# **Penicillin allergy, Symptoms, and Treatment**

Even though Penicillin is the safest and more used antibiotic than others for many years because of its broad spectrum of activity against infections.

But! You should be careful when you deal with it, especially if you use it for your kids. It has a dangerous side effect that may lead to death called Penicillin allergy, which simply means the abnormal activity of the immune system. That is what I will describe in detail in this article, so keep focus.

## **What is Penicillin?**

Penicillin is a group of antibiotics discovered in 1928 by Alexander Fleming from *Penicillium* fungi.

It is the first and still used antibiotic because of its activity against bacteria to treat varied diseases.

Penicillin refers to the beta-lactam group of antibiotics that have the most safety as we previously said.

## **What is penicillin used for?**

There are many uses for penicillin because of its activity against gram-positive and negative bacteria, which makes it a wide-spectrum antibiotic.

It can treat several conditions as:

* Skin infection.
* Meningitis.
* Respiratory tract infection.
* Lung infection.
* Syphilis.
* Ear infarction.

## **What are the side effects of penicillin?**

Penicillin as well as its benefits have side effects, it may be simple or complex and need special care.

The common side effects of penicillin are usually mild, but you might suffer from:

* Penicillin allergy.
* Nausea and vomiting;
* Draws
* Headache.
* Diarrhea.
* Stomachache.
* Pain in joint.
* Nephrotoxicity.
* shortness of breath.
* Neurotoxicity.

## **What is an allergy?**

Allergy is a defense mechanism, an unusual condition in which your immune system attacks your body when a foreign body enters, like one or more of the:

* Pollen pills.
* animal dander.
* Types of foods such as bananas, eggs, and nuts.
* some medicine.

It is shown as symptoms like:

* Inflammation of the skin.
* Respiratory problems.
* Gastrointestinal problems.
* Effects on the heart and blood vessels.

## **What is penicillin allergy?**

About 10% of people that take penicillin as medicine have a penicillin allergy. The allergy starts in childhood, and about 90% of them disappear in 10 years.

You should know that not all people with penicillin allergy will show symptoms, about 90% of them did not show any signs. So you need to be careful.

## **What is the cross-hypersensitivity reaction?**

If you are allergic to one type of penicillin, you will also be allergic to other types of penicillin.

If you have been allergic to one type of penicillin, you will be allergic to other types of penicillin. That's what is called cross-sensitivity, which means if you are sensitive to a substance you will be sensitive to all other substances that have a similar chemical structure.

As we describe above if you are allergic to penicillin you will be allergic to Cephalosporin antibiotic due to similarity in chemical structure (beta-lactam ring).

## **What are penicillin allergy symptoms?**

There are different symptoms of penicillin allergy from one to another, depending on drug dose and drug dosage form if it is a tablet taken by mouth or given intramuscular or intravenous Which is the most dangerous by the way.

In general, the symptoms that will appear are:

**Effects on skin**

* Itching.
* Redness.
* Heat.
* Numbness.
* Swelling.

**Effects on the respiratory system**

* Shortness of breath.
* Wheezing.

**Effects on gastrointestinal**

* Vomiting.
* Drawnwee.
* Stomach pain.
* Cramping.

**Effects on heart**

* hypovolemic shock.
* Tachycardia.
* Anaphylaxis.b

## **What is a skin test?**

Is a test used to determine if the patient has an allergy to Penicillin or not? By using a special technique in which a tiny needle with a small amount of Penicillin is injected into the skin if it shows a redness area so you have a Penicillin allergy.

**You should know that Penicillin is the only antibiotic that has a skin allergy test, others have not.**

## **How to overcome Penicillin allergy?**

To overcome Penicillin allergy we can divide interventions into two strategies:

* Treatment for the current symptoms.
* Desensitization to penicillin.

### Treatment for the current allergy symptoms

We need to deal with Penicillin allergy depending on the current symptoms which appear. If symptoms around redness and itching you should:

* Stop using Penicillin immediately.
* Take antihistamine pills.
* Corticosteroids in conditions with which inflammation is associated are more serious.

If the patient has an Anaphylactic Shock that considers a life-threatening condition, in which the symptoms appear in 30 minutes like:

* Trouble Breathing
* Abdominal pain.
* Trouble Breathing,
* Diarrhea.
* Feeling dizzy,
* Seizures.
* The tongue swells up.

**this needs doctor intervention by giving:**

* Norepinephrine IM injection at the earliest opportunity then gives IV injection as needed.
* The patient should be in the supine position in which the lower extremities are elevated.
* Give supplemental oxygen.
* Volume resuscitation with normal saline and IV fluids.

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### Desensitization to penicillin

In conditions in which patients who have Penicillin allergy or relative drugs need to take penicillin then we can use the strategy of Desensitisation.

Desensitization means that we can give penicillin gradually, starting with a small dose of Penicillin and then gradually increasing it. But this operation should be done in the hospital.

In conclusion, penicillin allergy is an abnormal condition that needs careful dealing with and can be treated in general with an antihistamine. However, Penicillin is still a drug of choice to treat many bacterial infections.

At the end of this article, I hope that you have the knowledge to deal with a person who has a penicillin allergy.

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