Probiotics

Probiotics (which means 'for life') are 'friendly' bacteria and yeast. Most of the over four hundred bacteria that populate the intestinal tract are friendly.

Probiotic bacteria. Strange as it may sound, friendly intestinal bacteria prevent recurrent infections by neutralizing toxins, crowding out 'unfriendly bacteria'(including bacteria that cause recurrent prostatitis such as *E. coli, Proteus vulgaris, Pseudomonas aeruginosa*, and *Streptococcus fecalis*), supporting the immune system, and reducing inflammation.[1] Certain strains of friendly bacteria (*Lactobacilli* and *Bifidobacteria*) also inhibit cancer (including bladder cancer) by inhibiting the growth or activity of cancer-promoting bacteria, and producing chemicals that inhibit cancer growth.[2], [3]

Unfortunately, antibiotics can wipe out friendly intestinal bacteria. As a result, unfriendly bacteria can take over and induce a variety of gastrointestinal problems including bloating, stomach pain, and diarrhea. Although physicians are familiar with these antibiotic-induced GI side effects, few doctors realize that taking friendly probiotics (such as *Lactobacillus acidophilus* -the kind found in yogurt, *Lactobacillus casei,* and *Bifidobacterium longum*) during and after a course of antibiotic therapy can prevent bothersome intestinal problems.

Give your intestinal tract a good dose of 'culture' by eating probiotic-containing foods such as yogurt or sauerkraut (try making your own), and taking supplements that contain friendly probiotic bacteria. Purchase a quality product that has been tested by an independent lab and guaranteed to contain between one to four billion "live, active" organisms per capsule. Also, be sure to check the expiration date on the bottle. Don't buy expired products. Heat, moisture, and sunlight kill probiotic bacteria. Heat generated by making tablets, lowers the viability of probiotics so choose a product that has been freeze dried. Available in powder or capsules, probiotics should in moisture-proof containers, and stored in the refrigerator. Even if a probiotic is stable at room temperature (many aren't), it should be refrigerated once the container has been opened. Take probiotics twice daily with food to buffer stomach acid (or take an enteric coated brand). The average daily dosage should be between one to ten billion organisms (higher doses can cause stomach upset).[4],[5]

Start taking a probiotic the moment you start taking an antibiotic (but not at the same time) and continue taking it for several weeks after completing the antibiotic.

Probiotic Yeast. In addition, when antibiotics wipe out friendly bacteria, intestinal yeast can gain a foothold. Intestinal yeast overgrowth can cause the same unwanted gastrointestinal side problems as unfriendly bacteria. A special type of yeast, called *Saccharomyces boulardii*, is a certified 'yeast-buster'. Scientific research has shown that *Saccharomyces boulardii* combats intestinal yeast overgrowth and prevents antibiotic-related intestinal problems by improving gut immune function and inactivating bacterial toxins.[6],[7] Purchase a supplement that contains three billion live organisms, and take one capsule twice daily on an empty stomach.

Prebiotics

While it may sound like double talk, prebiotics are different than probiotics. Prebiotics are nutrients that supply the friendly bacteria with 'health food'.

Fructooligosaccharides. Vegetable fiber and complex sugars that are found in certain vegetables promote the growth of friendly bacteria at the expense of unfriendly bacteria. These complex sugars are called fructooligosaccharides (abbreviated *FOS*). Foods that contain FOS include soybeans, Jerusalem artichoke, onions, bananas, asparagus, and garlic. A synthetic form of FOS is also available in most health food stores. Since *pre*biotics support the growth of friendly *pro*biotic bacteria, I recommend taking both supplements together.

The recommended daily dose of FOS ranges between two to three thousand milligrams. I encourage patients to eat a generous portion of the foods that are rich in FOS. In addition, since the dietary intake of FOS averages only eight hundred milligrams daily, I advise patients to supplement their diets with additional FOS to make up the difference. [8]

FOS is available as tablets, or as a powder in bulk-form and capsules. Powdered FOS that is derived from Jerusalem artichoke has a pleasant nutty flavor; try sprinkling one to two teaspoons over cereal, salads, or vegetables twice daily.

Probiotics (which means 'for life') are 'friendly' bacteria. Most of the over four hundred bacteria that populate the intestinal tract are friendly. Strange as it may sound, friendly intestinal bacteria prevent recurrent infections by neutralizing toxins, crowding out 'unfriendly bacteria' (including bacteria that cause recurrent prostatitis such as *E. coli, Proteus vulgaris, Pseudomonas aeruginosa*, and *Streptococcus fecalis*), supporting the immune system, and reducing inflammation.[9] Unfortunately, antibiotics can wipe out friendly intestinal bacteria. As a result, unfriendly bacteria take over and induce a variety of gastrointestinal problems such as bloating, stomach pain, and diarrhea.

Although physicians are familiar with many of the side effects of antibiotics, few doctors realize that taking friendly probiotics during and after a course of antibiotic therapy can prevent antibiotic-induced side effects. These friendly probiotic bacteria include *Lactobacillus acidophilus* (the kind found in yogurt), *Lactobacillus casei,* and *Bifidobacterium longum*. In addition, a special type of yeast, called *Saccharomyces boulardii* also prevents antibiotic-related intestinal problems by improving gut immune function.[10]

Give your intestinal tract a good dose of 'culture' by eating probiotic-containing foods such as yogurt, and taking supplements that contain friendly probiotic bacteria. Purchase a quality product that guarantees between one to four billion "live, active" organisms per capsule. Also, be sure to check the expiration date. Unless the product has been shown to be stable at room temperature (most aren't), it should be refrigerated. Take probiotics twice daily with food to buffer stomach acid (or take an enteric coated brand). The average daily dosage should be between one to ten billion organisms.[11]

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[1] Joseph E Pizzorno, Jr and Michael T Murray, *Textbook of Natural Medicine*, second edition (New York: Churchill Livingston, 1999), p 895.

[2] Leo Galland, *The Four Pillars of Healing* (New York: Random House, 1997), p. 198.

[3] Y Aso, et al, "Preventive Effect of Lactobacillus Casei Preparation on the Recurrence of Superficial Bladder Cancer in a Double-blind Trial," *European Urology* 27 (1995): 104-109, in Michael T Murray, ed., *American Journal of Natural Medicine* (April, 1996): 18.

[4] Weil, *Self Healing*, (October, 1999),4.

[5] Galland, *The Four Pillars of Healing*, 200-201.

[6] Jeffrey S Bland and Sara H Benum, *Genetic Nutritioneering: How You Can Modify Inherited Traits and Live a Longer, Healthier Life* (Los Angeles: Keats Publishing, 1999), pp. 133-134.
[7] Galland, *The Four Pillars of Healing*, 200-201.
[8] Pizzorno, *Textbook of Natural Medicine*, 897.
[9] Joseph E Pizzorno, Jr and Michael T Murray, *Textbook of Natural Medicine*, second edition (New York: Churchill Livingston, 1999), p 895.
[10] Jeffrey S Bland and Sara H Benum, *Genetic Nutritioneering: How You Can Modify Inherited Traits and Live a Longer, Healthier Life* (Los Angeles: Keats Publishing, 1999), pp. 133-134.
[11] Weil, *Self Healing*, (October, 1999),4.