

Penicillin Allergy Test

For patients staying at the hospital

This handout is for patients who are being evaluated for a penicillin allergy while admitted to the hospital.



Scan this QR code with your phone camera for a digital copy of this handout.

What is an allergy?

An allergy is an uncommon reaction to a substance (an *allergen*). An *allergic reaction* is when the immune system produces *antibodies* which fight the allergen. This causes your body to release *histamine* and other chemicals that cause allergy symptoms.

Why should I talk to my provider about my penicillin allergy?

Penicillin is a type of antibiotic sometimes used to treat infections. There are many penicillin and penicillin-related antibiotics used to treat different types of infections. When a penicillin allergy is listed in your medical record, your healthcare team may use other antibiotics that are not the standard of care for your infection.

For this reason, it is important to confirm if you are allergic to penicillin.

The first step is to tell your provider what happened when you took the antibiotic that may have caused an allergic reaction. This information is important to decide the next steps, and if testing is needed. Some symptoms do not require more testing, and the penicillin allergy label can be removed from your record.

Skin Test for Penicillin Allergy

Why do I need a skin test?

A skin test will help us find out if you have antibodies that are causing your penicillin allergy symptoms.

How is a skin test done?

The test uses a small amount of the allergen to find out if it causes your allergy symptoms. There are 2 ways to do this test:

- **Prick test:** We will place a small drop of the allergen on your skin. We will then prick your skin in that spot with a needle.

- **Intradermal test:** *Intradermal* means between the layers of skin. We will use a small syringe needle to inject a small amount of the allergen into the top (*superficial*) layers of your skin.

What can I expect?

The test will usually be done on your arm, but it can also be done on other areas of the body. We will test your skin for reactions to:

- Penicillin reagents (PRE-PEN and Penicillin G)
- Histamine (diluted)
- Saline

If you are sensitive to one of the allergens, a red, itchy bump (called a *wheal*) will form on your skin. We will measure the size of the wheal about 15 to 20 minutes after we apply the allergen to your skin.

Most times, this reaction slowly fades away over the next 30 to 60 minutes.

Sometimes, local swelling at the test site will begin 4 to 8 hours after skin tests. This is called a *delayed reaction*. This reaction is not serious. It should go away over the next 1 to 2 days.

If you have a delayed reaction after your skin test, call your doctor or nurse to report it.

How do I prepare for the test?

Before we start your skin test, please tell your doctor or nurse if you:

- Are pregnant.
- Have a fever or are wheezing today, or if you have had any *acute* (short-term) illness in the past 24 hours.

What risks are involved in this skin test?

This skin test uses substances that you may be allergic to. Because of this, there is a small risk that you will have more severe reactions.

Tell the nurse right away if you have any of these symptoms during or after your test:

- Itching all over your body
- Swelling
- Throat tightness
- Cough
- Problems breathing

These reactions are uncommon but could become life-threatening if you do not get treatment. If you are having these symptoms, we will take steps to treat them.

What will the results show?

- **Positive reaction:** If you get a wheal and redness in the area where we placed the allergen, you may be having a positive reaction. We will check the size of the wheal to be sure.
 - A positive reaction means you may have antibodies in your body that react to penicillin. You should **not** receive penicillin in the future.
 - **Next Step:** Let your primary care provider (and other healthcare providers) know that you are allergic to penicillin and should **not** receive it in the future.
- **Negative reaction:** If you have no reaction in the area where we place the allergen, or if you get a wheal that is mild or small, you may be having a negative reaction.
 - A negative reaction means you may not be allergic to penicillin. You will need an oral challenge to confirm the test results.
 - **Next Step:** Amoxicillin Oral Challenge (see below).

Oral Allergy Test

What is an amoxicillin oral challenge?

Amoxicillin is an antibiotic that is related to penicillin. The amoxicillin oral challenge is given to patients who have a negative skin test. This is to make sure they can take amoxicillin and related antibiotics.

What are the risks?

The risks are the same as those for the skin test. The oral amoxicillin challenge is unlikely to cause a reaction if your skin test is negative.

Tell the nurse right away if you have any of these symptoms during or after your challenge:

- Overall itching
- Swelling
- Throat tightness
- Cough
- Problems breathing

These reactions could become life-threatening if they are not treated. If we know you are having these symptoms, we will take steps right away to treat them.

What to Expect

First, we will give you a very small dose of amoxicillin by mouth and observe you for 30 minutes. If you do not have any symptoms after 30 minutes, we will give you the rest of the dose. We will then observe you for 1 hour.

If you can take the full dose without any reactions, then you are **not** allergic to penicillin. You can receive penicillin or amoxicillin in the future and can tell your providers to remove the penicillin allergy from your medical record.

If you have an allergic reaction, you are allergic to penicillin. We will treat your symptoms as needed. You should **not** receive penicillin or amoxicillin in the future, unless directed by your doctor.

Negative Penicillin Allergy

I did not have a reaction to the amoxicillin oral challenge. What does this mean?

You are not allergic to penicillin.

Who should I tell?

We recommend you tell your primary care provider, dentist, and any other healthcare providers to remove the penicillin allergy listed in your medical record. This includes any pharmacies you may use to fill your medications.

What can I expect?

Your provider may now prescribe penicillin or penicillin-related antibiotics if they are appropriate for your infection.

Positive Penicillin Allergy

I have a confirmed allergy to amoxicillin. What does this mean?

You are allergic to penicillin and should **not** receive penicillin or penicillin-related antibiotics.

Who should I tell?

Let your primary care provider, dentist, pharmacy, and any other healthcare provider know you are allergic to penicillin. Tell them that you completed a skin and oral amoxicillin allergy test and should **not** receive penicillin in the future.

Questions?

Your questions are important. Ask your nurse to contact our infectious diseases provider who saw you for penicillin allergy.

After hours and on weekends and holidays, ask your nurse to page the infectious disease team on call.