

Celiac Disease Protocol

Clinical Protocol to Support Gastrointestinal and Immune Health*



The Pathophysiology of Celiac Disease

Celiac disease (CD), or gluten-sensitive enteropathy, is characterized by a heightened immunological response of the small intestine to ingested gluten-containing foods and related proteins in genetically predisposed individuals.¹ Celiac disease is often diagnosed in childhood. However, it may take 6 to 10 years before a formal diagnosis is given.² Symptoms of CD span a continuum, ranging from common gastrointestinal (GI) to extraintestinal manifestations. Common GI signs of CD include bulky, foul-smelling diarrhea that floats due to steatorrhea. Additionally, due to complications from malabsorption, symptoms of weight loss, anemia, vitamin deficiencies, osteopenia, and neurologic disorders may present. Extraintestinal manifestations include dermatitis herpetiformis, atrophic glossitis, iron deficiency anemia, and peripheral neuropathies.³⁻⁷

The pathogenesis of CD involves a genetic and immune component. Compared to the general population, approximately 98% of individuals with CD have the human leukocyte antigen (HLA) DR3-DQ2 or DR4-DQ8 gene locus.⁸ Building on this genetic predisposition, the immune response is triggered by the interaction between gluten-derived peptides, like gliadin, and the host's immune system.⁹ In response to gliadin's incomplete digestion, tissue transglutaminase (tTg) is released by endothelial cells, which converts glutamine residues (found in gliadin) into glutamic acid, creating a high-affinity binding potential between gluten peptides and HLA-DQ2 and -DQ8 on antigen-presenting cells.¹⁰ This immunopeptide complex can stimulate T-cell activation, driving an inflammatory response that disrupts normal epithelial barrier integrity, drives intestinal villi destruction, and is a contributing factor in the clinical manifestations of CD.^{11,12}

This clinical protocol is designed to support individuals with celiac disease by promoting healthy immune and inflammatory responses and supporting mucosal health and barrier integrity through evidence-based lifestyle, dietary, and nutrient interventions.*

Diagnostic Biomarkers and Clinical Indicators of Celiac Disease^{13,14}

All testing for CD should ideally be performed while patients are on a gluten-containing diet.

• Serologic testing, including:

- Total IgA
- Anti-tissue transglutaminase antibodies (tTg, tTg-immunoglobulin A; tTg-IgA, tTg-IgG), anti-endomysial antibody (EMA-IgA)
- Antigliadin antibody (AGA-IgA, AGA-IgG), deamidated gliadin peptide ((DGP)-IgA, DGP-IgG)
- Omega-6/Omega-3 ratio¹⁵

- Biopsy: Multiple biopsies of the small intestine at the level of the duodenum (one or two from the bulb and four from the distal duodenum) with Marsh classification
- Human leukocyte antigen (HLA) testing: DQ2 or DQ8
- [GI Spotlight](#) (includes markers for microbiome keystone diversity, inflammatory dysbiosis, digestive insufficiency, zonulin, anti-gliadin, and immune response/tolerance markers).
- [GI MAP - Microbial Assay Plus](#) (includes markers for bacterial presence, including *H. pylori* and its virulence factors, which have been reported in CD patients).¹⁶

Therapeutic Diet and Nutritional Considerations

- The only effective therapeutic dietary recommendation for celiac disease is adherence to a 100% gluten-free diet.¹⁷ Gluten-free grain consumption, including oats, may be encouraged to support the nutritional density of a gluten-free diet.¹⁸ Other gluten-free options include amaranth, buckwheat, millet, quinoa, and sorghum.
- Assessing sensitivities or intolerances to lactose, eggs, and soy may relieve persisting GI symptoms.¹⁶
- Support your patients with a nutrient-dense, gluten-free diet that promotes the optimal status of common nutrient deficiencies, as seen in

those with CD: folate; vitamins B6, B12, A, E, D, and K; magnesium; iron; and zinc, are common.¹⁹ A nutrition professional who can help patients structure a nutrient-adequate diet to support microbial balance, mucosal health, and nutrient status is recommended.^{20,21,22-24}

- Research suggests that omega-3 fatty acids may influence the function of CD4+ T cells, which play a prominent role in the immune response associated with CD.^{25,26} Examples include fatty fish, such as salmon, sardines, anchovies, and mackerel.

Lifestyle Interventions

- Educate patients on a healthy sleep pattern, as sleep fragmentation and short sleep duration are associated with GI dysbiosis.^{27,28}
- Advise patients on stress relief strategies, as chronic stress is common in CD and associated with alterations in the gut-brain axis, including altering the GI microbiome.^{29,30}
- Self-compassion training may help support adherence to a gluten-free diet.³¹

- Advise patients on the benefits of exercise. For example, high-intensity interval training programs may support quality of life for individuals with CD.³²
- Recommend reducing or eliminating alcohol intake, especially wheat-based alcohols.³³

Supplement Protocol

Primary Support:



ImmunoMod-A™	IgGI Shield™ powder or capsules	AllerGzyme™	Vitamin D Supreme
Dose 4 capsules per day	Dose Powder: Mix 1 scoop in water or other liquid Capsules: Take 4 capsules per day	Dose 1 capsule three times a day with meals	Dose 1 capsule per day, or more
Duration Ongoing, as needed	Duration Ongoing, as needed	Duration Ongoing, as needed	Duration Ongoing, as needed
Formula Highlights ImmunoMod-A™ combines N-acetyl-D-glucosamine, curcuminoids, and ParActin®, an extract of the <i>Andrographis paniculata</i> herb, to support healthy inflammatory and immune responses.* Together, these ingredients help support the proper expression of nuclear factor-kappa β and its related downstream cytokines to help maintain a healthy, balanced immune response, which may be clinically relevant for individuals with CD. ³⁴	Formula Highlights IgGI Shield™, available in powder or capsule form, 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 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.*	Formula Highlights AllerGzyme™ is a synergistic combination of enzymes that break down hard-to-digest proteins.* It is important to note that this product is not intended to allow or encourage gluten intake for those with CD.* This is designed to support hard-to-digest proteins such as dairy, soy, egg, whey, casein, almond, peanut, rice, pea, and fish proteins, which individuals with CD may be more sensitive to. ¹⁴ This product is intended to support individuals with milder sensitivities and intolerances and who experience unpleasant symptoms after indulging in the above-mentioned foods.*	Formula Highlights Vitamin D Supreme provides a clinically useful amount of vitamin D3 (5,000 IU per capsule), vitamins K1 and K2 (as MK-4), and geranylgeraniol (GG), a substance produced naturally in the body, to help maintain the immune system in proper balance.* This formula contains a high targeted amount of vitamin D for situations where more aggressive repletion is required, such as in conditions that may lead to malabsorption.* Vitamins D and K work synergistically; thus, increasing vitamin D increases the need for vitamin K.*

Secondary Support:



EssentiaGreens™ and Reds	GI Revive® capsules or powder
Dose 1 scoop per day in 8 oz of water or liquid of choice	Dose Powder: 1 tablespoon per day on an empty stomach Capsules: 7 capsules per day on an empty stomach
Duration Ongoing, as needed	Duration Ongoing, as needed
Formula Highlights EssentiaGreens™ and Reds is a daily superfood powder blend that may help fill in potential nutrient gaps, which may be clinically relevant for patients with CD.* It combines powerhouse ingredients, including a proprietary blend of greens, fruits, and vegetables to support nutrient and prebiotic status.* EssentiaGreens™ and Reds contains a unique grape seed and skin extract with a high oxygen radical absorbance capacity (ORAC) score to help support antioxidant status.* Plus, the Strawberry Kiwi and Unflavored options feature digestive enzymes for more GI support.* It contains zero grams of added sugar and is made without fillers, bulking agents, dairy, soy, grains, legumes, alfalfa, gluten, or artificial sweeteners, which may be supportive to those with CD.*	Formula Highlights GI Revive® is a synergistic formula offering comprehensive support for optimal gastrointestinal 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.* It also features ingredients to promote intestinal regularity.* Gut-supportive ingredients like glutamine, slippery elm, and marshmallow may promote intestinal barrier integrity.*

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

<https://www.designsforhealth.com/api/library-assets/literature-reference---celiac-disease-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.

Well World™ and *Designs for Health* and logo are trademarks of Designs for Health, Inc. © 2025 Designs for Health, Inc. All rights reserved.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.