

# World-first testing strategy for penicillin

November 26 2019

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New research led by The University of Western Australia will lead to a world-first in testing strategy for penicillin allergy to ensure patients aren't avoiding taking antibiotics when they don't need to, as well as preventing more superbugs from emerging.

Lead author Clinical Professor Michaela Lucas, from UWA's Medical

School, said researchers had found that up to 90 percent of people reporting [penicillin allergy](#) may be avoiding the drug needlessly.

"What we found is that of those people who think they're highly allergic to [penicillin](#); most actually have a very low risk of reaction, which means they may well tolerate some penicillin-based antibiotics. The next step is to support [primary care providers](#) to test those patients."

While protecting patients from medicine-related harm was the keystone of clinical care, the high rate of unverified antibiotic [allergy](#) was affecting the [health](#) of individual patients, Professor Lucas said.

"It's also contributing to the emergence of antimicrobial resistance via increased prescription of broad spectrum antibiotics," Professor Lucas said.

"This phenomenon is affecting populations globally. The vigilance of health professionals in protecting patients who self-report allergy is not currently accompanied by systems to verify allergy reports.

"And there is a lack of awareness that this is in fact resulting in harm to individuals and the [health sector](#), which needs better testing strategies and communication tools to ensure correct drug avoidance advice in any clinical context."

Professor Lucas said self-reported allergy to penicillin was common and hospitals had alert (labeling) systems in place to prevent doctors prescribing penicillin to allergy sufferers.

"Working out who is truly allergic to penicillin usually requires a two-step process of skin-testing, and an oral 'challenge' supervised by hospital specialists," she said.

"This is necessary because current guidelines for testing don't take into consideration individual risk based on clinical history."

The research, published in the *Journal of Allergy and Clinical Immunology: In Practice*, used data from 447 Australian patient records, and statistical modeling, to define the minimal clinical criteria representing low-risk of reaction to the commonly prescribed antibiotic penicillin.

"This finding enables clinicians with limited drug allergy expertise, to select patients who can safely undergo penicillin allergy testing in primary care settings," Professor Lucas said.

"This approach is expected to lead to more efficient and lower cost service provision benefiting [public health](#) and the health sector."

**More information:** Brittany Stevenson et al. Multicenter Australian Study to Determine Criteria for Low- and High-Risk Penicillin Testing in Outpatients, *The Journal of Allergy and Clinical Immunology: In Practice* (2019). [DOI: 10.1016/j.jaip.2019.09.025](https://doi.org/10.1016/j.jaip.2019.09.025)

Provided by University of Western Australia

Citation: World-first testing strategy for penicillin (2019, November 26) retrieved 25 April 2024 from <https://medicalxpress.com/news/2019-11-world-first-strategy-penicillin.html>

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