Omega Diagnostics

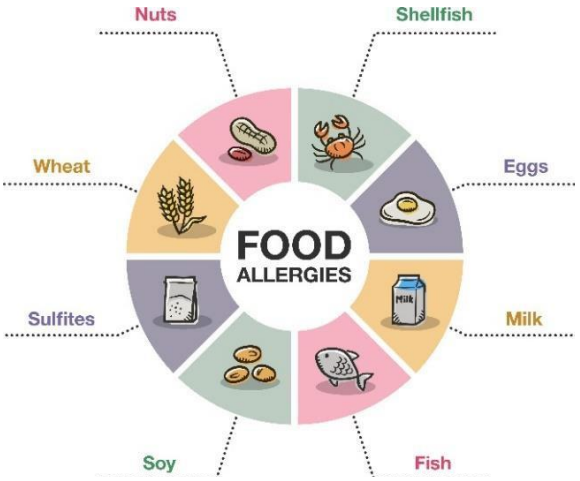
IgG vs IgE: What is the Difference?

There is a great deal of misunderstanding about the differences between a sensitivity versus an allergic reaction to food. This bulletin has been created in order to help demystify the confusion between the different types of reactions and tests available.

There are essentially 3 different types of reactions to food in which the immune system inappropriately identifies the food as foreign and mounts an immune response.

1. The autoimmune response – An autoimmune response can give rise to multifactorial symptoms and, if undiagnosed, results in permanent damage. The most commonly known condition in this category is coeliac disease, where there is an autoimmune response to gluten and gliadin. Testing for this disease is typically done through blood work and/or small bowel biopsy. Here laboratory tests focus on the measurement of IgA and IgG class antibodies to the enzyme Tissue Transglutaminase (tTG).

2. A Type I immediate IgE hypersensitivity immune response – This response is more commonly known as a food allergy. This reaction typically occurs very quickly (minutes to hours) after eating an offending food and symptoms range from mild to severe. Many are aware of food allergies causing anaphylaxis (the most common example being peanuts) but they may also experience itchy lips/tongue/throat, stuffy nose, headaches, stomach pain, diarrhoea, gas, bloating, skin reactions, and sudden fatigue. Most people often know their 'trigger foods' because when the reaction occurs it is so quick and occurs soon after eating food. However, sometimes it isn't always obvious, particularly with people who have multiple allergies. In these instances, testing can be very useful and is done by measuring specific IgE antibodies in the blood to the suspected foods and food panels or by skin prick test.



3. Non-immediate (delayed) IgG response – This type of response is referred to as a food sensitivity. This differs from an immediate IgE food allergy response in that symptoms may not show up for hours or days. Due to the delayed response, determining exactly which food(s) are causing symptoms in the body is difficult, especially as people tend to eat the same food(s) every day. Symptoms of food sensitivities include headaches, stomach pain, constipation, diarrhoea, bloating and many more.

NB: Having a food allergy doesn't mean that a person has a food sensitivity and having a food sensitivity doesn't mean that the patient has an allergy

Testing for IgG food sensitivities can be confusing for many healthcare providers as this type of reaction is neither obvious nor life-threatening. However, food sensitivities are gaining public and academic awareness as increasingly practitioners and clients are removing offending food groups in order to help support various conditions such as migraines and IBS, helping to reduce inflammation in the body with great success. Unfortunately though, there is some conflicting evidence on the comparison of IgG versus IgE and the testing behind it. Keep in mind that they are different 'branches' of the immune system and being allergic to a food doesn't mean the patient is sensitive to that food and vice versa.

Some negative press and studies conclude that IgG sensitivity testing has no validity or value. However, when we and others have reviewed all the research against food sensitivity testing, the studies routinely point out that when someone withdraws a particular food based on IgG testing results symptoms can improve.

The food sensitivity test therefore serves as a valuable guide to help patients determine which foods to rotate or eliminate out of the diet before re-introducing them at a later date.

Whilst there is no gold standard for IgG testing, in clinical experience food sensitivity testing via the measurement of IgG antibodies can be an effective, simple to perform and well tolerated tool. Providers have been performing such tests worldwide for many years with positive outcomes. Results help guide patients in a reasonable way that makes sense, to remove certain food(s) in order to help resolve a contributing cause of some of their often chronic symptoms.

Characteristics of IgE- & IgG- Mediated Reactions to Food

IgE-Mediated - Allergy	IgG-Mediated - Sensitivity
Incidence is relatively low	Incidence is relatively high
Result from infrequent exposure	Result from frequent exposure
Common in children, rare in adults	Most common form of food sensitivity reaction in both children & adults
Very predictable short-term symptoms	Chronic, variable symptoms
Offending food is usually obvious	Offending food frequently hard to identify
Basophil/Mast Cell triggered reactions	Immune complex trigger
Histamine/Leukotriene release	Inflammatory response
Patient aware of offending food	Patient rarely aware of offending food
Antibody persistent for years	Antibody declines over months
In-vitro or skin prick testing for serum IgE confirmation	In-vitro testing for serum IgG shows reactive food and degree of gut permeability support required
Permanent food avoidance and immunotherapy	Eliminate then rotate food(s), heal gut, improve digestion

Allergy vs Sensitivity

Category	Allergy	Sensitivity
Food	e.g. peanut, shellfish	e.g. gluten, dairy
Mediated	IgE antibodies	IgG antibodies
Rate of response	Immediate after ingestion	Delayed up to 72 hrs after ingestion
Mechanism	Rapid production of histamine	Gradual formation of Ag/Ab complexes
Symptoms	Classical 'allergic' response	Many symptoms affecting any part of the body
Severity	Can be fatal	Not life-threatening
Permanence	Can last lifetime	Can be reversed or reduced by elimination of foods
Diagnosis	Often self-diagnosed	Rarely self-diagnosed
Skin-prick test	Positive	Negative