

# DRUG ALLERGY

**A** drug allergy, or an allergic drug reaction, is an unexpected drug reaction that results from a specific immune system response to a medication. Past tolerance to a medication is no guarantee that treatment with that drug will not cause an allergic reaction next time. People who have allergies have a higher risk of drug reactions. Certain families may have a higher than normal risk of drug reactions.

## DRUG ALLERGY HISTORY

A thorough history is an essential component of the evaluation of patients with suspected drug allergies. The most important components of a drug allergy history are as follows:

### **What is the name of the medication?**

Although it may be obvious that a drug allergy history starts with the name of the implicated medication, frequently patients are unable to give this basic piece of information.

### **How long ago did the reaction occur?**

The time elapsed since the reaction is important, because some allergies, such as penicillin allergy, are known to wane over time.

### **Which systems (eg, cutaneous, respiratory, gastrointestinal) were involved in the reaction, and what was the time course?**

### **What illness was occurring when the medication prescribed?**

### **Was the patient taking concurrent medications at the time of the reaction?**

### **Had the patient taken the same or a cross-reacting medication before the reaction?**

### **Have you taken a similar medication since the reaction and tolerated it?**

### **Has the patient experienced symptoms similar to his or her reaction in the absence of drug treatment?**

## ALLERGIC REACTIONS:

Immediate (within one hour of a dose) allergic reactions occur when the body has developed a specific hypersensitivity (allergy) to a drug. The body will make a certain antibody called IgE. The IgE antibody only reacts with allergic cells. These allergic cells will release chemicals, like histamine, responsible for causing stuffy nose, sneezing, itching, hives, and asthmatic reactions.

Delayed Reactions: Reactions appearing after one hour are classified as delayed, although most delayed reactions begin after six hours, and typically not until days after treatment.

## PENICILLIN:

Penicillin is the most prevalent allergy causing medication, with approximately 10% of patients reporting being penicillin-allergic. However, when patients with a history of penicillin allergy are evaluated, time has led to a cure. Many patients are candidates for Penicillin skin testing because they have lost their allergy to Penicillin. This is because 80% of such individuals lose their sensitivity over a period of 10 years. In some cases, patients or doctors are unwilling to trust a negative skin test result. To alleviate everyone's apprehension and prove the medication's safety unequivocally, most experts recommend a negative skin test be followed by an elective oral challenge to Penicillin.

## CEPHALOSPORIN:

These are cousins to penicillin and can cross-react in a penicillin allergic person. This means if you're allergic to penicillin and have never taken one of the cephalosporins before the body may have learned an allergy from the prior penicillin reaction. So now you can react to the class of antibiotics called Cephalosporins. This cross-reaction cannot be predicted by history alone. The rate of cross-reaction ranges from ten percent to fifteen percent. Cephalosporins share a common four-member beta-lactam ring with penicillin. Cephalosporins appear to be less allergenic than penicillins, particularly in causing IgE-mediated reactions. The incidence of anaphylaxis as a reaction to cephalosporins is also lower. Unlike penicillin, cephalosporin has no validated diagnostic skin test reagents available. Skin testing using non-irritating concentrations of native cephalosporins is usually performed, but its predictive value is less well studied.

## QUINOLONES:

Cipro, Levaquin, and Avelox can cause a reaction with the first dose you take in your life. They are a very strong and important class of medication and should not be used for minor infections.

## SULFA:

These older medications can commonly cause a delayed, often very itchy reaction. They can also lead to a very severe reaction, and are sometimes fatal. Higher incidence is seen in AIDS patients and leukemics. Once you react to a sulfa you may never take one again. Sulfa allergic patients are more likely than normal's to react to Penicillin.

Erythromycin Biaxin, Zpak, and Ketek are usually well-tolerated and are the drugs of choice for Penicillin allergic patients. Tetracycline Minocin, and Doryx are not commonly used except for acne patients. They can lead to severe reactions and are mostly a problem when combined with sun's UVB radiation.

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## LOCAL ANESTHETICS:

These medications are used by the dentist or surgeon to freeze or numb your teeth or skin. Reactions can either be allergic or a side effect alone. We can perform a skin test to find safe alternate medications for your doctor or dentist to use.

## PROSTAGLANDIN INHIBITORS:

Aspirin and like medications are more likely to react if you have asthma, recurrent sinusitis or nasal polyps. These drugs are in the group of medications that are used for the treatment of minor pains. Aspirin is the main problem, but other over the counter medications like Advil or Aleve also cause trouble. A pain reliever that is often safe in Aspirin allergic patients is Tylenol. Interestingly, if you react to aspirin, you might react to a common food dye called Tartrazine or yellow dye #5.

## NON-ALLERGIC REACTIONS:

Reactions to medications come in several forms, and not all are allergic. Some examples of non-allergic reactions include these: **Side effects of medications:** Nausea and vomiting. **Drug interactions:** Medications taken together can cause toxicity. **Concurrent viral infections:** Medications taken during viral infections can cause reactions. **Delayed destruction of drugs:** A build up of medicines can cause intolerance. **Non-Drug induced symptoms:** Patients who receive local anesthetics to numb a tooth sometimes complain that the drugs made them faint or feel ill when in fact the fear (pain) of the dental surgery is causing the reaction. **Psychological effects:** Stress, pain, fear are powerful enough to induce fainting, hives, nausea and vomiting.

