

Non-Celiac Gluten Sensitivity Protocol

Clinical Protocol to Support Gut-Associated Immune Responses*



The Pathophysiology of Non-Celiac Gluten Sensitivity

Non-celiac gluten sensitivity (NCGS) is a heightened immunological response to ingested gluten-containing foods in genetically susceptible individuals without celiac disease and wheat allergy. The most common intestinal manifestations include bloating, abdominal pain, diarrhea, nausea, and reflux.¹ Extraintestinal manifestations of NCGS can occur with or without gastrointestinal (GI) involvement (i.e., weakness, cramps/tetany, bone pain, myopathy, osteopenia/osteoporosis, depression, anxiety, paresthesia, peripheral neuropathy, cerebellar degeneration, brain atrophy, cerebellar ataxia).^{1,2} The clinical manifestations of NCGS can appear hours or days after ingesting gluten-containing foods.¹

The exact pathogenesis of NCGS remains unknown. However, evidence suggests the role of intestinal inflammation, intestinal barrier dysfunction, intestinal dysbiosis, and the heightened activation of the innate and adaptive immune systems in its pathogenesis.¹ Current research suggests that wheat components other than gluten may also act as triggers for NCGS clinical manifestations, including fermentable oligo-, di-, and monosaccharides, and polyols (FODMAPs) and amylase and trypsin inhibitors (ATIs), either individually or in combination.^{3,4} (ATIs are a group of proteins found in the endosperm of all cereal seeds, such as wheat, barley, rice, maize, millet, and rye.⁵) Consequently, the term “non-celiac wheat sensitivity” has been of interest, and the effectiveness of certain dietary restrictions to support those with NCGS (such as the gluten-free or low-FODMAP diet) may vary per person.^{1,3,4}

This clinical protocol is designed to support individuals with NCGS through evidence-based lifestyle, dietary, and nutrient interventions to support GI health and balanced immune responses.*

Diagnostic Biomarkers and Clinical Indicators of Non-Celiac Gluten Sensitivity

- **GI Spotlight** (includes total serum secretory immunoglobulin A [sIgA], anti-gliadin sIgA, and zonulin).
- Exclude the diagnosis of celiac disease or wheat allergy.^{1,6}
 - Serum immunoglobulin A (IgA) and immunoglobulin G (IgG) anti-gliadin antibodies (AGA)
 - Intestinal Permeability Screen (Serum Antibody Testing)
- Gluten-Associated Cross-Reactive Foods and Food Sensitivity (Serum)
- Wheat/Gluten Peptide Testing/Reactivity (Serum)
- Intestinal (duodenal) biopsy

Therapeutic Diet and Nutritional Considerations

- Avoiding or limiting gluten may be a necessary component of the treatment plan for patients. Clinicians should assess the individualized gluten tolerance threshold of patients.¹ Some researchers suggest a gluten re-challenge after one to two years following a gluten-free diet.^{1,7}
- Choose whole foods over gluten-free replacement products, as a gluten-free diet is typically associated with decreased fiber, iron, folate, and zinc intake.¹ Suggest polyphenol-rich foods, such as spices, legumes, fruits, and vegetables, as they can promote balanced immune responses and hold antioxidant and anti-inflammatory properties that may support those with NCGS.⁷ In vitro studies suggest polyphenols can form gliadin-polyphenol complexes that may help to sequester gluten from interacting with the intestinal mucosa.⁷
- A gluten-free diet alone may not be the most comprehensive treatment for NCGS if the patient’s triggers involve FODMAPs or ATIs in wheat-containing foods. Educate the patient on following a whole foods low-FODMAP or low-ATI diet, mitigating suboptimal intake of antioxidants, prebiotics, and micronutrients typically associated with these diets.¹

Lifestyle Interventions

- At this time, there are no pharmacological therapies for gluten-reactive conditions.
- Recommend patients use the Well World™ Condition Tracker to monitor food triggers and responses.
- A gluten-free diet alone may not resolve inflammation and increased intestinal permeability, which can take months or more. Educate the patient on lifestyle factors that help promote healthy inflammatory responses and proper intestinal barrier function:
 - Promote a healthy sleep pattern, as sleep fragmentation and short sleep duration are associated with GI dysbiosis.⁸
 - Advise patients on stress relief strategies, as chronic stress is associated with alterations in the gut-brain axis, including altering GI motility and the microbiome.⁹
 - Recommend a balanced physical activity routine.¹⁰
 - Provide resources for smoking cessation.¹¹
 - Recommend reducing or eliminating alcohol intake.¹²

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners (“Practitioners”). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.



Supplement Protocol

Primary Support:



AllerGzyme™

Dose	1 capsule three times a day with meals	Duration	Ongoing as needed
Formula Highlights	AllerGzyme™ is a synergistic combination of enzymes that break down hard-to-digest proteins, such as gluten.* This product is designed for individuals with milder sensitivities and intolerances who experience unpleasant symptoms after consuming gluten-containing foods.* It may also minimize the adverse effects of occasional consumption of dairy, soy, egg, whey, casein, almond, peanut, rice, pea, and fish proteins in individuals sensitive to them.*		

Digestzymes™

Dose	2 capsules with breakfast and 2 capsules with dinner (4 capsules per day)	Duration	Ongoing as needed
Formula Highlights	Digestzymes™ comprises a proprietary blend of digestive enzymes and betaine hydrochloride (HCl) to support the optimal digestion of proteins, fats, and carbohydrates.* This product contains the special protease dipeptidyl peptidase IV (DPP IV), which aids in the breakdown of the peptide gluteomorphin (from gluten).* The use of Digestzymes™ before meals may be helpful for patients who experience gas and bloating after eating, occasional constipation, or a feeling of fullness after eating only a small quantity of food.*		

IgGI Shield™ powder or capsules

Dose	1 scoop or 4 capsules per day	Duration	Ongoing as needed
Formula Highlights	IgGI Shield™ combines ImmunoLin® and N-acetyl-D-glucosamine (NAG) to support gut and immune health by promoting healthy intestinal barrier function, balanced immune and inflammatory responses, and the normal clearance of microbes and toxins from the gastrointestinal (GI) tract.* ImmunoLin®, a dairy-free, serum-derived bovine immunoglobulin (SBI) concentrate, is the only purified source of immunoglobulin G (IgG) available as a dietary supplement.* Immunoglobulins support optimal immune function at the gut and systemic levels.* NAG complements ImmunoLin® by helping to maintain the integrity of the GI tract's mucosal barrier and further supporting immune health.* IgGI Shield™ is available as capsules or an unflavored powder.		

Secondary Support:

GI Revive®

Dose	1 scoop daily	Duration	Ongoing as needed
Formula Highlights	GI Revive® is formulated with specific amino acids, a botanical blend, and minerals to offer comprehensive support for GI health and function.* The ingredients in this formula support healthy intestinal function by coating and soothing the GI lining and promoting the body's natural GI repair process.*		

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---non-celiac-gluten-sensitivity-protocol-references>

Dosing recommendations are given for typical use based on an average 150-pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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