

COPD Glossary

Term	Definition
Acute	Having rapid onset, severe symptoms, and a short course; not chronic.
Advance directives	A written document in the form of a living will or durable power of attorney prepared by a competent individual that specifies what, if any, extraordinary procedures, surgeries, medications, or treatments the patient desires in the future, when he or she can no longer make such decisions about medical treatment.
Adverse reaction	An undesired side effect or toxicity caused by the administration of drugs. Onset may be sudden or take days to develop. Early detection by use of laboratory tests is sometimes possible in the case of drugs that might adversely affect the blood-forming organs, liver, or kidneys.
Allergen	Any substance that causes a hypersensitivity reaction. Among common allergens are inhalants (dusts, pollens, fungi, smoke, perfumes, odors of plastics), foods (wheat, eggs, milk, chocolate, strawberries), drugs (aspirin, antibiotics, serums), infectious agents (bacteria, viruses, fungi, animal parasites), contactants (chemicals, animals, plants, metals), and physical agents (heat, cold, light, pressures, radiations).
Allergy	An immune response to a foreign antigen that results in inflammation and organ dysfunction. Symptoms can include nasal inflammation, mucus production, watery eyes, itching, rashes, tissue swelling, bronchospasm, stridor, and shock.
Alpha 1-antitrypsin deficiency (AAT) (also called alpha antiproteinase or AAP)	A protective enzyme produced in the liver and transported to the lungs to help combat inflammation. Deficiency of this enzyme is associated with early-onset emphysema in some patients and liver disease in others. Replacement therapy for patients with this enzyme deficiency became available in the 1990's.
Alveoli pulmonis	Air sacs of the lungs
Antagonists	A type of medicine given by an inhaler or a nebulizer to reduce the dependence on corticosteroids and beta agonist inhalers.
Antibiotic	A natural or synthetic substance that destroys microorganisms or inhibits their growth. Antibiotics are used to treat infectious diseases.
Anticholinergics (also called cholinergic blockers or "maintenance" bronchodilators).	Anticholinergics are a type of bronchodilator medication that is commonly used in the treatment of COPD. Bronchodilators work by relaxing the airways, making it easier to breathe, as well as help clear mucus from the airways. Anticholinergics have excellent bronchodilator effects with minimal side effects. They are the bronchodilator of choice for those patients who cannot use beta-agonists or methylxanthines due to underlying heart disease. Anticholinergics are only available through the inhalation route using either a nebulizer or metered-dose inhaler.
Antihistamine	A drug that opposes the action of histamine.
Anti-inflammatory	A medication that counteracts or reduces inflammation and swelling, such as prednisone, aspirin or steroids.

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Arterial blood gas test (ABGs)	Literally, any of the gases present in blood; operationally and clinically, they include the determination of levels of pH, oxygen (O ₂), and carbon dioxide (CO ₂) in the blood. ABGs measure how well the lungs can provide adequate oxygen to the body and subsequently remove carbon dioxide. Analysis of blood gases help evaluate a person's respiratory and metabolic status. ABGs also measure blood pH and the integrity of the body's acid-base balance.
Asthma	A disease caused by increased responsiveness of the tracheobronchial tree to various stimuli, which results in episodic narrowing and inflammation of the airways. Symptoms can include wheezing, shortness of breath and coughing. Between attacks, respiratory function can be normal.
Bacteria	A one-celled organism without a true nucleus. For COPD patients, infectious organisms (germs) that may cause bronchitis or pneumonia
Barrel Chest	A rounded, bulging, almost barrel-like appearance of the chest that occurs as a result of long-term overinflation of the lungs. Because the lungs are overinflated with air, the rib cage stays partially expanded, giving the characteristic appearance of a barrel chest.
Beta-Agonists	A beta-agonist is a type of bronchodilator that is commonly used in the treatment of COPD. Bronchodilators work by relaxing the airways, making it easier to breathe. Beta-agonists can either be short-acting (lasting 4 to 6 hours), or long-acting (lasting 12 hours or longer). Beta-agonists bronchodilators are commonly delivered via the inhalation route using either a nebulizer or metered-dose inhaler.
BIPAP (bi-level positive airway pressure) machine	A type of continuous positive airway pressure in which both inspiratory and expiratory pressures are set above atmospheric levels. Assists patient with sleep apnea, congestive heart failure, hypoventilation and other forms of respiratory insufficiency.
Black pigment	The material that gives damaged human lungs a black and sooty appearance.
Breath sounds	Sounds heard through a stethoscope. The intensity of the sound of air moving in and out of the lungs may indicate the amount of obstruction.
Breathing rate	The number of breaths per minute.
Bronchial tubes	Branches of the airways (air passages) in the lungs.
Bronchiectasis	Chronic dilation of a bronchus or bronchi, usually in the lower portions of the lung, caused by the damaging effects of a long-standing infection.
Bronchioles	The smallest branches of the airways in the lungs. They connect to the alveoli (air sacs).
Bronchitis, chronic	Inflammation of the mucous membranes of the bronchial airways, caused by irritation or infection, or both, by pathogen. If chronic, the bronchitis is marked by increased mucus secretion and is present for at least 3 months in two consecutive years.
Bronchodilators, fast-acting (also called "rescue" or "quick relief" medications).	A drug that expands the bronchi by relaxing bronchial muscle. Short-acting bronchodilators last about 4 to 6 hours should be used only when needed .

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Bronchodilators, long-acting also called ("maintenance" medications).	A drug that expands the bronchi by relaxing bronchial muscle. Long-acting bronchodilators last about 12 hours or more and are used every day.
Bronchopulmonary Hygiene	A technique designed to help clear mucus and secretions from the trachea and bronchial tree by using a combination of deep breathing, incentive spirometry, postural drainage and percussion. (This technique is also known as pulmonary toilet.) Helps to prevent atelectasis.
Bronchoscopy	A lung test where the lungs can be visualized through a camera that is attached to a device called a bronchoscope. The bronchoscope is inserted into your airway, usually through your nose and can see images of your larynx, trachea and bronchioles.
Bronchospasm	Contraction of the smooth muscle in the walls of the airways of the lungs, causing narrowing of the airways and resulting in asthma-like symptoms and/or wheezing.
Cannula	A tubing piece used to supply oxygen through the nose.
Carbon dioxide	The body eliminates this colorless gas through the lungs. Damage to your airways eventually interferes with the exchange of oxygen and carbon dioxide in your lungs.
Chest CT Scan	A chest CT scan is a type of x ray. However, a CT scan's pictures show more details than pictures from a standard chest x ray. It creates precise images of the structures in your chest, such as your lungs.
Chest Physiotherapy	A treatment generally performed by respiratory therapists where breathing is improved by the indirect removal of mucus from the breathing passages.
Chest Tightness	COPD can cause the chest to feel tight because of an increased amount of mucus that is consolidated in the lungs and/or the narrowing or blockage of the airways. The tar in cigarette smoke paralyzes the cilia in the lungs, and contributes to lung diseases such as emphysema, chronic bronchitis, and lung cancer.
Chest X-Ray	A chest x-ray is a radiographic imaging tool used to help diagnose certain lung disorders and other abnormalities inside of the chest.
Chronic Cough	A cough that is long-term, persistent and does not seem to go away in spite of treatment. It is a defense mechanism developed by the body in an attempt to keep the airways free of mucus or other debris.
Chronic	Of long duration. A disease showing little change or of slow progression.
Cilia	Cilia are fine hair-like projections from certain kinds of cells. Cilia lines the respiratory tract, and they move in rhythmic unison to "sweep" away fluids and particles within the lungs. The tar in cigarette smoke paralyzes the cilia in the lungs, and contributes to lung diseases such as emphysema, chronic bronchitis, and lung cancer.
Clapping	Chest physiotherapy, also referred to as chest percussion, is a technique that involves clapping on the chest and/or back to help loosen thick secretions in order to make them easier to expel, or cough up. It is often used with postural drainage and can be performed using cupped hands or an airway clearance device. Both chest physiotherapy and postural drainage work best after a bronchodilator treatment.

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Clinical trials	A carefully designed and executed investigation of the effects of a drug administered to human subjects. Clinical trials are conducted under the intense scrutiny of the Food and Drug Administration (FDA). The FDA sets forth rules and guidelines for clinical trials to make sure that the people who are being studied are as safe as they can possibly be.
Clubbing	Clubbing is a sign of long-term oxygen deprivation and is associated with a wide number of diseases. Clubbing initially manifests itself as sponginess of the nail bed, along with loss of the nail bed angle, causing the nail to curve downward.
Co-morbidity	In medicine, comorbidity (literally "additional morbidity") is either the presence of one or more disorders (or diseases) in addition to a primary disease or disorder, or the effect of such additional disorders or diseases.
Contraindication	Any symptom or circumstance that makes treatment with a drug or device unsafe or inappropriate.
Controlled coughing	A technique in which the cough comes from deep within the lungs and has just enough force to loosen and carry mucus through the airways without causing them to narrow and collapse. Controlled coughing saves energy and oxygen.
COPD (chronic obstructive pulmonary disease)	COPD is a general term for several lung diseases that includes chronic bronchitis, emphysema and chronic asthma. COPD adds to the work of the heart, since the amount of oxygen that goes to the blood may be reduced. The two primary causes of COPD are cigarette smoking and alpha1 antitrypsin deficiency. Air pollution and occupational dusts may also contribute to COPD, especially if the person exposed to these substances is a smoker.
Corticosteroids	A type of medicine for COPD exacerbations.
CPAP (continuous positive airway pressure) machine	A type of noninvasive ventilation sometimes used during COPD treatment, particularly at night when oxygen saturation levels in some COPD patients tend to drop.
CPR (cardiopulmonary resuscitation)	A first-aid method to restore breathing and heart action through mouth-to-mouth breathing and chest compression.
Cyanosis	A blue, gray, slate, or dark purple discoloration of the skin or mucous membranes caused by a lack of oxygen in the blood.
Decongestant	Medication that shrinks swollen nasal tissues to relieve symptoms of nasal swelling, congestion and mucus secretion.
Dehydration	Excessive loss of water from the body.
Diaphragm	The diaphragm is a large, dome-shaped muscle located directly below the lungs. Also known as the breathing muscle or muscle of respiration.
Diaphragmatic breathing	Method of breathing which helps you use the diaphragm correctly so you use less effort and energy to breathe.
Dietitian	A health care professional who specializes in food and nutrition.
Diffusion capacity	A measurement of how much oxygen is carried from your lungs into your bloodstream.

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Diuretic	Medication that increases urine output. Helps the body get rid of excess fluid. Also called a "water pill."
Dry powder inhaler (DPI)	A device for inhaling respiratory medications that come in powder form.
Durable Power of Attorney for health care	A legal document that authorizes another person to make health-care decisions for you if you became physically or mentally unable to make these decisions yourself.
Dyspnea	Commonly referred to as shortness of breath . It can be defined as air hunger, or the sensation of having the urge to breathe, that is caused by lack of oxygen in the bloodstream. Dyspnea is the most common symptom of COPD.
Edema	Swelling is the enlargement of organs, skin, or other body parts. It is caused by build up of fluid in the tissues. The extra fluid can lead to a rapid increase in weight over a short period of time (days to weeks). Swelling can occur throughout the body (generalized) or only in a specific part of the body (localized).
Electrocardiogram (EKG)	A tracing of the heart's electrical activity. Can show heart strain and heart disease.
Emphysema	Emphysema is a type of COPD which causes permanent enlargement of the airways in your lungs. It is accompanied by destruction of the walls of the alveoli, the air spaces in the lungs where oxygen and carbon dioxide are exchanged during the breathing process. It is lung disease that progresses slowly over many years and is irreversible.
Exacerbation	Flare-ups or episodes when your COPD worsens.
Exhalation	Breathing air out of the lungs; expiration.
Expectorant	Medication that helps to thin mucus in the airways so it can be coughed out more easily. These medications should be taken with at least 8 ounces of water.
Expiratory Reserve Volume	Expiratory reserve volume (ERV) refers to the extra volume of air that can be exhaled with maximum effort beyond the level reached at the end of a normal, passive exhalation. If you have breathing difficulties, your doctor may run several tests to get measurements that can help determine the severity of your condition. One of those measurements is expiratory reserve volume. ERV is measured during lung volume measurements.
Forced Expiratory Volume in One Second (FEV1)	The amount of air which can be forcibly exhaled from the lungs in the first second of a forced exhalation. Measuring FEV1 is done through spirometry testing which helps your doctor determine your lung function. Because COPD causes the air in your lungs to be exhaled at a slower rate and in a smaller amounts compared to a normal, healthy person, measuring how well you can forcibly exhale air can help determine the presence of COPD.
Flutter valve	See mucus clearing device.
Heart failure	Inability of the heart to circulate blood effectively enough to meet the body's metabolic needs. Fluid can build up in the lungs and other parts of the body. Symptoms can include shortness of breath and swelling of the legs, ankles and feet.

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(HEP) high-efficiency particulate air filter	A filter which removes particles in the air by forcing it through screens containing microscopic pores.
High blood pressure (hypertension)	A condition (that usually has no symptoms) involving higher than normal pressure of the blood against the blood vessels. High blood pressure increases the risk of developing heart disease, a heart attack and a stroke.
Holding chamber	See spacer.
Home care company	Organization that provides many aspects of COPD care in the home, including the use and care of respiratory equipment, teaching, monitoring and review of environment and treatment.
Humidification	The act of moisturizing the air with molecules of water.
Hyperventilation	Rapid breathing caused by being nervous or panicked.
Hypoventilation	Hypoventilation refers to a reduced rate and depth of respiration (too shallow or too slow) which leads to an increase of carbon dioxide in the body. COPD is just one of the causes of hypoventilation. There are many others, including sleep apnea, asthma, obesity and pneumonia.
Hypoxia	Insufficient oxygen in the tissues, even though blood flow is adequate.
Immune system	The body's defense system that protects us against infections and foreign substances.
I/E ratio	Inhalation/exhalation ratio, or the relative length of inhalation (breathing in) compared to exhalation (breathing out).
Incentive spirometer	A device that encourages deep inspiration to expand the lungs and improve cough effectiveness.
Inflammation	A response in the body that may include swelling and redness.
Inhaler	A way to take medicine that you breathe in, such as metered dose inhaler (MDI).
Intubation	Placing a tube in the trachea (wind pipe) to enable artificial breathing; can be a lifesaving procedure.
Irritant	Substance that is not an allergen (see allergen) but can cause a reaction in the airways or damage the lungs.
Leukotriene modifier	Medication that blocks chemicals called leukotrienes in the airways. Leukotrienes occur naturally in the body and cause tightening of airway muscles and production of excess mucus and fluid. Leukotriene modifiers work by blocking leukotrienes and decreasing these reactions. These medications are also helpful in improving airflow and reducing some COPD symptoms.
Liquid Oxygen	A small amount of liquid oxygen is a very large amount of oxygen gas. The big tank at your house can also fill easy-to-carry small tanks when you leave your house.
Living Will	A legal document in which you can state what kind of medical care you desire to receive or what life-support procedures you would like to withhold if you became physically or mentally unable to communicate your wishes.
Lung transplantation	A surgical procedure in which a healthy lung from a donor replaces the recipient's unhealthy lung. Lung transplant as a treatment option for COPD is reserved for carefully selected patients.
Lung volume	See total lung capacity.

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Mechanical ventilation	Mechanical ventilation is life-supporting ventilation that involves the use of a machine called a ventilator, or respirator. The goal of mechanical ventilation is to support breathing when a COPD patient is no longer able to do so effectively on their own. Mechanical ventilation is generally the last resort when a patient is having difficulty breathing and cannot maintain adequate oxygenation.
Medical history	A list of a person's previous illnesses, present conditions, symptoms, medications and health risk factors.
Medical referral	A doctor's recommendation that a patient see a qualified medical professional, often a specialist, to review their health status and determine whether medical treatment is needed or whether a particular course of exercise and/or diet change is safe.
Metabolism	The body's use of oxygen and food to produce energy.
Metered dose inhaler (MDI)	Small aerosol canister placed in a plastic container that releases a mist of medication when pressed down from the top. This medication can be breathed into the airways. Many COPD medications are taken using a MDI.
Methylxanthines	A methylxanthine is a type of bronchodilator that is commonly used in the treatment of COPD. Bronchodilators work by relaxing the airways, making it easier to breathe. Although their mechanism of action is not clearly defined, methylxanthines are thought to contribute to an improvement in respiratory muscle strength. Methylxanthines are given either orally or intravenously (through the vein).
Mucolytics	A type of medication that make thick mucus more watery so it is easier to cough up.
Mucus	A material produced by glands in the airways, nose, sinuses and elsewhere in the body. Mucus cleans and protects certain parts of the body such as the lungs.
Nasal cannula	A device used to deliver supplemental oxygen to those in need. It is composed of two thin, small prongs that are inserted into the patient's nostrils and attaches to longer, flexible tubing that connects to an oxygen tank.
Nebulizer	A machine that changes liquid medicine into fine droplets (in aerosol or mist form) that are inhaled through a mouthpiece or mask. Nebulizers can be used to deliver bronchodilator (airway-opening) medications. A nebulizer may be used instead of a metered dose inhaler (MDI). It is powered by a compressed air machine and plugs into an electrical outlet.
Orthopnea	Difficulty breathing related to body position, especially shortness of breath while lying on the back. This is often treated by propping the person's head on two or more pillows while lying down.
Oxygen	The essential element in the respiration process to sustain life. This colorless, odorless gas makes up about 21 percent of the air. Oxygen may be prescribed if your lungs are not getting enough oxygen to your blood. Breathing prescribed oxygen increases the amount of oxygen in your blood, reduces the extra work of the heart and decreases shortness of breath.
Oxygen Concentrator	A device used for home oxygen therapy that removes most of the nitrogen from room air and delivers the oxygen at a low flow rate through a nasal cannula. Also called oxygen enricher.
Oxygen Gas (compressed)	Large canisters of oxygen gas that can also be used in oxygen therapy. A flow meter and a regulator are attached to the tank to adjust the oxygen flow. The compressed oxygen system is generally prescribed when oxygen is not needed all the time, such as only when walking or performing physical activity.

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Oxygen, liquid	At very cold temperatures, oxygen changes from a gas to a liquid. When liquid oxygen is warmed, it becomes a gas so that it can be delivered to you. A liquid oxygen system includes a large stationary unit that stays in the home. It also includes a small, portable canister (weighing from 5 to 13 pounds) that can be filled from the stationary unit for trips outside the home.
Peak expiratory flow rate	A test used to measure how fast air can be exhaled from the lungs.
Personal best peak expiratory flow (PEF)	The highest peak flow number a person can achieve over a 2- to 3-week period when symptoms are under good control. The personal best PEF is the number to which all other peak flow readings will be compared.
Pharynx	The back of the throat through which air passes when you inhale.
Pneumonia	A sudden infection of localized areas of the lungs. Pneumonia often accompanies bronchitis.
Productive cough	A "wet" cough that may involve coughing up mucus.
Pulmonary function tests (PFTS)	A series of tests that measure how well air is moving in and out of the lungs and carrying oxygen to the blood stream.
Pulmonary hypertension	A rare lung disorder in which the arteries in the lungs have become narrowed, making it difficult for blood to flow through the vessels.
Pulmonary rehabilitation	Pulmonary rehabilitation uses a multidisciplinary, team approach that covers all aspects of COPD management, including education, exercise, relaxation, breathing techniques, nutritional advice, emotional support and the development of coping skills.
Pulmonologist	A doctor who specializes in caring for people with lung diseases and breathing problems.
Pulse Oximetry	This test measures how much oxygen is in your blood. The test is easy and the result is a percentage. The doctor will put a sensor on your finger or ear and a light will be used to measure the oxygen content in your blood. The result of this test may show you need oxygen therapy.
Pursed lip breathing	A method of breathing through pursed lips (as if you were blowing on a whistle) to improve breathing patterns.
Residual volume	The volume of air remaining in the lungs, measured after a maximum expiration.
Respiration	The process of breathing which includes the exchange of gases in the blood (oxygen and carbon dioxide).
Respiratory failure	Respiratory failure can be a complication of COPD and occurs when the lungs are unable to either inhale sufficient oxygen or successfully remove all of the carbon dioxide from the body.
Respiratory therapist	A health care professional who specializes in assessment, treatment and education for people with lung diseases.
Respiratory stimulant	Prescription medication primarily used in addition to noninvasive ventilation as a means to help increase the urge to breathe. It works by stimulating the central nervous system, resulting in an increase in respiratory rate and tidal volume, which is the amount of air that is inhaled or exhaled during a normal breath.
Sedentary	Not very physically active.
Sleep apnea	A sleep disorder in which a person's breathing stops in intervals that may last from 10 seconds to a minute or longer. When an apneic event occurs, air exchange may be impaired.

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Spacer	A tube-like device (also called a holding chamber) used with a metered dose inhaler. The spacer makes it easier to coordinate pressing on the inhaler and breathing in the medicine.
Spirometry	Spirometry (the measuring of breath) is the most common of the pulmonary function tests and uses an instrument called a spirometer to measure the amount of air entering and leaving the lungs. The test is often used to help doctors diagnose and determine the severity of COPD. During the test, which can easily be performed in a doctor's office, the patient takes a deep breath and exhales completely. Results of the test are then recorded and analyzed by the spirometer machine, and interpreted by your doctor.
Sputum	Mucus, usually mucus that is loose in the lungs. It may be coughed up.
Steroid	Medication that reduces swelling and inflammation. Comes in pill and inhaled forms.
Supplement	Nutritional: drinks that can be used in addition to meals to increase intake of calories and nutrients.
Tachypnea	The medical term for an increase in the rate of respiration (breathing). The normal respiratory rate is between 12 to 20 for adults. Anything over that is considered tachypnea. Also known as rapid breathing, tachypnea is common in people who have emphysema, either because they are not getting enough oxygen or they are trying to "blow off" excess carbon dioxide (a waste product of metabolism) which has built up in their blood due to inadequate expulsion of inhaled air. Tachypnea is commonly associated with dyspnea, or shortness of breath. Both are common symptoms of emphysema.
Theophylline agents (also called "maintenance" or "long-term control" bronchodilators).	These agents open airways, prevent and relieve airway spasms, and prevent night-time cough and shortness of breath.
Tidal volume	The quantity of air inhaled and exhaled in one respiratory cycle during regular breathing.
Total lung capacity test	A test that measures the amount of air in the lungs after a person has breathed in as much as possible.
Trachea	The main airway (windpipe) supplying air to both lungs.
Tracheostomy	The surgical opening of the trachea to provide and secure an open airway.
Vaccine	An injected medication that may stimulate the immune response to protect a person from an infection.
Ventilator	The proper term for a breathing machine used to treat respiratory failure and help support breathing.
Vibration	Vibration is an airway clearance technique that, coupled with chest percussion, is applied during postural drainage to help COPD patients clear mucus from the airways. Vibration helps to gently shake mucus and secretions into the large airways, making them easier to cough up.
Virus	A group of highly contagious infectious agents that cause a variety of colds and chest infections. Viruses are not affected by antibiotics, however the influenza vaccine is effective against the influenza virus.
Vital capacity	Maximal breathing capacity; the amount of air that can be expired after a maximum inspiration.

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Wheezing	<p>A high-pitched, whistling sound made during difficult breathing and is caused by a narrowing or blockage of the airways. Wheezes can be heard with, or without, a stethoscope during both inhalation or exhalation. Relief of wheezing is commonly achieved through the use of a bronchodilator.</p> <p>Note: <i>italicized words</i> are found elsewhere in this glossary.</p>