

## Am I Allergic to Penicillin?

### Most patients who report allergies to penicillin are not allergic.

Penicillin is one of the most commonly used antibiotics. Penicillin antibiotics are a large group of chemically related drugs that can be given by mouth or injection to treat many bacterial infections and are part of the group of drugs called **beta-lactam** antibiotics.

#### Are Penicillin Allergies Common?

About 1 in 10 patients has a penicillin allergy noted in their medical record. Many such allergies are diagnosed in childhood, often because of a rash that may have been caused by a virus, not an allergy. Even among patients with true penicillin allergy, 8 in 10 are no longer allergic within a 10-year period. Most people in the United States with a penicillin allergy in their medical record are able to tolerate penicillin and related beta-lactam antibiotics after undergoing evaluation.

#### Evaluation for Penicillin Allergy

Penicillins and other beta-lactam antibiotics are some of the safest and most effective antibiotics for many infections, and therefore it is important to find out if you are really allergic to penicillin.

Having an unverified penicillin allergy may result in other antibiotics being used to prevent and treat infections, which may result in an increased risk of the following:

- Treatment failures for some infections that are best treated with penicillin (or related beta-lactam) antibiotics
- Health care-associated bacterial infections, such as *Clostridium difficile* (also known as *Clostridioides difficile*) infection and surgical site infections
- Adverse events from other antibiotics that may have more side effects

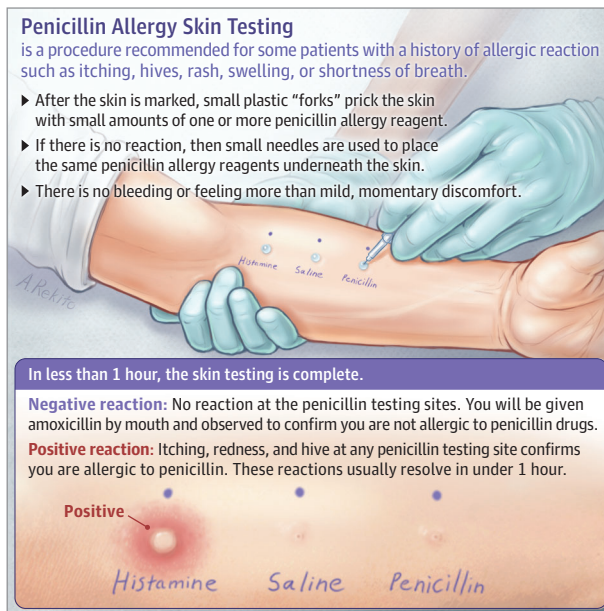
#### Diagnosis of Penicillin Allergy

Penicillin allergy can be evaluated by first obtaining a careful history related to the symptoms of the reaction. Allergy testing procedures may be used, such as the penicillin skin test for patients with a reaction history such as hives, rash, swelling, or shortness of breath. An initial skin prick test is done by pricking the skin with a small amount of each form of penicillin reagent. A second test is an intradermal test, given when the skin prick test is negative. This test uses a small needle to place the reagent right underneath the skin. After each test, the test area is examined after 15 to 20 minutes. The intradermal test may sometimes be repeated. If these tests are negative, it is unlikely that

#### Penicillin Allergy Skin Testing

is a procedure recommended for some patients with a history of allergic reaction such as itching, hives, rash, swelling, or shortness of breath.

- ▶ After the skin is marked, small plastic “forks” prick the skin with small amounts of one or more penicillin allergy reagent.
- ▶ If there is no reaction, then small needles are used to place the same penicillin allergy reagents underneath the skin.
- ▶ There is no bleeding or feeling more than mild, momentary discomfort.



a patient is allergic to penicillin. To confirm, an oral dose of a penicillin drug is then given under clinician observation.

If the symptoms of reaction are low risk, such as headache, nausea, vomiting, itching, or family history of allergy, skin tests may not be done before penicillin is given. In some patients, the first dose may be given under observation.

If 1 full dose of penicillin is tolerated, there is no risk of a serious immediate reaction to a penicillin antibiotic, so penicillin can be used in future treatment. However, an allergic reaction to any drug can occur at any time, and this test does not detect all forms of allergic reactions and does not detect intolerances to or side effects of penicillin.

If you have a history of an allergic reaction to penicillin, ask your doctor how you can be evaluated.

#### FOR MORE INFORMATION

American Academy of Allergy, Asthma & Immunology  
[www.aaaai.org/conditions-and-treatments/library/allergy-library/penicillin-allergy-faq](http://www.aaaai.org/conditions-and-treatments/library/allergy-library/penicillin-allergy-faq)

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