

Non-Celiac Gluten Sensitivity vs Celiac Disease vs Wheat Allergy¹

1 Non-Celiac Gluten Sensitivity (NCGS) resembles the gastrointestinal (GI) symptoms of celiac disease (CD) but not by the appearance of autoantibodies and persisting damage to the small intestine

2 There are also non-GI symptoms that are not distinguishable between NCGS, CD, and wheat allergy (WA)

3 Some symptoms of CD include: diarrhea, constipation, bloating, vomiting, gas, fertility issues, short stature, anemia, fatigue, osteopenia or osteoporosis, eczema/dermatitis herpetiformis, and neurological symptoms

4 First step in diagnosing NCGS is to rule out WA and CD

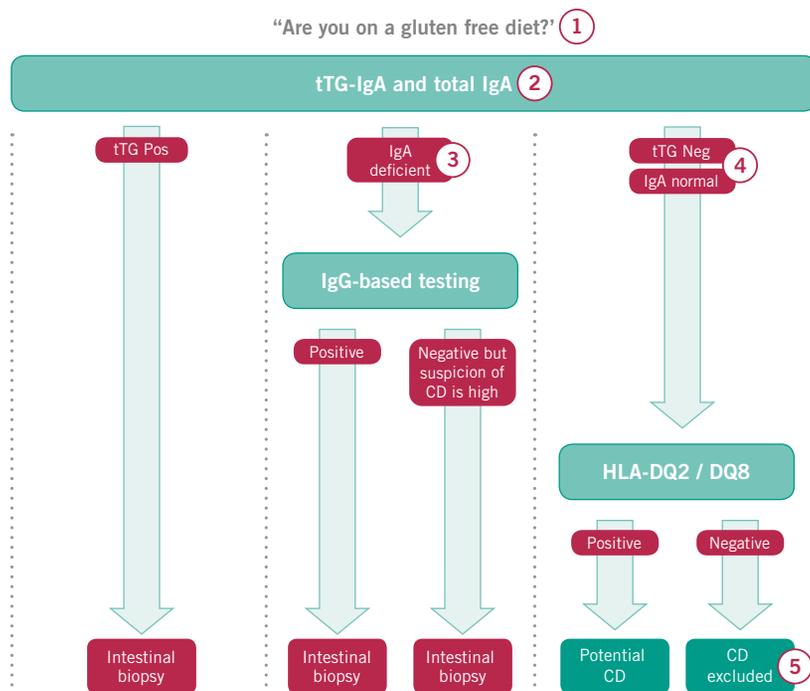
5 CD and WA are mediated by the immune system

6 NCGS diagnosis is made by the double-blind placebo controlled gluten challenge (8 mg/day)

Step 1: Determine if it is Celiac Disease^{1,3,4}

Step 2: Determine if it is a Wheat Allergy¹⁻³

Algorithm For the Diagnosis Of Celiac Disease



① Ask if the patient is already on a gluten free diet. For the serological test to work, patient must be consuming gluten

② Check for serological marker tTG-IgA. If the test is positive, a biopsy should be performed

③ For patients that have an IgA deficiency, IgG-based testing (IgG DGPs or IgG tTG) should be performed. If the test is positive, a biopsy should be performed. If the suspicion of CD is high, biopsy should be pursued even if serology is negative

④ When the serological markers are negative (after verifying that there is no IgA deficiency), investigate HLA DQ2/8 genes. Could be useful, because absence of these genes excludes CD, but positive test results prove inconclusive.

⑤ If CD is excluded, further testing is necessary to determine if it is NCGS or wheat allergy.

⑥ If a patient tests positive for CD, then all immediate family members should be screened for CD regardless of symptoms

tTG-IgA= tissue transglutaminase immunoglobulin A, tTG-IgG= tissue transglutaminase immunoglobulin G, HLA-DQ2= human leukocyte antigen DQ2 gene, HLA-DQ8= human leukocyte antigen DQ8 gene



Allergy skin test



Challenge with wheat (IgE mediated)



If WA confirmed, next step is to see an a registered dietitian (RD)



If WA excluded, can move on to determine if it is NCGS

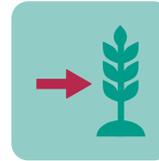
Step 3: If Celiac Disease and Wheat Allergy Are Ruled Out^{1,2}



If WA and CD have been excluded, will need to determine if it is NCGS



Patients go through a gluten free diet and open challenge with gluten



If NCGS ruled out, need to consider other diagnosis



If confirmed, next step is to see an RD

Irritable Bowel Syndrome (IBS)³

IBS is a common intestinal disorder with symptoms that may include abdominal pain, bloating, gas, diarrhea, and/or constipation. IBS-like complaints are often part of the non-celiac gluten sensitivity (NCGS) clinical picture. Symptoms may include gastrointestinal symptoms but overall NCGS symptoms vary widely.

A positive diagnosis of IBS is based on clinical features outlined by the Rome IV criteria. The criteria categorizes IBS according to the predominant symptom: IBS-D (diarrhea dominant), IBS-C (constipation dominant), and IBS-M (alternate diarrhea and constipation).⁵

Based on current evidence, a gluten free diet may lead to symptomatic improvement for IBS-D sufferers in particular.³



Keep in mind^{1,2,4}

The basis of dietary management for WA, CD, and NCGS is excluding gluten to a varying degree from the diet.

The strict avoidance of gluten-containing food generally leads to quick regression of signs and symptoms in patients with NCGS.

In CD, the only treatment option is to avoid gluten for life as there are currently no medications that can reliably and safely prevent the mucosal damage caused by exposure to gluten.

Many foods are already naturally gluten free: meat, fish, poultry, oils, eggs, legumes, vegetables, fruit, some dairy products and grains such as quinoa, millet, and rice.

Gluten free products can be found in supermarkets, health food stores, and online. Gluten free may not necessarily mean the complete absence of gluten. In the United States, products labeled as gluten free may have a maximum of 20 parts per million (ppm) of gluten.

For dietary management of WA, CD, or NCGS, encourage your patients to make an appointment with a RD.

