

Penicillin Skin Test Q & A for Medical Providers:

By Lisa Sullivan, M.D. - Specializing in Pediatric and Adult Allergy, Asthma and Immunology

Is there a reliable penicillin allergy test?

FDA approved penicillin skin testing was not available for many years. This made accurate diagnosis of penicillin allergy difficult, having to rely on history, RAST blood testing (65% sensitive), penicillin G skin testing (10% sensitive) and clinically monitored oral challenge. Recently, Pre-Pen (benzylpenicilloyl polylysine) has re-entered the market, allowing allergists to reliably test for IgE mediated penicillin allergy. Pre-Pen is the metabolite responsible for most IgE mediated urticarial reactions, whereas metabolites of penicillin G are often blamed for anaphylaxis. A negative skin test result using both Pre-Pen and penicillin G will ensure a 97% confidence that an IgE dependent reaction will not occur.

Why test?

The prevalence of true IgE mediated penicillin allergy is significantly lower than patient histories suggest. For example, ten percent of hospitalized patients report a penicillin allergy and are therefore more likely to receive vancomycin, quinolones or ICU observed penicillin desensitization. Yet, only one percent is truly allergic at the time of admission. This disparity may be due to recall bias, idiopathic hives, or because truly allergic patients tend to lose their penicillin specific IgE over time. After 10 years of avoidance, over 80% of true penicillin allergic patients will lose their sensitivity and can later tolerate penicillin without problems or risk of re-sensitization. Therefore the benefits of negative testing include peace of mind, more cost effective/appropriate antibiotic choices and reduced risk of drug resistance.

Is penicillin skin testing safe?

Penicillin skin testing is generally safe for patients of all ages with suspected IgE (type 1) penicillin reactions. However, it is contraindicated in patients with clear histories of severe skin reactions to penicillin such as Stevens-Johnson syndrome or toxic epidermal necrolysis. Pre-Pen is pregnancy category C, so careful consideration is needed. While no life threatening reactions have been reported in patients with negative skin tests, patients with positive skin tests do pose a small risk of anaphylaxis. Therefore, skin testing should be performed by a board certified allergist trained in the management of anaphylaxis.

When to test?

Penicillin skin testing should be considered prior to surgery or medical procedures, before hospitalization, following a suspected "type 1" reaction to penicillin or related antibiotic and during routine allergy screenings. We recommend a proactive approach when the patient is well, rather than ill. Elective testing in a comfortable atmosphere is better tolerated and is covered by most insurance plans.

Dear Colleague:

We would be delighted to evaluate your patients with a history of penicillin allergy. As board certified allergists/immunologists we are equipped to handle penicillin skin testing and will help you address the needs of your patients. Please call us anytime if you have questions.

Sincerely,

Lisa Sullivan, MD