COPD and Older Adults

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Chronic obstructive pulmonary disease (COPD)

Chronic obstructive pulmonary disease (COPD) is a lung condition that makes breathing difficult. It is a long-term illness that often gets worse over time.

COPD is a condition characterized by inflammation and significant limitations in airflow to and from the lungs. It is a broad term that includes various breathing disorders, with chronic bronchitis and emphysema being the most common.

Emphysema is a progressive lung condition that damages the alveoli, the tiny air sacs responsible for gas exchange. Over time, the alveoli rupture, creating larger air pockets that trap air and reduce lung surface area. This makes it difficult for oxygen to enter the bloodstream and causes the lungs to overinflate. A chronic cough is a common symptom of emphysema.

Chronic bronchitis occurs when the airways in the lungs become inflamed, leading to persistent coughing that produces mucus, wheezing, chest pain, and shortness of breath.

Many individuals with COPD may experience both emphysema and chronic bronchitis, and some may also have asthma in addition to COPD.

Prevalence of COPD in Older Adults

COPD affects over 2 million Canadians, making it the third-leading cause of death in the country.

The risk of developing COPD increases with age. About 15% of seniors aged 65–69 have COPD, while this number rises to 26% for seniors aged 85 and older.

COPD has traditionally been viewed as a disease affecting older male smokers. However, recent research indicates that the mortality rate from COPD is similar for men and women in Canada. COPD is often underdiagnosed in women, who experience more severe symptoms, earlier onset of the disease, and a higher likelihood of being non-smokers. Over the past two decades, hospitalizations for COPD have increased among older women while decreasing among older men.

COPD is significantly underdiagnosed in Canada. Recent studies revealed that 11% of Canadians aged 35–79 exhibited airflow obstruction consistent with COPD, while only 3% reported having a diagnosis.

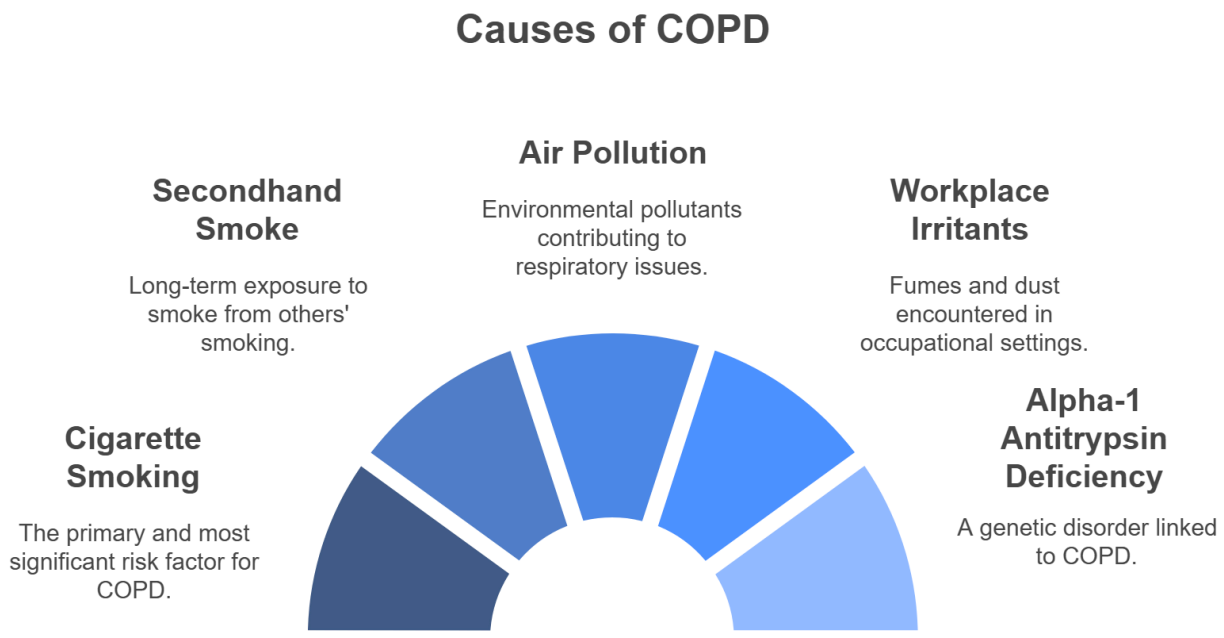
Symptoms of COPD

In the early stages, COPD may show no symptoms or only mild ones. As the disease progresses, common symptoms include:

- shortness of breath
- wheezing
- chest tightness
- a persistent cough often accompanied by mucus.

As symptoms worsen, breathing can become increasingly difficult, making it challenging to engage in daily activities like walking and climbing stairs. This can result in fatigue, weight loss, and muscle deterioration.

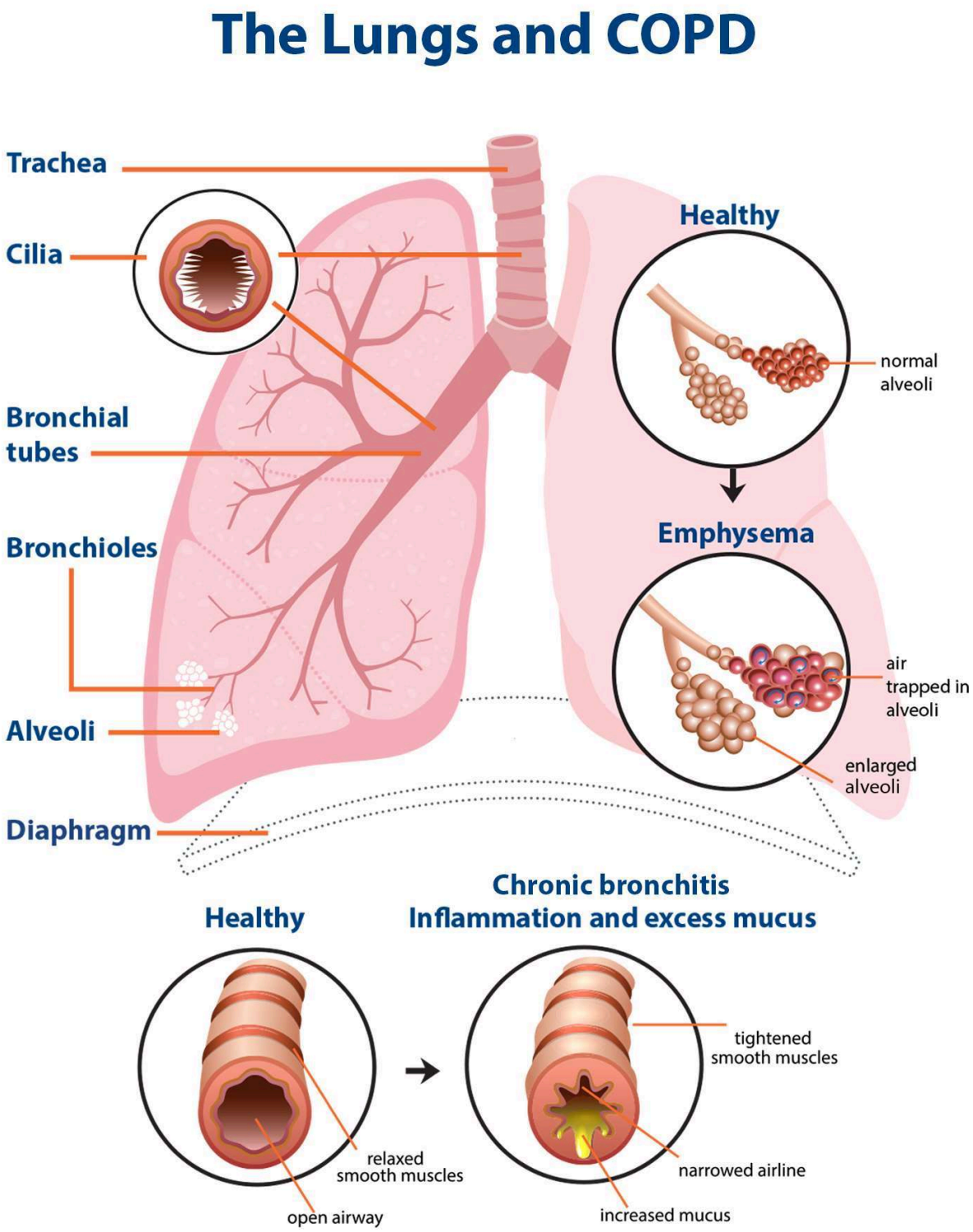
Risk factors



The primary cause of COPD is cigarette smoking. In over 80% of COPD cases, cigarette smoking is the principal underlying cause. Long-term exposure to secondhand smoke and irritants such as air pollution, dust, toxic fumes, and wood

smoke can also contribute to the development of COPD. Additionally, a rare genetic disorder known as alpha-1 antitrypsin deficiency can be associated with this disease.

Changes in the functioning of the lungs



source: https://www.copdfoundation.org/COPD360social/Community/Questions-and-Answers/Check-in-Why-is-it-important-to-know-what-happens-to-your-lungs-with-COPD.aspx

In healthy lungs, air is inhaled through the windpipe into the bronchial tubes, which branch out into smaller tubes called bronchioles.

At the end of these tubes are millions of tiny air sacs called alveoli. Usually, the walls of the airways and air sacs are elastic and flexible.

Inhalation fills each air sac with air, while exhalation causes them to deflate.

In COPD, the airways become thick and inflamed, producing excess mucus that can clog the airways and obstruct breathing.

The air sacs lose elasticity due to wall damage, causing them to become floppy and misshapen. As a result, trapped air reduces the number of air sacs available to supply oxygen to the blood.

This trapped air makes it hard for the lungs to deflate normally, creating extra challenges for breathing.

Diagnosing COPD

When diagnosing COPD, your healthcare provider will assess your age, symptoms, medical history, and results from a physical exam. Your provider needs to order lung function tests, such as spirometry, to confirm the diagnosis.

Spirometry is a breathing test that measures the speed and amount of air you can blow out of your lungs using a device called a spirometer.

Stages of COPD

- **Mild COPD:** You may have no symptoms or only mild breathlessness during moderate exertion. You might also experience recurrent chest infections, but these symptoms generally have little to no impact on daily activities.
- **Moderate COPD:** Daily activities are increasingly limited. You experience breathlessness when walking short distances and may need to pause to catch your breath. Symptoms occasionally worsen, requiring corticosteroids or antibiotics, and you may also have a cough that produces phlegm.

- **Severe COPD:** You feel breathless with minimal exertion, such as getting dressed. Your daily activities are greatly limited, and you have a chronic cough with frequent mucus or phlegm.
- **End-stage COPD:** You experience constant wheezing and struggle to catch your breath, even while resting. You may lose weight unintentionally. Confusion or delirium may occur due to low oxygen levels in your blood.

Treatments

Several types of inhalers are used to treat COPD, including short and long-acting bronchodilators and anti-inflammatory (steroid) inhalers. Combination therapy often utilizes different inhalers or medications together.

If your blood oxygen levels remain chronically low when at rest, your healthcare provider may recommend oxygen therapy.

Surgical treatments such as lung volume reduction, lung valve replacement, and lung transplant are typically only used for severe cases that have not responded well to other therapies.

Management of COPD

While there is currently no cure for COPD, older adults can enhance their quality of life, stay active, and slow the disease's progression.

Effective management of COPD includes:

- If you smoke, get help in quitting.
- Early consultation with a healthcare provider, seeking diagnosis and intervention therapies
- Adopting healthy lifestyle changes such as exercise and a healthy diet
- Regular exercise boosts well-being and breathing by strengthening chest muscles, helping to reduce shortness of breath.

Sources:

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What is COPD?
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