

Probiotics “For Life”

The term “Probiotics” comes from the Greek words “Pro” and “Biotics”, meaning “for life.” Probiotics are beneficial and necessary for life. The human intestinal track contains more than 500 species of bacteria. To maintain good health and a healthy immune system, it is critical to maintain a balance of “good bacteria” verses “bad bacteria.” A balanced ratio is 80% good bacteria and 20% bad bacteria. A condition called Dysbiosis (out of harmony) can result when the ratio is imbalanced

Dysbiosis of the Gut

Dysbiosis can result from high levels of emotional stress, chemical exposure, poor diet (high in white flour, white sugar, processed and microwave foods), overuse and extended use of antibiotics (including antibiotics found in animal proteins), birth control pills and drugs of all kinds. The use of antibiotics is the single most cause of dysbiosis in the intestinal track.

When the balance of good and bad bacteria is disturbed, the bad bacteria take over the intestinal track and repopulate. Dysbiosis results in abnormal fermentation in the small intestines, which can result in damage to the gut lining, absorption of toxic by-products into the blood stream (also known as “leaky gut syndrome”) and impaired absorption of nutrients. When the gastrointestinal (GI) system is toxic, maldigestion and malabsorption of nutrients occur. Opportunistic overgrowth of “bad bacteria” can lead an almost endless list of symptoms, such as fatigue, brain fog and all over body aches.

A pathogenic bacterium like Staphylococcus Aureus can take advantage of the void created by the imbalance or elimination of good bacteria, resulting in toxic shock syndrome or MSRA (methicillin-resistant staph). Patients who receive antibiotics for months become breeding grounds for MSRA bacteria, which has a genetic predisposition to resist drug treatments. Overgrowth of a yeast like fungus, Candida Albicans, can lead to a potentially serious condition called candidiasis, which is instrumental in triggering a range of emotional and mental symptoms, such as irritability, anxiety and depression. Allergies are causally linked to yeast overgrowth.

Research is piecing together the puzzle of autism, linking the digestive tract to the head brain. According to the Great Smokies Connection newsletter: Dr. Brudnak speculates on the following chain of events. In early childhood, sensitivity to a vaccine, or reaction to a mycobacterial infection, could disrupt pivotal molecular mechanisms that regulate how specific genes in the body switch ‘on’ or ‘off’ – what’s known as genetic expression. This may trigger malfunctioning of the immune and gastrointestinal systems, particularly in gut-associated lymphoid tissue, which Dr. Brudnak cites as ‘a major contributor to the pathological manifestation of autism.’ Restoring healthy gut flora, gut barrier functions, enzyme absorption and assimilation in autistic children has met with reasonable degree of success.

The following information was reported in the January Newsletter by www.sixwise.com: Stanford University researchers recently found that people who take probiotics after gastric bypass surgery lose weight faster than those who don’t. In fact, after three months those who took probiotics had a 48 percent weight loss, compared with 39 percent among

those who didn't. According to John Morton, MD, associate professor of surgery at Stanford as told to Science Daily:

"Bacterial overgrowth can be bad in that it changes your motility, how you empty. A lot of people aren't aware that we all carry about a lot of bacteria in our intestines and that they're extremely helpful in aiding digestion ... Part of the obesity puzzle may be due to the kind of bacteria you have in your intestine."

Researchers from Washington University in St. Louis found that obese people have more of a family of bacteria called firmicutes than do lean people. This is a type of bacteria that drastically affects the pH of the colon.

As written in the book Digestive Wellness, probiotics lower the pH of your colon and kill disease-causing microbes, produce vitamins A, B and K, protect from illness, enhance peristalsis, and make lactase for milk digestion. Probiotics also ferment dietary fiber, producing short-chained fatty acids, one of which, called butyric acid. Having low levels of butyric acid has been associated with ulcerative colitis, colon cancer, active colitis and inflammatory bowel disease.

Consider that 70% of your immune system is located in your digestive system. If your gut is overpopulated with bad bacteria, could it be your immune system is challenged and not functioning at peak performance?

Balanced Gut Flora

In order to establish a balanced ratio of gut flora (bacteria) and symbiosis, one will need to:

1. Reduce bad bacteria
2. Reestablish good bacteria

An important aspect regarding beneficial (good) bacteria involves the relationship between resident and transient strains. Resident strains are commonly found in the human gut, such as *Lactobacillus acidophilus* and *Bifidobacterium*. Transient strains are consumed in foods, such as yogurt, cultured vegetables and kefir, miso and tempeh.

Good bacteria like *Bifidobacteria*, work to lower the pH (acid/alkalinity balance) in the large intestine to a slightly more acidic condition, which discourages the growth of the bad or unfriendly bacteria. Benefits of increasing the good bacteria levels include relief of constipation or diarrhea, promotion of regularity, serum cholesterol reduction, blood sugar levels controlled, improved calcium absorption and B vitamin synthesis and reduction of toxin overload on liver.

Maintaining a balanced bacteria ratio in the gut is essential for the "brain" in the gut to function optimally. The gut lining contains approximately the same number of neurotransmitters as found in the head brain. The brain in the bowel must be operating correctly for the rest of the organs and head brain to function. Even though the gut (intestinal track) is within the body, it is independent of the body. Experimental studies have shown that when the nerves of the intestinal track connecting the brain and spinal cord are severed, digestion will still prevail.

Indigestion is often a result of dysbiosis. Probiotics are indispensable to healthy digestion because of their ability to produce enzymes including proteases, beta-galactosidase and lipase to digest proteins, sugar and fats. Acids are produced in this digestion process to support a healthy pH and enhance assimilation and absorption of nutrients.

Think of probiotics as the sheriff and his deputies in an old West town. They drive out the bad guys (from *The Consumer's Guide to Probiotics*, by S.K. Dash, Ph.D). Research has shown that probiotic formulas combined with FOS reduce levels of triglycerides. The key constituent of FOS is inulin, which reduces the activity of the liver's ability to synthesize fatty acids.

According to *Clinical Pearls*, one of the nation's premiere nutrition newsletters, there is anecdotal and clinical evidence to show that probiotics can help with detoxification, repair of gut lining and improve digestion. With large numbers of probiotic bacteria, mercury can effectively be driven toward expulsion. Many believe mercury toxicity is a key suspect related to autism.

Selection of Probiotics Supplements

For a probiotic formula to be effective, it must contain the right strains, in the right potency, be able to withstand the stomach acid, and is GRAS (generally regarded as safe). A probiotic supplement containing *Lactobacillus acidophilus* and *Bifidobacterium* with six billion live cells or more, combined with the prebiotics of FOS and inulin, is recommended daily, just before meals or between meals for maintenance. Refrigerate probiotic supplements to maintain viability and health benefits. Take in sufficient quantity for best results.

Another good source to compliment the probiotic supplementation is raw cultured foods, such as cultured sauerkraut, yogurt and kefir, miso and tempeh.

The synergy of a healthy diet, healthy life style and probiotics play a key role in maintaining good health. Probiotics are just one piece of the puzzle for a healthy digestive system. Probiotics for Life, a simple and effective step in the journey of wellness.

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