

Department of  
**Respiratory & Critical Care Medicine**

# Chronic Obstructive Pulmonary Disease (COPD)



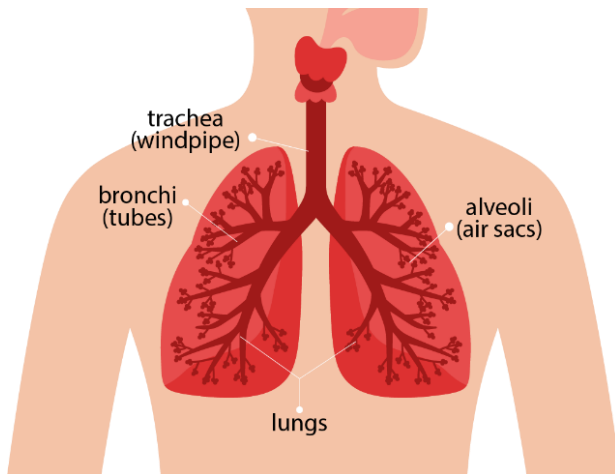
# What is COPD?

Chronic Obstructive Pulmonary Diseases (COPD) is a group of airway (passageways for air to go in and out of the lungs) diseases that:

- blocks air from going in and out of the lungs
- causes breathing-related problems (e.g. breathlessness, cough, excessive mucus production)

When you have COPD, your airways become smaller which makes it hard to breathe. This happens because:

- The airways and air sacs (alveoli) in the lungs get destroyed, a condition known as emphysema



Normal air sac (alveoli)



Destroyed air sac (emphysema)

- The walls of the airways become swollen (inflamed) with excess mucus and may become blocked, a condition known as chronic bronchitis



Normal bronchi\*



Inflamed bronchi\*

\*Bronchi are large tubes that are connected to your windpipe and bring air into your lungs.

# Causes and Symptoms of COPD

## What Causes COPD?



- Smoking is the most common cause of COPD
- Second-hand smoke can also cause COPD in non-smokers



- Patient who are 40 years old and above are at a higher risk of developing COPD



- Genetic conditions can cause lung damage



- Air pollution/bad air quality can increase the risk of developing COPD

## What Are the Signs and Symptoms of COPD?



**Chronic (Severe) Cough**



**Chest Tightness**



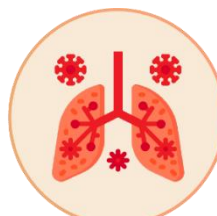
**Wheezing (Whistling During Breathing)**



**Mucus Buildup in Throat**



**Fatigue/ Tiredness**



**Frequent Respiratory (Lung) Infections**



**Shortness of Breath**



**Blueness of Lips or Fingernail Beds**

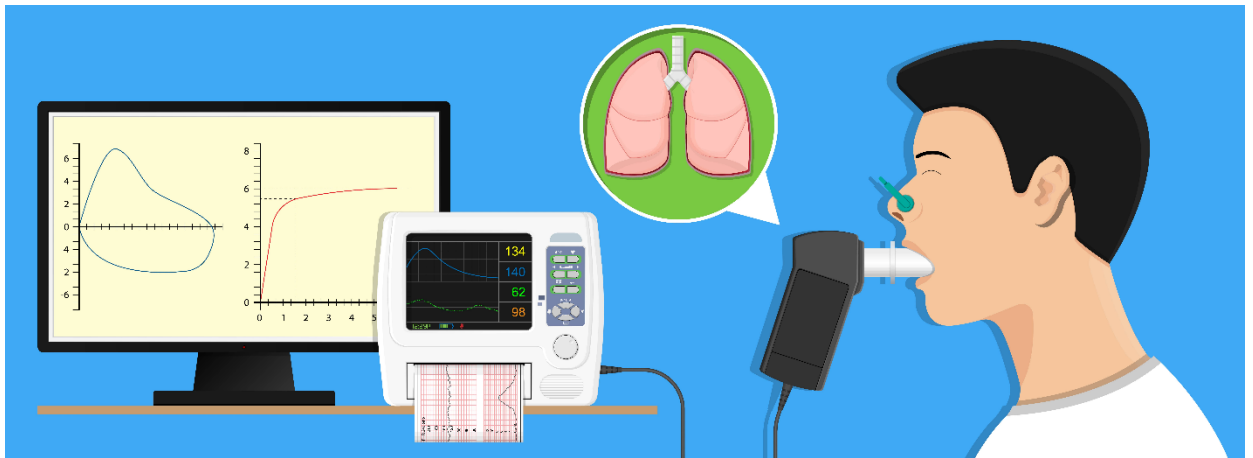
# How is COPD Diagnosed?

Your doctor will:

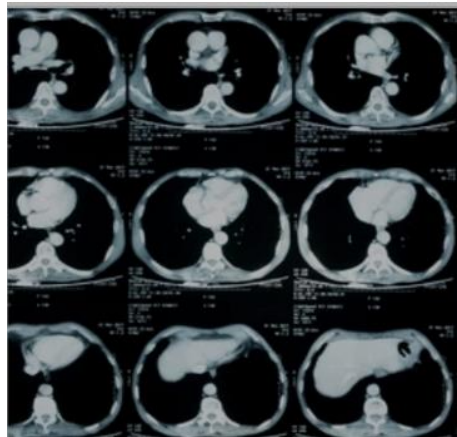
- Check you for symptoms/signs of COPD
- Discuss your family and medical history with you
- Check your exposure to lung irritants (things that may worsen the condition) such as cigarette smoke

Your doctor may also order some tests to diagnose your condition. These may include:

## 1. Lung Function Test



## 2. Chest X-ray / CT Scan



# What Are the Effects of COPD?



Affects your ability to exercise



Affects your sleeping pattern



Affects your social activities



Affects your ability to perform household chores



Affects your ability to work at your fullest potential



Affects your ability to participate in family activities



# How Can You Manage COPD?

Even though COPD is not curable, medication can help to treat symptoms and prevent complications/problems. Changes to your lifestyle can also significantly delay the worsening of the condition.

## 1. Medication

### a) Bronchodilators (inhalers or pills)

- Helps to relax the airway muscles and keep it open, which can improve the flow of air into the lungs

### b) Anti-inflammatories (inhalers or pills)

- Commonly known as steroids
- Reduces airway swelling (inflammation) and decreases mucus production



Scan here to master your inhaler technique

### c) Antibiotics (injection or pills)

- Treatment used during acute attacks to treat any underlying infections if present



# How Can You Manage COPD?

## 2. Quit Smoking

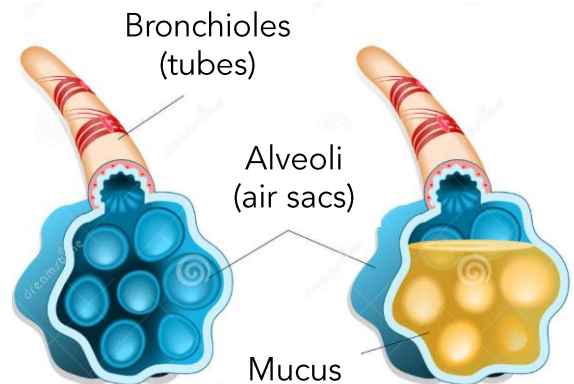
Although damage to the airway cannot be reversed, quitting smoking helps to prevent worsening of the condition.



## 3. Vaccinations

Infections can cause swelling of the airways, resulting in:

- the airways becoming smaller due to the muscles tightening
- the airways becoming filled with mucus



Vaccines allow your body to produce its own antibodies (proteins) that protect you against bacteria and viruses that cause infections.

Some vaccines include:

- **Influenza vaccination**, which protects your body against influenza (flu) virus
- **Pneumococcal vaccination**, which protects your body against infections caused by a bacteria (pneumococcus)



# How Can You Manage COPD?

## 4. Oxygen Therapy

Long term oxygen therapy may be given if the oxygen level in your body is constantly low. Your doctor will assess if this is suitable for you.



## 5. Eating Well

Having a diet with good nutrients helps to prevent:

- Losing muscle mass, which can weaken the muscles used for breathing
- Developing a weakened immune system, which will make you more likely to experience lung infections



Please speak to our dietitians to find out how you can eat well.

## 6. Exercise

Exercising regularly (three to five times a week) may help improve your:

- Breathlessness
- Stamina
- General well-being
- Quality of life



Please speak to our physiotherapists to find out what exercises are suitable for you.



Brought to you by the Department of Respiratory & Critical Care Medicine, with inputs from Nursing.

This information is updated and accurate as of March 2023.

This information is for educational purposes only and should not be used as a substitute for the professional medical advice or treatment.

## **Clinic 4A**

TTSH Medical Centre, Level 4

### **Contact:**

6357 7000 (Central Hotline)



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