

What to Expect for Your Medicine Allergy Testing

Several tests may be needed to find out if you have an allergy to a medicine or a 'class' of medicines. For example, penicillin drugs are a common class of antibiotics but they are related to many other drugs. Therefore, if you have been told you are allergic to penicillin, it may mean that you might also have an allergy to other similar drugs, such as cephalosporin.

The common tests or procedures we do include:

- skin testing (prick and intradermal)
- patch testing
- oral challenge (both single and multiple)
- slow reintroduction (desensitization).

What is skin testing?

Skin testing is a safe way of putting the suspected allergen into your skin where the reaction will happen in only that one spot (a 'local reaction'). This keeps you at a low risk for a severe reaction, like the reaction you may have had when you first took the medicine.

For safety reasons skin testing is often split into 2 parts: the skin prick test and the intradermal skin test.

1. Skin prick test

A skin prick test, also called a puncture or scratch test, checks for quick allergic reactions. The skin prick test uses tiny needles that barely poke into the skin. There is usually very little discomfort and no bleeding. Tests are usually done in the lower arm. Your nurse will:

- clean your arm with an alcohol swab and mark different testing spots on your skin using a pen
- use tiny needles to push the allergen into the skin.

To check for what is considered a typical reaction to an allergen, we poke 2 other substances, known as 'controls,' into your skin:

- **Histamine.** Most people have a very strong reaction histamine, so we call this the "positive control" because your skin should react to it.
- **Glycerin or saline.** These substances typically do not cause a reaction and are the "negative control."

If you are allergic to one of the substances tested, you'll get a red, itchy bump at that spot. A nurse will then measure the bump's size and compare it to the histamine and saline reactions.

Because skin reactions can be delayed, we ask that you leave the black marks on your skin for at least 24 hours.

(continued)

2. Intradermal skin test

This is very similar to skin prick testing, however instead of a tiny poke into the skin, a needle is used to put in a small amount of the allergen (medicine) under your skin. The injection site is checked after 15 minutes for signs of an allergic reaction. As with the skin prick test, histamine and saline are used to be sure we see a positive and negative reaction on your skin.

Because skin reactions can be delayed, we ask that you leave the black marks on your skin for at least 24 hours.

Patch test

Patch testing is done to check the level of your reaction to a medicine when your body's reaction to the allergen takes a longer time to appear. The patch test can take several days and up to a week to show a reaction. Like with skin testing, many medicines can be tested at the same time using a patch test.

With this type of test, patches containing small pockets filled with a mixture of the suspected allergen and a sterile gel is placed on your skin. You wear the patches on your back or upper arm for 48 hours. The patches are removed when you come back to our clinic.

During the 48-hour patch test, you should avoid:

- bathing and showering
- being in the sun
- activities that cause heavy sweating.

A reaction where the patch touched your skin might show that you are allergic to that medicine. Although the patch is removed after 48 hours, your skin reaction can take up to 7 days.

Oral or ingestion challenge

This is the final test that shows whether it is safe for you to take a medicine. The oral challenge means you swallow a pill or liquid medicine. The ingestion challenge is done by an injection under your skin or muscle.

You would stay in the clinic so we can watch your reaction for:

- 2 hours after an oral challenge
- 1.5 hours after any other type of ingestion challenge.

For aspirin and anti-inflammatories, the reactions can be delayed and you would stay in the clinic for up to 4 hours.

Slow reintroduction (desensitization)

Slowly reintroducing a medicine into your body is typically done when you have had a positive allergic reaction to a medicine during a testing, but you still need to take the medicine. This procedure puts small, but increasing, amounts of a medicine in your body over 3 to 4 hours as a means of “tricking” your immune system into thinking you are not allergic.

Desensitization is a temporary fix, so it must be repeated every time you need the medicine. Some allergic reactions to medicines are too severe and desensitization is not a good option.

Desensitization is a good option if a skin test or oral challenge has shown an allergy exists, but the medicine is needed in an emergency.

Common medicines we can desensitize include:

- antibiotics, including penicillin
- sulfamethoxazole and trimethoprim (Bactrim)
- allopurinol (Zyloprim, Lopurin)

(continued)

However, desensitization can be done for almost any drug. We will talk with you about whether you are able to have desensitization based on your medical history and the need for the medicine.

A special kind of desensitization is used to let patients who have aspirin exacerbated respiratory disease (AERD) take aspirin.

Common Questions

These are some of the common questions patients have about our clinic and drug allergy testing. We will be happy to answer any additional questions during your appointment.

Our website includes more information and a list of the medicines typically need to be stopped before your appointment. Go to: VanderbiltHealth.com/drugallergy.

How long will my appointment take?

If possible, we try to do allergy testing on the same day as your clinic appointment. This is typically the most convenient for you and may mean we can find all allergy problems during that one appointment.

When we call to schedule your appointment, we give you an estimate of how much time you will spend at the clinic. The table below gives examples of average appointment times depending on the type of test or procedure.

Test or Procedure	Time at Clinic
Skin testing alone	less than 1 hour
Skin testing and oral challenge	3 to 4 hours
Single dose oral challenge	2 hours
Two dose oral challenge	3 to 4 hours
Aspirin or anti-inflammatory two dose oral challenge	4 to 5 hours
Desensitization (single day)	4 to 8 hours

Depending on the testing we do, you will likely have quite a bit of waiting-around time. It is a good idea to bring reading materials, electronic tablet, or other items to stay entertained.

Do I need to stop taking my medicines and not eat before my appointment?

Medicines

Typically, the medicines you should stop taking before your clinic visit are allergy medicines or those that have the same properties of allergy medicines. Our nurse who calls you before your appointment, will talk to you about your medicines and let you know what medicines you should stop and when.

On the day of your appointment, bring any medicines with you that you would normally take during that time of day.

Food

So that your appointment is as comfortable as possible, we recommended that you eat your normal meals on your appointment day.

Will I have a reaction after I leave the clinic?

Because we keep you at the clinic long enough to watch any reactions you might have to the tests, it would be very unusual if you had a reaction after leaving. Depending on the medicines you are allergic to, you might have a mild rash a few hours after you leave the clinic. We will let you know if there is a chance you might have a reaction after leaving and we will ask you to take pictures of any reaction so we can see what the symptoms looked like.

(continued)

My test shows “positive” for an allergy, what happens next?

We will:

- give you patient information documents before you leave our clinic that gives information on what drugs are safe for you to take and what drugs you must avoid
- tell your health care providers about your medicine allergy and, if you give consent, we will also tell your regular pharmacy.

You may:

- need more testing to find out exactly which medicines you can safely take in the future
- want to buy a medical identification bracelet (or other style of medical jewelry) that explains your medicine allergy.

In general, patients who have a medicine allergy do not need to carry injectable epinephrine.

My test is “negative” what happens next?

We will:

- give you information before you leave our clinic that gives information on the medicines that were found to be safe for you to take
- tell your health care providers about your negative test results and, if you give consent, we will also tell your regular pharmacy.

Sometimes, a negative test result might mean you need more tests. We will let you know if this might be right for you.

If I have a medicine allergy, are my family members at risk for the same allergy?

Typically, people who have immediate allergic reactions to medicines, such as reactions to penicillin, did not inherit the allergy from their parents -- meaning the allergy was not genetic.

And, most people who have immediate allergic reactions to medicines typically lose these reactions over time. So, if you had a slight allergic reaction as a child or more than 10 years ago, you would have a very small chance of still having the allergy now.

Some very serious medicine reactions, especially severe reactions affecting the skin or liver, have been shown to be linked to human leukocyte antigen (HLA) genes. If your medicine allergy is caused by the HLA gene, there is a chance that a family member could also have a reaction to the medicine. This genetic relationship to medicine allergies is being studied and more information may available in the future.

What if I have to cancel my appointment?

If you must cancel your appointment, please give us at least 5 business days notice. We need this much advance notice because the medicines we get ready for your tests are mixed and made specifically for you. If we don't use them within 24 hours of your appointment, they will be wasted.

Can I join a drug allergy research study?

The Vanderbilt Drug Allergy Clinic does research to help us understand severe drug allergies and to diagnose, predict, prevent, and treat them. If you are interested in participating in a study, let us know. We will talk to you about your eligibility and may ask you to talk to the nurse associated with the research program.