



— Celiac Support —

COMPREHENSIVE GUT HEALTH

GLUTEN FREE

SUPPORT FOR INTESTINAL WELLNESS

Glutamine • N-Acetyl Glucosamine • Marshmallow

PIONEER® *Comprehensive Gut Health* is intended to provide nutritive support for the health of the gastrointestinal system.

Research has estimated 43% of the U.S. population suffers with common gastrointestinal disorders (1). Some of the most common gastrointestinal symptoms are abdominal gas, bloating and pain as well as irregularity. People with gluten intolerance or sensitivity are even more prone to these unpleasant feelings. Chronic intestinal irritation can lead to intestinal permeability or “leaky gut syndrome.” When we are in a state of chronic gastrointestinal irritation and permeability, inflammation can occur leading to disruptions in many systems of the body including the skin, joints, sinuses, immune and neurological systems. Healing the gut, especially the intestines, is one of the primary keys to improving overall health.

Stress, dietary imbalances and genetic susceptibility are major components in the development gastrointestinal irritation. As we continue to be confronted with a stressful world and with many unknowns in our food supply, the number of people with gastrointestinal imbalances rises.

While we can't control all the factors that can lead to gastrointestinal disruptions, we can begin some health promoting interventions such as a good diet, stress reduction, exercise, and several key nutrients and botanical extracts that are described below.

CONSIDER THESE PIONEER® ADVANTAGES:

1. **Glutamine: Fuel for the small intestine.**

Glutamine is the primary fuel source for cells lining the small intestine. It is essential for maintaining intestinal function and can be depleted when the body is under stress. Glutamine is the most abundant free amino acid in the body. Tissues that require glutamine include the gastrointestinal tract, immune system, kidneys, and liver. Glutamine is essential for maintaining intestinal function, immune response, and amino acid homeostasis during times of stress, and can be considered a conditionally essential amino acid. The intestinal mucosa can synthesize glutamine, but not enough to compensate for the body's needs during times of stress. There is some evidence suggesting that glutamine, in addition to serving as a metabolic fuel for enterocytes, might play a regulatory role in the intestine, affecting cell proliferation and differentiation. The gastrointestinal tract is one of the largest utilizers of glutamine in the body. If the body is glutamine depleted, significant damage to the intestinal epithelium can occur.

2. **N-Acetyl Glucosamine: Glycoprotein support.**

N-Acetyl Glucosamine (NAG) nutritionally supports the intestinal mucosa's protective glycoprotein cover. NAG calms the intestinal tract of those with gastrointestinal irritation. NAG is necessary for the body to produce glycoproteins, glycolipids, and mucopolysaccharides; these are important carbohydrate-containing compounds found in mucous membranes and many other tissues. In cases of intestinal irritation, N-acetylation of glucosamine is often deficient, reducing the synthesis of the gastric and intestinal mucosa's protective glycoprotein (mucin) cover. NAG supplementation may help remedy this deficiency and help restore healthy mucin levels.

3. **Deglycyrrhizinated Licorice** is a demulcent herb which is soothing and healing to the lining of the stomach and small intestine. *Deglycyrrhizinated licorice* (DGL) calms gut irritation via its soothing demulcent action and flavonoid ingredients. Licorice is a well recognized herb that has been used for thousands of years in traditional European and Asian medicine for calming gut irritation. There are several mechanisms by which DGL improves the health of the gut. DGL increases the blood supply to the damaged mucosa, increases the number of mucous producing cells, enhances their mucin production capacity of these cells which in turn protects the intestinal epithelium, and extends the life span of intestinal cells.

4. **Marshmallow** is a demulcent herb that contains mucilage polysaccharides that soothe and protect mucous membranes from local irritation by forming a protective layer. *Marshmallow* has long been used in traditional herbalism for its gut healing properties.

5. **Mucin** is the carbohydrate-rich, glycoprotein complex that is the backbone of the intestinal tract's protective cover. *Mucin* contains sialic acid, N-acetylglucosamine and several glycoprotein components that are thought to be largely responsible for the viscous and elastic characteristics of the gut's protective glycoprotein cover. Alterations in intestinal mucin composition and content have been reported in individuals with chronic intestinal irritation.

6. **Quercetin** is a flavonoid which calms the immune system and supports the connective tissue of the gastrointestinal tract. *Quercetin* calms the immune system by stabilizing immune cell membranes (thereby preventing their degranulation and release of histamine), modulating the migration and infiltration of immune cells to tissues, and by modulating the body's production of immune cell messengers that lead to inflammation.

7. **Vitamin A** is required for the integrity of mucosal and epithelial surfaces of the stomach and intestines, normal immune function of the intestinal tract, normal cell proliferation and differentiation, and the production of healthy mucopolysaccharides. People with gluten intolerance or other chronic intestinal irritation may be deficient in *vitamin A*. Maintaining adequate vitamin A levels allows for the growth and repair of the cells lining the gastrointestinal tract.

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8. Verified Gluten-Free

Like all PIONEER® formulas, *Comprehensive Gut Health* is made with strictly gluten-free raw ingredients and every batch of finished product is laboratory tested to below the low detectable limit of 10 ppm gluten/gliadin proteins.

Serving Size 6 Vegetarian Capsules Bottles of 120 Vegetarian Capsules	AMOUNT PER SERVING	%DV
Calories	15	
Total Carbohydrate	2 g	<1%†
Dietary Fiber	<1 g	<1%†
Sugars	1 g	
Vitamin A (as palmitate from fish oil)	2,500 IU	50%
L-Glutamine	2000 mg	*
N-Acetyl D-Glucosamine (shellfish)	1000 mg	*
Deglycyrrhizinated Licorice Root Ext (Glycyrrhiza glabra) (4:1 concentrate)	330 mg	*
Marshmallow (Althaea officinalis) Root Ext (4:1 concentrate)	300 mg	*
Mucin	300 mg	*
Quercetin	300 mg	*

† Percent Daily Value based on a 2,000 calorie diet. *Daily Value (DV) not established.

Other ingredients: vegetarian capsule (cellulose), maltodextrin (carrier), gum arabic (carrier), vegetable magnesium stearate, silica. 09.09

NOTE: Some ingredient details may be abbreviated on actual product labels.

For more information or to
request additional copies:
800.247.6505
www.pioneernutritional.com

