



PROBIOTICS for LIFE!

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Probiotics literally translated means “in favor of life”. Probiotics are the friendly bacteria that normally inhabit the small and large intestine. Within the gastrointestinal (GI) system there are both “good” and “bad” bacteria and microorganisms. A healthy functioning GI tract contains a minimum of 80% “good” bacteria and other microorganisms along with less than 20% unfriendly or “bad” bacteria and other microorganisms. Imbalances in this ratio favoring the unfriendly bacteria can have a profound impact on one’s health. An optimum number of friendly bacteria can have an extremely wide range of beneficial effects including enhancing immunity, preventing the adherence of unwanted microorganisms, promotion of detoxification, improving digestion, and enhancing the bioavailability of nutrients.

The first question may be--- How does one develop an imbalance in the GI tract? Improper hygiene, water and food borne illnesses, dietary indiscretions (excess sugar and other carbohydrates) hormone changes, traveling, pregnancy, antibiotic and other pharmaceutical medications (steroidal compounds), and stress may all cause an imbalance. To prevent water and food borne illnesses, thorough hand washing is necessary. Giardea, cryptosporidium, salmonella and E. coli (some species) are examples of so called “bad” microorganisms. Hormonal changes and a variety of pharmaceutical medications can disrupt the normal flora leading to an overgrowth in yeast organisms, such as Candida albicans and Rhodotorula.

SYMPTOMS, SYMPTOMS AND MORE SYMPTOMS

Do you suffer from frequent constipation, diarrhea, gas, bloating, heartburn or other GI discomforts? Although there are many causes for these GI malfunctions, an imbalance in flora is often the root of the problem. Symptoms outside the GI tract may also be due to an overgrowth of “bad” microorganisms. Fatigue, headaches, aching in the muscles or joints, poor concentration, premenstrual syndrome, chronic infections, irritability, and learning difficulties are a partial list of possible symptoms leading to a presumptive diagnosis of dysbiosis or imbalanced flora.

BENEFITS OF PROBIOTICS



Probiotics can be used two ways. One as a preventative against a variety of bacteria, yeast and parasites, and two, as a treatment to either destroy or crowd out these organisms. What are the health benefits of consuming friendly bacteria?

1. Probiotics enhance/mediate immunity via a variety of mechanisms:
 - production of a wide array of antimicrobial compounds ☞ prevention of adherence of unfriendly organisms ☞ increasing NK cell activity (important for the body's first line defense against invading microorganisms: parasites, viruses, bacteria, and fungi)
 - Modulating cell mediated immune response (cell mediated immunity is essential to target a variety of microorganisms--- probiotics can modulate the immune system whereby preventing allergies)
 - Decreasing IgE – mediated responses (decreasing allergies)
 - Mediating against radiation-induced leukopenia
 - Increasing Secretory IgA (part of the immunity of the GI tract)

2. Promotion of detoxification by:
 - Inactivation and elimination of toxic metabolites and carcinogens (i.e. antimutagenic effects by reduction of nitrates/nitrites in beef)
 - Decreases activity of B-Glucuronidase (whereby reducing the recirculation of a variety of conjugated [bound] toxins and hormones)
 - Decreasing ammonia
 - Enhancing liver function and promoting elimination of bile acids
 - Enhancing cholesterol metabolism
 - Production of butyrate (potentially decreasing colon cancer)

3. Improving digestion, absorption and elimination by:
 - Decreasing intestinal permeability (potentially decreasing allergic and/or autoimmune conditions, improving absorption of appropriate sized molecules from food)
 - Producing digestive enzymes to help digest proteins, carbohydrates and fibers
 - Decreasing food allergies and sensitivities (i.e. decreases lactose intolerance)
 - Decreasing intestinal inflammation (therefore potentially improving absorption of nutrients)
 - Normalizing stool volume and regularity



4. Enhancing the bioavailability of nutrients by:
- Increasing the absorption of zinc, calcium, iron, copper, phosphorus, and manganese
 - Increasing the production of vitamins A, K, E (tocopherols), and several B-vitamins (B1, B1, B3, B5, B6, B12, folate, and biotin)

REBALANCING DIGESTIVE FLORA

Approximately 3 pounds of bacteria inhabit the intestines; some of these bacteria are beneficial, while others are harmful or pathogenic. Examples of beneficial bacteria include *Lactobacillus*, *(L) Acidophilus*, *Lirhamnosus*, *L. Casei*, *L. Bulgaricus*, and *Bifidobacterium Bifidum*. Certain strains or species of friendly bacteria are used for treating specific conditions or illnesses. With major imbalances in the flora of the intestines (amebic infections, pathogenic bacteria, chronic overgrowth of yeast), specific

Natural medications are typically first used based on their documented ability to destroy the unfriendly microorganism. Following Clindamycin (an antibiotic) therapy, one study found that *Candida Albicans* became an established part of the flora in 100% of control patients. Only 25% of the patients taking *Lactobacillus Acidophilus* had an imbalance of *Candida Albicans*. Some probiotics, such as *L. Rhamnosus* and soil based friendly organisms, may be appropriate to rebalance mild to moderate imbalances in the flora of the intestines.

QUALITY ASSURANCE

Choosing a good quality probiotic is essential! Bastyr University in the United States conducted a study of dozens of probiotic supplements. Independent laboratory analysis found that only 2 probiotic supplements had the number of live, viable organisms that was stated on the label. Dr. Dick Thom, ND of Beaverton, Oregon also conducted an analysis of 7 different probiotics. Four of the seven contained no live bacteria; the best supplement contained only 60% of the organisms stated on the label.

It is obvious that choosing a good quality probiotic is essential to obtain a therapeutic benefit. The following is a list of criteria to use when choosing a probiotic:

- Predominantly *L.acidophilus* and *Bifidobacterium bifidum* (unless the desired response is to first destroy an undesirable organism).
- Heat and acid stable.
- Probiotics that can be taken with meals are strongly recommended.



- The best probiotic products will be stable at room temperature and humidity, will not require refrigeration, but will benefit by and remain potent longer if refrigerated before and after purchase.
- Non-dairy probiotic for dairy sensitive individuals.
- Contain a minimum of 1 billion *L.acidophilus* for general health. For therapeutic purposes, 5-10 billion organisms are required per day.
- The product guarantees a specified amount of the probiotic.
- The company providing the product can produce results of independent laboratory analysis assuring the quantity and species of the probiotic.

It is clear that probiotics are essential for optimal health. From detoxification to balancing the immune system, probiotics are one of the most important aspects of health. To maximize the benefits of wholesome food and supplements, it is wise to first improve digestion, assimilation and elimination. Probiotic supplementation is an essential first step to an efficient digestive system. Probiotics are indeed “in favor of life”.