The intradermal test is used to confirm allergic sensitization to suspected allergens. The purpose of the test is to find out if a patient has specific IgE against an allergen. IgE or immunoglobulin E is the immunoglobulin or antibody involved in the classic allergic reactions (type I reactions). The test tries to reproduce a “small scale” allergic reaction if the patient is sensitized to that allergen.

The test consists in injecting a small amount of an allergen extract into the skin, with a syringe and a needle. The reading is performed after 10-15 minutes assessing the resulting papule and redness.

One test with saline solution is used as a negative control and one test with histamine as a positive control.

The saline solution should cause no reaction. If it is positive it means that the skin of the patient is very reactive, and the rest of the tests can give false positive results. These are positive unspecific reactions, not really due to true allergic sensitisation.

The histamine control must cause a positive reaction. If it is negative it means that the skin is not reacting, and the rest of the tests can give false negative results, although the patient is really sensitised.

The papule diameter of each allergen is compared to that of histamine. Usually, if the allergen yields a diameter at least half of that of histamine, the test is considered positive. This means that the patient is sensitised. If it is smaller, the test is considered negative, which means that the patient is not sensitised.

The number of tests depends on the symptoms of the patient and on the suspected allergens. These are tested one by one. For example, one test is used to assess sensitization to grass pollen, another one for dog allergy, another one for cat allergy, and so on, one test for each allergen. Thus the number of tests varies from only one to several dozens.

The test causes pain when the allergen is injected. Because of this, more often skin prick tests are used, although sometimes intradermal tests are needed. The positive results cause itching that lasts 20-30 minutes. The papule disappears also in around 30 minutes.

The skin tests are not 100% accurate. Even though the test is properly performed some true sensitisations are not identified. Conversely, some patients have positive results with substances they are tolerating without symptoms. In this case we say they are just sensitised but not allergic.

Antihistamines change the test and give false negative results. If you are scheduled for intradermal tests, you should withdraw antihistamines 4-7 days before. Inform your doctor about the medication you are taking, as antihistamines are found in medicines used for many common conditions.

Immunoglobulin E can also be found in blood and identified in serum specific IgE.
The allergen is injected into the skin with a syringe and a needle.

Angel Mazon MD, PhD

Pediatric Allergist