

# Memo to pediatricians: Allergy tests are no magic bullets for diagnosis

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An advisory from two leading allergists, Robert Wood of the Johns Hopkins Children's Center and Scott Sicherer of Mt. Sinai Hospital in New York, urges clinicians to use caution when ordering allergy tests and to avoid making a diagnosis based solely on test results.

In an article, published in the January issue of *Pediatrics*, the researchers warn that blood tests, an increasingly popular [diagnostic tool](#) in recent years, and skin-prick testing, an older weapon in the allergist's arsenal, should never be used as standalone diagnostic strategies. These tests, Sicherer and Wood say, should be used only to confirm suspicion and never to look for allergies in an asymptomatic patient.

Test results, they add, should be interpreted in the context of a patient's symptoms and [medical history](#). If a [food allergy](#) is suspected, Sicherer and Wood advise, the patient should undergo a [food challenge](#) — the gold standard for [diagnosis](#) — which involves consuming small doses of the suspected allergen under medical supervision.

Unlike food challenges, which directly measure an actual allergic reaction, skin tests and blood tests are proxies that detect the presence of IgE antibodies, immune-system chemicals released in response to allergens. Skin testing involves pricking the skin with small amounts of an allergen and observing if and how the skin reacts. A large hive-like wheal at the injection site signals that the patient's immune system has created antibodies to the allergen. Blood tests, on the other hand, measure the levels of specific IgE antibodies circulating in the blood.

These tests can tell whether someone is sensitive to a particular substance but cannot reliably predict if a patient will have an actual allergic reaction, nor can they foretell how severe the reaction might be, the scientists say. Many people who have positive skin tests or measurably elevated IgE antibodies do not have allergies, they caution. For example, past research has found that up to 8 percent of children have a positive skin or [blood test](#) for peanut allergies, but only 1 percent of them have clinical symptoms.

"Allergy tests can help a clinician in making a diagnosis but tests by themselves are not diagnostic magic bullets or foolproof predictors of clinical disease," Wood says. "Many children with positive tests results do not have allergic symptoms and some children with negative test results have allergies."

Undiagnosed allergies can be dangerous, even fatal, but over-reliance on blood and skin tests can lead to a misdiagnosis, ill-advised food restrictions or unnecessary avoidance of environmental exposures, such as pets.

In addition, the researchers caution, physicians should be careful when comparing results from different tests and laboratories because commercial tests vary in sensitivity. Also, laboratories may interpret tests results differently making an apples-to-apples comparison challenging, Wood says.

In their report, the scientists say, skin and blood tests can and should be used to:

- Confirm a suspected allergic trigger after observing clinical reactions suggestive of an allergy. For example, children with moderate to severe asthma should be tested for allergies to

common household or environmental triggers including pollen, molds, pet dander, cockroach, mice or dust mites.

- Monitor the course of established food allergies via periodic testing. Levels of antibodies can help determine whether someone is still allergic, and progressively decreasing levels of antibodies can signify allergy resolution or outgrowing the allergy.
- Confirm an allergy to insect venom following a sting that causes anaphylaxis, a life-threatening allergic reaction marked by difficulty breathing, lightheadedness, dizziness and hives.
- Determine vaccine allergies (skin tests only).

Conversely, skin and blood tests should NOT be used:

- As general screens to look for allergies in symptom-free children.
- In children with history of allergic reactions to specific foods. In this case, the test will add no diagnostic value, the experts say.
- To test for drug allergies. Generally, blood and skin tests do not detect antibodies to medications.

Nearly 3 percent of Americans (7.5 million) and at least 6 percent of young children have at least one food [allergy](#), according to the latest estimates from the National Institutes of Health.

Provided by Johns Hopkins Medical Institutions

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