Probiotics is the name given to beneficial organisms that can be taken to support health. Most people are familiar with the touted benefits of yogurt with live cultures (pasteurizing yogurt kills all beneficial organisms along with any potential pathogens); yogurt is the prototypical probiotic, though it is weak compared to available supplements.

Several bacterial strains and one yeast strain have been studied for benefit in various gastrointestinal conditions. Demonstrated benefits are limited to a couple of uncommon conditions, and are modest. As is true for so many alternative treatments, studies have looked at different organisms or combinations of organisms, different protocols and looked at different endpoints, so are difficult to compare. Some studies of irritable bowel syndrome (IBS) show improvement in bloating or pain with use of *Bifidobacterium infantis* 35624, *B. breve* Bro, *Lactobacillus plantarum* (DSM 9843 or LPO 1), or *L. salivarius* UCC 4331.

Of interest to general readers may be potential evidence of more rapid resolution of infectious diarrhea. “A meta analysis that included 23 studies in adults and children found that probiotics reduced the overall risk of having diarrhea at three days by about 35 percent,... and the mean duration of diarrhea by about 30 hours.” [Up to Date] A meta analysis of data on prevention of traveler’s diarrhea also showed modest but statistically measurable benefit. 10 billion colony forming units need to be taken within the first 48 hours of symptoms. Tested products contain single strains or variable combinations of *Saccharomyces boulardii*, *lactobacillus rhamnosus GG*, *lactobacillus acidophilus*, *Lactobacillus bulgaricus*, and other strains; content did not seem to significantly change benefit.

Immune modulating substances are produced by a few strains of *lactobacillus*. Allergy-triggered conditions could potentially be mitigated by these substances; some studies are promising, though others have not shown benefit. None the less, a definitive role for any specific condition remains unproven. I was particularly disappointed that children with birch pollen allergy did not benefit from the *l. rhamnosus* they were given. Birch pollen is one of the worst allergens here in Fairbanks. One fermented dairy product, usually found next to yogurt displays, claims to strengthen body defenses. That company sponsored two studies of older adults, revealing no improvement in frequency or severity of upper respiratory illness (“colds”), but a slightly shorter recovery time. Other studies have involved only children; these tend to show more benefit. Benefit in asthma was not demonstrated by a meta analysis of 9 studies.

The bacterial flora of the female vagina has long been known to affect susceptibility to yeast infections (an overgrowth of normally occurring yeast), and bacterial vaginosis is an imbalance with too much of several bacterial species and not enough healthy lactobacilli. Probiotics have not been proven to affect yeast infections, but *l. rhamnosus* GR-1 and *L. reuteri RC-14* may help treat vaginal infections.

Dosing seems rather random, due to several factors. As mentioned earlier, at least 5 different strains of bacteria and one of yeast have been studied. Benefits for specific conditions may be confined to specific...
subspecies, which can be patented or called by different names, and usually aren’t specified on the label. Because they are live organisms, invariably some die after packaging, and not all brands say whether the purported number of organisms is at production, or guaranteed for a certain length of time after. Storage recommendations must be followed to optimize viability. Who knows how long the immune modulating substances are stable! So, except for acute infectious diarrhea, use the amount the package suggests. The only side effect in relatively healthy persons is transient gas and bloating for a few of the products; those on immune suppressing medications should first check with their health provider. Consumption needs to be separated from taking antibiotics by at least two hours. Cost is at least 50 cents a day; except for use for a week after a course of antibiotics or with acute diarrheal illness, use is expected to be indefinite.

An interesting article evaluating some probiotic products is in the current (April 2010) issue of Nutrition Action Health Letter, from the Center for Science in the Public Interest. This monthly publication evaluates food and supplement labeling and advertising for accuracy of health claims and effects. It was one of the sources for this article.

Other sources were UP To Date, and Comprehensive Natural Medicines Database.

Conclusions unchanged as of 4/28/2014.