

Probiotics

What are probiotics?

Probiotics are live microorganisms, also known as “friendly bacteria,” that help maintain the natural balance of organisms (microflora) in the human gut. They are vital for a healthy immune system, protect against disease-causing microorganisms, and aid in both digestion and absorption of food and nutrients. The normal GI tract contains several hundred types of friendly bacteria that are able to promote healthy digestion and reduce the growth of harmful bacteria. The most well-known probiotics are *Lactobacillus acidophilus*, occurring naturally in yogurt, and *Bifidobacterium*, commonly found in the gut of breast-fed infants and thought to help confer natural immunity from disease. There are certain strains of yeast, such as *Saccharomyces boulardii*, that also function as probiotics.

What are probiotics used for?

A healthy balance of friendly bacteria in the gut may be thrown off by disease-causing bacteria, fungi, and parasites. Drugs (particularly antibiotics), alcohol, and toxin exposure can also throw off the delicate balance in the body, allowing an overgrowth of bacteria, yeast, or harmful organisms, with subsequent development of vaginal yeast and urinary tract infections. When antibiotics are necessary to treat a bacterial infection, the concomitant destruction of beneficial bacteria often leads to diarrhea. Probiotics can be used to replace the loss of beneficial bacteria, helping to restore normal bowel function and prevent diarrhea from antibiotic use.

In addition, many immune cells reside in the intestines; overall health may be very dependent on the health of your GI system. For this reason, prophylactic daily use of a probiotic is helpful and may assist in improving overall immune function.

Scientific Evidence

In November 2005, a conference reported successful use of probiotics for the following: to treat diarrhea, irritable bowel syndrome, and the intestinal infection caused by *Clostridium difficile*, to prevent and treat infections of the urinary tract or female genital tract, to reduce recurrence of bladder cancer, and to prevent and manage dermatitis/eczema in children.

How to Take Probiotics

Yogurt is the most common food containing beneficial bacteria. Other foods are miso, tempeh, and sauerkraut. Fermented foods such as yogurt have been used since ancient times by cultures that report great health and longevity. When probiotics are suggested after a course of antibiotics to restore normal gut flora, supplementation in the form of capsules, powder, or liquid may help to improve gut flora more quickly than with yogurt alone.

Probiotic supplements should have both a manufacturing date and expiration date on the bottle, as potency is lost after time. While some products do not require refrigeration, this will ensure maximum potency. The bottle should state “contains live cultures.” Powders can be mixed with water, applesauce, or yogurt, depending on label instructions. If yogurt is used for its prophylactic dose of probiotic, it is important to use plain yogurt as the addition of sugars to yogurt can negate the good effect of the probiotic.

When taking a probiotic during antibiotic therapy, it is important to take the dose as far away from the antibiotic dose as possible and to continue to take it for at least two weeks after the antibiotic is finished. Initially, it is wise to start with half the recommended dose for the first day or two in order to minimize

potential side effects of bloating or gas. Large doses are safe, as side effects, other than gas and bloating, are rare. Doses vary from brand to brand and may vary from 1 billion to several hundred billion organisms per dose. Some strains are to be taken on an empty stomach with water while others may be taken with food. It is wise to follow label instructions.

Side Effects

Gas and/or bloating are usually mild and often will abate after a period of adjustment. Since long-term maintenance doses of probiotics can improve the overall health of the GI tract, a beneficial side effect may be an increase in the bulk and frequency of bowel movements. There is a slight possibility that probiotics may react with immunosuppressant medication; those who are immunosuppressed should seek medical advice before using probiotics.

Which Strains to Take

When considering the use of probiotics, there is always a question of which strain to use. Because these bacteria are normally killed in the stomach, it is important to identify those strains that have been shown to actually colonize the GI tract. Different strains are effective for different health issues. Studies performed in inflammatory bowel disease suggest that high doses of combinations of different probiotic strains are more effective in decreasing inflammation and maintaining patients in remission than a single probiotic strain. There are many strains and a variety of research. You should following the advice of your clinician or research for yourself what strain may be useful for a particular condition.

Prebiotics (to distinguish from probiotics) are nondigestible carbohydrates that selectively stimulate the growth of the beneficial bacteria already present in the gut. Prebiotics can be taken in supplement form as fructo-oligosaccharides (FOS) and/or inulin and may be taken with probiotics. Food sources include oat bran, onions, asparagus, chicory, and banana.