Bronchial asthma, or simply asthma, is a **chronic lung disease** where airways become narrow and swollen and are blocked by excess mucus. It causes bronchospasms, inflammation, thick mucus, and constriction in the airways. Unlike a condition that goes away, asthma is ongoing and requires **ongoing medical management**. It affects over 25 million people in the U.S., including more than 5 million children, and can be life-threatening if untreated.

During an asthma attack, also called an exacerbation or flare-up, three main things happen:

- **Bronchospasm:** Muscles around the airways tighten, narrowing them and restricting airflow.
- **Inflammation:** The lining of the airways swells, reducing the amount of air that can enter or leave the lungs.
- **Mucus production:** More thick mucus is produced, clogging the airways. When airways get tighter during an attack, a sound called **wheezing** is often heard when breathing out. An asthma attack is a sign that your asthma is not controlled.

Asthma is categorized into types based on cause and symptom severity.

- **Intermittent asthma** comes and goes, with normal periods between flares.
- **Persistent asthma** involves symptoms much of the time, ranging from mild to severe, based on symptom frequency and the ability to function during an attack.

Asthma can be:

- **Allergic:** Triggered by allergens like molds, pollens, and pet dander.
- **Non-allergic:** Caused by external factors such as exercise, stress, illness, and weather.
- **Adult-onset:** Starts after age 18.
- **Pediatric (childhood asthma):** Often begins before age 5; some children may outgrow it, but discuss this with a healthcare provider.

Other types include:

- **Exercise-induced asthma:** Triggered by exercise, also called exercise-induced bronchospasm.
- **Occupational asthma:** Occurs mainly in people working around irritating substances.
- **Asthma-COPD overlap syndrome (ACOS):** When a person has both asthma and chronic obstructive pulmonary disease (COPD).

**Anyone can develop asthma at any age**. People with allergies or those exposed to tobacco smoke (including secondhand and thirdhand smoke) have a higher risk. Asthma is also more common among females and affects Black people more frequently than other races.

While researchers don't know exactly why some people get asthma, risk factors include **allergies, environmental factors** (exposure to irritants like allergens, toxins, fumes, and

smoke, especially for young children), **genetics** (family history of asthma or allergies), and **respiratory infections** (like RSV in young children).

Asthma attacks can be brought on by triggers, which are substances that irritate the airways. Knowing your triggers helps avoid attacks. Attacks can start immediately or hours/days after exposure. Common triggers include:

- Air pollution (factory emissions, car exhaust, wildfire smoke)
- Dust mites
- Exercise
- Mold
- Pests (cockroaches, mice)
- Pets (pet dander)
- Tobacco smoke
- Strong chemicals or smells
- Certain occupational exposures (cleaning products, dust, chemicals)

Signs and symptoms of asthma are usually obvious and resemble respiratory infections, but can vary between individuals and attacks. Common symptoms include:

- **Chest tightness, pain, or pressure**
- **Coughing** (especially at night)
- **Shortness of breath**
- **Wheezing**

To diagnose asthma, a healthcare provider reviews your medical history, including family history of asthma, allergies, eczema, and other lung diseases, and asks about your symptoms. They may order tests like **spirometry** to measure airflow, which helps diagnose and monitor treatment. A chest X-ray, blood test, or skin test may also be ordered.

Asthma cannot be cured, but it **can be managed**. The goal of treatment is **asthma control**, meaning you can perform daily activities, have minimal or no symptoms, rarely need a rescue inhaler, and sleep undisturbed by asthma.

Asthma treatment options include medications prescribed by a healthcare provider:

- **Bronchodilators:** Relax airway muscles to allow air and mucus to move more easily. They relieve symptoms and are used for intermittent and chronic asthma.
- **Anti-inflammatory medicines:** Reduce swelling and mucus production, making breathing easier. They may be taken daily for chronic asthma control or prevention.
- **Biologic therapies:** Used for severe asthma that persists despite inhaler therapy. Medications can be taken using inhalers (metered-dose, nebulizer, etc.) or as oral medications.

Monitoring symptoms is crucial for managing asthma. A peak flow meter, which measures how fast you can blow air out, can help track symptoms and guide medication adjustments.

You cannot prevent yourself from getting asthma, but you can help prevent attacks by figuring out your triggers and avoiding them.

People with asthma can live very productive lives, including participating in sports. Healthcare providers help manage symptoms, identify triggers, and prevent or manage attacks.

A healthcare provider will help develop an **asthma action plan**. This plan details how and when to use medications, what to do based on symptoms, and when to seek emergency care.

If you have a severe asthma attack, seek immediate medical care. First, use your **rescue inhaler**, which contains fast-acting medicine to open airways. If the rescue inhaler doesn't help or isn't available, go to the emergency department, especially if experiencing symptoms like anxiety, bluish lips/fingernails, chest pain, non-stop coughing or severe wheezing, difficulty talking, pale/sweaty face, or very rapid breathing.

Asthma can sometimes be worse at night (nocturnal asthma). Possible reasons include sleeping position, triggers in the bedroom (dust mites, mold, pet hair, pollen), side effects from certain asthma medications, changes in air temperature, natural lessening of lung function at night, and asthma that is poorly controlled during the day. Treating nighttime symptoms is important due to the risk of serious attacks.

If you have moderate-to-severe or poorly controlled asthma, you are at greater risk of hospitalization if you get COVID-19. Taking precautions like wearing a mask in indoor public spaces, getting vaccinated, and avoiding exposure to infected individuals is important.

Many people with asthma live fulfilling lives. Talk to your healthcare provider about how to control your symptoms.