

## Choosing Wisely on the use of alternative testing in the diagnosis of food allergy and Food intolerance

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**Alternative testing has no proven benefit in the diagnosis of food allergy and food Intolerance. This may endanger patients via misdiagnosis. An accurate diagnosis requires detailed clinical assessment by a qualified health care professional with expertise in Allergy and may include relevant validated investigations such as specific IgE testing, skin prick testing and oral food challenge testing.**

### Benefits

In recent years there has been a surge in allergic disease (1). Many individuals attribute their medically unexplained symptoms to food allergy or intolerance when food is not the cause, which has led to inappropriate dietary exclusions or other strategies. Sometimes these have been based on unproven alternative testing (2,3,4,5,6). It is therefore essential to know how to choose wisely.

Food allergy and intolerance are not interchangeable terms. (7)

*Food allergy* – involves the immune system reacting to a substance that would normally be harmless.

*Food intolerance* – does not typically involve the immune system. It is mostly a delayed phenomenon with symptoms occurring several hours after exposure to certain foods and is often dose-dependent. (7)

The table below describes commonly available alternative tests, none of which have robust evidence to validate use.

Test	What is the test?	What's the evidence?
<b>ELECTRODERMAL TESTING (VEGA TESTING)</b>	The patient is connected to two electrodes, creating an electrical circuit. Glass vials of test substances (potential allergens) are connected to the circuit and skin impedance is measured.	No evidence to validate use. There are no studies evaluating the technique for food allergy diagnosis and the test does not accurately detect respiratory allergy. (7,8,9)
<b>HAIR ANALYSIS (also called bio-resonance testing or hair strand analysis)</b>	Hair strands are evaluated against a database for apparent evidence of intolerances to hundreds of food and non-food items (4,6).	Research have confirmed clear diagnostic failure and lack of reproducibility with discrepancies between matched samples of hair (6,9,10,11).

<b>APPLIED KINESIOLOGY</b>	The patient holds a vial containing the test food in one hand while the contralateral arm is extended. Weakness in this arm is taken as a marker for sensitivity to the food being tested.	There is no evidence for diagnostic accuracy or effectiveness for any condition. (6,12, 13,14)
<b>IgG TESTING (also called the YORK test)</b>	Blood samples are analysed for IgG or IgG4 antibodies to specific foods. Detection of these antibodies is taken as a diagnostic marker for allergy or intolerance. Often this test is done in reputed labs that offer testing for chronic or delayed symptoms such as dry and itchy skin, fatigue, bloating, joint pain, migraine etc. (2,6)	The presence of IgG antibodies does NOT indicate an allergy or intolerance to a specific food. IgG antibodies to food are formed in all healthy asymptomatic people. (6,17,22,28)
<b>THE ALCAT TEST (Antigen leucocyte cellular antibody test)</b>	The patient's white blood cells are exposed to different foods and any changes in cell size are measured. A change of greater than 13% is considered as positive. (6,21,22)	Controlled trials show that it is ineffective for diagnosis. (6,22,23)
<b>PROVOCATION NEUTRALISATION TESTING</b>	Intradermal injections (injections under the skin) of food extract are administered with a view to provoke previously reported food related symptoms. A different dose of the offending allergen is then injected to "neutralise" the reaction. (6,24)	Multiple studies have concluded that this test lacks scientific validity and hence should not be used to make diagnostic or therapeutic decisions. (21,24,25)

### Risks

The main risk of these investigations is an incorrect label of food allergy or food intolerance attributable to a specific food leading to unnecessary dietary restrictions, nutritional deficiencies and a reduced quality of life (6,17,19,20,21). Prolonged elimination of foods which have been previously tolerated may even lead to the development of new food allergy (28).

Many of these tests are marketed for the investigation of a wide range of symptoms including psychological, neurological, gastrointestinal and rheumatological disorders, In this context an incorrect diagnosis of food intolerance carries the additional risk of delaying the diagnosis and treatment of the underlying condition

### Alternatives

There is no single diagnostic test that can be used in isolation to confirm a diagnosis of food allergy and there is currently no reliable validated test for confirming a diagnosis of food intolerance (with the exception of lactose intolerance and coeliac disease) .

The standard clinical assessment for food allergy or a food intolerance requires an allergy-focused history which may be supported by validated evidence-based allergy investigations such as specific

IgE blood tests, skin prick testing and oral food challenge testing (21,28). Generalised symptoms such as fatigue and joint pain may require assessment by other specialty physicians.

### **Nothing**

Not seeking medical assessment for symptoms suggestive of food allergy or a food intolerance places the patient at risk of future serious dietary, nutritional and medical complications. Patients who incorrectly attribute their symptoms to food allergy or intolerance may experience a delay in the diagnosis of non-allergic disorders, unnecessary dietary restrictions and a reduced quality of life.(28)

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