

Comprehensive Formula Supports Intestinal Barrier and Healthy Microflora

Leaky Gut: A Breakdown in the Gastrointestinal Barrier

Increased intestinal permeability, hyperpermeable gut and leaky gut syndrome are terms used to describe gastrointestinal barrier breakdown. Normally the lining of the small intestine allows absorption of nutrients while providing a barrier to keep out undesirable molecules. When that barrier breaks down larger molecules and a greater number of pathogens and antigens seep through into systemic circulation, placing an added burden on the detoxification pathways of the liver.

When the body is overwhelmed by more foreign substances than it can effectively detoxify, toxins accumulate, resulting in a variety of reactions and symptoms throughout the body.⁽¹⁾ Leaky gut has been associated with:

- Food allergies and associated conditions⁽⁵⁾
- Crohn's disease⁽⁵⁾
- Ulcerative colitis⁽⁵⁾
- Irritable bowel syndrome⁽⁵⁾
- Inflammatory joint disease. This association was recognized as far back as the ancient Indian text of Ayurvedic medicine.⁽²⁾

Friendly Microflora Promote Health throughout the Body

Lactobacillus species and bifidobacterium are major components of healthy intestinal microflora. Studies indicate that bifidobacteria are the most important of these beneficial bacteria, composing up to 25% of the intestinal microflora. In addition to inhibiting the growth of potentially harmful bacteria, these lactic acid bacteria synthesize vitamins (particularly B vitamins), enzymes and antimicrobial substances associated with cholesterol lowering effects, reduced risk of colon carcinogenesis and modulation of lactose intolerance.⁽¹¹⁻¹⁵⁾

Beneficial Bifidobacteria Thrive on Fructo-oligosaccharides (FOS)

Fructo-oligosaccharides are naturally occurring compounds found in many edible plants. Since these compounds are not hydrolyzed by human digestive enzymes, they are able to reach the large intestines where they are selectively utilized by beneficial intestinal microflora, particularly bifidobacteria, for proliferation and growth. Conversely, unfriendly bacteria such as *Clostridium perfringens*, *Escherichia coli* and others are unable to utilize FOS.⁽¹²⁾

In a study of 23 elderly patients, oral administration of 8 grams of FOS daily resulted in a tenfold in-

(over)

PROBIOTIC MPF™

Comprehensive Nutritional Support Formula for Gastrointestinal Health

Product No. 998 Fill Size: 90 Capsules

Each capsule contains:

Multidophilus (supplying 1.26 billion Lactobacillus Acidophilus and 1.25 billion Bifido Longum) - - - - - 250 mg.
Fructo-oligosaccharides (Raftilose®) - - - - - 150 mg.
N-Acetyl Glucosamine - - - - - 100 mg.
L-Glutamine - - - - - 50 mg.
L-Threonine - - - - - 50 mg.
Gamma Oryzanol - - - - - 50 mg.
Quercetin - - - - - 25 mg.
Duodenal Concentrate (porcine) - - - - - 10 mg.
Zinc (as zinc amino acid chelate) - - - - - 5 mg.

Other Ingredients: magnesium stearate, gelatin.

Raftilose® is a registered trademark of ORAFI Active Food Ingredients.

Suggested Use: One capsule 3 times daily.

Changes in intestinal permeability can result from:

- Irritation of the gut lining.⁽³⁾ Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen and aspirin irritate the intestinal lining.^(1,4)
- Overgrowth or imbalance of intestinal flora.⁽³⁾
- Chronic nutritional insufficiency.⁽³⁾
- Exposure to circulating bacterial toxins.⁽³⁾

crease in fecal bifidobacteria. Other benefits included improved intestinal microflora, stool consistency, lipid metabolism, and decreased formation of putrefactive products in the large intestines.^(11,14)

Other researchers have confirmed these findings and have also reported lowered fecal pH (which inhibits the growth of pathogenic organisms), reductions in serum cholesterol, triglycerides, indole, B-glucuronidase, azoreductase, and blood pressure. Relief of constipation has also been reported, as well as a suppressive effect on the development of hepatic tumors.^(14,15)

Since it is not metabolized, FOS can be safely used by diabetic and obese patients. In fact, a study of the effects of FOS in non-insulin dependent diabetics concluded that daily supplementation improved derangements of carbohydrate and lipid metabolism, resulting in a reduction in fasting blood glucose and cholesterol levels.⁽¹⁵⁾

Friendly and Unfriendly Bacteria...

The Key Is Balance

Over 400 distinct species of micro-organisms inhabit the human digestive tract. Both beneficial (friendly) bacteria and potentially harmful (unfriendly) bacteria inhabit the intestinal tract simultaneously, enjoy-

ing a complex symbiotic relationship. In many cases, both friendly and unfriendly bacteria, contribute to overall function and health of the host.⁽¹¹⁾ When the balance of beneficial and potentially harmful bacteria is stable, the intestines function smoothly and healthful conditions prevail. When the balance is disturbed and the ratio of friendly to unfriendly bacteria drops, symptoms of poor health can begin to occur:

- Chronic Fatigue
- Frequent Diarrhea
- Frequent Intestinal Gas

Nutritional Support for Gastrointestinal Mucosal Cells

Research and clinical experience indicate the necessity of certain nutrients for maintaining the integrity of gastrointestinal mucosal cells.

L-Glutamine

By far the most important nutrient for intestinal health, glutamine was actually called "intestinal permeability factor" when it was initially discovered. It is the chief source of energy for cells of the intestinal lining.⁽⁵⁾ Supplemental glutamine can also boost levels of glutathione, a potent antioxidant used in hepatic detoxification processes.

N-Acetyl-Glucosamine

N-Acetyl-Glucosamine (NAG) belongs to a class of compounds called amino sugars. In the intestines, amino sugars form the protective mucous layer and cellular cement that regulate intestinal permeability. Amino sugars are an integral part of cell membranes and the interstitial tissue that holds cells together.⁽⁷⁾

Threonine

The essential amino acid, threonine, helps maintain proper protein balance in the body. When combined with aspartic acid and methionine, it aids liver and lipotropic function, helping to prevent fatty buildup in the liver.⁽⁶⁾

Gamma Oryzanol

In a review of 23 research studies using gamma oryzanol, an extract of rice bran oil, therapeutic im-

- Poor Immune Response
- Chronic Bladder Infections
- Chronic Vaginal Infections
- Candida Infections
- Allergies
- Skin Conditions
- Rapid Onset of Osteoporosis
- Elevated Cholesterol Levels
- B Vitamin Deficiencies
- Sensitivity to Dairy Products
- Menstrual Complaints
- Chronic Bad Breath and Body Odor

provement was seen in 85%-90% in a broad range of gastrointestinal disorders including stress-induced gastric and duodenal ulcers.⁽⁸⁾

Quercetin

In animal studies, the bioflavonoid quercetin showed a protective effect against mucosal injury from absolute ethanol. Quercetin treated animals had a significant increase in mucus production with a parallel reduction of gastric lesions.⁽¹⁶⁾

Duodenum Concentrate

As early as 1945, clinical trials showed effective oral use of duodenum concentrates in patients with ulcerative colitis, peptic and duodenal ulcers. This natural therapy is free from side effects of traditional medications.⁽¹⁶⁾

Zinc

More than 200 enzymes require zinc, including those involved in the production of DNA and RNA and at least 25 enzymes involved in digestion and metabolism.⁽⁹⁾ Supplementary zinc is reported to dramatically accelerate wound healing, particularly gastric ulcers.⁽¹⁰⁾

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