Leaky Gut Syndrome

Managing a Cascade of Health Consequences

A pathological increase in the permeability of the intestinal mucosa is sometimes referred to as "Leaky Gut Syndrome". The Leaky Gut Syndrome hypothesis helps elucidate the etiology and mechanisms of a wide range of systemic disorders. Conditions associated with Leaky Gut Syndrome include inflammatory bowel disease (e.g. ulcerative colitis, Crohn's disease), food allergies, certain autoimmune diseases (e.g. rheumatoid arthritis, ankylosing spondylitis, systemic lupus erythematosus), atopic and eczematous dermatitis, vasculitis, intestinal toxemia (endotoxemia), microbial translocation, joint pain and inflammation, fatigue, malabsorption and other diseases.

Under normal conditions, the intestinal mucosa is a selective barrier that allows the uptake of essential nutrients while preventing absorption of toxins, macromolecules and pathogenic organisms. Breakdown in the normal barrier function of the gut can result in increased absorption of antigenic dietary and bacterial by-products, leading to compromised immunity and increased risk of certain autoimmune and inflammatory diseases.

Numerous factors can contribute to the development of Leaky Gut Syndrome. Common causes include impaired digestion, intestinal "toxemia", dysbiosis, oxidative tissue damage and deficiencies of key mucosal nutrients.

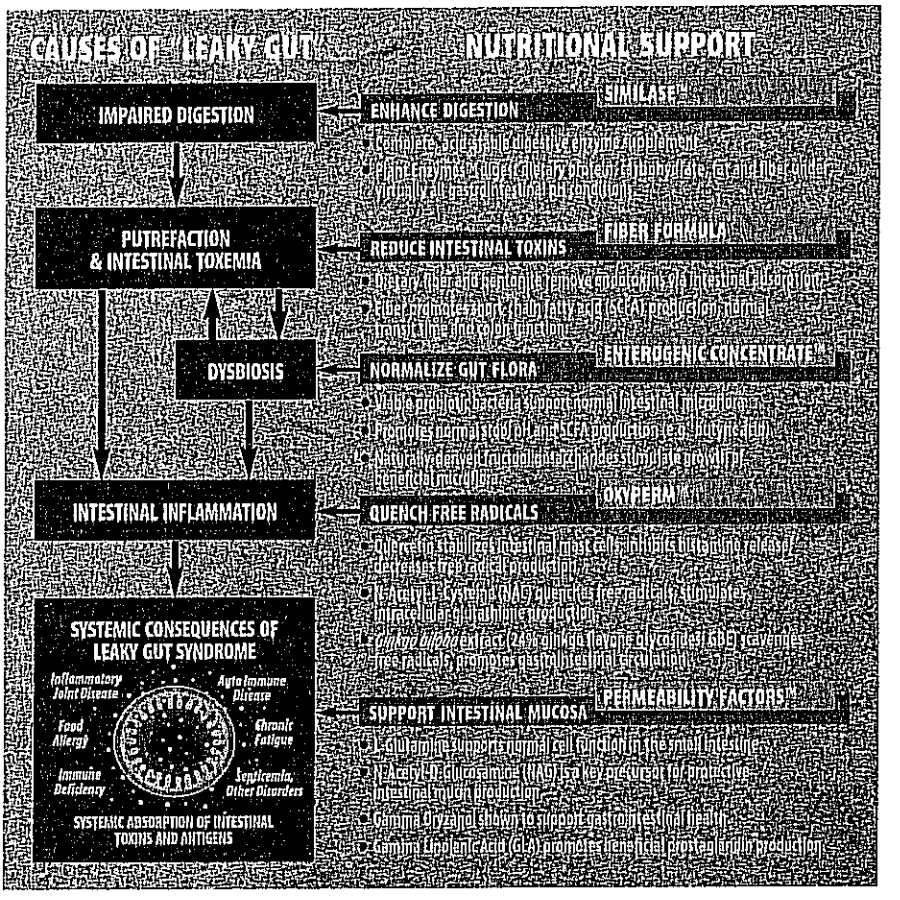
IMPAIRED DIGESTION

Functional deficiencies of digestive enzymes and imbalances in gastrointestinal pH are common causes of impaired digestion. Enzymes such as pancreatin and pepsin are pH-dependent and may be inactive in individuals with gastric or pancreatic hypofunction. Even with a wholesome, well-balanced diet, these imbalances can result in malabsorption and nutritional deficiencies.

INTESTINAL TOXEMIA & DYSBIOSIS

Impaired digestion can lead to the production of intestinal endotoxins. As poorly digested foods are fermented by gut bacteria, toxic by-products such as indole, phenol, skatole, methane, putrescine, cadaverine and hydrogen gas are produced. These toxins directly attack mucosal epithelial cells and compromise the integrity of the gut mucosa. With intestinal permeability defects, toxins produced in this manner may also be absorbed into the systemic circulation, resulting in generalized toxemia.

Intestinal endotoxins, such as phenol, can damage beneficial gut bacteria leading to chronic imbalances in intestinal microflora, or dysbiosis. Such imbalances may increase susceptibility to overgrowth by harmful microorganisms. As a result, dysbiosis may contribute to intestinal infection, mucosal inflammation and increased intestinal permeability.



INTESTINAL INFLAMMATION

Oxidative tissue damage, lipid peroxidation and compromised circulation can cause chronic gastrointestinal inflammation. These factors appear to be central to the pathogenesis of Leaky Gut Syndrome. Targeted antioxidants, aimed at reducing free radical pathology, provide important assistance by preventing inflammatory damage to the gut mucosa.

LEAKY GUT SYNDROME

Certain nutrients appear to be required for the maintenance of mucosal integrity, such as glutamine, gamma linolenic acid (GLA) and N-Acetyl-D-glucosamine (NAG). Mucosal integrity is also essential for the immune barrier function of the intestines and secretory IgA (sIgA) production. *(References available)*

For product information, research reviews, order assistance, or consultation with a staff physician, please call Tyler at **1-800-869-9705.**

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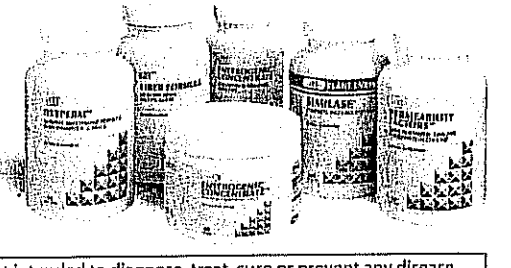
FIBER FORMULA Dietary fiber formula with Bentonite and botanical synergists.

ENTEROGENIC CONCENTRATE™ Probiotic human microflora with natural fructooligosaccharides. Contains viable strains of *L. acidophilus, B. bifidum, S. faecium,* and *B. infantis.*

OXYPERM™ "Targeted" antioxidant formula with 98% Quercetin Concentrate, NAC, 24% Ginkgo Flavone Glycosides, Beta Carotene, Poly-C buffered mineral ascorbates, Vitamin E and Selenium.

PERMEABILITY FACTORS™ Nutritional support formula with L-Glutamine, NAG, Gamma Oryzanol, GLA and Vitamin E.



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