

Glutenology MasterClass: Module 3 – Am I Gluten Sensitive?

This Module Covers:

1. Celiac Disease Vs. Gluten Sensitivity
2. Why Medical Tests Often Fail to Identify Gluten Sensitivity
3. How to Properly Test for Gluten Sensitivity
4. Is Gluten Sensitivity on the Rise?

Definitional Differences:

Gluten Allergy – is typically considered to be an allergy (immune mediated response).

Gluten Intolerance – an inability to tolerate gluten (immune and non-immune mediated).

Gluten Sensitivity – is a mesh of the above two terms.

Celiac Disease – is an autoimmune disease of the small intestine caused by gluten induced damage.

Silent Celiac Disease – is a term used in those who react to gluten without positive testing for celiac.

Gluten Sensitivity Reminders:

- It is not a disease; it is a state of genetics.
- If you ignore your genetics, then it can trigger the disease.
- One of the diseases is Celiac Disease.

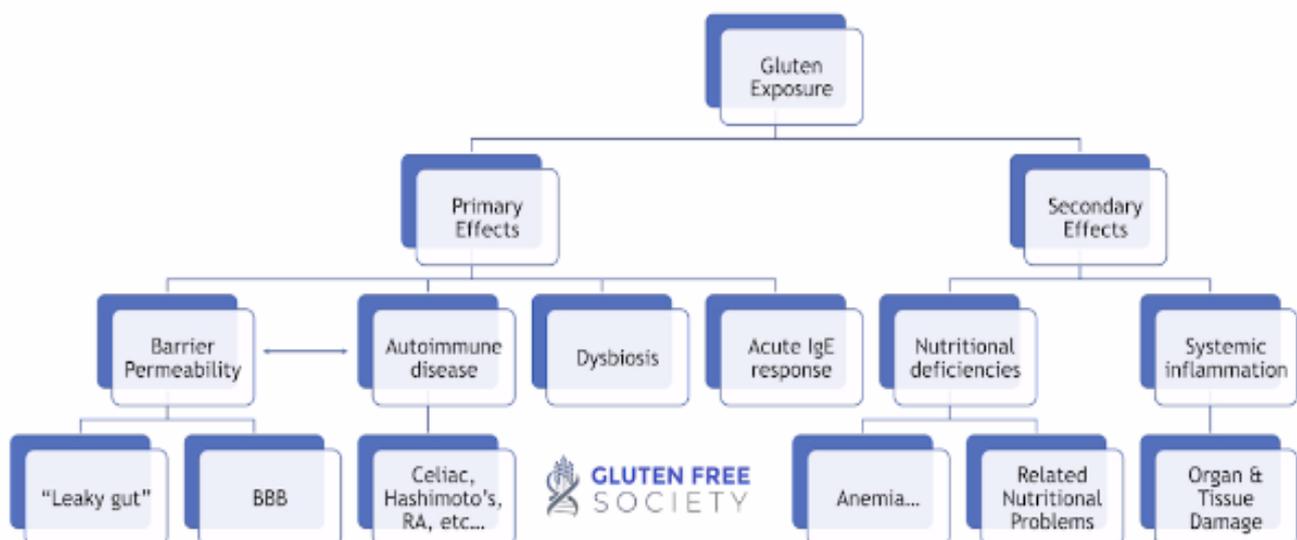
Remember, the average doctor graduating from medical school in the US has less than seven hours of nutritional training. Key Point: **Nutritional training in medical school is poor and lacking.**

Gluten Sensitivity ≠ Celiac Disease

Most use the terms above interchangeably. It is important to know that gluten sensitivity causes Celiac Disease, but one can have gluten sensitivity without developing Celiac Disease.

Published in 2011 – “A new double blind, randomized, placebo-controlled study published in the *American Journal of Gastroenterology* confirms the presence of gluten sensitivity in the absence of celiac disease. This is the first study of its kind confirming the existence of gluten intolerance in the absence of celiac disease.” Am J Gastroenterol. 2011 Jan 11.

Gluten Induced Damage Looks More Like This...



Breakdown of the above graphic:

Gluten Exposure – Can lead to 2 kinds of problems.

Primary problems – Problems directly caused by gluten.

Secondary problems – Problems that are secondary effects of gluten.

Primary Problems Include:

- Barrier Permeability
 - o “Leaky Gut”
 - o Blood Brain Barrier
 - o Lung Permeability
 - o Kidney Permeability
- Autoimmune disease
 - o Celiac
 - o Hashimoto’s
 - o Rheumatoid arthritis
 - o Psoriatic arthritis
- Dysbiosis- It changes the flora in the gut.
 - o Change in Microbiome.
- Acute IgE Response
 - o Hives
 - o Watery
 - o Itchy
 - o Coughing

Secondary Problems Include:

- Nutritional Deficiencies
 - o GI tract is damaged by gluten.
 - o You do not absorb and digest your food well.
 - o You do not produce B vitamins in your GI flora.
 - o You become malnourished as a result.
- Systemic Inflammation
 - o Toxins can leak and travel through your bloodstream to different organs and tissues creating an inflammatory response.

Blood Tests for Celiac Disease:

- Serum tests are initially used to help confirm the diagnosis of celiac.
 - o Anti-tissue transglutaminase antibodies
 - o Anti-endomysial antibodies
 - o Anti-gliadin antibodies (does test for gluten, but only one type)
 - o Typically, only measure IgA and IgG antibodies
 - This is only 2 of 6 responses.
 - o A positive result will prompt a small intestinal biopsy.

Key Point: There are hundreds of different types of gluten protein. Gliadin is only one of many.

Pitfalls of Blood Tests:

- Endomysial and TTG antibodies are specific for celiac disease, but do not help with Non-Celiac Gluten Sensitivity.
- Anti-gliadin antibodies are only specific for gliadin.
- There are hundreds of different forms of gluten not being tested.
- Many with gluten issues are antibody deficient, thus yielding potential for false negative results.
- Many react to other elements in grains not directly related to gluten, leading to further confusion. (Covered in Module 4).

Key Point: Blood tests used to detect Celiac Disease are NOT accurate for detecting Non-Celiac Gluten Sensitivity.

Published in Journal of Neurology and Psychiatry 2002 – “IgG anti-gliadin antibodies have been the best diagnostic marker in the neurological population that we have studied. IgG anti-gliadin antibodies have a high sensitivity for celiac disease, but they are said to lack specificity in the context of a range of mucosal abnormalities and the concept of potential celiac disease. They may be the only available immunological marker for the whole range of gluten sensitivity of which celiac is only a part...The finding of additional HLA marker (DQ1) seen in the remaining 20% of patients may represent an important difference between the genetic susceptibility of patients with a neurological presentation to those with gastrointestinal presentation within the range of gluten sensitivity...The introduction of more specific serological markers such as anti-endomysium and more recently transglutaminase antibodies may have helped in diagnosing celiac disease but their sensitivity markers of other manifestations of gluten sensitivity (where the bowel is not effective) is low.”

Biopsy Testing for Celiac Disease

- In medicine, the biopsy is the gold standard for the diagnosis of celiac disease.
 - o The gold standard of finding the celiac disease in biopsy needs 6 samples.
- Your GI tract is a size of a tennis court.
 - o Your small intestine has a surface area the size of a tennis court.
- You can get a missed diagnosis.
- They are looking at the flattening of the little folds of the small intestine.

Other Causes of Villous Atrophy

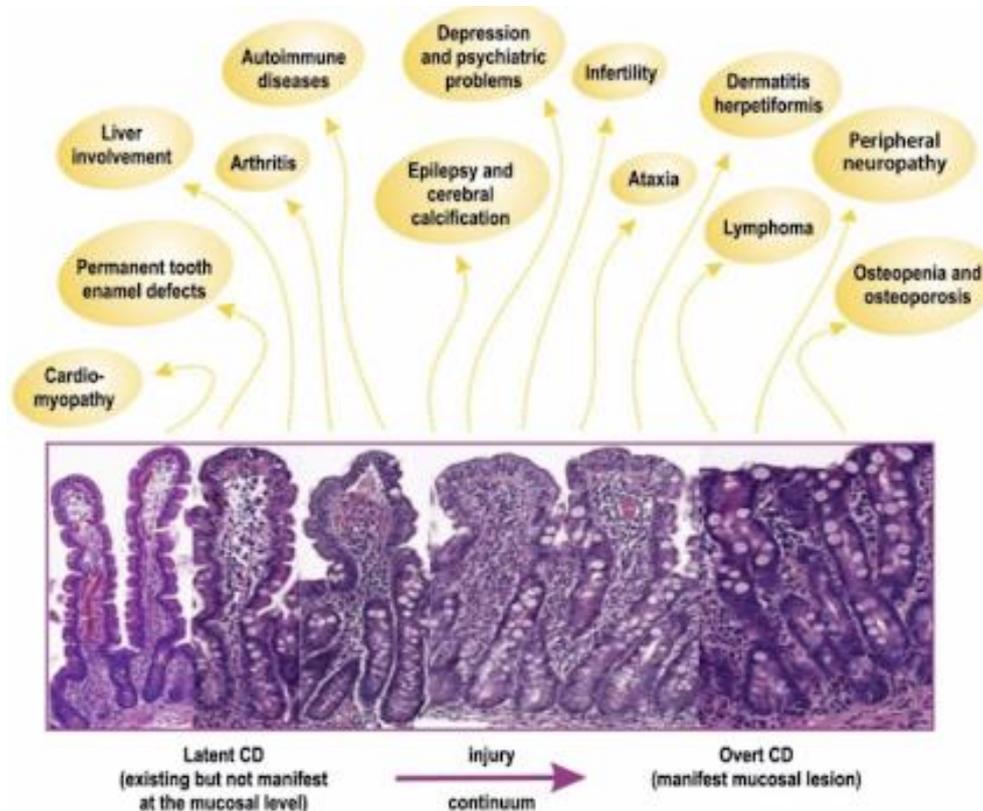
- Parasites
- Soy
- Corn
- Medication
- Having a positive biopsy does not mean that you have celiac disease.
- The biopsy is helpful, but it can be miss leading and it can give a false negative

Research Study: A person who had a negative biopsy but with a positive blood work. The blood work of the antibodies is an important tool in the investigation of celiac disease but does not correlate with the appearance of the small intestines. Patients with celiac disease serology or with positive celiac blood work but a negative biopsy increase risk of future celiac disease Published in Journal Paediatric

- They found out that celiac disease without villous atrophy in children.
- Positive blood work with a negative biopsy, you cannot rely on celiac testing only.

Lancet Neurology

- Gluten sensitivity is characterized by abnormal immunological responsiveness to ingested gluten in genetically susceptible individuals.
- Coeliac disease or gluten-sensitive enteropathy is only one aspect of a range of possible manifestations of gluten sensitivity.
- Gluten sensitivity was shown to manifest solely with neurological dysfunction.



Latent Celiac Disease - Existing but not manifest (The symptoms are there but the villi are normal)

Published Study: Liver Involvement in Celiac Disease

- If the liver is damaged and cannot detoxify well, doing a detox does not help
- The best detox for your liver is to find out what is creating the toxic burden on your liver
- A wide spectrum of liver injuries in children and adults may be related to celiac disease and in particular:
 - o Mild parenchymal damage characterized by absence of any clinical sign or symptoms suggesting a chronic liver disease and by non-specific histological changes reversible on a gluten-free diet. The mild damage to the liver that is identified in biopsy can change when the diet changes. The diet can be reversible if somebody goes into a gluten-free diet.
- A severe liver failure potentially treatable by a gluten-free diet
- Different types of liver injuries represent a spectrum of the same disorder where individual factors such as genetic predisposition, precocity, and duration of exposure to gluten may influence the reversibility of liver damage.

If you have gluten-sensitive genes and you expose them to gluten then they will react to that gluten exposure.

Bottom Line on Testing

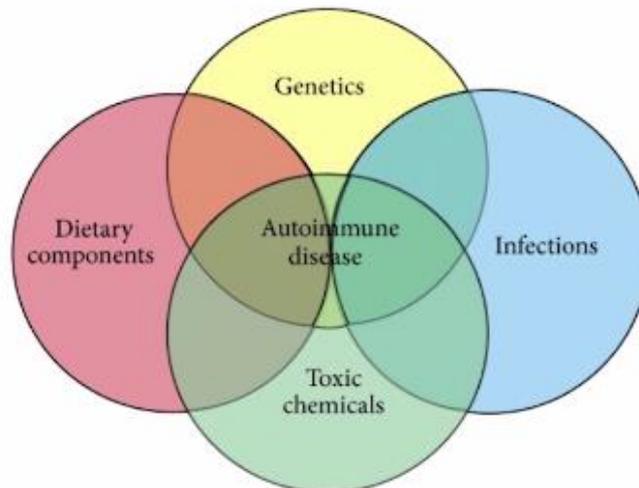
- Serum and biopsy test are geared toward trying to diagnose celiac disease.
- They are not designed to diagnose gluten sensitivity.
- They are not accurate for non-celiac gluten sensitivity or silent celiac disease.
- Physician training on nutrition is limited and nutritional issues are minimal.
- This is why so many people never get introduced to a gluten-free diet as an option for improving their health. The doctors do not understand the topic.

Communication from Dr Alessio Fasano

- *“60-70% of those who think they have celiac disease, and they seek help from his research center are actually gluten-sensitive, they do not have celiac disease”.*
- Dr Peter Green, The director of the Celiac Disease Center at Columbia University in New York
 - *“Recent studies are showing the gluten sensitivity may be much more common than previously thought. It may in fact be a separate disease entity that involves different organs and different mechanisms than celiac disease. While there is no doubt that the condition exists, the lack of definite criteria for a diagnosis has resulted in a sceptical attitude on the part of many doctors.*
 - *“The acceptance of gluten sensitivity as a valid condition had evolved”.*

Testing for celiac disease without looking for gluten sensitivity can lead to years of gluten exposure that cause inflammation, damage, and chronic disease.

Genetic Testing



Genetics can be measured to identify predisposition to the reaction to gluten

Diet- It can be changed based on genetic predisposition

Toxic Chemical- Exposure

- It can be traced, tracked, and controlled

Infections- It can be addressed

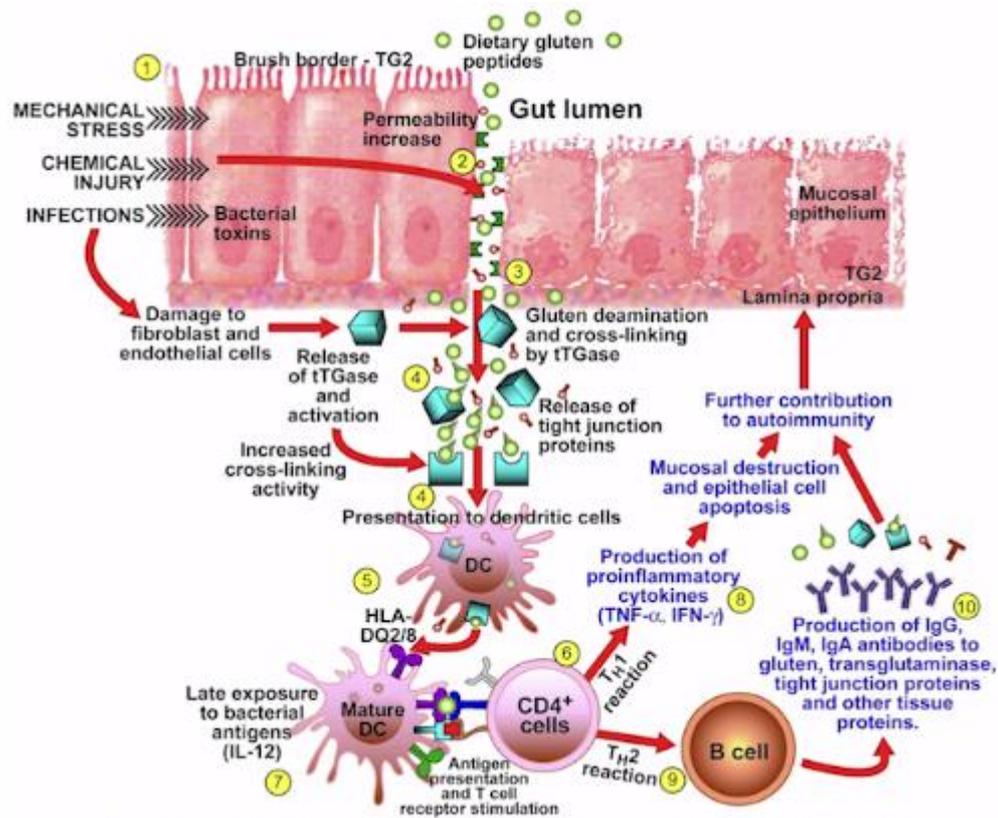
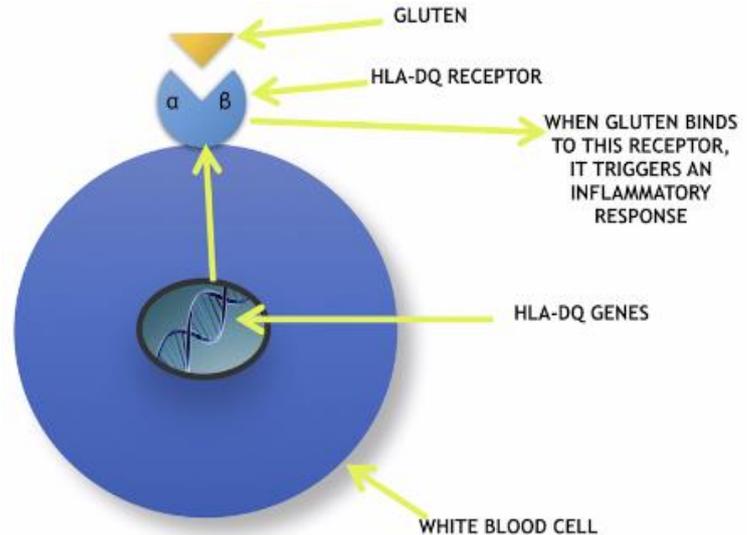
Gluten Sensitivity Genes

- Celiac Gene Patterns:

- 0505 (DQ2)
- 0501 (DQ2)
- 0301 (DQ8)
- 0201 (DQ2)
- 0202 (DQ2)
- 0302 (DQ8)

- Non-celiac Gluten Sensitivity:

- 03xx (DQ3)
- 01xx (DQ1)
- 05xx (DQ1)
- 06xx (DQ1)



- The gluten creates an injury to the lining and creates gap and leak
- Genes do not make you sick
 - Gluten sensitivity is not a disease, it is a genetic predisposition
 - Having celiac predisposition genes does not mean you have celiac disease
 - Having non-celiac gluten sensitivity does not guarantee that you will develop gluten-related diseases
 - Exposure to gluten creates the disease
 - Having these genes and subjecting them to gluten can lead to chronic inflammation, thus predisposing them to gluten-related diseases



How common is gluten sensitivity?

- Celiac disease affects 1% of the US population
- Non-celiac gluten sensitivity affects an estimated 6%

Dr Kenneth Fine M.D speculated 1/3 (33%) of the population has a degree of gluten sensitivity or intolerance.

History

- Since 1974 there was a 5-fold increase in the incidence of celiac disease

Conclusion

- During a 15-year period, celiac disease prevalence increased 5-fold overall in the US since 1974.
- 1950 – It is estimated 0.01% of the population had celiac disease.
- 1970 – It is estimated 0.03% of the population had celiac disease.
- 2010 – It is estimated 01.0% of the population had celiac disease.
- Wheat accounts for 50% of the total caloric intake in industrialized countries
 - The consumption of wheat has gone up since 1950.

Genetic Screening

- Increased prevalence and mortality in undiagnosed celiac disease
- During the 45 years of follow-up, undiagnosed CD was associated with a nearly 4-fold increased risk of death.