

## Special Interest Articles:

- PROBIOTICS AND SURGERY
- SMOKERS AND LUNG DISEASE
- STRATEGIES FOR IBS
- IS SUN EXPOSURE DANGEROUS
- EXERCISE AND INSULIN RESISTANCE
- VITAMIN D AND MS
- PROBIOTICS AND HEALTH

## Probiotics and Colitis

Research appearing in the *World Journal of Gastroenterology* (2010 Sept 7; 16(33): 4145-51) looked at the effect supplementation with probiotics had on patients with mild to moderate ulcerative colitis. The 30 subjects were being treated with sulfasalazine. It was found that giving a probiotic supplement (*Lactobacillus delbruekii* and *Lactobacillus fermentum*) was

more effective than treating the patients with the drug alone. Addition of the probiotic reduced inflammation, as evidenced by lower levels of certain chemicals in the blood (IL-6, TNF-alpha, NF-kappaB p65). The authors concluded that, "Oral supplementation with probiotics could be helpful in maintaining remission and preventing relapse of UC (ulcerative colitis)."

## Probiotics and Children's Health

A randomized, double-blind, placebo-controlled study looked at the effect a specific probiotic supplement had on school children and the common infectious diseases experienced by children during the winter. The subjects of the study were 135 children between the ages of three and seven. Over a period of three months during the winter, 73 of the children received a placebo and 63 of them received a specific probiotic supplement (a mixture containing *Lactobacillus helveticus* R0052, *Bifidobacterium infantis* R0033, *Bifidobacterium bifidum* R0071 and fructooligosaccharide). Of

the group receiving the probiotic supplement, 51.6% contracted at least one illness during the course of the study. In the placebo group, 67.1% of the students became ill. Overall, the control group missed more school, with 42.5% of them missing at least one day. Only 25.8% of the supplemented group missed a day or more of school. The study suggests that supplementing with probiotics reduces the risk of common childhood infections.

## Probiotics and Surgery

*The group receiving the probiotic had fewer post-operative infections.*

Researchers in China [*Zhonghua Wei Chang Wai Ke Za Zhi*, (2010 Jan; 13(1): 40-3)] looked at the effect supplementing probiotics in colorectal cancer patients had on surgical outcomes. Sixty patients with colorectal cancer were randomly selected to receive either a probiotic containing bifidobacterium or placebo. The group receiving the probiotic had fewer post-operative infections. They also had an overall improvement in immunity (the levels of immunoglobulins [Ig], proteins involved with the immune system,

showed improvement). IgG, IgM, IgA and IL-6 levels were lower in the blood tests of the supplemented group--indicating less general activity in the immune system. The level of IgA in the stool was actually higher--indicating that the immune system was more active where the surgery took place. Additionally, C-reactive protein levels were lower in the supplemented group, indicating less inflammation. Probiotic supplementation may be benefit patients undergoing surgery for colorectal cancer.

## 25% of All Smokers Get Lung Disease

Chronic obstructive pulmonary disease is also known as COPD. COPD is actually two related diseases: chronic bronchitis and emphysema. In both diseases, there is chronic obstruction of the flow of air through the airways and out of the lungs. The obstruction is permanent and gets progressively worse over time. While COPD is actually two diseases, patients will have characteristics of both; this is why a single term is used to describe both conditions.

A new study, published in the online journal, *Thorax* (October, 2006), states that one in four smokers will develop COPD. This is a higher figure than originally thought. In Denmark, 8,000 patients between the ages of 30 and 60 were monitored for 25 years. This was part of the Copenhagen City Heart Study.

Over the 25 year course of the study, 100% of the male and 90% of the female non-smokers had normal lung function. Of the smokers, only 70% of the women and 60% of the men had healthy lungs at the end of the 25 years. About 25% of the subjects developed moderate or severe COPD over the 25 years. Regular smokers were six times more likely to develop COPD than non-smokers.

During the 25 years of the study, 2900 of the subjects died, 109 of those deaths attributable to COPD. All but two of the COPD deaths were smokers. The good news is that the risk for COPD dropped drastically for those who quit smoking at the beginning of the study.

## Strategies for IBS

Research on natural therapies for IBS is kind of a mixed bag. There are various natural approaches that help, but no single therapy helps all of the patients. Sometimes it is best to classify a disease by mechanism and not by symptoms. The symptoms of IBS include gas, bloating, abdominal pain and diarrhea, but effective treatment varies from patient to patient. Sometimes allergy elimination is effective, sometimes probiotics help and other times killing bacteria in the small intestine is an effective strategy.

There are studies that show that elimination of gluten from the diet does improve the symptoms of at least some IBS sufferers. Scientists are quick to point out that the symptoms of celiac disease match the symptoms of IBS. As many as 75% of the patients suffering from celiac sprue have IBS symptoms. A pair of studies, one published in the *Lancet* (November 3, 2001;358:1504-1508), and another in *Gastroenterology* (2004;126(7):1721-1732) both recommend screening for celiac disease in IBS patients. Other studies have shown that some IBS patients benefit from eliminating other specific foods. Clearly, finding and eliminating food sensitivities will help at least some of your IBS patients--but not all of them.

Another mechanism worth looking at is bacterial overgrowth in the small intestine. This issue has been covered in research published in the *Journal of the American Medical*

*Association* (August 18, 2004;292(7):852-858) and the *American Journal of Gastroenterology* (December 2000;95(12):3503-3506).

Addressing bacterial overgrowth helps some IBS sufferers, but not all of them.

A comprehensive approach that looks at hidden food sensitivities and bacterial overgrowth may be the best approach. Testing the patient for food sensitivity, do a trial avoidance of the common problem foods (gluten, dairy, peanuts, eggs and citrus for example), or have the patient go on a stricter elimination program are good starts. But don't stop there, give a good probiotic, and consider garlic or other herbal remedy, which will help to kill small intestine bacteria. Also, consider that someone who has overgrowth of bacteria in the small intestine may not be digesting well to begin with. He or she may need an HCl or pancreatic enzyme supplement. Frequently this problem is the result of eating too much carbohydrate and it may be necessary to cut down on consumption. Testing for yeast overgrowth or parasites in the stool may also be necessary. Not all IBS patients are alike, so different treatments will work for different patients. We are, after all, individuals.

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## Is Sun Exposure Dangerous?

We are told that sun exposure is dangerous, but that may not entirely be true. What is dangerous is getting a sun burn and “excessive” exposure to the sun. Being out in the sun is not necessarily unhealthy. The sun is, after all, necessary for vitamin D metabolism. By limiting our exposure to the sun, we may be creating other health problems by creating a vitamin D deficiency. Let’s take cancer for instance, one study, in the July-August, 2006 issue of *Anticancer Research*, makes the suggestion that sunlight and the production vitamin D may reduce the risk of several cancers. There are other studies that indicate that vitamin D may protect us from cancer.

According to the *Mayo Clinic Proceedings* (December 9, 2003), vitamin D deficiency is one possible cause of persistent and vague musculoskeletal pain. A study of 150 children and adults suffering from vague musculoskeletal pain performed at the University of Minnesota found that 93% of the subjects were vitamin D deficient. Of the subjects involved with the study, all of the African, African-American, Hispanic and Native Americans were vitamin D deficient, as well as all of the subjects under the age of 30. These are people who have ancestors who lived in areas where there is a lot of exposure to the sun. Dark skinned people living in Northern latitudes tend to be deficient in vitamin D. Consider this when dealing with chronic pain that seems to resist other treatment. The worst vitamin D deficiencies were found in women of child-bearing age. According to the Nov. 12, 2003 edition of the *Pain Management* issue of the *Journal of the American Medical Association*, the cost of treating pain unsuccessfully is \$61.2 billion per year. This study shows that there may be, at least in some patients, a simple answer for this common problem.

Vitamin D deficiency is associated with a risk for osteoporosis, diabetes, high blood pressure, cancer, and auto-immune diseases such as multiple sclerosis. Inadequate vitamin D is also harmful for developing fetuses and is the cause rickets of in children.

One study, conducted in Saudi Arabia, a vitamin D deficiency was found in a group of chronic back patients. All the patients were given cholecalciferol for three months, which improved the chronic pain. The subjects were given doses that are considered toxic (5,000 to 10,000 IU, which is between two and three times the toxic dose). After receiving cholecalciferol, all the patients had normal levels.

Research appearing in the *Archives of Internal Medicine* (2005;165:1246-1252), suggests that there may be a connection between low levels of vitamin D and calcium, and PMS. Earlier studies have shown that the blood levels of vitamin D and calcium were lower in women with PMS than in women without PMS. This study surveyed the dietary intake of over 3000 women between the ages of 27 and 44. All women were free of PMS at the start of the study in 1991. During the course of the study, over 1000 of the women remained free of PMS and more than 1900 of the women developed PMS. Intake of vitamin D and calcium was determined by food frequency questionnaires given in 1991, 1995 and in 1999. Higher intake of vitamin D and calcium was associated with a lower incidence of PMS.

It is still popular for doctors to warn about the evils of the sun, but more researchers are now becoming just as concerned about vitamin D deficiency. Avoiding the sun definitely reduces vitamin D. As always, good health involves balance.

## Exercise and Insulin Resistance

A pre-diabetic condition known as *insulin resistance syndrome* can be prevented by exercise. Insulin resistance is the mechanism that creates type 2 diabetes and the metabolic syndrome. Type 1 diabetes is often called juvenile diabetes or insulin-dependent diabetes is a situation where the pancreas does not produce insulin. Type 2 diabetes is caused by insulin resistance. Eating sugar and starch forces the body to produce a lot of insulin, over time, the body stops responding to the insulin creating insulin resistance.

Insulin resistance is also responsible for something called the *metabolic syndrome*, also known as *syndrome x*. In the metabolic syndrome, the individual tends to have high cholesterol with low HDL (the “good” cholesterol) and low LDL (the “bad” cholesterol), and high triglycerides. One of the big problems caused by insulin resistance is obesity. People who are insulin resistant tend to be overweight (especially carrying weight

around the abdomen) and may have high blood pressure.

Research appearing in the March 23, 2003 issue of *Diabetes Care* [26:557-562] followed 18 sedentary men and women for six months. Participants exercised between three and seven days each week by walking for a half-hour.

At the end of the study, researchers examined insulin sensitivity and levels of blood fats, such as cholesterol. None of the subjects lost weight during the study period, but they did enjoy an increase in insulin sensitivity. The researchers concluded that exercise alone increased insulin sensitivity—even without weight loss. The researchers concluded that even moderate exercise, without weight loss or loss of abdominal fat, can improve indicators of glucose and fat metabolism and lower the risk for developing type-2 diabetes.

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## Vitamin D and MS

Researchers at Penn State and Helen Hayes Hospital in New York conducted a small study that has shown that a daily dose of 1000 IU of vitamin D causes changes in blood chemistry that indicate positive effects for multiple sclerosis patients. Also, in the Jan. 13, 2004 issue of *Neurology* an analysis of data from the Nurse's Health Study indicates that vitamin D may have a protective effect against multiple sclerosis (MS). Women without MS symptoms completed questionnaires on diet and use of

multivitamin supplements. A dose of 400 IU or more of vitamin D per day reduced the likelihood of developing MS by 40% when compared to subjects who used no supplements. The study involved 187,563 women, 173 women developed MS during the study. Earlier studies on mice have supported this idea that vitamin D may be a deterrent to MS. Some researchers have linked low vitamin D levels to MS. MS exists mostly in Northern latitudes where there is less sunlight (hence less vitamin D).

## Probiotics and Health

My doctor told me to stop having intimate dinners for four. Unless there are three other people.—  
*Orson Welles*

The colon is an ecosystem containing several pounds of bacteria--they belong there. They remove toxins, keep pathogens in check, and create nutrients that are beneficial to the GI lining and to the rest of the body. There is a fair amount of research demonstrating the value of supplementation with probiotics. Here are a few of the studies.

A meta-analysis of randomized, controlled studies published in *Epidemiology* (Epublished ahead of print Mar 21, 2012) looked at probiotic supplementation in pregnant women, and in infants shortly after birth, and the relation to the incidence of allergic dermatitis in their infants after birth. A total of 14 studies were included in the analysis. Overall, the studies showed that probiotic supplementation was helpful in preventing atopic dermatitis.

Research appearing in the *Journal of Perinatology*

(epublished ahead of print March 22, 2012) looked at probiotic supplementation in infants with low birth weight. The subjects of the double-blind, placebo-controlled study were 31 low-weight infants. Postprandial (after meal) increase in time-averaged mean velocity (a measurement of intestinal blood flow) increased in the group given the probiotic supplements. Research appearing in *Inflammation & Allergy--Drug Targets* (Epublished ahead of print March 28, 2012) looked at 80 patients with *H. pylori* and the effect supplementation with probiotics had on their condition. The subjects were given either a placebo or a supplement containing eight species of probiotic bacteria for a period of 10 days. One month later stool samples were tested for *H. pylori* stool antigen and given a urea breath test. The testing revealed that 13 out of the 40 subjects given the probiotic were free of *H. pylori* one month after the supplementation.

