

Many people who think they are allergic to penicillin aren't, says researcher

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Credit: AI-generated image ([disclaimer](#))

About [6% of people in the UK](#) are wrongly labeled on their medical records as being allergic to penicillin, the Royal Pharmaceutical Society has warned.

This figure is concerning because being labeled as allergic to this class of

highly effective antibiotics is associated with an extra [6 deaths per 1,000 patients](#) a year after being treated for an [infection](#). If patients received the right antibiotic for their infection, many lives could be saved.

Allergies vary between us, but someone allergic to [penicillin](#) typically develops a rash, itching and swelling. Their throat may become tight and breathing difficult.

Diagnosing a [penicillin allergy](#) in an unwell person can be tricky. Typically, it is made when using penicillin to treat a feverish child with signs of an infected ear or throat. If they develop a rash, to be safe, the doctor may note on their medical records that they are allergic to the antibiotics.

This is done because someone allergic to penicillin typically responds badly to the next dose of penicillin, which can include the potentially lethal condition known as [anaphylaxis](#).

This precautionary and often spurious label of "penicillin [allergy](#)" is highly likely to follow people through childhood and into their various medical records, without review and checking. These people continue to avoid penicillin treatments. So a great deal hinges on that rash.

However, rashes in people with a fever have many possible causes. A host of enteroviruses, to take one group of germs, give rise to rashes during an illness. And the Epstein-Barr virus will [often cause a rash](#) if a patient is treated with amoxicillin (an antibiotic from the penicillin family). And not all penicillin-induced rashes are allergic—they are just side-effects of the medicine.

Other symptoms such as diarrhea or vomiting that might develop during a course of penicillin may represent an adverse reaction to the antibiotic, but not an allergy with any risk of future anaphylaxis. Some studies

suggest that patients who once suffered an actual allergic reaction to penicillin may [lose this reaction over time](#), so it is unclear if penicillin allergy is for life.

Those with "penicillin allergy" on their medical records have [worse health outcomes](#) and increased rates of [antimicrobial resistance](#) when treated with alternative, [broad-spectrum antibiotics](#) (broad-spectrum antibiotics kill a wide range of bacteria, not just the one suspected of causing infection).

Doctors [reporting from Pennsylvania in the US](#) this summer compared over 3,700 children and adolescents with pneumonia who had a penicillin allergy label with a similar number of those without. Those with the label had higher rates of hospitalization, [respiratory failure](#), intensive care treatment, [adverse drug reactions](#) and infection with *Clostridium difficile* (a type of bacteria that can cause a bowel infection).

Other studies have noted [increased risks of infections](#) following surgery, readmission to hospital, and [infection with the MRSA superbug](#) in "penicillin allergy" patients. These consequences are costly to patients, their families and health services.

Find out if you are allergic

A penicillin allergy can be confirmed by collecting exact information about how this developed, and sometimes skin prick tests or taking a very small dose of penicillin by mouth if required. GPs, nurses and pharmacists are being tasked to check drug allergy labels in [medical records](#). Large surveys show these methods allow almost everyone to take this family of antibiotics safely.

Penicillins are routinely used as part of the treatment [in people with sickle cell anemia](#). They take the antibiotic twice a day, for life. Sickle

cell anemia is a common genetic condition. More than 12,000 people are followed regularly in the UK, yet [penicillin allergy in this group is rare](#). This should provide reassurance about penicillin safety, placing allergies into a more reasonable perspective.

Accurate, up-to-date information is needed to support your health and that of others. If you think you have a penicillin allergy it would be wise to discuss and confirm this with your doctor. Removing this label might be of great benefit to you and others.

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