

Austin Quan Yin Newsletter

The Better Health News

Special Interest Articles:

- CRP and nutrition
- Antioxidants and stroke
- Magnesium
- Research, science and drugs
- Bioflavonoids and weight loss
- Niacin and memory
- Nausea and ginger

The Dangers of BPA

Biphenol A, commonly known as BPA is a chemical that is used in the manufacture of soft plastics that are often used to make food containers and water bottles. Data was obtained from the National Health and Nutrition Examination Survey and the research was published in *JAMA* (2008 Sept 17:300(11):1303-10). Urine samples were taken

from 1,455 adults and tested for BPA. Researchers found that high BPA concentrations were associated with an increased risk for coronary heart disease, heart attack, angina and diabetes. Elevated liver enzymes (indicating liver cell damage) were also found in subjects with elevated BPA.

Vitamins C & E, Chromium and Diabetes

Eating sweets and starch causes the body to produce insulin. If the consumption of refined food is excessive and habitual, the body becomes less responsive to the insulin—a condition known as “insulin resistance”. The body produces more and more insulin, but responds to it less. Excess insulin production causes a variety of problems, like weight gain, high cholesterol and high blood pressure. It can eventually lead to type 2 diabetes.

Research appearing in the *Journal of Clinical Biochemistry and Nutrition* (2008 Nov;43(3):191-8) looked at the effect supplementation had on insulin insensitivity. The 30 subjects of the double-blind study were randomly given either a placebo, chromium, or a combination of

chromium with vitamins C and E. After six months the subjects who were taking chromium and the subjects taking chromium with vitamins C and E experienced improved antioxidant status. The groups taking the supplements also had reduced insulin resistance, lower fasting glucose levels and lower hemoglobin A1c levels (a test to measure high blood sugar over a long time). The author of the study concluded, "These findings suggest that chromium together with vitamins C and E was effective for minimization of oxidative stress and improvement of glucose metabolism in type 2 [diabetes] patients."

CRP and Nutrition

High CRP levels are actually associated with increased mortality from all causes.

C-reactive protein (CRP) is a globular protein that increases in the serum as a response to injury or inflammation. It turns out to be a good predictor for cardiovascular disease. A study appearing in the *Journal of the American Nutraceutical Association* (2005;8(1):43-44), involving more than 27,000 women, found that CRP was a better predictor of cardiovascular disease than LDL (bad) cholesterol.

High CRP levels are actually associated with increased mortality from all causes. A CRP level greater than 3 mg/L in men was found to increase the likelihood of death by nearly two-fold, according to research appearing in *Clinical Chemistry* (2008 Feb;54(2):335-42). The high CRP levels increased the likelihood of heart attack by a factor of 2.15 and increased the likelihood of cancer by a factor of 1.65.

A recent study appearing in *Free Radical Biology and Medicine* (Oct 10, 2008) randomly assigned 396 non-smokers to receive either vitamin C, vitamin E or a placebo.

Vitamin C lowered CRP in the subjects with elevated CRP, but not in those with normal CRP levels.

Improving the diet and other nutrients can also lower CRP. A cross-sectional study appearing in the *American Journal of Clinical Nutrition* (2006; 84(1): 223-9) looked at 971 Japanese men and women over the age of 70, their intake of omega-3 fatty acids and the effect omega-3 consumption had on CRP levels. The results suggest that high intake of omega-3 fatty acids may be associated with low CRP levels. Consumption of fruits and vegetables can also lower CRP levels. According to research appearing in the *European Journal of Clinical Nutrition* (63, 1345-1352 (November 2009)) CRP levels were inversely associated with the consumption of fruits and vegetables. In the same study, consumption of vitamins C, E and fiber were also negatively associated with CRP levels.

Antioxidants and Stroke

A study appearing in the *European Journal of Nutrition* (2005; 59(12): 1367-1373) looked at 48 patients after an acute ischemic stroke. Within 12 hours of the event, patients were given either a combination of vitamins E (800 IU) and C (500 mg) or a placebo. They continued to take the supplement for 14 days. At the end

of the two weeks the treatment group had higher levels of alpha tocopherol and ascorbic acid than the placebo group. They also had better total antioxidant capacity and lower C-reactive (CRP) levels than the control group. The supplementation may have an anti-inflammatory and protective effect

A Few Words About Magnesium

Magnesium can help with depression, bone strength, cardiovascular health, insulin and blood sugar control, and it is nature's muscle relaxer. An article appearing in *Hospital Practice* (April 30, 1993;79-92) had a few things to say about magnesium. Magnesium is an important cofactor in over 300 chemical reactions in the body. It is important for ATP synthesis (cellular energy), and is found in tissues with high metabolic activity. The heart, liver, brain and kidney all have the highest intracellular concentrations of magnesium.

Magnesium levels are low in diabetics and is associated with insulin resistance. In obese children, the connection between low magnesium and insulin resistance is seen in research appearing in *Diabetes Care* (May 2005;28(5):1175-1181). When type-2 diabetics are given magnesium, it helps decrease platelet aggregation. It ultimately may help protect against coronary artery blockage and heart attacks. It is also useful for bringing irregular heart beats under control. It has been postulated that magnesium deficiency may be responsible for heart damage experienced by endurance athletes. An article appearing in *Patient Care* (January 30, 1984;79-81), states that magnesium is useful for treating heart arrhythmias. Also, patients given magnesium after cardiac surgery have fewer problems with both arrhythmias and with uncontrolled high blood pressure from coronary vasospasm. An article appearing in the *Archives of Internal Medicine* (November 1992;152:2189-2196) also states that magnesium helps to protect the heart.

Magnesium deficiency may play a role in allergies. A study appearing in the *Journal of The American College of Nutrition* (1990;9(6):616-622) found that rats that were magnesium deficient had higher histamine levels than rats that were not deficient. Asthmatics benefit from

magnesium supplementation. Magnesium given in an IV has been used to stop asthma attacks. Also, it can reduce bronchial hyperreactivity, according to research appearing in *Clinical Pharmacologic Therapy* (2001;69:365-371).

Magnesium is valuable for treating preeclampsia. In a double-blind study, magnesium reduced blood pressure, not only during the infusion phase, but afterward. An article appearing in *Gynecologica Scandinavica* (1994;73:95-96) shows magnesium to have a beneficial effect on the mother's blood pressure and on the birth weight of the child. Several studies have shown that magnesium may cause vasodilatation, and is probably the reason for magnesium's blood pressure lowering effect in pregnancy-induced hypertension and preeclampsia. In pregnancy-induced hypertension there is an inverse relationship between serum magnesium concentration and blood pressure. Studies have shown that magnesium infusion reduces blood pressure, increases cardiac output and decreases total peripheral resistance.

Magnesium can be depleted with certain medications, like diuretics and is low in people who eat a highly refined diet. Magnesium deficiency is fairly common and should be considered with a variety of health problems.

Where do we get magnesium in the diet? Green vegetables. Just as the human body needs iron to make hemoglobin, plants need magnesium to make chlorophyll.

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Research, Science and Drugs

An old joke about research likens it to a man looking on the street for his keys. A policeman comes up and asks the man if that is where he lost them. The man replies, "No, but the light is better here." What we learn from research is dependent on where we look. Those who are opposed to natural therapies, often feel that they are not "scientific", or well researched. Often this is due to the fact that we are not looking in the right places.

There is a prejudice toward drug therapy, and against natural health care in the medical literature that keeps us from looking in the right places. A study conducted at Wake Forest University School of Medicine and published in *BMC Complementary and Alternative Medicine* (April 9, 2008) found that advertising by the pharmaceutical industry creates a bias against non-drug therapies in the journal. Researchers reviewed articles from 11 major medical journals for one year. The amount of pharmaceutical advertising in each journal was tallied and compared the coverage given to dietary supplements and natural health care. Journals with the most drug company advertising were least likely to feature articles about dietary supplements. Articles in journals with lots of drug company advertising, tend to view supplements negatively.

Influencing the information printed in medical journals has benefited the drug industry. Prescription drug spending increased every year between 1995 and 2000. There was a 20% increase between 1999 and 2000, taking the total to \$132 billion, according to the National Institute for Health Care

Management Foundation. In 2005 sales reached \$251.8 billion. According to the *New England Journal of Medicine* (February 14, 2002;346:498-505,524-531), in 2001, 80% of all Americans took at least one drug in any given week; with about half of the population taking a prescription medication. Also, about 7% of Americans take five or more prescription drugs in any given week. Advertising to the public may account for part of this growth in business. Spending on drug advertisements between 1996 and 2000 went from \$791 million to \$2.5 billion annually.

This prejudice toward drug therapy costs money, reduces the quality of our health care and even costs lives. Over 100,000 people die each year from medication that is properly prescribed and properly taken. There are many instances where natural substances can reduce the side-effects of medication. Take statins, for instance; supplementing with Coenzyme Q10 can reduce the negative effects of the medication. Other research has shown that L-carnitine and gamma tocopherol can reduce negative side-effects from taking statins. Often dietary changes, supplements and herbs can make medication less necessary. For example, high cholesterol is often due to insulin insensitivity. Diet and a number of natural substances can help to improve insulin insensitivity and often can help reduce cholesterol. This is not to say that drugs should never be used, but many times working to restore normal physiology can work wonders.

Bioflavonoids and Weight Loss

Flavonoids are a class of water-soluble plant pigments found in fruits, vegetables, and certain beverages that have antioxidant effects. Antioxidants are compounds that protect cells against the damaging effects of reactive chemicals known as free radicals. Free radicals can cause oxidative stress, leading to cellular damage. Diets high in produce are high in flavonoids.

It turns out there may be another benefit to flavonoids in the diet--weight loss. A study published in the *American Journal of Clinical Nutrition* (2008 Nov; 88(5):1341-

52) looked at food intake and lifestyle in 4,280 men and women and monitored the subjects for BMI over a period of 14 years. The BMI increased in both women and men over the course of the study. Women with the highest intake of flavonoids gained significantly less weight than those who consumed the lowest levels of flavonoids. This effect was found only in women; the researchers found no such connection in men

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Niacin and Memory

A recent study, appearing in the *Journal of Neuroscience* (2008 Nov 5;28(45):11500-10) investigated the effect nicotinic acid (vitamin B₃) had on mice that were specially bred to develop a condition that mimics Alzheimer's disease in humans. A group of these specially bred mice and another, normal group of mice had nicotinic acid added to their drinking water. Another group of mice, used as a control, received no

supplementation. At the end of four months the researchers found an increase in proteins that strengthen the microtubules in the brains of the supplemented mice. There was also less plaquing (phosphorylated tau) in the brains of the supplemented rats. The untreated mice (the ones specially bred to have an Alzheimer's-like disease), experienced memory loss. The specially bred mice that received the nicotinic acid performed memory tasks as well as the normal mice.

Nausea from Chemotherapy and Ginger

"God is subtle but
he is not
malicious."—
Albert Einstein

In spite of the use of anti-nausea medication, 70% of patients undergoing chemotherapy complain of nausea. A double-blind, placebo-controlled study that appeared in the *Journal of Clinical Oncology* (2009 ASCO Annual Meeting Proceedings Vol 27, No 15S (May 20 Supplement), 2009: 9511) looked at the effect taking ginger had on nausea experienced by chemotherapy patients.

The subjects of the study were 644 cancer patients who had experienced nausea from their chemotherapy and who were scheduled to receive at least three additional cycles of chemotherapy treatment. The subjects were randomly assigned to receive either a placebo, 0.5 grams of ginger/per day, 1.0 grams of ginger per day, or 1.5 grams of ginger per day.

The subjects rated their nausea on a seven point scale for the first four days of each chemotherapy cycle. Nausea scores were significantly lower in all of the groups receiving ginger (especially in the groups receiving 0.5 grams and 1.0

grams) compared to the placebo group. The authors concluded, "Ginger supplementation at daily dose of 0.5g-1.0g significantly aids in reduction of nausea during the first day of chemotherapy."

There is a long history for the medicinal use of ginger. In China and Japan it has commonly been prescribed for headaches, nausea and other stomach problems, and colds. In traditional Chinese medicine, ginger is characterized as "spicy" and "hot." In that model, ginger is purported to warm the body and treat cold extremities. It can also improve weak and sluggish pulses, address pale complexions, and strengthen the body after blood loss. In Ayurvedic medicine, ginger is used to address symptoms of colds and other viral infections, enhance digestion, stimulate appetite, and lessen arthritis.

