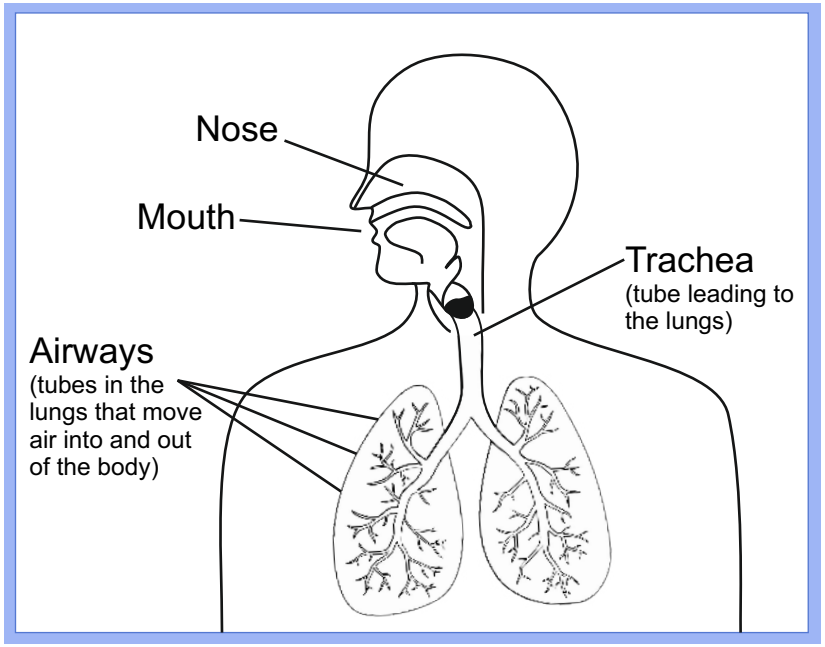
Chronic respiratory diseases

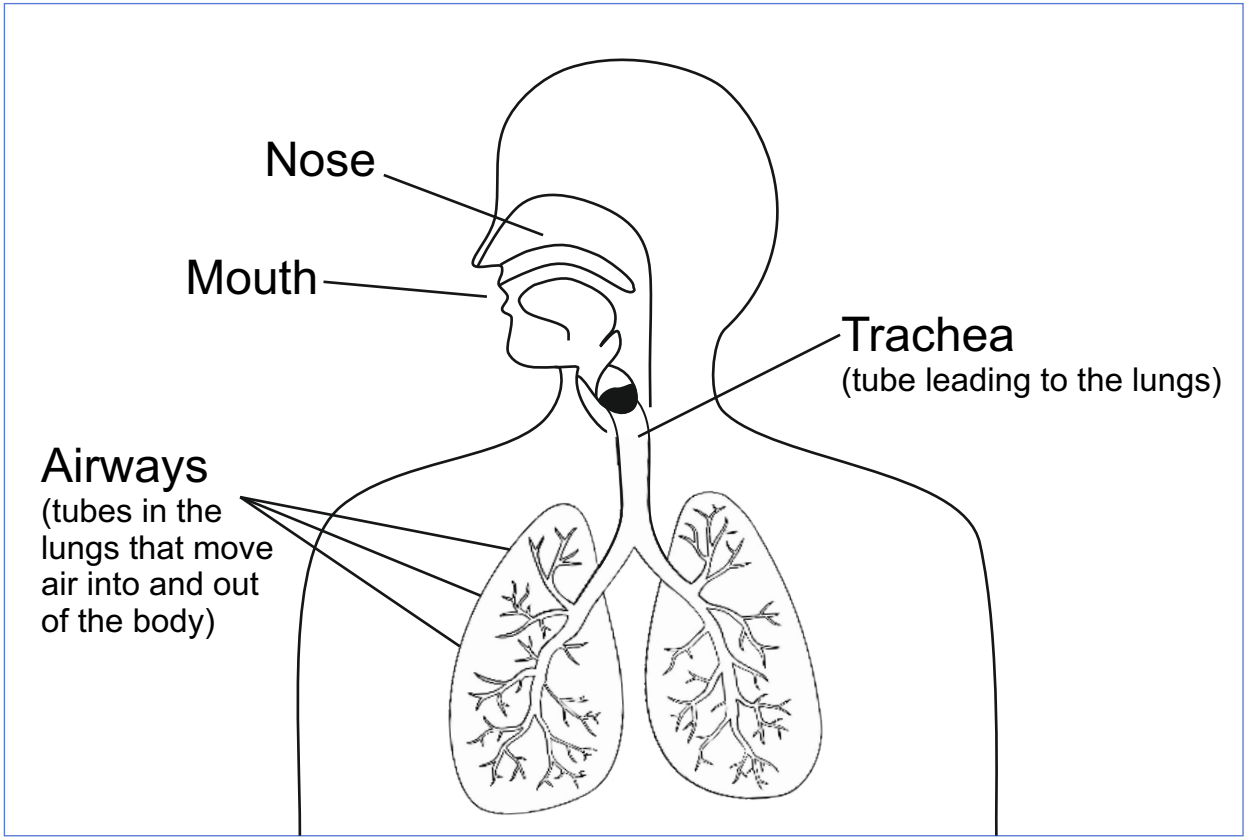


World Health Organization
Regional Office for South-East Asia

Developed by

WHO Collaborating Centre for Capacity Building and Research in Community-based Noncommunicable Disease Prevention and Control
Centre for Community Medicine, All India Institute of Medical Sciences (AIIMS), New Delhi, India

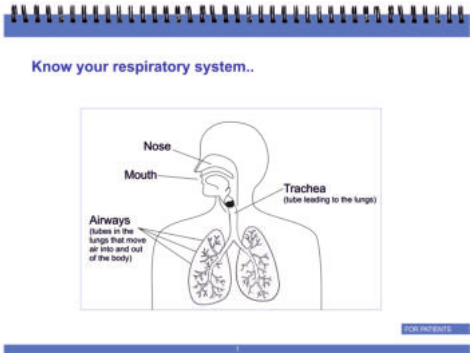
Know your respiratory system..



FOR PATIENTS

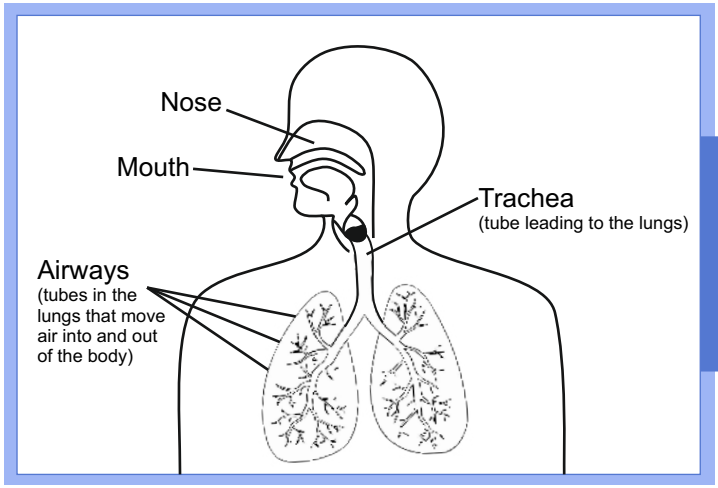
Know your respiratory system..

- Your respiratory system is made up of different parts.
- You bring air in through your nose or mouth.
- That air then passes through the throat and into your windpipe, which is called a trachea.
- Your trachea splits into two branches that go into each of your two lungs.
- These branches continue to split into smaller branches, like twigs on a tree.



FOR HEALTH CARE PROVIDER

Due to narrowing or obstruction of air passages persons may have difficulty in breathing.



Chronic respiratory diseases

- **Chronic obstructive pulmonary diseases (COPD)**
- **Asthma**

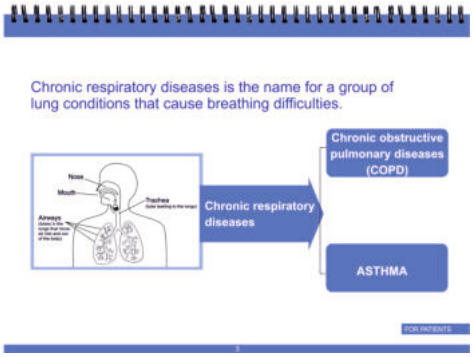
FOR PATIENTS

Chronic respiratory diseases

Chronic respiratory diseases is is the name for a group of lung conditions that cause breathing difficulties.
If one is suffering from respiratory difficulties for a long time, the reason could be due to COPD or asthma
The breathing problems tend to get gradually worse over time and can limit your normal activities

Asthma in adults may have persisted from childhood, may have occurred as a relapse of earlier childhood asthma or may be true adult-onset asthma with no symptoms in earlier life.

New-onset asthma in adulthood may have environmental (especially occupational) causes.



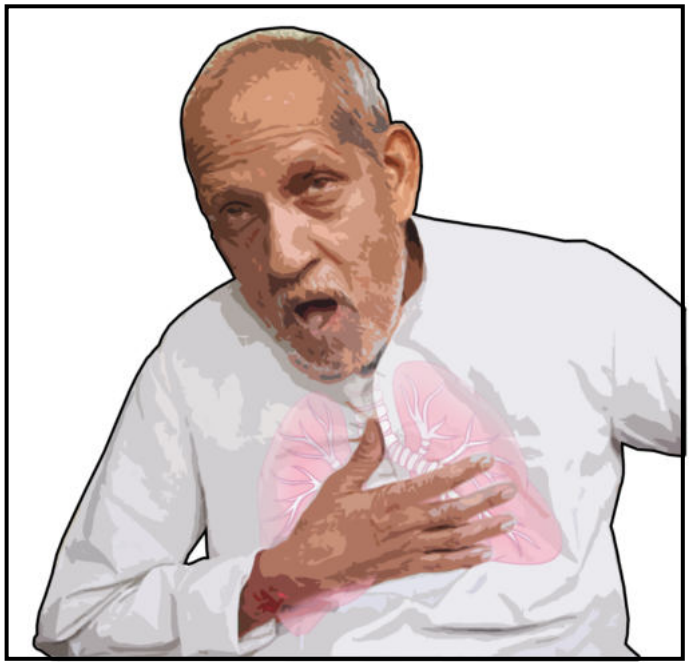
FOR HEALTH CARE PROVIDER

What is chronic obstructive pulmonary disease (COPD)?

COPD is a condition that makes it harder to get air out of your lungs easily.

When the air passages get permanently damaged and it can lead to long standing breathing difficulties known as COPD.

This can lead to feeling short of breath, even when doing normal things such as climbing steps

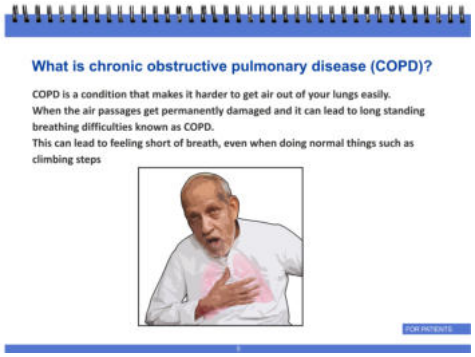


FOR PATIENTS

What is chronic obstructive pulmonary disease?

There are two main conditions responsible for COPD:

- Chronic bronchitis (a disease mostly of the airways)- there is increased mucus and inflammation
- Emphysema (a disease mostly of the air sacs)- there is destruction and enlargement of air spaces



FOR HEALTH CARE PROVIDER

Who are at risk of getting COPD?

Exposure to indoor smoke

Smoking

Air pollution, dust, chemical fumes

FOR PATIENTS

Who are at risk of getting COPD?

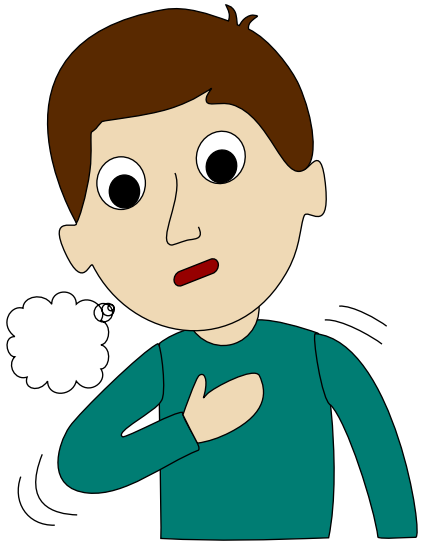
- The main risk factor for COPD is smoking. Up to 75 percent of people who have COPD smoke or used to smoke.
- Household air pollution (such as biomass fuel used for cooking and heating) is a major factor
- People who have a family history of COPD are more likely to develop the disease if they smoke.
- Long-term exposure to irritants like air pollution, chemical fumes and dusts from the environment or workplace, and second-hand smoke, which is smoke in the air from other people smoking.
- People who have asthma can also develop COPD

COPD | National Heart, Lung, and Blood Institute (NHLBI) [Internet]. [cited 2018 Aug 24];Available from: https://www.nhlbi.nih.gov/health-topics/copd
Asthma | National Heart, Lung, and Blood Institute (NHLBI) [Internet]. [cited 2018 Aug 24];
Available from: https://www.nhlbi.nih.gov/health-topics/asthma

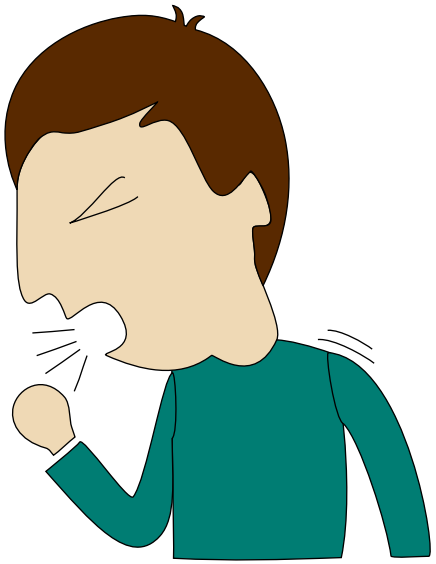
FOR HEALTH CARE PROVIDER

What are the symptoms of COPD?

- Feeling out of breath, especially with activity or exercise
- Coughing with large amount of sputum
- Noisy breathing (wheezing)



Difficulty Breathing



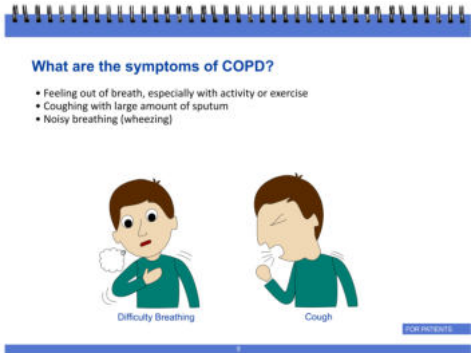
Cough

FOR PATIENTS

What are the symptoms of COPD?

- Feeling out of breath, especially with activity or exercise
- Coughing
- Wheezing

In addition to these symptoms, people with chronic bronchitis may produce sputum, mucus coughed up from the airways.



https://www.nhs.uk/conditions/peak-flow-test/

FOR HEALTH CARE PROVIDER

Treatment options for COPD

COPD cannot be cured but there are various treatments that may help you feel better!

Inhaler “Puffer”

Tablets (Bronchodialator)

Quitting smoking and being physically active

Nebulizer

FOR PATIENTS

Treatment options for COPD

COPD cannot be cured but treatment can relieve the symptoms

- Stop smoking and avoid exposure to smoke

Drugs used for COPD and asthma

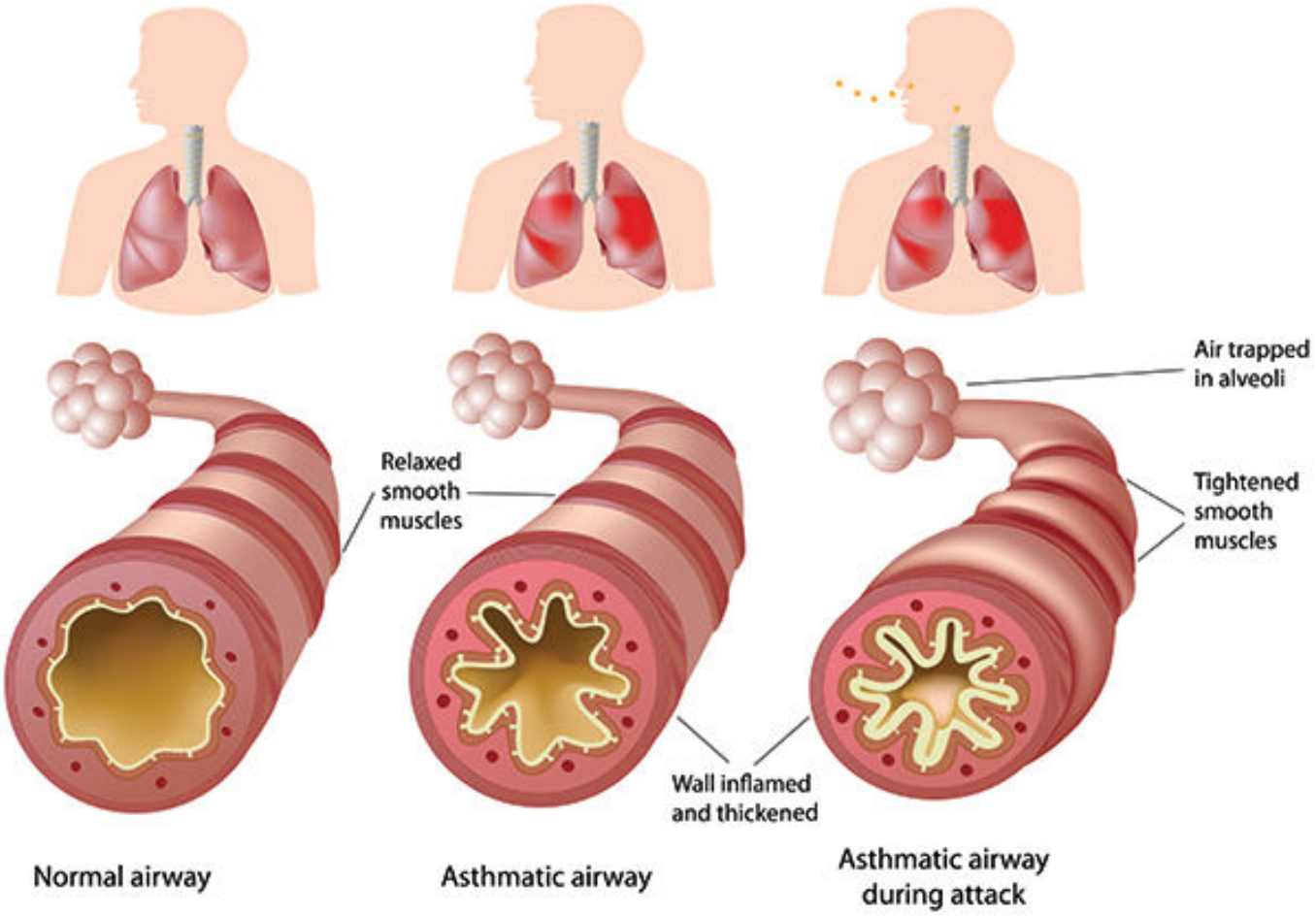
- Short-Acting Beta-Agonists (SABAs):
- Are typically used as "rescue" medications to provide quick relieve of asthma symptoms.
- Includes : salbutamol, terbutaline, levosalbutamol
- Effect of inhaled form -Onset : 1-5minutes,: Duration : 3-6 hours

Long -Acting Beta-Agonists: salmeterol formoterol

- This works in a similar way to a short-acting bronchodilator, but each dose lasts for at least 12 hours, so they only need to be used once or twice a day.

FOR HEALTH CARE PROVIDER

What happens to your airways in asthma?



FOR PATIENTS

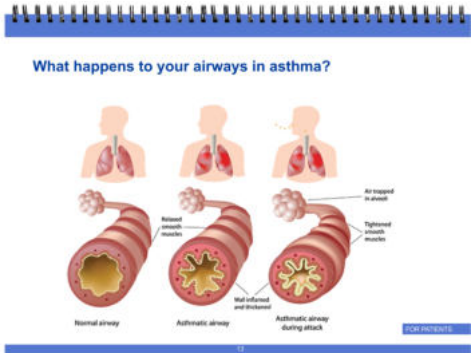
What happens to your airways in asthma?

During an asthma attack, the lining of the airways in the lungs swells and the mucus glands make more mucus.

The muscles around the airways tighten and make the airways narrower.
All of these changes in the lungs block the flow of air, making it hard to breathe.

Knowing what is happening in the lungs during an asthma attack will help you to know why it often takes more than one medicine to treat the disease.

Asthma changes are reversible with adequate treatment or airways may returned to normal spontaneously.

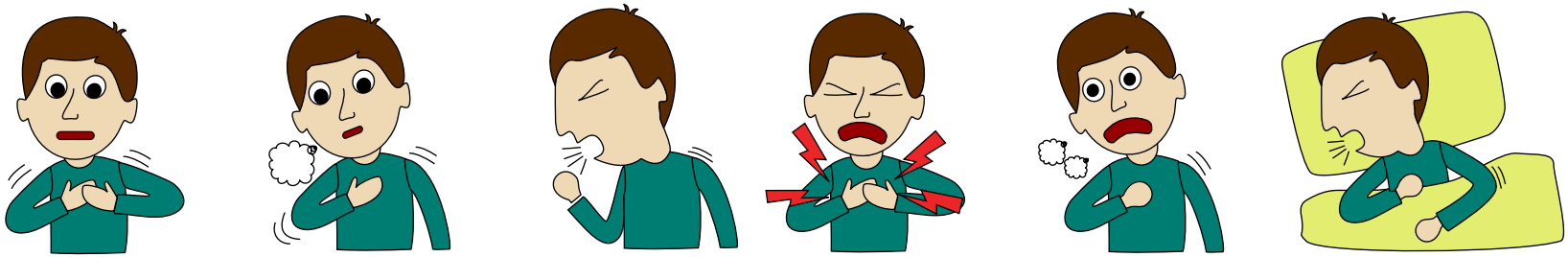


FOR HEALTH CARE PROVIDER

What are the symptoms of asthma

- Difficulty in breathing
- Pain/tightness in chest
- Cough, especially at night or early in the morning
- Cough that happens after exercise

Asthma is a serious disease, and can lead to death if it is not treated the right way.



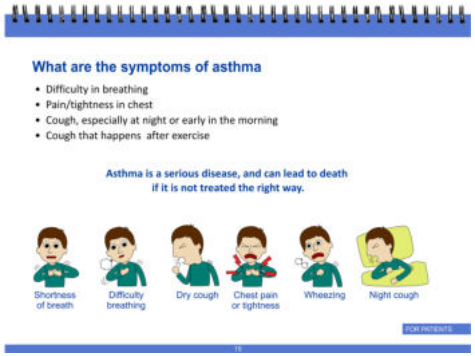
Shortness of breath | Difficulty breathing | Dry cough | Chest pain or tightness | Wheezing | Night cough

FOR PATIENTS

What are the symptoms of asthma

The most common symptoms are:

- Shortness of breath, chest “tightness”
- Cough, especially at night or early in the morning
- Cough that happens after exercise
- Wheezing (breathe with a high pitched sound)
- Asthma is a manageable, but serious condition; if untreated asthma can lead to chronic airway obstruction that cannot be fully reversed.
- Even when controlled there is risk of sudden worsening of symptoms called an asthma attack or “flare up” (exacerbation).
- Asthma exacerbations may become severe enough to lead to hospitalization and in very rare cases, death.

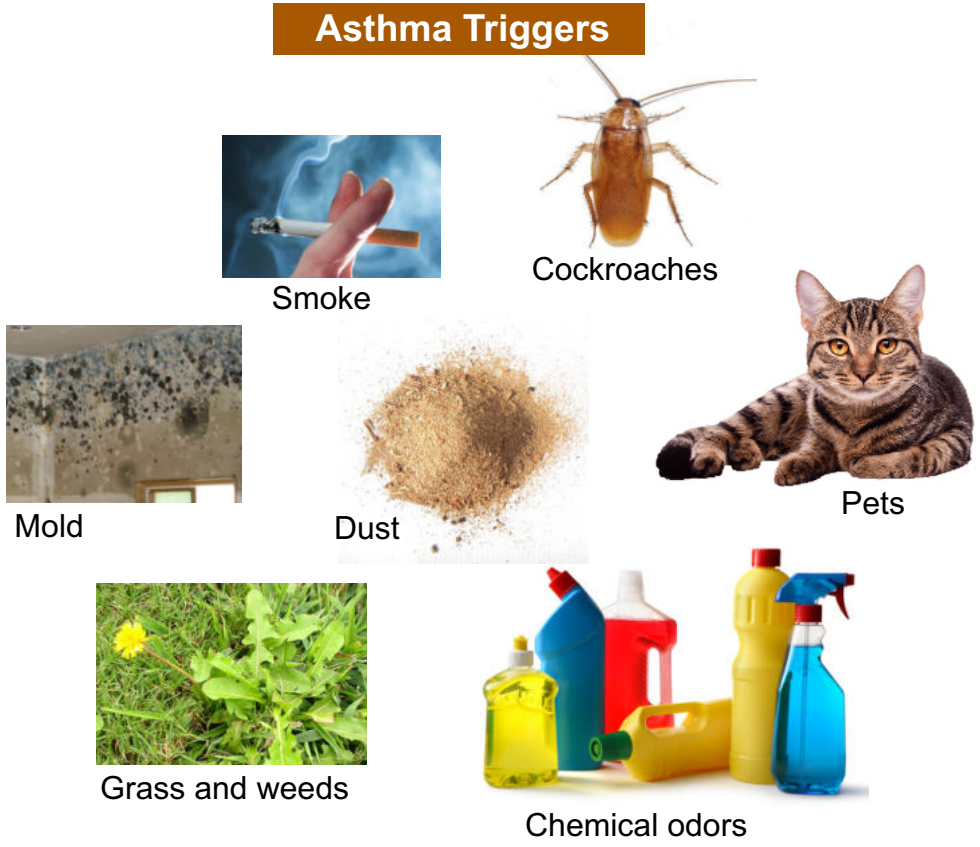


FOR HEALTH CARE PROVIDER

What triggers an asthma attack?

There are some allergens which can trigger an asthma attack. Some common ones are:

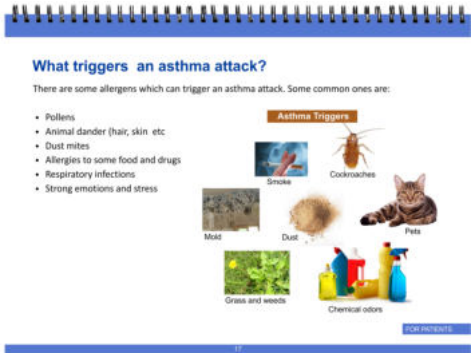
- Pollens
- Animal dander (hair, skin etc)
- Dust mites
- Allergies to some food and drugs
- Respiratory infections
- Strong emotions and stress



FOR PATIENTS

What triggers an asthma attack?

- Exposure to indoor allergens (dust mites, cockroaches, animal dander, and mold.)
- Exposure to pollens
- Smoking during pregnancy and after delivery is associated with a greater risk of asthma-like symptoms
- Certain medications, including beta blockers, aspirin, ibuprofen
- Strong emotions and stress
- Certain viral respiratory infections (respiratory syncytial virus and rhinovirus)



FOR HEALTH CARE PROVIDER

Acute asthma attack

Signs that you may be having an asthma attack are:

- Your symptoms are getting worse (cough, breathlessness, wheezing or tight chest)
- Your reliever inhaler isn't helping
- You're too breathless to speak, eat or sleep
- Your breathing is getting faster and it feels like you can't catch your breath

FOR PATIENTS

What are the symptoms of an acute asthma attack

Severe:

- Inability to complete sentences in one breath
- Respiratory rate more than 25 breaths/minute (adult)
- Heart rate 110 beats/minute (adult)
- PEFR 33–50% best or predicted

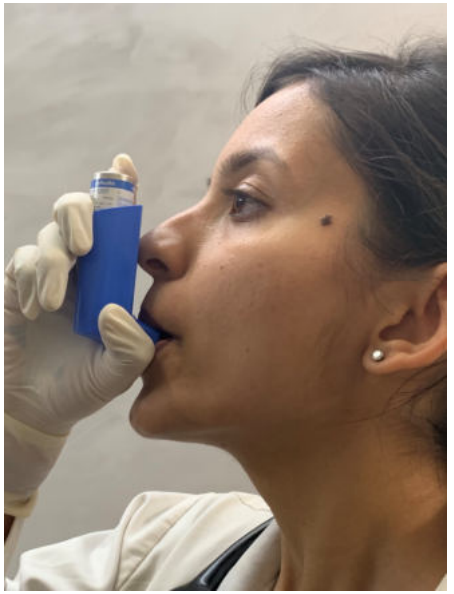
Very severe:

- Altered consciousness level, exhaustion, arrhythmia, hypotension, cyanosis, silent chest, poor respiratory effort
- SpO2<92%

FOR HEALTH CARE PROVIDER

If you have an asthma attack

1. **DON'T PANIC**
2. Sit upright (don't lie down) and try to take slow, steady breaths. Try to remain calm, as panicking will make things worse.
3. Take 1 puff of your reliever inhaler every 30 to 60 seconds, up to a maximum of 10 puffs.
4. Call for an ambulance if you don't have your inhaler with you, you feel worse despite using your inhaler, you don't feel better after taking 10 puffs or you're worried at any point.
5. If the ambulance hasn't arrived within 15 minutes, repeat step 2.
6. Never be frightened of calling for help in an emergency.



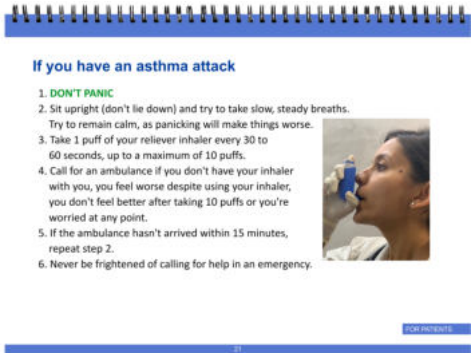
What should you do if you have an asthma attack

First line treatment

- Prednisolone 30–40 mg for 5 days for
- Adults and 1 mg per kg for 3 days for children or longer if necessary until they have recovered;
- Salbutamol in high doses by metered dose inhaler (MDI) and spacer (e.g. four puffs every 20 minutes for 1 hour) or by nebulizer.
- Oxygen, if available, and if oxygen saturation levels are low (below 90%)

Second line treatment

Increase frequency of dosing via MDI and spacer or by nebulizer, or give salbutamol by continuous nebulization at 5–10 mg per hour if appropriate nebulizer available.



FOR HEALTH CARE PROVIDER

Prevent asthma attack in cold weather

Cold weather is a common trigger for asthma symptoms. You can prevent asthma attack

- carry your inhaler with you at all times
- if you need to use your inhaler more than usual, speak to your doctor about reviewing your treatment
- keep warm and dry
- wrap a scarf loosely over your nose and mouth – this will help warm up the air before you breathe it
- try breathing in through your nose instead of your mouth – your nose warms the air as you breathe

FOR PATIENTS

How can you prevent an asthma attack in cold weather?

Cold weather is a common trigger for asthma symptoms. You can prevent asthma attack

- carry your inhaler with you at all times
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FOR HEALTH CARE PROVIDER

Travelling with asthma

Asthma shouldn't stop you from travelling, but you'll need to take extra precautions when going on holidays and long trips.

- Make sure you have enough medicine with you and keep your inhaler easily accessible.
- Avoid exposure to dust and triggers
- Discuss with your health provider before you travel to review your treatment

FOR PATIENTS

Can you travel if you are suffering from asthma?

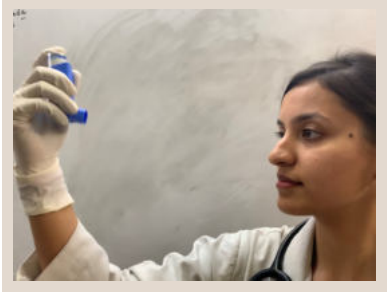
Asthma shouldn't stop you from travelling, but you'll need to take extra precautions when going on holidays and long trips.

- Make sure you have enough medicine with you and keep your inhaler easily accessible.
- Avoid exposure to dust and triggers
- Discuss with your health provider before you travel to review your treatment

FOR HEALTH CARE PROVIDER

Correct way to use an inhaler

Step 1 : Remove the cap from the inhaler



Step 2 : Shake the inhaler well for 5 seconds

Step 3 : Hold the inhaler firmly by placing your index finger on the top of the canister and thumb on the bottom of the mouthpiece

Step 4 : Sit straight or stand up

Step 5 : Tilt your head back slightly

Step 6 : Exhale away from the inhaler

Step 7 : Put the inhaler in your mouth press the inhaler and start breathing in at the same time. Take a slow and deep breath

Step 8 : Hold your breath for 10 seconds. Exhale slowly through your mouth or nose.

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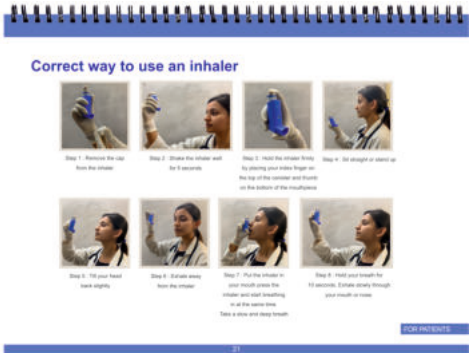

FOR HEALTH CARE PROVIDER

Common mistakes while using an inhaler

What are the common mistakes while using an inhaler /spacer

1. Slouching while inhaling
2. Using an empty inhaler
3. Not shaking the inhaler before using
4. Mouth not tight enough around spacer/inhaler
5. Inhaling medicine too fast

FOR PATIENTS

Common mistakes while using an inhaler

1. Slouching

Correction : Sitting up straight or standing allows the lungs to fully inhale and provides more power to exhale.

2. Using an empty inhaler

Correction: Request a refill when the inhaler has 30 puffs or doses left.

3. Not shaking or priming the inhaler

Correction: Shake the inhaler canister 10 to 15 times for the medication to be ready to work.

When using a new inhaler, prime it by releasing three to four test sprays.

4. Mouth not tight enough around spacer/inhaler

Correction : Close the lips around the mouthpiece of the spacer or inhaler so air does not escape.

5. Inhaling medicine too fast

Correction : Inhale slowly. A whistle sound made when using a spacer means the inhalation is too fast

FOR HEALTH CARE PROVIDER

World Health Organization

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