Sometimes symptoms are mild and go away on their own or after minimal treatment with an asthma medicine. At other times, symptoms continue to get worse. When symptoms get more intense and/or additional symptoms appear, this is an asthma attack. Asthma attacks also are called flareups or exacerbations.

It's important to treat symptoms when you first notice them. This will help prevent the symptoms from worsening and causing a severe asthma attack. Severe asthma attacks may require emergency care, and they can cause death.

The exact cause of asthma isn't known. Researchers think a combination of factors (family genes and certain environmental exposures) interact to cause asthma to develop, most often early in life. These factors include:

- An inherited tendency to develop allergies, called atopy (AT-o-pe)
- Parents who have asthma
- Certain respiratory infections during childhood
- Contact with some airborne allergens or exposure to some viral infections in infancy or in early childhood when the immune system is developing

If asthma or atopy runs in your family, exposure to airborne allergens (for example, house dust mites, cockroaches, and possibly cat or dog dander) and irritants (for example, tobacco smoke) may make your airways more reactive to substances in the air you breathe.

Different factors may be more likely to cause asthma in some people than in others. Researchers continue to explore what causes asthma.
Diagnostic Tests

Lung Function Test
Your doctor will use a test called spirometry (spi-ROM-eh-tre) to check how your lungs are working. This test measures how much air you can breathe in and out. It also measures how fast you can blow air out. Your doctor also may give you medicines and then test you again to see whether the results have improved.

If the starting results are lower than normal and improve with the medicine, and if your medical history shows a pattern of asthma symptoms, your diagnosis will likely be asthma.

Other Tests
Doctor may order other tests if he or she needs more information to make a diagnosis. Other tests may include:

- Allergy testing to find out which allergens affect you, if any.
- A test to measure how sensitive your airways are. This is called a broncho-provocation test. Using spirometry, this test repeatedly measures your lung function during physical activity or after you receive increasing doses of cold air or a special chemical to breathe in.
- A test to show whether you have another disease with the same symptoms as asthma, such as reflux disease, vocal cord dysfunction, or sleep apnea.
- A chest x ray or an EKG (electrocardiogram). These tests will help find out whether a foreign object or other disease may be causing your symptoms of allergies, including the allergic skin condition eczema.

Diagnosing Asthma in Young Children

Most children who have asthma develop their first symptoms before 5 years of age. However, asthma in young children (aged 0 to 5 years) can be hard to diagnose. Sometimes it can be difficult to tell whether a child has asthma or another childhood condition because the symptoms of both conditions can be similar.

Also, many young children who have wheezing episodes when they get colds or respiratory infections don’t go on to have asthma after they’re 6 years old. These symptoms may be due to the fact that infants have smaller airways that can narrow even further when they get a cold or respiratory infection. The airways grow as a child grows older, so wheezing no longer occurs when the child gets a cold.

A young child who has frequent wheezing with colds or respiratory infections is more likely to have asthma if:

- One or both parents have asthma
- The child has signs of allergies, including the allergic skin condition eczema
- The child has allergic reactions to pollens or other airborne allergens
- The child wheezes even when he or she doesn’t have a cold or other infection

A lung function test along with a medical history and physical exam is the most certain way to diagnose asthma. However, this test is hard to do in children younger than 5 years. Thus, doctors must rely on children’s medical histories, signs and symptoms, and physical exams to make a diagnosis. Doctors also may use a 4 to 6 week trial of asthma medicines to see how well a child responds.

“Breathing Is the Greatest Pleasure in Life”
A bronchodilator is a substance that dilates the bronchi and bronchioles, decreasing resistance in the respiratory airway and increasing airflow to the lungs. Bronchodilators may be endogenous (originating naturally within the body), or they may be medications administered for the treatment of breathing difficulties. They are most useful in obstructive lung diseases, of which asthma and chronic obstructive pulmonary disease are the most common conditions. Although this remains somewhat controversial, they might be useful in bronchiolitis. They are often prescribed but of unproven significance in restrictive lung diseases.

Bronchodilators are either short-acting or long-acting. Short-acting medications provide quick or "rescue" relief from acute bronchoconstriction. Long-acting bronchodilators help to control and prevent symptoms. The three types of prescription bronchodilating drugs are β2-agonists (short- and long-acting), anticholinergics (short-acting), and theophylline (long-acting).

**Contents**

**Short-acting β2-agonists**

These are quick-relief or "rescue" medications that provide quick fast, temporary relief from asthma symptoms or flare-ups. These medications usually take effect within 20 minutes or less, and can last from four to six hours. These inhaled medications are best for treating sudden and severe or new asthma symptoms. Taken 15 to 20 minutes ahead of time, these medications can also prevent asthma symptoms triggered by exercise or exposure to cold air.

Some short-acting β-agonists (for example albuterol) are specific to the lungs; they are called β2-agonists and can relieve bronchospasms without unwanted cardiac (β1) side effects of nonspecific β-agonists (for example, ephedrine or epinephrine). Patients who regularly or frequently need to take short-acting β-agonists should consult their doctor, as such usage indicates uncontrolled asthma, and their routine medications may need adjustment.

Salbutamol is an example of a Short-acting β2-agonists.