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Have you been told you're allergic to penicillin? Here's why you're probably not.

6-8 minutes

We recently marked "National Penicillin Allergy Day" on September 28. If you're asking "Why is that a thing?", the answer is that approximately [30 million Americans report an allergy to penicillin or a penicillin-related antibiotic in their medical records](#).

Yet, when evaluated by a medical professional, less than 1% were found to have a true allergy, according to the [CDC](#).

The number of Americans who think they have a penicillin allergy is also likely much higher than 30 million.

And it's something I deal with daily in the ER. Here's how it often plays out:

Me: "Are you allergic to any antibiotics?"

Patient: "Penicillin."

Me: "What is your allergy?"

Patient: "I don't know. My mother told me when I was a kid I had an allergic reaction to penicillin, and I should always avoid it."

A self-reported, but unverified, penicillin allergy can have far-reaching consequences – both for the patient and for our public

health. Here's what you need to know.

Have you neglected your health? [You may have skipped lung, colon, breast cancer screenings amid COVID. Time to fix that.](#)

In case you missed it: [Why you should reconsider taking daily aspirin](#)

What is a 'true' penicillin allergy?

When evaluated by a medical professional, less than 1% of patients were found to have an actual allergy to penicillin.

What is a true allergy? One that is mediated by Immunoglobulin E (IgE). When you have a true allergy, whether to penicillin, pollen or cat dander, your immune system overreacts and produces IgE antibodies. These antibodies cause a release of chemicals like histamine that can result in the following symptoms that occur within minutes after taking penicillin.

- Skin hives, or raised red patches on the skin that are very itchy
- Tightness of the throat or change in voice
- Shortness of breath and wheezing
- Nausea, vomiting or diarrhea
- Drop in blood pressure

When there are symptoms in two or more body systems, for example hives and low blood pressure, this is known as anaphylaxis and requires immediate emergency intervention, including epinephrine, steroids and anti-histamine medications.

The gold standard for determining a true allergy is for the medical professional to do a penicillin skin test. However, doctors can often

determine if you have a true allergy by conducting a thorough interview to evaluate for the aforementioned symptoms at the time of the alleged allergic reaction. Your doctor will also ask you how long ago the reaction occurred, how many times it happened, the outcome and how it was managed.

I went to the ER, and things are not getting better: [When is it time to go back?](#)

Yes, you can outgrow your penicillin allergy

Interestingly, most patients with a true IgE-mediated allergic reaction [will lose sensitivity to penicillin after 10 years](#).

Why is this important? Given that a lot of adult patients I see report that the suspected allergic reaction occurred when they were children (although I can usually determine the validity of the allergy from asking questions at the bedside), it's very likely they will have "grown out of it" by adulthood.

Inaccurate penicillin allergy reporting is costly to the patient and our public health system

One study demonstrated that the [in-hospital costs for patients reporting a penicillin allergy are 63% higher](#) relative to those not reporting a penicillin-allergy. Alternatives to penicillin and related antibiotics also tend to come with a higher risk of adverse events. These include a higher risk of clostridium difficile infection, for example – a naturally occurring gut bacteria that becomes pathologic when "good" balancing bacteria are wiped out by certain antibiotics. In addition, [patients reporting a penicillin allergy were shown to have a 10% longer hospital stay](#).

Given this, it's incumbent on the physician to make the time to determine if a patient's self-reported allergy is legit before treating an infection with a non-penicillin-related antibiotic.

Physicians can find themselves pigeon-holed into prescribing what we call "broad-spectrum" antibiotics. These are much more potent and the advantage is that they cover a variety of bugs and are particularly useful in septic patients when the culprit bacteria is not immediately known yet. But again, the flip side is an increase in side effects for the patient. Even more concerning is that there's a known increase between inappropriate antimicrobial use and the prevalence of antibiotic resistance by bacteria.

This means that over time, inappropriate use of penicillin alternatives such as broad-spectrum antibiotics in patients who don't need them, will result in the pathogens developing resistance to these antibiotics; Such that at a later date, when a patient needs broad-spectrum antibiotics, the treating physician may find that their infection is resistant. And options for managing the infection are now further limited.

More: [The dos and don'ts of going to the ER](#)

If you've been told you have a penicillin allergy, here's what you can do

Think you have a penicillin allergy?

1. Talk to your primary care doctor at your next visit. If the "reaction" happened when you were a child, get as much info as possible from any family members who witnessed it. It's possible that your primary doctor can determine if you have a true allergy from that history alone.

2. Your primary doctor can refer you to an allergist who can conduct IgE-mediated skin test in their office in which a small amount of penicillin is injected into your skin and observed for a small red and itchy raised bump, which would indicate a true allergy.

So, why September 28? On this day in 1928, Alexander Fleming discovered penicillin. Penicillin and related antibiotics remain some of the safest, most effective antibiotics available. We have a collective responsibility to honor his legacy: physicians, by prescribing broad-spectrum antibiotics only for those who really need them; and patients, by working together with their doctor to determine if they have a true penicillin allergy.

Do this, not that: [Simple swaps to boost your wellness](#)

More: [People swear by apple cider vinegar for weight loss. Does it actually work?](#)

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