

Austin Quan Yin Newsletter

The Better Health News

Special Interest Articles:

- CoQ₁₀ and Parkinson's disease
- Improve your memory
- D-ribose and heart failure
- Preventing Alzheimer's disease
- Eat your vegetables and prevent dementia
- Probiotics and eczema
- Anxiety, inflammation and essential fatty acids

Acupuncture and Post-traumatic Stress

A study that appeared in the *Journal of Nervous and Mental Disease* (June, 2007) looked at the effect acupuncture had on patients suffering from Post-traumatic stress disorder (PTSD). The subjects of the study were 73 people diagnosed with PTSD. The researchers evaluated the patients for depression, anxiety and impairment. The patients were divided into three groups, one group was a control group that was placed on a waiting list to

receive therapy. The other two groups received either acupuncture or cognitive-behavioral therapy in a group setting for a period of 12 weeks. The group receiving the acupuncture enjoyed improvements similar to the group receiving the cognitive-behavioral therapy. Both of the treatment groups fared better than the control group. This was a small, pilot study and the results are preliminary. More research needs to be done in this area.

B Vitamins and Hyperactivity

A study published in the *Journal of Learning Disabilities* (May, 1982;15(5):258-264) looked at B vitamin supplementation and hyperactivity. The subjects were 100 children who were either hyperactive or had cerebral dysfunction. They were given 400 mg of thiamin, calcium pantothenate (source of B₅), 100 mg of B₆ each day or a placebo for three days. If the subjects responded to the vitamin therapy, they were given the supplements a second time, this time for a week, then alternating between supplementation and placebo. Those who did not respond well to the initial vitamin therapy were given large doses of B complex, B₃, or an elimination diet.

Hyperkinetic cerebral dysfunction exists for many and varied reasons, and different subjects responded to different aspects of the therapy. Eight of the children in the initial sampling responded to the high-dose thiamin, with four of them needing continued doses of thiamin. Nine of the children responded to the B₆, with five more responding to an even higher dose of the vitamin. Eight of the children responded to a hypoallergenic diet (the Feingold diet). The point is that different children respond to different therapies and there is no "one size fits all" solution for this particular health issue.

CoQ₁₀ and Parkinson's Disease

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Parkinson's disease is a progressive, chronic neurologic disease that affects half a million Americans. A study that appeared in the *Archives of Neurology* (October 2002, Vol. 59, No. 10, pp. 1541-1550) looked at the effect supplementation with CoQ₁₀ (coenzyme Q₁₀) had on patients with Parkinson's disease. CoQ₁₀ is necessary for energy production in the cell, and it works as an antioxidant to protect cells from chemical damage.

Earlier studies have demonstrated that coenzyme Q₁₀ levels are reduced in the cells of patients with Parkinson's disease and that cellular energy production in these patients is impaired. Studies on animals have shown that CoQ₁₀ supplementation can protect the area of the brain that is affected by Parkinson's disease.

This study looked at 80 patients with early-stage Parkinson's disease. All of the subjects had classic symptoms, tremor, stiffness and slowed movement. The subjects were divided into four groups. One group received a

placebo (containing only vitamin E), with the other three groups getting vitamin E and either 300 mg/day, 600 mg/day or 1,200 mg/day of CoQ₁₀. The subjects were evaluated one month after the initiation of treatment and for every four months thereafter (for a total of 16 months).

Side effects from the CoQ₁₀ were mild, and all subjects were able to stay on the original dose. Also, the percentage of subjects reporting side effects were the same for both the treatment and the placebo groups. The groups receiving 300 mg/day and 600 mg/day of the CoQ₁₀ developed less disability than the placebo group. The subjects who received 1,200 mg/day of CoQ₁₀ had 44% less decline in motor function, mental decline and the ability to perform tasks necessary for daily living.

This was a small study, and is far from conclusive. The subjects receiving the CoQ₁₀ also had increase in blood levels of CoQ₁₀ and improved energy production in the cells.

Improve Your 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.

D-Ribose and Heart Failure

D-ribose is a naturally occurring five-carbon sugar found in all living cells. Though not an essential nutrient since it can be made in the body from other substances such as glucose, D-ribose is, however, very essential for life. Some of the most important biological molecules contain D-ribose, including ATP (adenosine triphosphate), all the nucleotides and nucleotide coenzymes and all forms of RNA (ribonucleic acid). D-ribose in RNA and deoxyribose in DNA may be considered genetic sugars. Since D-ribose is ubiquitous in living matter, it is ingested in our diets. Supplementally, it enhances ATP production significantly when additional support is needed.

One possible way to address congestive heart failure is to improve the production of energy in the heart muscle cells. In heart failure, the heart is literally energy starved. Ribose is a five carbon sugar that is part of the ATP molecule (adenosine triphosphate, which is responsible for energy production in the cell). Taking ribose may be a way to increase the energy production of the heart cells, according to an article in *Progressive Cardiovascular Nursing* (2009 Jun;24(2):59-60).

Animal studies have shown the value of D-ribose to heart function. A study that appeared in *Science* (1983 Apr 1;220(4592):81-2) along with another study, that appeared in *Cell Physiology and Biochemistry* (2009;24(3-4):211-8. Epub 2009 Aug 3) found that rats who were given an IV infusion of d-ribose (200 mg/kg/h)

one day prior to the induction of a myocardial infarction, had a smaller area of infarction and better left ventricle function, when compared to animals in the control group. Another study on rats that appeared in *Progressive Cardiovascular Nursing* (2009 Jun;24(2):59-60) found that ribose normalized depressed heart function in rats.

There have been some small clinical trials; research that appeared in the *European Journal of Heart Failure* (2003 Oct;5(5):615-9) found that ribose supplementation improved ischemic threshold and enhanced diastolic function in congestive heart failure. The small study showed improvement to patients' quality of life and improvement of cardiac function with ribose supplementation. Another small study that was published in the *International Journal of Cardiology* (2009 Sep 11;137(1):79-80. Epub 2008 Jul 31) looked at 16 patients with class III or class IV heart failure. They were given five grams of ribose three times each day. At the end of eight weeks, all patients had a significant improvement in ventilatory parameters at anaerobic threshold, along with a 44% Weber class improvement. Ribose improved the ventilatory exercise status in advanced heart failure patients.

D-ribose is a simple, inexpensive treatment with few (if any) side-effects. Considering that standard medical care for patients with heart failure is not extremely successful, it may be worth trying.

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Preventing Alzheimer's Disease

Research that was presented at the Alzheimer's International Conference on July 19, 2011 in Paris shows that even a moderate reduction in the risk factors for Alzheimer's disease could prevent millions of cases worldwide. Common risk factors for the disease include obesity, smoking, high blood pressure, depression, inactivity, diabetes and low education. The researchers determined that these risk factors were responsible for about 17 million cases of Alzheimer's disease worldwide. (Published online in *The Lancet Neurology* (epublished 7/19/11).

Epidemiologic analysis of the links between Alzheimer's disease and key risk factors found that 21% of all cases in the United States are linked to a sedentary lifestyle. Depression is linked to 15% of the cases. Smoking is linked to 11% of the cases. Mid life obesity accounts for 8% of the cases and mid-life hypertension accounts for 7% of the cases.

A second study that was presented at the conference found that people with the ability to cope, keep positive and ask for help, skills that were called "resilient cognition" by the researchers, were less likely to develop Alzheimer's disease. Poor coping skills were linked to an increased incidence of Alzheimer's disease. People who were neglected as children or who scored poorly on tests for gauging suicidal thoughts had a tendency for poor cognitive performance.

Research appearing in the March, 2005 issue of the journal *Cell* showed that mice kept in a stimulating environment were less likely to develop Alzheimer's disease than mice kept in an environment that is low in stimulation. Mice that had access to toys, running wheels, tunnels and other activities to keep mind and body active had a lower instance of the protein plaques associated with Alzheimer's disease.

The mice in the study were genetically predisposed to developing the protein plaques in the brain that characterizes Alzheimer's disease. Mice that were physically and mentally active had less of a tendency to develop the disease. Perhaps there is a lesson here for humans—keep active and avoid brain deterioration.

Research appearing in the *Journal of Neuroscience* (December 26, 2007, Vol 27, Issue 52, pp 14299-14307) shows that DHA (an omega-3 fatty acid) can increase the production of a protein that helps to block enzymes that are responsible for producing the plaques found in Alzheimer's disease. The research, found that DHA increases a protein, called LR11, in rat neurons. LR11 inhibits amyloid precursor protein (APP), which is involved with the production of the plaques associated with Alzheimer's disease.

Eat Your Veggies and Prevent Dementia

Research appearing in the *Journal of Food Science* (24 January, 2008, e-published ahead of print), shows that fruit rich in polyphenols may protect against Alzheimer's disease. Polyphenols are natural compounds found in plant foods. They act as antioxidants and provide other health benefits. Green tea polyphenols and polyphenols from wine have attracted a great deal of media attention. While dietary anti-oxidants, such as vitamins E and C, have received considerable attention, relatively little is known about a similar anti-oxidant role for plant-derived polyphenols, such as the flavonoids and phenolic acids.

In one study, polyphenol extracts were able to suppress cell destruction. The researchers used neuron-like PC12 cells and exposed them to fruit extracts at different concentrations (100, 300, 600, 2,000 mcg/ml) before treating them with hydrogen peroxide. More cells survived when treated with the fruit extracts.

Probiotics and Eczema

Atopic eczema is due to a hypersensitivity reaction (similar to an allergy) in the skin, which leads to long-term inflammation of the skin. It is most common in infants. People with eczema often have asthma or hay fever, too, and there is often a family history of allergic conditions such as asthma, hay fever, or eczema. A meta-analysis or review of published

Vegetables are also high in folic acid; the word "folic" comes from the word "foliage". Adequate folic acid levels may protect from dementia. The most common form of dementia is Alzheimer's disease, affecting about 13 million people worldwide. By mid century the prevalence of Alzheimer's disease is expected to quadruple.

A study appearing in the *Journal of Neurology, Neurosurgery and Psychiatry* (Published online ahead of print, doi 10.1136/jnnp.2007) found a connection between folic acid levels and the tendency for dementia. Researchers followed 518 elderly individuals (average age 73) for a 2.4 year period. At the beginning of the study, none of the subjects had dementia. The researchers noted that the development of dementia was much more likely in those subject with low folate levels and high homocysteine levels.

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Anxiety, Inflammation and Omega-3 Fatty Acids

"If A is a success in life, then A equals x plus y plus z. Work is x; y is play; and z is keeping your mouth shut." -- Albert Einstein

Earlier studies have shown that low levels of omega-3 fatty acids may be linked to both depression and to inflammation. A double-blind study appeared in *Brain Behavior, and Immunity* (epublished ahead of print July 19, 2011

[doi:10.1016/j.bbi.2011.07.229](https://doi.org/10.1016/j.bbi.2011.07.229)); it looked at omega-3 fatty acid consumption, its effect on the production of inflammatory chemicals known as cytokines and its effect on depression. The subjects of the 12 week study were 68 medical students who were given either a placebo or an omega-3 fatty acid supplement containing EPA (2085 mg/day) and DHA (348 mg/day). Blood samples were taken regularly during periods of low stress as well as on days before an exam (high-stress). The students who received the omega-3 supplement produced lower levels of the chemicals associated with inflammation. Compared to controls, those students who received the omega-3 supplement

had a 14% decrease in lipopolysaccharide (LPS) stimulated interleukin 6 (IL-6) production (a chemical that indicates the presence of inflammation) and a 20% reduction in anxiety symptoms.

Because people vary in their ability to absorb essential fatty acids, blood tests were performed to look at the ratio between omega-3 and omega-6 fatty acids in the blood. A higher ratio of omega-3 to omega-6 fatty acids was associated with a decrease in tumor necrosis factor alpha, another chemical that indicates the presence of inflammation.

The authors concluded, "The reduction in anxiety symptoms associated with omega-3 supplementation provides the first evidence that omega-3 may have potential anxiolytic benefits for individuals without an anxiety disorder diagnosis."

