

# Austin Quan Yin Newsletter

## The Better Health News

### Special Interest Articles:

- Green tea and atherosclerosis
- Respiratory distress and ginger
- Omega-3 fatty acids
- Insulin insensitivity
- Probiotics and surgery
- Carotenoids and breast cancer
- Lowering blood sugar after a meal

## Fish Oil Protects the Kidneys

A daily dose of fish oil slows the progression of kidney disease. A Mayo Clinic study, reported the *Journal of the American Society of Nephrology*, showed that people suffering from IgA nephropathy who took the fish oil had significantly better kidney function. The report shows that the benefits of fish oil continue over time. Researchers followed all 106 of the original study participants for an average of more than six years. Significantly fewer of the participants taking fish oil suffered advanced kidney failure than people who took a placebo. The group taking the fish oil also had better kidney function than the

placebo group. A double-blind, placebo-controlled study, appearing in *Diabetes Medicine* (2010; 27(1): 54-60), looked at the effect omega-3 fatty acid supplementation had on patients with type-2 diabetes. In the study, 97 subjects received either four grams of fish oil per day or a placebo for 12 weeks. In the group supplemented with the fish oil, there was a decrease in serum creatinine--indicating an improvement in kidney function. The supplemented group also enjoyed a reduction in triglycerides.

## Resveratrol and Colitis

Resveratrol is a phytoalexin that is found in certain plants. A phytoalexin is a compound that is produced by a plant to protect itself from invading microorganisms. Just as bioflavonoids, which are produced by plants as a protection from the oxidative stress of photosynthesis, can protect human cells when ingested, resveratrol may also be beneficial. One place where resveratrol is found is in dark-colored grapes and wine.

An animal study published in the *European Journal of Pharmacology* (2010 Feb 1; [Epub ahead of print]) looked at the

effect resveratrol supplementation had on ulcerative colitis. Acute colitis was induced in six-week old mice and developed into chronic inflammation. The mice were given either a standard diet or a diet fortified with 20 mg/kg of resveratrol. The supplemented group had a reduction in symptoms and a reduction in inflammatory chemicals (cytokines, like TNF-alpha, IL-beta, prostaglandin E synthase-1, COX-2 and iNOS), and the non-supplemented group did not experience these improvements.

## Can Green Tea Protect from Atherosclerosis?

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Blood vessels are lined with cells called the endothelia. A recent study, appearing in *Circulation Journal* (2010 Feb 4; [Epub ahead of print]) looked at the effect antioxidants, known as green tea catechins (GTC) had on the blood vessel lining of 30 smokers with no major health complaints. The subjects were randomly placed into one of three groups. For two weeks, one group received 80 mg of GTC per day, a second received 580 mg of GTC per day and the third group received a placebo. In the group receiving the higher dose of GTC, there was an increased response to acetylcholine and sodium

nitroprusside (increasing blood flow in the forearm). The increase showed that a high dose of GTC actually improved circulation. Furthermore, there was an increase in nitric oxide in that group (a vasodilator, which means that it opens up the blood vessels to allow more flow). In addition, there was a decrease in chemicals, like c-reactive protein, that are involved with inflammation. These improvements were not experienced by the placebo group or the group taking the low dose of GTC.

## Respiratory Distress and Ginger

Research appearing in the *Journal of Critical Care* (Feb 9, 2010 published ahead of print) found that ginger may benefit patients with adult respiratory distress syndrome (ARDS). The subjects of the study were 32 patients with ARDS who were dependent on a mechanical ventilator for breathing and who were being fed through a nasogastric tube. The patients

were given either 120 mg of ginger extract or one gram of coconut oil (as a placebo) every day for three weeks. The group receiving the ginger better tolerated feeding in the first 48 hours. There was also a decrease in the incidence of pneumonia in the ginger group, even though the number of ICU-free and ventilator-free days were lower in the placebo group.

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## More Reasons to Take Omega-3 Fatty Acids

**Risk of Death:** High triglycerides are a risk factor for cardiovascular disease and are often an early indicator of diabetes. C-reactive protein (CRP) is a globular protein that increases in the blood as a response to injury or inflammation. It turns out that CRP is a good predictor for cardiovascular disease. 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). A new study appearing in the *American Journal of Clinical Nutrition* (2010 Jan 20; e-published ahead of print) looked at 357 Eskimos and compared the levels of EPA and DHA (omega-3 fatty acids) and risk factors like CRP and triglycerides. Levels of omega-3 fatty acids were inversely associated with CRP and triglyceride levels. Also, high omega-3 levels were associated with higher HDL ("good cholesterol") levels.

**Aging:** In a prospective cohort study, appearing in *JAMA* (2010; 303(3): 250-7), 608 patients with heart disease were examined for DHA and EPA (omega-3 fatty acids) levels and cellular aging. Researchers looked at the telomeres of the subjects. Telomeres are crucial to the life of the cell. They keep the ends of the various chromosomes in the cell from accidentally becoming attached to each other. Shortening of the telomeres is a sign of cellular aging. The researchers observed the subjects for five years and found that those with the lowest levels of EPA and DHA experienced the highest rate of telomere shortening and those with the highest levels of DHA and EPA

had slower shortening of their telomeres. This may indicate that omega-3 fatty acids may play a role in slowing down cellular aging.

**Increased brain activity:** A randomized, placebo-controlled study, appearing in the *American Journal of Clinical Nutrition* (February 3, 2010). doi:10.3945/ajcn.2009.28549)

looked at the effect DHA had on the brain activity in healthy boys between the ages of 8 and 10. DHA is docosahexaenoic acid, which is an omega-3 fatty acid found in fish oil. The 33 subjects received either a placebo, 400 mg/day of DHA or 1200 mg/day of DHA. Supplementation with DHA increased the amount of DHA in the red blood cell membranes. Those receiving the higher dosage of DHA had increased activity higher in the brain (dorsolateral prefrontal cortex) and less activity in the lower brain (occipital cortex and cerebellar cortex) as determined by functional magnetic resonance imaging. Supplementation with DHA may help with concentration and learning.

**Heart arrhythmias:** A study appearing in the journal *Circulation* (2009; 120(23): 2315-21) looked at 2,174 male subjects participating in the Kuopio Ischemic Heart Disease Risk Factor Study between the ages of 42 and 60. At the start of the study the subjects were free of atrial fibrillation. The subjects were monitored for just over 17 years and in that time 240 instances of atrial fibrillation occurred. Those subjects with higher levels of EPA, DPA and DHA had a lower incidence of atrial fibrillation.

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## Insulin Insensitivity

There are no miraculous weight-loss products; but paying attention to insulin production will produce weight-loss miracles. Insulin has a lot to do with weight gain and so many other common health problems. Sugar and insulin are involved with high blood pressure, high cholesterol, high triglycerides, type 2 diabetes, menstrual problems, heart disease, pain, inflammation, depression and even polycystic ovaries. With simple life-style changes and some good nutritional products you can easily lose weight and help improve a lot of other health problems.

Symptoms of insulin resistance include fatigue, weight gain, brain fog, carbohydrate craving, and periods of hypoglycemia after a high carbohydrate meal (often needing a nap after eating). Approximately 50% of patients with high blood pressure are insulin insensitive. Approximately 30% of American adults are insulin insensitive and 25% have Syndrome X. The *Journal of the American Medical Association* states that if a patient has three or more of the following symptoms: waist measurement greater than 40" in men (35" in women), triglycerides greater than 150 mg/dl, HDL lower than 40 mg/dl, blood pressure greater than 135/85 or fasting glucose of 110 mg/dl, Syndrome X is present.

Problems with sugar and insulin cause weight gain, along with a variety of other health problems. In general, people with insulin insensitivity will have a BMI greater than 30. They carry weight around their abdominal area and crave sugar and starch. Getting insulin production under control is the key to weight loss—and there are some products that will help you to do this.

Dietary changes are, of course necessary. You need to go on a low glycemic diet—avoiding high glycemic foods like refined carbohydrates. In many cases, snacking between meals work against you.

There are lists of high glycemic and low glycemic foods. The main thing is to avoid white, refined food. Avoid things with refined sugar or high fructose corn syrup in them. Avoid white, refined flour products like white bread and noodles.

It is important to exercise regularly. It may be a good idea to stop snacking. The snacking issue is a tough one; many patients with insulin insensitivity are labeled as hypoglycemic. Some feel weak or shaky if meals are delayed or feel the need to snack every two hours (or have been told to do so). For some people, a mid-morning and a mid-afternoon snack helps to keep hunger and food cravings under control. Even if you find that snacking works better for you, avoid eating between dinner and bedtime. Going 12 hours without producing insulin will help you to lose weight.

When you first eat, you produce insulin which helps to store the calories of the meal. As time goes on, you produce glucagon, which helps to burn the stored calories. The first three hours after eating, insulin is dominant; after three hours glucagon becomes dominant. You cannot lose weight if you keep producing insulin. It is especially important not to eat between dinner and bedtime, because you want a long period of time when no insulin is produced.

The dietary changes are difficult, but necessary. Fortunately there are supplementation that help to bring insulin under control and to help with cravings. Also, if you have been in the habit of eating refined food, taking some extra nutrients in the form of vitamin supplementation is a good idea.

Many people will read an article about nutrition and follow up with a visit to a health food store to buy the supplement that they read about. People don't read about auto repair and then try to replace a transmission in a car. Your physiology is much more complex than anything that is in a car, so working with a professional on health issues is a good idea.

## Probiotics and Surgery

Researchers in China [*Zhonghua Wei Chang Wai Ke Za Zhi*,( 2010 Jan; 13(1): 40-3)] looked at the effect supplementing colorectal cancer patients with probiotics (beneficial bowel flora) 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], which are proteins involved with the immune system, improved). 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 (CRP, a protein that indicates the presence of inflammation) levels were lower in the supplemented group, indicating less inflammation. Probiotic supplementation may be benefit patients undergoing surgery for colorectal cancer.

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## Carotenoids and Breast Cancer

Carotenoids are oil-soluble plant pigments that the body can convert to vitamin A. They are responsible for the bright colors of produce. The best known carotenoid is beta-carotene. Beta carotene also has the most vitamin A activity of all of the carotenoids. Other carotenoids include alpha carotene, lycopene, lutein, astaxanthin, beta cryptoxanthin, and zeaxanthin. They also act as antioxidants and protect cells from free radical damage.

A study appearing in *Cancer Research* (2009; 69(24): 9323-9) compared 602 breast cancer patients to 626 controls. It found that the amount of carotenoids circulating in the blood was inversely related to the risk for breast cancer. Women with high mammographic density enjoyed as much as a 50% reduction in breast cancer risk when they had high levels of carotenoids. The relationship did not exist in women with low mammographic density.

One of the first duties of the physician is to educate the masses not to take medicine.—  
*Sir William Osler*

## Certain Foods Lower Blood Sugar After a Meal

The term "postprandial glycemia" refers to the increase in blood sugar after a meal. It is quite a problem for people who have insulin insensitivity. A small study appearing in the journal of the *American Dietetic Association* (2005; 105(12): 1939-42) looked at postprandial glycemia in 11 healthy subjects. Two meals were consumed by the subjects. One was a meal with a high glycemic load (81), containing 87 g of carbohydrate (bagel, butter and juice). The second meal had a low-glycemic load, containing 52 g of carbohydrate (chicken, instant rice, vegetables, butter and teriyaki sauce). The two meals were consumed by the subjects under three different sets of circumstances. First, nothing was added and no changes were made; this was the control meal. The meals were

consumed another time with 20 g of apple cider vinegar. The third change involved replacing the butter with peanut butter in the high glycemic meal and replacing the butter with roasted peanuts in the low glycemic meal. A 55% reduction in the 1-hour glucose response was found when the subjects ate the meals containing peanuts or cider vinegar. Peanuts only seemed to have this effect for the low-glycemic meal, but the vinegar created a lower glycemic response for both meals. In addition, adding the vinegar or peanuts to the meals caused the subjects to reduce caloric consumption between 200 and 275 kcal for the day. The authors pointed out that 16 out of 20 studies published between 1977 and 1999 have shown that eating foods with a low glycemic index reduces hunger and promotes satiety.

