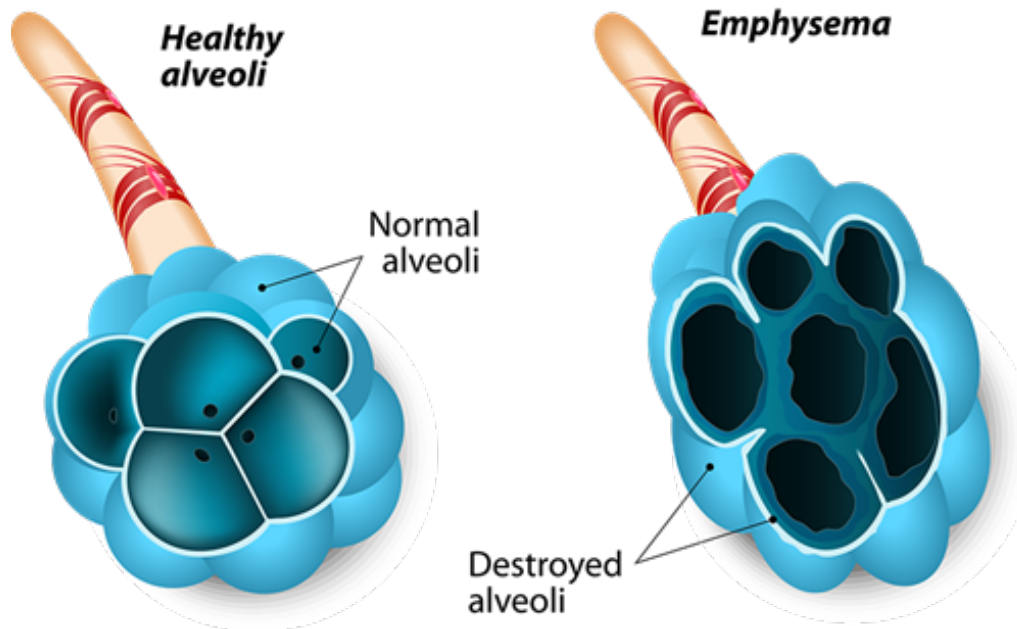


Management of Chronic Obstructive Pulmonary Disease (COPD)

What is COPD?

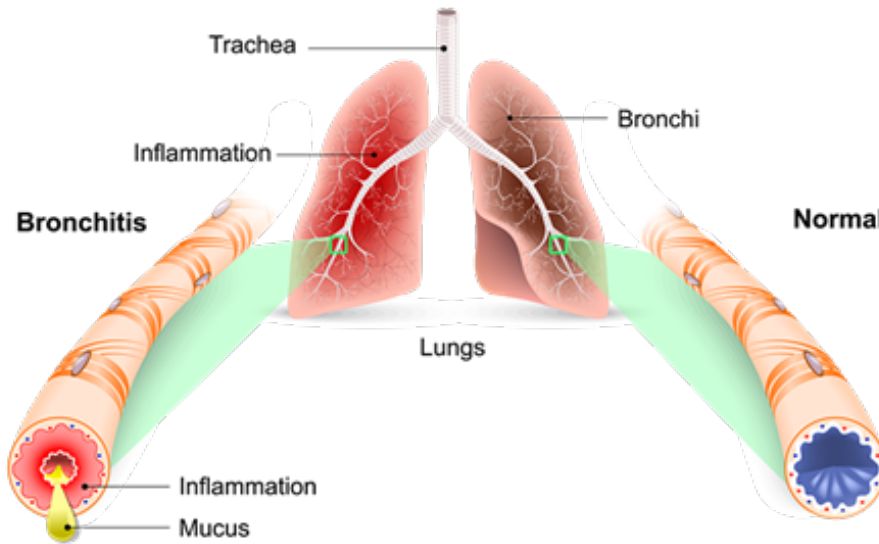
Chronic obstructive pulmonary disease (COPD) affects more than 24 million people in the United States. "Chronic" means long term, "obstructive" means it is hard to get air out of the lungs. The most familiar diseases in this group are emphysema and chronic bronchitis. A person with COPD may have emphysema, chronic bronchitis, or both. COPD shares characteristics of asthma.

EMPHYSEMA



Let's take a look inside the lungs to see what is happening. The air sacs, also called alveoli, and the airways have been damaged in COPD, most often by cigarette smoking or poor air quality. In the healthy lung, the air sacs or alveoli look like a bunch of grapes. Look at the alveoli of emphysema. In emphysema, the walls of the alveoli are partially destroyed. This results in a smaller total number of alveoli in the lungs. Fewer air sacs mean that the lungs are not able to absorb oxygen into the bloodstream as well expel carbon dioxide. Also the airways may collapse a little.

BRONCHITIS



Now look at the healthy airway. Air moves in and out of the middle of the airway. Now look at the airway of chronic bronchitis. In chronic bronchitis, the airway walls are swollen and produce more mucus. In chronic bronchitis a person has a chronic productive cough. This is often due to cigarette smoking.

The earliest symptom of COPD is more shortness of breath with strenuous activity than what would normally be reported from someone of a similar age. Many people do not realize this and may simply reduce the amount of activity they do. An example includes running for the bus. Later symptoms with COPD include shortness of breath with lesser activity. An example includes walking across the street.

What are the causes of COPD?

Chronic obstructive pulmonary disease (COPD) is not contagious, so what are the causes of COPD?

- More than 85 percent of COPD cases in the US are caused by smoking cigarettes. Being exposed to secondhand smoke (either cigarette smoke or wood smoke in developing countries) for long periods of time, including during childhood, is also known to cause COPD.
- Other cases are caused by significant exposure to various types of dust such as coal, grain or wood, or by recurrent or significant lung infections in infancy and early childhood.
- Long-term exposure to air pollution or chemical fumes can also cause COPD.
- Some people who have asthma can develop COPD.
- About 1-2 percent of COPD cases are caused by genetic-based deficiencies in an enzyme called alpha-1 antitrypsin. In these people COPD may begin at a young age.

People with COPD can also have exacerbations (flare-ups), which are periods of restricted breathing that can be severe. A COPD exacerbation is most often caused by an infection, either in the lungs or the body, which causes inflammation in the lungs. COPD exacerbations can also be caused by a person with COPD continuing to smoke tobacco.

What are the Goals of Treatment?

COPD was once deemed to be a disease with a hopeless prognosis, but is now known to be very treatable. Early diagnosis and treatment can enable people with COPD to take charge of their breathing and regain control of their lives. Common treatment goals include becoming more active, decreasing shortness of breath, a lowering of anxiety and depression and an improved quality of life.

How is COPD Managed?

People with COPD can become actively involved in the management of their disease. Participation in the treatment plan will help people with COPD and their families achieve the best possible results.

Quit Smoking

Even if you have COPD, symptoms are milder and chances of living longer are improved if you quit smoking. It is never too late to quit smoking if you have COPD or are at risk for developing COPD because of a smoking habit. When you quit smoking you will:

- Live longer
- Have decreased cough and phlegm (mucus)
- Slow loss of lung function and symptom progression.

As more people quit smoking, fewer will develop COPD, and its prevalence should continue to decline.

Ask your health care provider about smoking cessation programs and services that may be helpful. In addition, avoid exposure to tobacco smoke, whenever possible. This will help decrease irritation to your lungs.

Exercise

An exercise program is one of the most important aspects of managing COPD. Regular exercise can help you to improve your overall strength and endurance. By improving general fitness, respiratory muscles are strengthened. Your body is able to use the oxygen it receives much more efficiently also. This improves your ability to perform activities despite shortness of breath. Many people with COPD enjoy walking, water aerobics and riding a stationary bike.

Nutrition

Eating a balanced diet and maintaining a healthy weight are important parts of managing COPD. While it can be difficult to focus on this aspect of your life, eating well plays a big role in feeling good and staying healthy. If you are underweight, focus on gaining muscle weight. If you are overweight, focus on losing weight. Talk with your health care provider about your ideal weight.

Avoid Infection

Although it is important to take preventive measures to avoid lung infections, you do not need to isolate yourself from other people. There is no guaranteed way to prevent infections, however, if you are proactive with your vaccines, wash your hands thoroughly (with soap) and frequently and are aware of your surroundings, then you will increase your chances of living an infection-free life. Vaccines for influenza and other respiratory infections (e.g. COVID-19) may reduce your risk of infection and exacerbations.

Medication Therapy

Your health care provider may prescribe medications to control the symptoms of COPD, like bronchodilators for COPD, combination bronchodilators and anti-inflammatories and antibiotics. Learn about COPD medicines, tips for managing all your medications and techniques to inhale medications.

Techniques to Bring Up Mucus

In addition to medications, some people may benefit from techniques to help remove mucus from the lungs. These techniques to remove mucus/phlegm are often done after using an inhaled bronchodilator medication. The medication helps loosen the mucus and open the airways to make the techniques more effective. Some of these techniques use hand-held devices that can cause a vibration through the airways and loosen secretions.

Breathing Exercises

Learning new breathing techniques will help you move air into and out of your lungs. It is helpful to use effective breathing techniques with exercise to minimize shortness of breath and assure adequate oxygen to your working muscles. These breathing exercises have the added benefit of helping you relax when you are anxious or stressed. Three types of breathing techniques are pursed lip breathing, coordinated breathing with exercise and diaphragmatic breathing.

Oxygen Therapy

Some people with COPD may benefit from oxygen therapy. Oxygen therapy is used to ensure there is enough oxygen in the blood to provide for the body's needs.

Lung Volume Reduction Surgery (LVRS)

Lung volume reduction surgery is considered for adults with certain patterns of severe emphysema. Specific tests are done to determine if lung volume reduction surgery is recommended. These tests include breathing tests, a chest CT scan, arterial blood gas (ABG), lung perfusion study and exercise tests.

Pulmonary Rehabilitation

Pulmonary rehabilitation is a program for people with chronic lung diseases like COPD, emphysema and chronic bronchitis. It will allow them to be as active as possible. Pulmonary rehab is aimed at improving quality of life by:

- Medical and nursing management
- Education
- Physical conditioning
- Nutrition counseling
- Consideration of psychological and social needs.

A successful pulmonary rehabilitation program (such as the program offered by National Jewish Health) addresses the needs of each person and tailors the treatment to meet those needs.

Patient support groups can provide an important social outlet for people with COPD and their families. The meetings often provide education, discussions about a variety of health topics and social outings.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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