

Allergy Overview



What are allergies?

Allergies are due to a problem with the body's immune system. Most allergic reactions happen when the immune system reacts to a false alarm. Normally the immune system attacks harmful things, such as viruses or bacteria. But sometimes it overreacts and responds to things that are normally harmless. These may include dust, mold, pollen, or food.

What causes allergies?

Allergens are substances that can be breathed or swallowed, or that come in contact with the skin. Common allergic reactions, such as hay fever, certain types of asthma, and food allergies, are linked to an antibody made by the body. This antibody is called immunoglobulin E, or IgE. Each IgE antibody targets a certain allergen. When IgE comes into contact with its target allergen, it triggers the release of several inflammatory chemicals. These include histamines, cytokines, and leukotrienes. These chemicals then cause allergy symptoms.

You can be allergic to one type of allergen but not another. Allergic reaction symptoms will differ based on the type and amount of allergen you have come in contact with. It also depends on how your body's immune system reacts to that allergen. Symptoms can range from mild itching or runny nose to a severe allergic reaction (anaphylaxis) that becomes a medical emergency.

The most common allergens are:

- Pollen
- Mold
- Household dust, dust mites, and their waste
- Animal dander, urine, or oil from skin
- Chemicals used for manufacturing
- Food
- Medicine
- Feathers
- Bee stings
- Cockroaches and their waste
- Latex

Who is at risk for allergies?

Allergies can affect anyone, at any age. Often allergies are more common in children. But a first-time event can happen at any age. Or an allergy can come back after many years of remission.

Allergies often run in families. The exact family links that cause allergies aren't yet understood. In sensitive people, things such as hormones, stress, smoke, perfume, or other environmental irritants may also play a role. Allergy symptoms often grow slowly over time.

You may become used to constant symptoms, such as sneezing, nasal congestion, or wheezing, and you may not think that the symptoms are abnormal. Allergy symptoms can often be stopped or controlled with the help of a healthcare provider who specializes in treating allergies (allergist). Correct identification and treatment of your allergies may help improve your quality of life.

What are allergy symptoms?

An allergic reaction can happen anywhere in the body. This includes the skin, eyes, stomach lining, nose, sinuses, throat, and lungs. These are the places where immune system cells are found to fight off germs that are breathed in, swallowed, or come in contact with the skin. Allergic reactions can cause these symptoms:

- Stuffy nose, sneezing, itching, or runny nose, and itching in ears or roof of mouth
- Red, itchy, watery eyes
- Red, itchy, dry skin
- Hives or itchy welts
- Itchy rash
- Asthma symptoms, such as shortness of breath, coughing, or wheezing
- Anaphylaxis, a severe, life-threatening reaction

The symptoms of allergy sometimes look like other conditions or health problems. Always see your healthcare provider for a diagnosis.

How are allergies diagnosed?

To diagnose an allergy, your healthcare provider will give you an exam and review your health history. They will ask about allergens you come in contact with and what things make your symptoms better or worse. Your provider may also do these tests:

- **Skin test.** This is the most common allergy test. Skin tests measure if there are IgE antibodies to specific allergens, such as foods, pollens, or animal dander. A small amount of diluted allergen is placed on the skin. The area is pricked or scratched. If you are allergic to the allergen, a small, raised bump (like a mosquito bite) will appear after about 15 minutes. Testing for many allergens may be done at the same time. An allergist may also do an intradermal test. In this test, a small amount of allergen is injected just under the skin. This type of skin testing is more sensitive than prick or scratch testing. Skin test results are available right after the testing is done.
- **Blood test.** Blood tests for allergies measure IgE antibodies to specific allergens in the blood. The test that is most often used is called RAST (radioallergen sorbent test). Or a newer blood test called an ELISA (enzyme-linked immunosorbent assay) may be done. Blood tests may be used when skin tests can't be done. For example, in people with particular skin conditions or a very recent severe allergic reaction. A positive blood test does not always mean that you have a specific allergy. These tests take longer and may be more expensive than skin tests.
- **Challenge test.** Challenge tests may be done when it is not clear what allergen is triggering your symptoms. It is often done with possible medicine or food allergies. For the test, you may breathe in a very small amount of allergen. Or you may take a very small amount of the allergen by mouth. You will be watched closely by a healthcare provider during this test.

See your healthcare provider about any positive test result. Your provider can tell you about the tests and knows your health history.

How are allergies treated?

Treatment will depend on what you are allergic to and your symptoms, age, and general health. It will also depend on how severe the condition is.

Allergy immunotherapy (shots or sublingual immunotherapy) and medicine are effective ways to treat allergies.

Allergy immunotherapy

There are 2 types of allergy immunotherapy: allergy shots and sublingual (under the tongue) immunotherapy.

Allergy shots are used to treat people who have hay fever (allergic rhinitis), conjunctivitis, or asthma. They are also used for people with a stinging insect allergy (bee venom allergy). A mixture of the many allergens to which you are allergic is made. It is injected into your arm on a weekly basis until a maximum dose is reached. Then the frequency of injections is decreased over time.

Most people get better with allergy shots. It often takes about 12 to 18 months before you notice a clear reduction in symptoms. Some people see improvement in 6 to 8 months.

Allergy shots are only part of the treatment plan for people with allergies. It takes time for allergy shots to become effective. So you will need to stay on the allergy medicines as prescribed by your healthcare provider. It's also important to keep allergens (such as dust mites) under control in your surroundings.

A newer type of immunotherapy is called SLIT (sublingual immunotherapy). This uses tablets that are dissolved under the tongue daily at home. It's an effective alternative to allergy shots. But it's currently only available for a few allergens, including grass pollen, ragweed pollen, and dust mites.

Medicine

For people who suffer from allergies, there are many medicines that work well. Nasal sprays work to decrease nasal congestion, stuffiness, and postnasal drip. Antihistamines are helpful for itchiness and hives. Decongestants are used to treat stuffiness in the nose and other symptoms linked to colds and allergies. But overuse of decongestants can be linked to rebound congestion or high blood pressure. Using medicines for asthma or allergy breathing symptoms is tailored for each person based on the severity of the symptoms.

Talk with your healthcare provider for more information about allergy medicines.

What are possible complications of allergies?

Anaphylactic shock or anaphylaxis can happen in extreme cases. Anaphylaxis is a serious, life-threatening reaction to certain allergens. Body tissues may swell, including tissues in the throat. It can also cause a sudden drop in blood pressure. Anaphylaxis symptoms include:

- Itching and hives over most of the body
- Throat, lip, and tongue swelling
- Trouble breathing
- Trouble swallowing
- Dizziness
- Headache
- Stomach cramps, nausea, or diarrhea
- Shock
- Loss of consciousness

Anaphylaxis can be caused by an allergic reaction to a medicine, food, serum, bug venom, allergen extract, or chemical. The most common causes of an anaphylactic reaction are food, insect stings, medicines, and latex. Some people who are aware of their allergic reactions or allergens carry epinephrine autoinjectors. This medicine can be used to treat severe allergic reaction. It does this by improving circulation, contracting blood vessels, and opening up the airways in the lungs. It also increases the rate and force of the heartbeat. Your healthcare provider can prescribe an epinephrine autoinjector and teach you how and when to use it.

Living with allergies

Staying away from allergens is a very effective way to treat allergies. Tips for staying away from allergens include:

- Stay indoors when the pollen count is high and on windy days. Check the pollen count on an app, weather report, or online.

- Control dust in your home, particularly the bedroom.
 - When possible, get rid of carpeting, blinds, down-filled blankets or pillows, and closets filled with clothes.
 - Wash bedding, curtains, and clothing often in hot water to get rid of dust mites.
 - Use dust mite covers over your mattress and pillow.
- Use air conditioning instead of opening the windows if possible.
- Use a HEPA filter air purifier in your home and a vacuum cleaner with a HEPA filter.
- Put a dehumidifier in damp parts of the home. But remember to clean it often.
- Wear face masks when working in the yard or have someone else do the chores if possible.

Your healthcare provider will also have suggestions for staying away from the allergens that cause reactions.

Key points about allergies

- An allergy is a reaction caused when the immune system mistakenly thinks a normally harmless substance is harming the body.
- Allergens can be breathed, swallowed, or enter through the skin.
- Allergies can affect anyone at any age. They often run in families. But the exact family links that cause allergies aren't fully understood.
- An allergic reaction can occur anywhere in the body. Symptoms can include stuffy nose, sneezing, watery eyes, hives, and itchy rash.
- Anaphylactic shock (anaphylaxis) can happen in extreme cases. Anaphylaxis is a serious, life-threatening reaction to certain allergens.
- The most effective ways to prevent and treat allergies are staying away from allergens, getting allergy immunotherapy, and taking medicine.

Next steps

Tips to help you get the most from a visit to your healthcare provider:

- Know the reason for your visit and what you want to happen.
- Before your visit, write down questions you want answered.
- Bring someone with you to help you ask questions and remember what your provider tells you.
- At the visit, write down the name of a new diagnosis and any new medicines, treatments, or tests. Also write down any new directions your provider gives you.
- Know why a new medicine or treatment is prescribed and how it will help you. Also know what the side effects are.
- Ask if your condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if you do not take the medicine or have the test or procedure.
- If you have a follow-up appointment, write down the date, time, and purpose for that visit.

- Know how you can contact your healthcare provider if you have questions, especially after office hours and on weekends.

© 2000-2027 The StayWell Company, LLC. All rights reserved. This information is not intended as a substitute for professional medical care. Always follow your healthcare professional's instructions
This information is not intended as a substitute for professional medical care. Always follow your Healthcare professional's instructions. Copyright Krames LLC.