

# What is Asthma?

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## Asthma:

- is one of the most common respiratory complaints in the world today.
- affects one in ten children (10%) and one in twenty adults (5%)
- can occur for the first time at any age, even in adulthood.
- usually begins before the age of five years. A few children affected will 'outgrow' it during their teenage years but it usually persists if contracted in adulthood.
- tends to run in families as do related allergic conditions like hay fever and eczema.
- cannot as yet be cured but if kept under control, those affected will be able to live normal lives enjoying full involvement in sport and all other activities.

**The greatest tragedy of asthma is that it is sometimes not recognised and treated, in which case the patient undergoes needless suffering.**

## What happens to the lungs in asthma?

Asthma affects the breathing pipes or tubes called airways or bronchi. When we breathe in, air passes through the voice-box and down the wind-pipe (called the trachea). The wind-pipe branches into the two main bronchi which take air into the two lungs. These bronchi then divide further and further, becoming smaller and smaller as they take air deeper into the lungs to the point where oxygen passes into the blood-stream.

## In asthma, narrowing of the airway is caused by:

- Swelling of the lining.
- Increased sticky mucus or secretions lying in the airways produced by the mucus glands. The swelling and increased secretions are called inflammation.
- Muscles going into spasm. Spasm occurs only when there is inflammation.

**When the bronchi become too narrow or are partially obstructed from inflammation and spasm, the typical symptoms of asthma will develop.**

## These symptoms are:

- Coughing, which often occurs more frequently at night and with activity, can be dry or mucousy and is persistent or recurrent.
- Wheezing which is a whistling noise in the chest.
- Tightness of the chest with breathing difficulty.
- Shortness of breath - especially after exercise.

The exact cause of the asthmatic process is not well understood but it is thought to be triggered off by an allergy or when the lungs are irritated by something in the air. (See "Risk factors for asthma and triggers for asthma attacks").

## What starts off (triggers) an asthma attack?

### A viral cold

A viral cold or the flu can make asthma symptoms temporarily worse and this effect may last for up to six weeks after the illness.

### Allergies

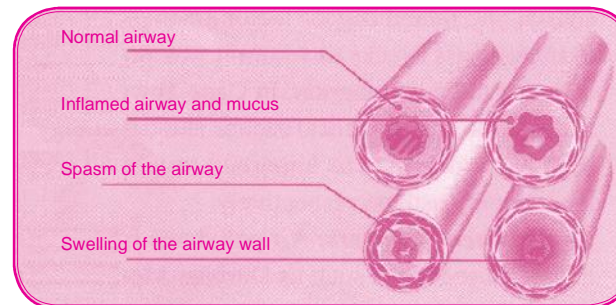
Asthma attacks are most commonly triggered by allergies to airborne particles of house-dust mites, grass or tree pollens, fungal spores and skin flakes from furry animals such as cats and dogs. Certain foods and additives can (rarely) also trigger off asthma when eaten.



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## Pollution and irritants

Pollution is the environment, especially cigarette smoke, car exhaust fumes and certain chemical gases can aggravate an asthma attack. Even children will be affected if they passively breathe their parents cigarette smoke into their lungs.

## Sport and exercise

Sport and exercise, particularly in cold weather, can set off an asthma attack. However with the correct treatment asthma can be well controlled so asthmatics should not avoid sport or exercise. In fact about 10% of Olympic athletes have asthma.

## Emotions

Emotions such as excitement, anger, fear and laughter can all aggravate asthma, but "nerves" are not responsible for causing asthma.

## Medicines

Certain commonly used medicines such as aspirin and other anti-inflammatory pain tablets may trigger asthma. Be cautious with using "beta blocker" blood pressure tablets and eye-drops for glaucoma as they can also trigger asthma in adult life.

## How is asthma treated?

Asthma cannot be completely cured no matter what anyone says, but with the right treatment most asthmatics will lead completely normal lives. The aim of treatment should be to make the lungs and breathing tubes as normal as possible so that there are minimal symptoms and as little disruption to ordinary life as possible. (See 'Asthma medicines and how they work')

## Asthma in South Africa

### Prevalence

There is undoubted evidence of a significant increase in the number of people who have asthma amongst all races in South Africa. Asthma attacks are also more common and South Africans still die of asthma.

### Ethnic and social variations

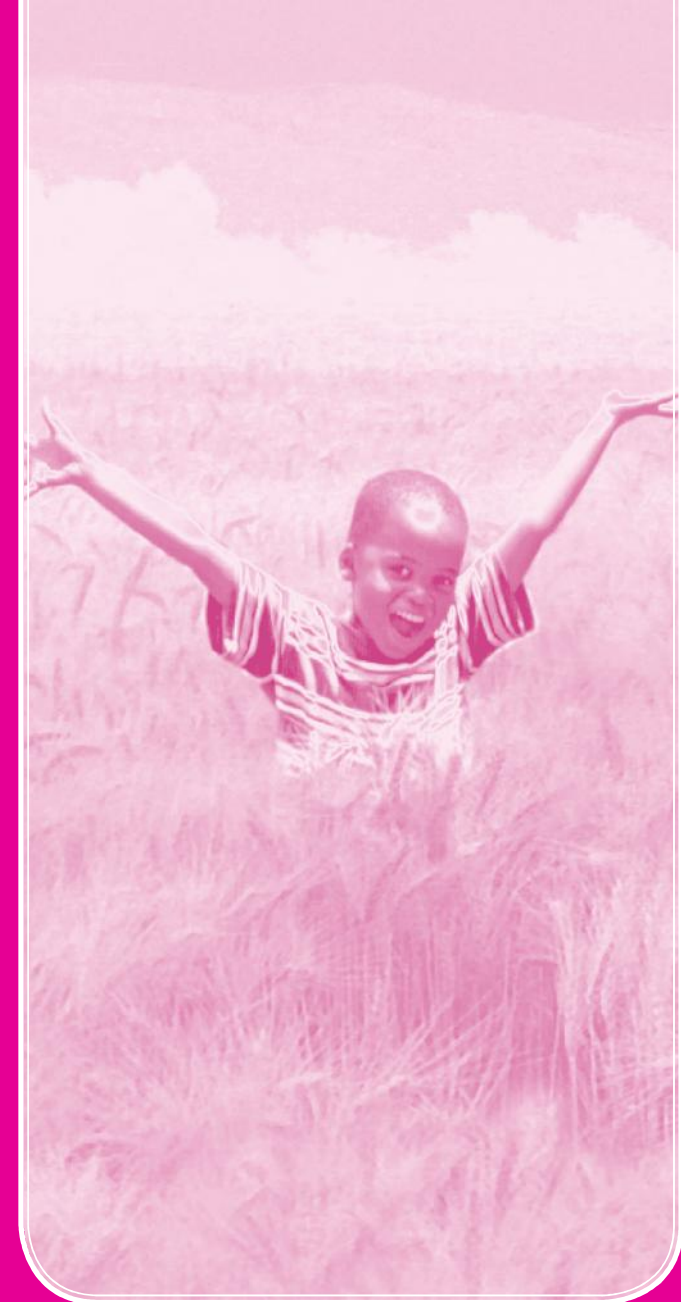
Allergic diseases are less common amongst Africans. However, many more Africans who have a positive history of allergy, develop allergic diseases as compared to other races. Asthma is increasing in all South Africans, but especially fast in Black African South Africans. Also, asthma can be more severe in people who live in poverty.

### Risk of urban living

Studies conducted on rural Transkeians have shown that migration to urban and peri-urban settlements results in a 20 times increased risk of developing asthma symptoms, but asthma is increasing in rural areas.

### Triggers in South Africa

- **Allergens:** House dust mite is the most common coastal and inland trigger factor amongst all races; even amongst Black Africans in whom it was previously believed to be uncommon. In Cape Town, grass is an important trigger while in Durban cockroaches are a common factor. In the Transkei cat allergy may trigger asthma.
- **Environmental factors:** Air pollutants from highly industrialised areas such as Durban, Mpumalanga and Gauteng may trigger asthma attacks. These include cigarette smoking, motor vehicle exhaust fumes and changing fuel for burning in the home (anthracites and coal).
- **Occupational hazards:** Prolonged exposure to many substances at the workplace may be harmful to the lung. By law such occupation induced asthma is compensatable. If asthma is worse at work rather than weekends or holidays, or only started after you started a particular job involving chemicals that can trigger asthma (see "A South African Worker's guide to Work-Related Asthma") then you may have occupational asthma.



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