

# Pregnant and allergic to penicillin? Why testing is important

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An estimated 10% of Americans report having an allergy to penicillin, but less than 1% of people are actually allergic to the common antibiotic, medical experts say.

While some might consider that statistic an interesting bit of trivia, there is one population in particular who would benefit from knowing whether or not they are truly allergic to penicillin: [pregnant women](#).

Women who are pregnant often need antibiotic medications before, during, or after delivery. And if someone is allergic to penicillin (a first-line antibiotic medication that targets a narrow but common list of bacteria), they will need a different, broader antibiotic. These broader medications are more likely to kill off protective bacteria, contributing to the growing global problem of antibiotic resistance.

And on an individual level, patients who are flagged as having penicillin allergies in their electronic medical record—and thus, are given a broader antibiotic—may have higher C-section rates and stay longer in the hospital. Their babies may also be at higher risk for a potentially dangerous infection during delivery if their mothers are colonized with group B Streptococcus (strep), a bacteria that is naturally found in the digestive and lower reproductive tracts of some men and women.

So knowing if you are truly allergic to the antibiotic is important.

To address this issue, Jason Kwah, MD, and Moeun Son, MD, a husband-and-wife doctor team from Yale Medicine, started a [penicillin allergy testing](#) program for pregnant women who report having a penicillin [allergy](#). For Dr. Son, an obstetrician-gynecologist who specializes in high-risk pregnancy, the inspiration for the program was right in front of her: Dr. Kwah is an allergy and immunology specialist.

"We have studies showing that for 80% of those who did have a reaction once, indicating an actual allergy, it is gone after 10 years," says Jason Kwah, MD, a Yale Medicine allergy and immunologist, speaking of penicillin allergies.

"Given our specialties, I never thought we would collaborate, but pregnant women often need antibiotics during delivery or at other points during their pregnancy—or postpartum," Dr. Son says. "And if a pregnant woman reports a penicillin allergy, providers are nervous about giving her anything that contains it."

Bacteria that might not be problematic for most people pose different risks for women who are pregnant. For example, about 25% of expectant women carry group B strep, which can cause an infection in the fetus. "To prevent transmission, the preference is to give the mother penicillin instead of the broader—or what we sometimes call 'big-gun'—antibiotics," Dr. Son says.

But that isn't possible if the woman—or the information in her electronic medical record—says she is allergic.

When she talked with Dr. Kwah about this topic and realized that evaluating patients would be very straightforward, she knew together they could help.

In September 2020, they established the Allergy, Asthma & Immunology Care in Pregnant Mothers Program, in which pregnant patients whose health records indicated that they have a penicillin allergy are offered the opportunity to get testing at Yale Medicine Allergy & Immunology.

So far, the results have been promising.

"From September 2020 to February 2022, there were 954 pregnant Yale patients with a documented penicillin allergy in their [electronic medical record](#)," Dr. Son says. "Of the 235 women who chose to undergo testing, all but two were cleared of their penicillin allergy."

## **Why do people think they're allergic to penicillin?**

Many who believe they are allergic to penicillin have been avoiding the medication class since they were children. Penicillin is a typical treatment for common childhood infections, including ear infections, [strep throat](#), and pneumonia. But, for many children, what's thought to be a reaction to the medication—often a minor rash—is actually caused by the infection itself, Dr. Kwah says.

And for many of those kids who get a flat, red rash as a reaction to the medication, it turns out to be a one-time problem that never happens again.

"We have studies showing that for 80% of those who did have a reaction once, indicating an actual allergy, it is gone after 10 years," Dr. Kwah says. "We don't know if it means someone was allergic and outgrew it, or if the immune system has simply changed over time."

## **How penicillin allergy testing works**

Penicillin allergy testing for pregnancy is usually done in the third trimester. The procedure involves a little needle poke, which allows extracts of penicillin to be placed just under the skin.

"If a rash doesn't appear within 15 to 20 minutes, we do another, deeper poke. If there's no rash within that additional 15 to 20 minutes, we know that there is over a 95% chance of no penicillin allergy," Dr. Kwah says. "One final step is to give the patient an oral dose of amoxicillin, a form of penicillin, in the office and make sure there is still no reaction."

Dr. Kwah says penicillin allergy testing has been safely performed in pregnant women for many years. "As allergists, we are very protective of pregnant women; this testing has been very well-studied and is something we feel very confident about," he says.

Meanwhile, national organizations are paying attention. For instance, the American College of Obstetricians and Gynecologists recently updated its guidelines to recommend penicillin allergy testing in all pregnant women with a reported allergy.

Dr. Son says that the Yale program has been receiving many referrals since it began. "Our OBs are excited about it. An allergist can perform a thorough evaluation and testing to better understand whether there is a real issue," she says.

## **Benefits of penicillin allergy testing are broad**

In addition to eliminating personal anxiety, clearing a woman of a penicillin allergy is helpful on a broader level, too, Dr. Kwah adds.

"Use of a very broad antibiotic means you are more likely to become infected with a bug that is resistant to many different drugs," he says. "And you are potentially creating a situation where a bad bug can evade antibiotics, proliferate, and become more prevalent in the community."

At the end of the day, being able to remove the words "[penicillin](#) allergy" from a medical history can be liberating for patients, he adds. "You don't even have to talk about it anymore—or worry. We love to see that impact happen in real time," he says.

Provided by Yale University

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