

### Chronic Obstructive Pulmonary Disease (COPD)



**What is COPD?** COPD is the umbrella term for a group of diseases that restrict airflow and cause difficulty breathing. Two main causes of COPD are Emphysema and Chronic Bronchitis. Emphysema causes damage to the walls of the air sacs (alveoli) in the lungs. The air sacs lose their shape and become floppy. Fewer air sacs mean there is less exchange of air and gases. Chronic Bronchitis causes the airways to stay inflamed and irritated, which causes thick mucus secretions to form. The resulting condition makes it difficult to breath and predisposes the individual to various types of respiratory-related infections (NHLBI, 2019).

#### What are the risk factors?

- Cigarette smoking is the leading environmental risk factor for COPD.
- The alpha-1 antitrypsin (AATD) deficiency affects only a small portion of the population; however, it demonstrates there is a link between genes and environmental exposures that put individuals at higher risk for developing COPD.
- Aging of airways and respiratory structures.
- Exposure to harmful particles (second hand smoking, chemicals).
- Asthma.
- Chronic Bronchitis.
- Recurrent Infections (ALA, 2019; GOLD, 2019).

#### Symptoms of COPD

- Shortness of breath.
- Poor exercise tolerance (walking short distances is a problem).
- Chronic cough with or without sputum production.
- Tightness in chest.
- Trouble taking a deep breath.
- Wheezing (NHLBI, 2019).

#### Prevention

**Smoking Cessation-** Deciding to quit smoking improves health quickly. Benefits include a decrease in blood pressure and pulse rates, carbon monoxide and oxygen levels normalize, decreased risk of heart attack, taste and smell improve, circulation improves, lung function increases, coughing decreases, shortness of breath decreases, fatigue decreases (GOLD, 2019).

**Influenza vaccination** reduces serious complications such as developing lower respiratory infections that would result in hospitalization or death (GOLD, 2019).

**Pneumococcal vaccination** is recommended for people 65 and older. It is also recommended for younger patients with significant comorbid conditions (heart and lung diseases). This vaccination has shown significant protection against community acquired pneumonia (GOLD, 2019).

#### Resources for Smoking Cessation

- Virginia Department of Health, [VDHLIVEWELL.com/tobacco](http://VDHLIVEWELL.com/tobacco), 1-800-QUIT Now
- Centers for Disease Control, [https://www.cdc.gov/tobacco/quit\\_smoking/](https://www.cdc.gov/tobacco/quit_smoking/)
- American Lung Association, <https://www.lung.org/assets/documents/copd/copd-action-plan.pdf>
- American Lung Association, <https://www.lung.org/stop-smoking/help-someone-quit/>

#### Mobile App of the Month



The COPD Foundation is excited to announce the launch of the update COPD Pocket Consultant Guide (PCG) app for healthcare providers. The app, designed to support the treatment and management of COPD, is now available for both iOS and Android. New to this version are an updated therapy chart including the latest medications, inhaler instruction videos, depression and anxiety screeners, a pulmonary referral checklist and much more. **DOWNLOAD FROM THE APP STORE.**

#### References

- American Lung Association (2019), Lung health: How is COPD diagnosed. Retrieved from <https://www.lung.org/lung-health-and-diseases/lung-disease-lookup/copd/diagnosing-and-treating/how-is-copd-diagnosed.html>.
- Center for Disease Control (2018), Asthma and second hand smoke. Retrieved from [https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/secondhand\\_smoke/general\\_facts/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/index.htm)
- Centers for Disease Control (2018), COPD among adults in Virginia. Retrieved from [https://www.cdc.gov/copd/maps/docs/pdf/VA\\_COPDFactSheet.pdf](https://www.cdc.gov/copd/maps/docs/pdf/VA_COPDFactSheet.pdf).
- Global Initiative for Chronic Obstructive Lung Disease (GOLD) (2019). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. Retrieved from <https://goldcopd.org/wp-content/uploads/2018/11/GOLD-2019-v1.7-FINAL-14Nov2018-WMS.pdf>.
- National Heart, Lung, and Blood Institute (2019), Signs, symptoms, and complications. Retrieved from <https://www.nhlbi.nih.gov/health-topics/copd>.
- National Heart, Lung, and Blood Institute (2019), What is COPD. Retrieved from <https://www.nhlbi.nih.gov/health-topics/copd>.
- World Health Organization (2017), Chronic obstructive pulmonary disease. Retrieved from <https://www.who.int/en/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-copd>.

### First Aid Steps as directed by the American Red Cross (2019)

#### **1 Before administering care to an ill or injured person, check the scene and the person. Size up the scene and form an initial impression.**

Pause and look at the scene and the person before responding. Answer the following questions:

- Is the scene safe to enter?
- What happened?
- How many people are involved?
- What is my initial impression about the nature of the person's illness or injury? Does the person have any life-threatening conditions, such as severe, life-threatening bleeding?
- Is anyone else available to help?

#### **2 If the person is awake and responsive and there is no severe life-threatening bleeding:**

- Obtain consent: Tell the person your name, describe type and level of training, state what you think is wrong and what you plan to do, and ask permission to provide care.
- Tell a bystander to get the AED and first aid kit: Point to a bystander and speak out loud.
- Use appropriate PPE: Put on gloves, if available.
- Interview the person: Use SAMPLE questions to gather more information about signs and symptoms, allergies, medications, pertinent medical history, last food or drink and events leading up to the incident.
- Conduct a head-to-toe check: Check head and neck, shoulders, chest and abdomen, hips, legs and feet, arms and hands for signs of injury.
- Provide care consistent with knowledge and training according to the conditions you find.

#### **3 If the person appears unresponsive:**

Shout to get the person's attention, using the person's name if it is known. If there is no response, tap the person's shoulder (if the person is an adult or child) or the bottom of the person's foot (if the person is an infant) and shout again, while checking for normal breathing. Check for Responsiveness and breathing for no more than 5-10 seconds.

#### **4 If the person is breathing:**

- Send someone to call 911 or the designated emergency number and obtain an AED and first aid kit.
- Proceed with gathering information from bystanders using the SAMPLE questions
- Conduct a head-to-toe check.
- Roll the person onto his or her side into a recovery position if there are no obvious signs of injury.

#### **5 If the person is NOT breathing:**

- Send someone to call 911 or the designated emergency number and obtain an AED and first aid kit.
- Ensure that the person is face-up on a firm, flat surface such as the floor or ground.
- Begin CPR (starting with compressions) or use an AED if one is immediately available, if you are trained in giving CPR and using an AED.
- Continue administering CPR until the person exhibits signs of life, such as breathing, an AED becomes available, or EMS or trained medical responders arrive on scene.

*Note: End CPR if the scene becomes unsafe or you cannot continue due to exhaustion.*

#### Reference

The American Red Cross (2019). First aid steps, performing first aid. Retrieved from <https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps>