

# Drug Allergy

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Medications are given with the intent of helping a patient, but unfortunately nearly all drugs have the potential to cause side effects. Approximately 5-10% of adverse reactions to commonly used medications are considered allergic reactions. An allergic reaction occurs when a person's immune system over-reacts to the drug and causes the allergic reaction. The signs of allergic drug reactions can include one or all of the following:

- Urticaria or hives- itching is usually present
- Angioedema - swelling of areas of the body that have fat tissue.
- Hypotension
- Bronchospasm, wheezing, or cough
- Anaphylaxis - a severe life threatening reaction

In allergic reactions the immune system produces the allergic antibody called IgE (immunoglobulin E) when exposed to the drug. When the person's body encounters the drug again, IgE antibodies bind to certain cells called mast cells and triggers the release of histamine and other chemicals. This causes the allergic reaction. Anaphylaxis is the most severe reaction caused by a drug allergy. A patient requires immediate medical attention which includes the administration of epinephrine.

In the pediatric population antibiotics are by far the most common cause of allergic reactions due to medications. The incidence of allergic drug reactions is hard to estimate accurately, due to the lack of accurate diagnostic tests. While a drug allergy is relatively uncommon, many people carry the label from childhood into adulthood without good documentation of true allergy. The presence of "atopy or allergy" is not a risk factor for drug allergy.

Patients with a history of penicillin allergy are frequently treated with broad spectrum antibiotics, the use of which leads to drug resistant bacteria. Penicillin testing is useful because of its high negative predictive value. Only about 10% of patients who report a penicillin allergy are truly allergic. If the skin testing is negative an oral challenge with the antibiotic will be recommended. If penicillin testing is positive, penicillins should be avoided and alternative antibiotics should be used.

Unfortunately there is no available validated skin testing for other antibiotics. Skin testing with nonirritating concentrations of antibiotics can assist the medical provider in evaluating a possible allergy.

## **Allergies to NSAIDS (non-steroidal anti-inflammatory drugs)**

- Less frequent in children than adults.

- Reactions in patients with underlying asthma or chronic urticaria demonstrate cross reactivity among all NSAIDS.
- Reactions in patients without underlying asthma or chronic urticaria, including anaphylaxis, angioedema, and urticaria are medication specific.

### **Allergy to local Anesthetics**

- True immediate type allergic reactions to local anesthetics are very rare.
- Skin testing followed by graded challenges can be helpful.

### **Adverse drug reactions (Non drug related reactions)**

- Psychogenic reactions: such as vasovagal reactions to injections, can be manifested as anxiety, nausea, lethargy or fainting.
- Coincidental reactions are caused by the disease under treatment. This can be mistakenly attributed to a drug that is being used (viral rash in children treated with antibiotics)

### **Treatment for Drug Allergies**

When an adverse reaction to a medication is mild, treatment consists of stopping the drug. If there is a more severe reaction, antihistamines, steroids and other medications including an EpiPen for emergency situations will be ordered. Antihistamines block the effects of histamine and the steroids reduce swelling and inflammation.

Patients with drug allergies can often be given an alternative medication. If there is not an alternative medication and the drug is essential, desensitization may be recommended. This involves gradually introducing the medication in small doses until the therapeutic dose is achieved.

It's important to report any adverse reactions that you experience when taking a medication, as well as any prior medication reactions. Give all of your healthcare providers a complete list of your medications, including vitamins or other supplements, including those that have caused a reaction. Talk to your allergist/immunologist about medications to avoid and alternatives that are safe to take.