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Drug Allergies: What You Need to Know to Stay Safe

Side effects to prescription or over-the-counter medications are common and often confused with true allergic reactions – those that involve the immune system. Symptoms of drug allergies can range from mild rashes to severe, life-threatening reactions like anaphylaxis (which may cause lip or throat swelling, difficulty breathing, or collapse). People who experienced allergic reactions to drugs 10 or more years ago are unlikely to still be allergic. A procedure called a drug challenge can help determine whether you are still allergic. If your drug challenge is negative, you no longer have an allergy, and you can take the medication in question (or similar medications) when needed.

If you've ever experienced a reaction to a medication, an allergist can confirm your diagnosis and develop a personalized treatment plan that ensures you receive the safest and most effective care. If you need a medication to which you have had a prior reaction and you remain truly allergic, it may be possible to be treated again with the same or similar medications through desensitization, a ground-breaking procedure which allows small, increasing doses

of the medication to be safely introduced. This procedure can only be done under the guidance and supervision of an allergist.

About Drug Allergies

A drug allergy occurs when your immune system reacts to a medication as if it were a harmful substance. Drug allergies can occur either within minutes of taking a medication (e.g., acute reactions), or within hours to days of taking a medication (e.g., delayed reactions). When an acute drug allergy reaction occurs, it's because your immune system recruits cells and antibodies which cause the release of histamine and other mediators to reject the medication. (Mediators are substances that regulate inflammation.) While the intent of the immune reaction is to protect against further harm, the release of these mediators affects the body, unleashing an allergic reaction. This can be mild but, in a few cases, can be severe and even life-threatening.

Histamine and other mediators can cause mild to severe symptoms that typically appear within minutes to a few hours after taking the medication and sometimes can develop later. While any medicine can trigger a drug allergy, certain medicines carry a greater risk depending on an individual's genes. Women and people





Drug Allergy Symptoms vs. Medication Side Effects

Many who think they're allergic to a certain medicine have experienced side effects, but not a true allergy.

If you're unsure what caused your reaction, keeping a detailed record of symptoms and medications can help your allergist identify triggers and distinguish a true drug allergy from common side effects listed on medication labels.

Drug allergy symptoms and signs (*skin only or two or more organs involved*):

- Itching, rash, hives
- Swelling of face, lips, tongue, or throat
- Wheezing, chest tightness, shortness of breath, difficulty breathing
- Blood pressure changes
- Oxygen decrease
- Anaphylaxis
- Loss of consciousness, seizures

Medication side effects (*often occur in one single organ*):

- Nausea, vomiting or diarrhea
- Feeling dizzy
- Feeling flushed
- Headache
- Hair loss



of certain races are more susceptible to certain drug allergies – and the risk increases when medications are used frequently and given by injection, rather than taken by mouth. Delayed drug reactions – occurring within days to weeks of taking a medication – can appear as a mild skin rash or they can be severe, involving the skin and internal organs. They can even be life-threatening and require hospitalization. Re-exposure to medications that induce these delayed severe reactions is not recommended.

Common drugs that trigger allergic responses

- Antibiotics like penicillin, sulfa drugs, cephalosporins, vancomycin, quinolones
- Aspirin, ibuprofen, naproxen and other nonsteroidal anti-inflammatory drugs (NSAIDs)
- Anti-seizure medications
- Monoclonal antibody therapies for cancer, chronic inflammatory and other diseases
- Insulin
- Vaccines
- Chemotherapy drugs
- General anesthesia

Call 911 or emergency medical help if you experience signs of a severe reaction or suspected anaphylaxis after taking a medicine. If you have symptoms of a drug allergy, or have been seen in the emergency room or hospitalized after a drug reaction, see an allergist as soon as possible.

How Drug Allergies Are Diagnosed

Your allergist will conduct a thorough history and physical exam, asking about the symptoms, timing, treatment and outcome of the specific reaction. If you can, bring the suspected drug with you. This will help your allergist recommend alternatives as needed.

Questions your allergist may ask:

- What drug do you suspect caused your reaction?
- Was this the first time you took the medication?
- 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?
- Did you have to go to the emergency room, and were you hospitalized? Was epinephrine required for treatment?
- What other medications, both prescription and over the counter, do you take?
- Do you consume herbal medications or take vitamin or mineral supplements? If so, which ones?

Depending on your physical exam and medical history, there are a few common ways your allergist may decide to test you for drug allergies:

- **Skin prick test:** For certain drugs like penicillin, monoclonal antibodies or chemotherapy drugs a small amount of the drug is applied to your



skin. Your allergist will compare how your skin reacts to the drug versus a positive control (histamine) and a negative control (saline). If you are allergic, you'll likely develop a small, itchy, raised bump at the site. Any remaining discomfort should soon pass.

- **Blood test:** If your reaction requires urgent or hospital care, a tryptase blood test should be drawn at the time of evaluation (ideally between 30 minutes to 4 hours after the initial onset of symptoms).



This test will be interpreted by an allergist and will help provide additional information regarding the type of drug reaction that occurred. In rare occasions the blood tests might remain elevated, possibly indicating tryptase or mast cell disorder. Such a result would need to be further evaluated by the allergist.

- **Drug challenge and allergy de-labeling:** If your history and/or testing suggests you are unlikely to experience an allergic reaction to the medication, your allergist may recommend a drug challenge to confirm or rule out an allergy. You'll take one to two doses of the medication in increasing amounts and be monitored in the clinic for 60 minutes to see if there are any symptoms of an allergic reaction. If you don't have any, it's safe to say you're not allergic and your allergy label can be removed from your medical chart ("de-labeling"). Please share the information with all your care providers so that they can use the best medication when you need it.

What if You Are Allergic?

If no alternatives are available and the drug you are allergic to is essential, your allergist may recommend a procedure called desensitization. This involves taking gradually increasing doses of the drug to train your body to tolerate it temporarily. This procedure can be performed in an outpatient clinic or in the hospital, and instructions and medications to counteract any potential reactions will be available. The procedure is extremely safe, and severe reactions occur very rarely. If you are desensitized to an antibiotic and need to take it for several days or weeks, only the first dose requires desensitization, and you can continue to take the medication safely for the duration of the treatment at home. The medication needs to be taken continuously without missing doses. Once you stop the medication, the temporary tolerance to the medication will be lost and you cannot take it again unless another desensitization is conducted.

Immediate Treatment Options for Reactions

If you have an allergic reaction to a drug, you'll need immediate treatment to relieve symptoms and address the allergy's root cause. Options may include:

- **Epinephrine** given by intramuscular injection to treat anaphylaxis. Sometimes, two or more doses may be required for severe reactions.
- **Antihistamines** to relieve hives, itching, and rashes
- **Bronchodilators**, such as albuterol, to reduce moderate wheezing or cough



- **Corticosteroids** applied to the skin, given by mouth, or given intravenously to reduce swelling and inflammation

Tips to Reduce Your Risk of Future Reactions

If you find out you are allergic to a certain drug, here are some things you can do to reduce your risk of a future reaction:

- **Inform all your healthcare providers as well as people at school, work, and other places you spend time.** Keep an updated list of all your medications and always tell your doctor, dentist, and pharmacist about your allergy history – especially before undergoing any medical procedures.
- **Wear medical alert jewelry.** If you are at risk for a severe allergic reaction, wearing medical identification can help you quickly receive medical care in the event of an emergency.
- **Ask about and avoid cross-reactive drugs.** Some medications are chemically similar. For example, if you're allergic to penicillin, you may need to avoid other beta-lactam antibiotics.
- **Have emergency supplies.** If epinephrine is recommended by the emergency room physician, your PCP, or your allergist,



Once the infection is resolved, it is important to have your child evaluated for potential de-labeling, which occurs in more than 90% of cases and allows patients to continue to take the same or similar antibiotics in the future.

To learn more about drug allergies, visit acaai.org.

always keep it with you in case of a medical emergency. Make sure you understand how and when to use it, regularly check the expiration date and teach your family, friends and colleagues about when and how to use it.

Outgrowing Drug Allergies and De-Labeling

If you haven't been exposed to the drug you're allergic to in several years, your allergist may suggest that you get tested to see if the allergy is still present. Many people outgrow drug allergies. Studies show that around 80% of people lose their allergy within 10 years of their first reaction. Children often develop a skin rash during a viral infection when they are taking an antibiotic. The skin rash is more likely due to infection and less likely to be the result of an allergic reaction.

Unfortunately, allergy labels often prevent the use of important medications in the future.



Find an allergist. Find relief.

If you think you have a drug allergy, don't guess – get tested. Make an appointment with an allergist. They have the specialized training and expertise to provide the answers you need to stay safe and healthy.

When should I see an allergist?

See an allergist if you have any of these conditions. Allergists treat two of the nation's most common health problems – allergies and asthma. More than 50 million people in the United States have these allergic diseases. Although symptoms may not always be severe, allergies and asthma are serious and should be treated that way. Many people with these diseases don't realize how much better they can feel. Allergists also treat conditions with similar symptoms, such as non-allergic rhinitis.

What is an allergist?

An allergist is trained to find the source of your symptoms, treat it and help you feel healthy. Life's too short to struggle with allergies or asthma. An allergist can help you find the answers you're looking for.

After earning a medical degree, the doctor completes a three-year residency training program in either internal medicine or pediatrics. They then finish two or three more years of study in asthma, allergy and immunology. The best way to manage your allergies or asthma is to see an allergist.