

Drug Allergy

A drug allergy is the abnormal reaction of your immune system to a medication. A drug allergy occurs when your immune system mistakenly identifies a drug as a harmful substance, such as a virus or bacterium. Once your immune system detects a drug as a harmful substance, it will develop an antibody specific to that drug. This can happen the first time you take a drug, but sometimes an allergy doesn't develop until there have been repeated exposures. The next time you take the drug, these specific antibodies flag the drug and direct immune system attacks on the substance. Chemicals released by this activity cause the signs and symptoms associated with an allergic reaction. You may not be aware of your first exposure to a drug, however. Some evidence suggests that trace amounts of a drug in the food supply, such as an antibiotic, may be sufficient for the immune system to create an antibody to it. Any medication - over-the-counter, prescription or herbal - is capable of inducing a drug allergy. However, a drug allergy is more likely with certain medications. A drug allergy is not the same as a drug side effect, a known possible reaction listed on a drug label. A drug allergy is also different from drug toxicity caused by an overdose of medication.

Drugs commonly linked to allergies

Although any drug can cause an allergic reaction, some drugs are more commonly associated with allergies. These include:

- Antibiotics, such as penicillin
- Pain-relievers, such as aspirin, ibuprofen (Advil, Motrin) and naproxen sodium (Aleve)
- Chemotherapy drugs for treating cancer
- Medications for autoimmune diseases, such as rheumatoid arthritis

Nonallergic drug reactions

Sometimes a reaction to a drug can produce signs and symptoms virtually the same as those of a drug allergy, but a drug reaction isn't triggered by immune system activity. This condition is called a nonallergic hypersensitivity reaction or pseudoallergic drug reaction. Drugs that are more commonly associated with this condition include:

- Aspirin
- Dyes used in imaging tests (radiocontrast media)
- Opiates for treating pain
- Local anesthetics

Symptoms of Drug Allergy

The most common signs and symptoms of drug allergy are hives, rash or fever. A drug allergy may cause serious reactions, including a life-threatening condition that affects multiple body systems (anaphylaxis). Signs and symptoms of a serious drug allergy often occur within an hour after taking a drug. Other reactions, particularly rashes, can occur hours, days or weeks later.

Drug allergy signs and symptoms may include:

- Skin rash
- Hives
- Itching
- Fever
- Swelling

- Shortness of breath
- Wheezing
- Runny nose
- Itchy, watery eyes

Anaphylaxis is a rare, life-threatening reaction to a drug allergy that causes the widespread dysfunction of body systems. Signs and symptoms of anaphylaxis include:

- Tightening of the airways and throat, causing trouble breathing
- Nausea or abdominal cramps
- Vomiting or diarrhea
- Dizziness or lightheadedness
- Weak, rapid pulse
- Drop in blood pressure
- Seizure
- Loss of consciousness

Other conditions resulting from drug allergy

Less common drug allergy reactions occur days or weeks after exposure to a drug and may persist for some time after you stop taking the drug. These conditions include:

- Serum sickness - which may cause fever, joint pain, rash, swelling and nausea
- Drug-induced anemia - a reduction in red blood cells, which can cause fatigue, irregular heartbeats, shortness of breath and other symptoms
- Drug rash with eosinophilia and systemic symptoms (DRESS) - which results in rash, high white blood cell count, general swelling, swollen lymph nodes and recurrence of dormant hepatitis infection
- Inflammation in the kidneys (nephritis) - which can cause fever, blood in the urine, general swelling, confusion and other symptoms

The most severe form of delayed drug reactions not only cause rashes but may also involve other organs including the liver, kidneys, lungs, and heart. Blisters may be a sign of serious drug reactions called Stevens-Johnson Syndrome and Toxic epidermal necrolysis (TEN), where the surfaces of your eye, lips, mouth and genital region may be eroded.

Risk factors

While anyone can have an allergic reaction to a drug, a few factors can increase your risk. These include:

- A history of other allergies, such as food allergy or hay fever
- A personal history of drug allergy
- Increased exposure to a drug, because of high doses, repetitive use or prolonged use
- Certain illnesses commonly associated with allergic drug reactions, such as infection with HIV or the Epstein-Barr virus
- Contrary to popular myth, a family history of a reaction to a specific drug typically does not increase your chance of reacting to the same drug.

Diagnosis of Drug Allergy

Drug allergies can be hard to diagnose.

Your allergist will want to know the answers to these questions:

- What drug do you suspect caused your reaction?
- When did you start taking it, and have you stopped taking it?
- How long after you took the drug did you notice symptoms, and what did you experience?
- How long did your symptoms last, and what did you do to relieve them?
- What other medications, both prescription and over-the-counter, do you take?
- Do you consume herbal medications or take vitamin or mineral supplements?

Depending on the drug suspected of causing the reaction, your allergist may suggest a skin test or, in very limited instances, a blood test. An allergy to penicillin-type drugs is the only one that can be definitively diagnosed through a skin test. If a drug allergy is suspected, your allergist may also recommend an oral drug challenge, in which you will be supervised by medical staff as you take the drug suspected of triggering a reaction. (If your reaction was severe, a drug challenge may be considered too dangerous.)

Prevention

If you have a drug allergy, the best prevention is to avoid the problem drug. Steps you can take to protect yourself include the following:

- Be sure that your drug allergy is clearly identified in your medical records.
- Inform your health care providers including other providers, such as your dentist or any medical specialist.
- Ask about related drugs that you should avoid.
- Ask about alternatives to the drug that caused your allergic reaction.
- Wear a medical alert bracelet that identifies your drug allergy. This information can ensure proper treatment in an emergency.
- If a severe life-threatening reaction (anaphylaxis) occurs, use your epinephrine auto injector and call 911.

A Few Words About Penicillin Allergy

Penicillin, discovered by Alexander Fleming in 1928, is prescribed today to treat a variety of conditions, such as strep throat. Despite its effectiveness, some people steer clear of penicillin for fear of experiencing an allergic reaction to the medication. Nearly everyone knows someone who says they are allergic to penicillin. Up to 10% of people report being allergic to this widely used class of antibiotic, making it the most commonly reported drug allergy. With that said, studies have shown that more than 90% of those who think they are allergic to penicillin, actually are not. In other words, 9 out of 10 people who think they have penicillin allergy are avoiding it for no reason. Even in people with documented allergy to penicillin, only about 20% are still allergic ten years after their initial allergic reaction!

Anyone who has been told they are penicillin allergic, but who hasn't been tested by an allergist, should be evaluated. An allergist will work with you to find out if you are truly allergic to penicillin, and to determine what your options are for treatment if you are. *If you're not allergic to penicillin you will be able to use medications that are safer, often more effective and less expensive.*