

Management of Chronic Obstructive Pulmonary Disease (COPD)

What is COPD?

Chronic Obstructive Pulmonary Disease or COPD for short, is a progressive lung disease that affects millions of people each year. People with COPD have airways that are narrowed and blocked due to damage. This is often induced by smoking. People with COPD often have chronic bronchitis and/or emphysema. Many people have primarily chronic bronchitis. Some people with COPD may also have an "asthma-like" or reactive component to their pulmonary disease.



Chronic bronchitis is characterized by a chronic cough and chronic mucus production without another known cause. Cigarette smoke can induce an intense inflammation in the lungs. In addition there is an increase in the muscular wall of large airways and an increase in size and activity of mucous glands. This leads to airway narrowing and blockage by thick tenacious secretions. The resulting symptoms include a chronic cough, mucus production and shortness of breath.

Emphysema refers to the destruction of the airsacs (alveoli). This is the portion of the lung involved in the transfer of oxygen into the blood stream. Imagine the stems of a bunch of grapes as the airways and the grapes (hollowed out) as the air sacs. When these air sacs are damaged it is difficult to get enough oxygen into the bloodstream.

Over 95% of the cases COPD are caused by smoking cigarettes. The other 5% of cases are likely caused by significant exposure to various types of dust, (coal, grain or wood). They may also be caused by recurrent or significant lung infections in infancy and early childhood. Perhaps 1% of the cases of COPD have genetic based deficiencies in an enzyme called alpha-1 antitrypsin. This can lead to early and severe emphysema even in people who have never smoked. Families with multiple members who develop severe emphysema early in life or in non-smokers should be checked for this enzyme deficiency.

What are the Goals of Treatment?

People with COPD can lead active and full lives. By diagnosing the disease early, treating symptoms, reducing the risk of complications and educating patients and families about COPD, health care providers hope to improve the patients' quality of life. Our goal is to help people with COPD take charge of their breathing and regain or maintain control of their lives.

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.

Exercise and Healthy Lifestyle

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.

Another important step in managing COPD is giving up smoking. If you smoke, this action is the single most important thing you can do to help stabilize your disease and prevent further damage to your lungs. Giving up smoking is a difficult task, but is more effective in preserving lung function long term than any of the medications that doctors can prescribe. 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.

It is very important to eat a well-balanced diet and maintain a healthy weight. Shortness of breath and fatigue can interfere with your ability to eat a balanced diet.

Avoid Infection

Because people with COPD have an increased risk of respiratory infection, vaccines are often recommended. You can receive the influenza vaccine and pneumonia vaccine to help prevent infection. Good hand washing will also help prevent the spread of germs and infections.

Medication Therapy

Your health care provider may prescribe medications to control the symptoms of COPD. Bronchodilators help open the airways in the lungs. This helps decrease shortness of breath. Inhaled or oral steroids may help decrease inflammation in the airways in some people. Antibiotics are often used to treat infections however less than 50% of acute worsening of COPD is caused by infections. Antibiotics should therefore be prescribed sparingly to avoid complications of allergic reactions or resistance. For some people, expectorants can help clear mucus from the airways.

Bronchial Hygiene

In addition to medications, practicing good bronchial hygiene can help you get rid of mucus in your airways. Some people may benefit from techniques to help remove mucus from the lungs. These techniques use hand-held devices that can cause a vibration through the airways and loosen secretions.

Breathing Retraining

Learning new breathing techniques will help you move more air in and out with less effort. This helps decrease shortness of breath. Diaphragmatic breathing, pursed lips breathing and pacing your activities can be easily learned.

Oxygen Therapy

Some people with COPD may benefit from oxygen therapy. Oxygen therapy is necessary when there is not enough oxygen in the blood. Some people with COPD need oxygen only with activity or while sleeping. Many people with COPD need oxygen all the time, twenty-four hours a day. Oxygen saturation levels can be measured with a small device that fits over the finger tip (pulse oximeter). This is done while you are resting and walking. These measures can determine the best oxygen settings to use for rest, sleep and activity. To achieve the most benefit, use your oxygen exactly as prescribed.

Pulmonary Rehabilitation

A comprehensive pulmonary rehabilitation program includes:

- 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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