

# MEDfacts

An Educational Health Series From National Jewish Health®



## Allergies to Medications / Drugs

Please note: Most reactions to drugs are not allergic in nature. Adverse drug reactions (a broader term) include immune reactions of which only a subset involves true allergic mechanisms. Thus, many patients are incorrectly labeled as being “allergic.”

### Facts About Allergies

The tendency to develop allergies may be inherited. If you have allergic tendencies and are exposed to certain things in your environment (allergens), you may develop allergies to some of those things. Common examples of allergens include animal dander, dust mites, pollens, and molds. Examples of allergy symptoms and allergic conditions include itchy eyes, runny nose, asthma, eczema (atopic dermatitis), and hives (urticaria). The timing of the allergic response may be immediate or delayed.

Allergy testing may be recommended to help identify your allergies. Some drugs cause reactions that mimic allergic reactions, but an allergic mechanism cannot be demonstrated, i.e. anaphylactoid reactions and pseudoallergic reactions. Examples include reactions to radio contrast materials used for certain radiographic tests, narcotics aspirin or non-steroidal anti-inflammatory drugs such as ibuprofen (although rarely IgE antibodies are involved).

### What is an Allergy to Medication / Drugs?

Allergies to drugs / medications are complicated because they can be caused by many different medications, resulting in a wide variety of signs and symptoms that may affect various organs or parts of the body. Furthermore, some drugs can cause adverse effects whose symptoms closely resemble those of an allergic reaction. The difference is that true drug allergy is caused by a hypersensitive immune system that creates IgE and other antibodies and/or cytotoxic immune cells in response to an otherwise harmless substance in the medication. One characteristic of all drug allergies is that similar symptoms will occur every time soon after the offending medicine is taken.

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## What Are the Symptoms of Medication / Drug Allergy?

The signs and symptoms of drug allergy can involve the skin, lungs, gastrointestinal tract (digestive system) and rarely other organs.

- Skin symptoms include itching, flushing, hives and other forms of rash.
- Gastrointestinal (digestive system) symptoms include tingling and burning of the mouth and throat, nausea, vomiting, abdominal pain, and diarrhea.
- Respiratory symptoms include nasal congestion, runny nose, sneezing, throat swelling, wheezing and / or difficulty breathing.
- Life-threatening anaphylactic reactions to medications / drugs may cause a person to lose consciousness and stop breathing. Call 911 right away if you suspect anaphylaxis.
- Occasionally, allergic-like reactions to drugs may take several days to develop and may include other symptoms such as a fever, joint aches, and rashes. (Such reactions are not due to IgE but to other immune reactions so "allergic reaction" is used more colloquially.)

Symptoms after drug ingestion can also result from conditions other than drug allergy. Sometimes the symptoms are caused by the illness for which the drug was taken. Occasionally, symptoms are caused by drug interactions when a patient is taking multiple medications at the same time.

## Which Medications / Drugs Are Most Commonly at Fault?

Penicillin and other antibiotics are the medicines that most commonly cause allergic reactions.

## Who Gets Allergies to Medications / Drugs?

There are two criteria to become allergic to a drug: a genetic predisposition for allergy, and at least two exposures to a given medication. Without the right combination of genes, the immune system will not overreact and make IgE antibodies against the medicine. If the 'right genes' are present for allergy, the immune system must first become sensitized to the medication (first exposure) before it can mount an allergic response (second exposure). Women appear to have an increased risk for adverse drug reactions. Children whose parents are allergic to at least one drug have a greater chance of being allergic to drugs than children whose parents are not allergic to drugs.

## How are Medication / Drug Allergy Diagnosed?

Every diagnosis begins with a detailed medical history and physical examination. The doctor will ask lots of questions about the nature of the reaction, where and when it occurs, etc. Since allergy may be genetic, expect some questions about other family members who may be allergic.

Depending upon the findings of the initial evaluation, the following tests may be necessary:

- Allergy skin testing may be performed to check for presence of allergic antibodies to

selected drug allergens.

- Blood testing is occasionally indicated.
- Sometimes a challenge to the suspected drug is necessary to confirm the diagnosis. If indicated, drug challenges are coordinated with safety as the highest priority. National Jewish Health has a state-of-the-art challenge facility with extensive experience and excellent record in the performance of medication challenges.

### How Can I Prevent Medication / Drug Reactions?

Once a diagnosis is made, avoidance of the implicated medication is discussed and the treatment of accidental exposures is thoroughly reviewed.

#### Here are a few tips to help prevent an allergic reaction to drugs:

- Memorize trade and generic names of the medications that cause a reaction and check labeling on products you buy.
- Make sure you tell all caregivers about your allergy.
- Wear a med-alert bracelet or necklace describing your allergy just in case you ever need emergency care.
- If your doctor prescribes an epinephrine shot in case of an anaphylactic reaction, remember to carry it with you.

### What is the Treatment for Medication / Drug Allergy?

The best way to treat drug allergy is to avoid the medication. There is no cure for allergy. Antihistamines and steroids can be used to alleviate symptoms, but once a drug allergy is determined, the medication should be avoided. In very rare cases, it may be required to 'treat through' a medication allergy. That is, the drug may be required despite the reaction. This can be dangerous and is only used as a last resort. Patients may be pre-treated with steroids or antihistamines in such cases. In addition, if a patient requires a drug/medication to which he/she is allergic, drug desensitization can be performed in a hospital setting.

Patients are given gradually increasing doses of the medication either by mouth or by IV under constant monitoring until they can tolerate a full dose. It is very important to remember that desensitization works only for that particular course of the medicine, so if it is discontinued, the person once again becomes allergic and needs to be desensitized each time the medicine is administered.

### What is the Role of National Jewish Health?

Board certified allergists at National Jewish Health evaluate and treat a number of allergic conditions. Patients seen in our Outpatient Clinic, Day Program, or Pediatric Inpatient Service for evaluation of possible medication reactions undergo a comprehensive evaluation including a thorough history and physical examination. Depending upon the findings of the initial evaluation, the following tests may be necessary: allergy skin testing, laboratory testing and blood work, and occasionally, a challenge to the suspected drug is necessary to confirm the diagnosis. If indicated, drug challenges are coordinated with safety as the highest priority. National Jewish Health has a state-of-the-art challenge facility with extensive experience and an excellent

record in the performance of medication challenges. If you would like to schedule an appointment for evaluation of possible drug allergy, please contact our LUNG LINE at 1-800-222-LUNG (5864).

Note: This information is provided to you as an educational service of LUNG LINE® (1-800-222-

LUNG). It is not meant to be a substitute for consulting with your own physician.

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