

Asthma

Physiology of Asthma:

- Asthma is a chronic inflammatory disease of the airways.
- It affects the bronchial tubes, which become inflamed, narrow and produce excess mucus.
- This makes it difficult for air to pass in and out of the lungs, leading to symptoms such as wheezing, coughing, shortness of breath, and chest tightness.
- Asthma symptoms can range from mild to severe, and can be triggered by various factors, such as exercise, allergies, cold air, and stress.

Triggers/Causes of Asthma:

- Genetics: Asthma tends to run in families, and some genes have been associated with increased risk of developing the condition.
- Environmental factors: Exposure to air pollution, tobacco smoke, and allergens such as pollen, dust mites, and pet dander can trigger asthma symptoms in some people.
- Respiratory infections: Viral infections such as the common cold or flu can cause asthma exacerbations.
- Exercise: Physical activity can trigger asthma symptoms in some people.
- Stress: Emotional stress can also trigger asthma symptoms.
- Certain medications: Some medications such as aspirin and beta-blockers can trigger asthma symptoms in some people.

Symptoms of Asthma:

- Wheezing: A high-pitched whistling sound when breathing in or out.
- Coughing: A persistent cough, especially at night or early in the morning.
- Shortness of breath: Difficulty breathing or feeling like you can't catch your breath.
- Chest tightness: A feeling of pressure or tightness in the chest.
- Rapid breathing: Breathing faster than usual.
- Fatigue: Feeling tired or exhausted due to difficulty breathing.
- Difficulty speaking: Talking may be difficult due to shortness of breath.

Treatments of Asthma:

- Inhalers: These are the most common treatment for asthma. They deliver medication directly to the lungs and help to relieve symptoms such as wheezing, coughing, and shortness of breath.
- Controller medication: These medications are taken regularly to prevent asthma symptoms from occurring. They reduce inflammation in the airways and can help to prevent asthma attacks.

- Quick-relief medication: These medications are used to relieve symptoms quickly during an asthma attack. They work by relaxing the muscles around the airways and can help to open them up.
- Allergy medication: If allergies are triggering asthma symptoms, medications such as antihistamines and decongestants may be prescribed.
- Immunotherapy: This treatment involves receiving injections of allergens to help the body build up a tolerance to them over time.
- Lifestyle changes: Avoiding triggers such as tobacco smoke, air pollution, and allergens can help to reduce asthma symptoms. Exercise and stress management techniques such as deep breathing and meditation may also be helpful.
- Emergency treatment: If asthma symptoms become severe, emergency treatment may be necessary. This can involve the use of oxygen therapy, intravenous medications, or intubation (insertion of a breathing tube) in extreme cases.