

## WHAT IS NON-CELIAC GLUTEN SENSITIVITY?

This Q&A was designed to help you better understand non-celiac gluten sensitivity and what sets it apart from celiac disease and wheat allergies.

### **What is non-celiac gluten sensitivity?**

Non-celiac gluten sensitivity has been coined to describe those individuals who cannot tolerate gluten and experience symptoms similar to those with celiac disease but yet who lack the same antibodies and intestinal damage as seen in celiac disease. Early research suggests that non-celiac gluten sensitivity is an innate immune response, as opposed to an adaptive immune response (such as autoimmune) or allergic reaction.

### **OK, so what is an innate immune response?**

Humans are born with an innate immune system. An innate immune response is not antigen specific, meaning that it is nonspecific as to the type of organism it fights. Although its response is immediate against invading organisms, the innate immune system does not have an immunological memory to invading organisms. Its response is not directed towards self tissue, which would result in autoimmune disease.

Unlike non-celiac gluten sensitivity, [celiac disease](#) is antigen specific (including tissue-transglutaminase, endomysium and deamidated gliadin antibodies, and in some small children also gliadin antibodies) and does result in an attack on its own tissue. Intestinal damage, or enteropathy, is the direct result.

### **What are the symptoms of non-celiac gluten sensitivity?**

Non-celiac gluten sensitivity shares many symptoms with celiac disease. However, according to a [collaborative report](#) published by Sapone et al. (2012), individuals with non-celiac gluten sensitivity have a prevalence of extraintestinal or non-GI symptoms, such as headache, “foggy mind,” joint pain, and numbness in the legs, arms or fingers. Symptoms typically appear hours or days after gluten has been ingested, a response typical for innate immune conditions like non-celiac gluten sensitivity.

### **If the symptoms are so similar, how is it different from celiac disease?**

Non-celiac gluten sensitivity has been clinically recognized as less severe than celiac disease. It is not accompanied by “the enteropathy, elevations in tissue-transglutaminase, endomysium or deamidated

gliadin antibodies, and increased mucosal permeability that are characteristic of celiac disease” (Ludvigsson et al, 2012). In other words, individuals with non-celiac gluten sensitivity would not test positive for celiac disease based on blood testing, nor do they have the same type of intestinal damage found in individuals with celiac disease. Some individuals may experience minimal intestinal damage, and this goes away with a gluten-free diet.

Research has also shown that non-celiac gluten sensitivity does not result in the increased intestinal permeability that is characteristic of celiac disease. Increased intestinal permeability permits toxins, bacteria and undigested food proteins to seep through the GI barrier and into the bloodstream, and research suggests that it is an early biological change that comes before the onset of several autoimmune diseases.

### **Is non-celiac gluten sensitivity different from a wheat allergy?**

Yes. Allergies, including those to wheat, are associated with positive IgE assays. Diagnosis is made through skin prick tests, wheat-specific IgE blood testing and a food challenge. Individuals who have gluten-related symptoms but test negative for a wheat allergy may have non-celiac gluten sensitivity.

#### **Related Content:**

- [International Physician Task Force Identifies Definitions for Celiac Disease and Gluten-Related Disorders](#)
- [Collaborative Report Suggests New Classification for Gluten-Related Disorders](#)
- [Study Defines Difference Between Celiac Disease and Gluten Sensitivity](#)