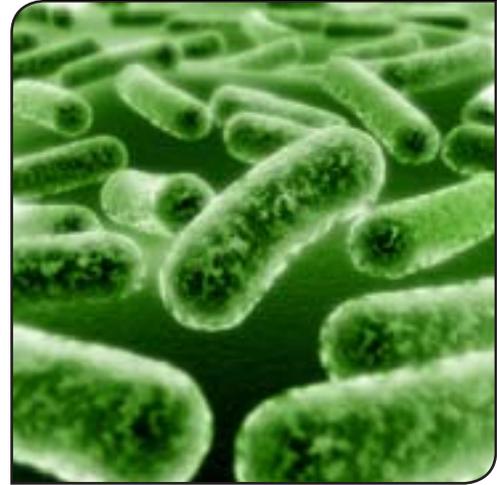


PROBIOTICS

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The intestinal tract is host to groups of different bacteria, many of which are necessary for health but also can do great harm. These small bacteria have the potential to affect the development of diseases by a variety of mechanisms. Changes in our intestinal lining may affect the barrier function which is what separates us from them. Changes in bacteria may trigger our bodies to start immune bacterial killing, which can lead to an inflammatory response. This inflammation means that healthy cells can take damage as an innocent bystander. Inflammation damages the barrier of our intestines, this leads to increased uptake of bacterial and food particles that stimulate the immune system. This can lead to Irritable Bowel Syndrome, Atopic Dermatitis, Crohns disease or Ulcerative colitis. Probiotics are healthy microorganisms that have beneficial properties for us. Most commercial products are derived from food sources, especially cultured milk products. The list of such microorganisms continues to grow and includes strains of lactic acid bacilli (eg, Lactobacillus and Bifidobacterium), a nonpathogenic strain of E. coli (eg, E. coli Nissle 1917), Clostridium butyricum, Streptococcus salivarius, and Saccharomyces boulardii (a nonpathogenic strain of yeast sold as Florastor).

Also under development are strains of bacteria that have been genetically engineered to secrete immunomodulators (such as interleukin-10 or trefoil factors), which have the potential to favorably influence the immune system. More recently, the concept of restoring levels of normal bacterial species that are diminished in certain disorders, such as Crohn's disease, has been developed. Therapeutic benefit has also been seen in several disorders including the inflammatory bowel diseases, antibiotic-related diarrhea, Clostridium difficile toxin-induced colitis, infectious diarrhea, hepatic encephalopathy, irritable bowel syndrome, and allergy.



HOW DO PROBIOTICS WORK?

Probiotics don't allow growth or epithelial binding or invasion by bad bacteria. Probiotics lead to improvement of intestinal barrier function making our GI tract healthier and more effective. Some Lactobacillus strains appear to induce expression of micro-opioid (pain pills) and cannabinoid receptors in intestinal epithelial cells and help with an analgesic function in the gut in a manner similar to the effects of morphine. Probiotics differ in their ability to resist gastric acid and bile acids, colonize the intestinal tract, and influence cytokines secreted by intestinal epithelial cells. Thus, not all probiotics are alike; as a result, benefits observed clinically with one species or a combination of species are not necessarily the same with another probiotic. You may need to try several types and brands of Probiotic to find one that agrees with you.

For Inflammatory Bowel disease we recommend: E.Cole 1917 Nissle, Lactobacillus GG or culturelle, Probiotics VSL#3 or Metagenics Ultra Flora IB. These have been shown to block cell activation and prevent destruction of epithelial cells. In the treatment and prevention of antibiotic-associated diarrhea we suggest Florastor. Several studies have evaluated a variety of probiotics in the treatment of infectious diarrhea and Culturelle was the best. However, for the prevention of traveler's diarrhea they concluded that several products, including Saccharomyces boulardii (Florastor) and a combination of Lactobacillus acidophilus and Bifidobacterium bifidum worked well. In recovery from acute rotavirus diarrhea in children VSL#3 significantly improved stool frequency.

Probiotics generally do not have significant side effects but mild temporary changes in your bowels may be noted. If one type of Probiotic fails to give the desired effect try another one.

