bloodborne Pathogens standard (29 CFR 1910.1030), are present or may be present on the sharp, it is a contaminated sharp and appropriate personal protective equipment must be worn.

A needlestick or a cut from a contaminated sharp can result in a worker being infected with human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), and other blood-borne pathogens. The standard specifies measures to reduce these types of injuries and the risk of infection.

Careful handling of contaminated sharps can prevent injury and reduce the risk of infection. Employers must ensure that workers follow these work practices to decrease the workers' chances of contracting bloodborne diseases.

Safer Medical Devices

Employers are required to consider and use safer medical devices, wherever possible. These devices include those that are needleless or have built-in protection to guard workers against contact with the contaminated sharp. In addition, employers must ask non-managerial patient care workers who could be exposed to contaminated sharps injuries for their input in identifying, evaluating and selecting effective work practice and engineering controls, including safer medical devices. The employer must document consideration and implementation of these devices, and the solicitation of worker input, in the Exposure Control Plan.

Prompt Disposal

Employers must also ensure that contaminated sharps are disposed of in sharps disposal containers immediately or as soon as feasible after use. Sharps disposal containers must be readily accessible and located as close as feasible to the area where sharps will be used. In some cases, they may be placed on carts to prevent patients, such

as psychiatric patients or children, from accessing the sharps. Containers also must be available wherever sharps may be found, such as in laundries.

Contaminated sharps must never be sheared or broken. Recapping, bending, or removing needles is permissible only if there is no feasible alternative or if such actions are required for a specific medical or dental procedure. If recapping, bending, or removal is necessary, employers must ensure that workers use either a mechanical device or a one-handed technique. The cap must not be held in one hand while guiding the sharp into it or placing it over the sharp. A one-handed "scoop" technique uses the needle itself to pick up the cap, and then the cap is pushed against a hard surface to ensure a tight fit onto the device. Also, the cap may be held with tongs or forceps and placed over the needle. Contaminated broken glass must not be picked up by hand, but must be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.

Sharps Containers

Containers for contaminated sharps must be puncture-resistant. The sides and the bottom must be leakproof. They must be appropriately labeled or color-coded red to warn everyone that the contents are hazardous. Containers for disposable sharps must be closable (that is, have a lid, flap, door, or other means of closing the container), and they must be kept upright to keep the sharps and any liquids from spilling out of the container.

The containers must be replaced routinely and not be overfilled, which can increase the risk of needlesticks or cuts. Sharps disposal containers that are reusable must not be opened, emptied,

or cleaned manually or in any other manner that would expose workers to the risk of sharps injury. Employers also must ensure that reusable sharps that are contaminated are not stored or processed in a manner that requires workers to reach by hand into the containers where these sharps have been placed.

Handling Containers

Before sharps disposal containers are removed or replaced, they must be closed to prevent spilling the contents. If there is a chance of leakage from the disposal container, the employer must ensure that it is placed in a secondary container that is closable, appropriately labeled or color-coded red, and constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping.

Additional Information

For more information, go to OSHA's Bloodborne Pathogens and Needlestick Prevention Safety and Health Topics web page at: <https://www.osha.gov/SLTC/bloodborne pathogens/index.html>.

To file a complaint by phone, report an emergency, or get OSHA advice, assistance, or products, contact your nearest OSHA office under the "U.S. Department of Labor" listing in your phone book, or call us toll-free at (800) 321-OSHA (6742).

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



