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Austin Quan Yin Newsletter

The Better Health News

Special Interest Articles:

- Probiotics and the flu
- Anxiety and fatty acids
- Nutrition and ADHD
- Nutrition and asthma
- Thiamin and heart failure
- Physical activity and back pain
- Nutrition and child development

Doodling and Memory

People who doodle during meetings are often accused of not paying attention. Recent research appeared in the journal *Applied Cognitive Psychology* (published online February 27, 2009), shows that they may actually retain more of what was said than non-doodlers.

The subjects were asked to listen to a two and a half minute long telephone recording that contained eight names of people who were to attend a party. Half of the subjects were asked to

doodle while listening to the recording, and half did not. The group doing the doodling retained 29% more information than the non-doodling group.

Lead researcher, Professor Jackie Andrade, of the School of Psychology at the University of Plymouth, believes that doodling helps to curtail daydreaming. Performing a simple task, while listening to something boring, helps to keep people from being distracted and stay more focused on the task at hand.

Iodine and Child Development

Research appearing in the *Journal of Pediatrics* (epublished ahead of print April 12, 2011) looked at the relationship between maternal thyroid function, iodine levels and child development. The level of free thyroxine in the mothers of the children in the study was measured during the first trimester of pregnancy. The 86 children involved in the study were evaluated using the Bayley Scale of Infant Development at 12, 18 and 24 months of age. Researchers found that there

was a relationship between the mothers' free thyroxine levels and the children's psychomotor development at ages 18 months and 24 months. The children of mothers in the bottom 25th percentile of free thyroxine levels tended to be more developmentally delayed than the children of mothers with higher thyroxine levels. The authors of the study saw these findings as showing a need for iodine supplementation before conception and during pregnancy and lactation.

Probiotics and the Flu

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There are a number of studies that show probiotic supplementation to be supportive of the immune system. Research appearing in the journal, *Vaccine* (Volume 24, Issues 44-46, 10 November 2006, Pages 6670-6674) looked at probiotic supplementation and its effect on upper respiratory tract infections (colds and the flu). The double-blind, placebo-controlled study took place during two winter/spring periods. The subjects were 479 healthy adults who were supplemented with a vitamin/mineral supplement containing probiotics (lactobacilli and bifidobacteria) or a placebo that contained only the vitamin/mineral supplement. Taking the probiotic did not reduce the number of upper respiratory infections, but they did significantly shorten the duration of the illness (by nearly two days, compared to the placebo group). Also, the symptoms were less severe in the probiotic group. Taking the probiotics

also increased the number of immune cells (cytotoxic T plus T suppressor cell counts and in T helper cell counts).

Another study appearing in the *International Journal of Sports Nutrition, Exercise and Metabolism* (2011 Feb; 21(1): 55-64) looked at the use of probiotics and their effect on the immune systems of 58 athletes. The 58 subjects of the study were randomly assigned to receive either a probiotic supplement (*Lactobacillus casei Shirota*) for a period of 16 weeks. The placebo group had 36% higher incidence of upper respiratory infections (URTI) compared to the group receiving the supplement. According to the authors, "Regular ingestion of LcS appears to be beneficial in reducing the frequency of URTI in an athletic cohort, which may be related to better maintenance of saliva IgA levels during a winter period of training and competition."

Anxiety and Fatty Acids

Research appearing in the *Journal of Clinical Psychopharmacology* (2006; 26(6): 661-665) looked at the effect omega-3 fatty acids on anxiety. Twenty-four subjects with a history of substance abuse and anxiety disorders participated in this small, double-blind, placebo-controlled study. Over a period of three months the subjects were

given either a placebo or a supplement containing EPA and DHA. The group receiving the supplementation progressively scored lower on questionnaires evaluating anxiety. The group receiving the placebo enjoyed no such decline.

Nutrition and ADHD

Various nutritional approaches may help ADHD. Nutrition remains controversial because scientific studies, by their very nature, look at a single constituent. The paradigm in medicine is to try to find a “cure”, one thing that fixes the symptom. There is an inherent flaw in this way of thinking because it assumes that any health problem has one cause. If the problem, as some research suggests, is due to a lack of serotonin, then many factors can come into play. You need protein and the amino acid tryptophan to make serotonin. You also need folate, vitamin B₆, vitamin C and other nutrients to make serotonin. Exercise helps us to produce serotonin. Essential fatty acids are necessary for the integrity of the nerve cell membranes. Many factors are involved. If someone with ADHD is not producing enough serotonin due to a lack of tryptophan, giving them folate in a study may not produce results. If the person is folate deficient, then giving B₆ may not help and so on.

Serotonin is only one neurotransmitter—what if GABA is involved? Obviously, other nutrients will come into play. Sugar and the chemical reactions of the Krebs Cycle begin to matter. What if a heavy metal or a chemical toxin is interfering with those reactions?

With that in mind, there are some studies that show the benefit of nutrient supplementation for patients with ADHD. Omega-3 fatty acids are pretty well researched. So much so, that it is safe to say that you should supplement ADHD patients with them (along with having them avoid trans fats). One study appearing in *Prostaglandins,*

Leukotrienes and Essential Fatty Acids (Volume 74, Issue 1, Pages 17-21, January 2006) found that supplementing with flax oil and vitamin C improved levels of RBC membrane fatty acids and a reduction in total hyperactivity scores. Another small pilot study published in *Nutrition Journal* (2007; 6(1): 16) found that a high daily dose of EPA/DHA was found to significantly improve behavior over eight weeks. Other research appearing in the journal, *Lipids* (December 2004;39(12):1215-1222). Other studies have shown different nutrients to be of value. One study found that appeared in the *Journal of Child and Adolescent Psychopharmacology* (2007; 17(6): 791-802) found that acetyly-L-carnitine may be of value for children with the “inattentive” type of ADHD. Another small study appearing in *Prostaglandins, Leukotrienes and Essential Fatty Acids* (2002;67(1):33-38) found that supplementation with L-carnitine helped improve behavior in ADHD patients.

Magnesium and B6 supplementation helped improve symptoms in a study involving 40 ADHD patients that was published in *Magnesium Research* (2006; 19(1): 46-52). Other research, published in *Magnesium Research* (1997;10(2):143-148) found a magnesium deficiency in 95% of the subjects with documented ADHD. Dietary changes may also be of benefit to children with ADHD. A number of studies have shown the benefits of refined sugar and additive free diets to a number of ADHD patients.

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Nutrition and Asthma

In the decade between 1990 and 2000 the cost of asthma care went up 54%, according to *Family Practice News* (October 1, 2000:5). Perhaps if more focus was placed on diet, lifestyle and supplementation these costs could be reduced. Also, a bit more attention should be paid to drug therapy and efforts should be made to reduce drug intake. Inhaler overuse is an important issue, and can lead to increased hospitalizations and death. An article appearing in *Family Practice News* (April 15, 1993:46) stated that deaths from asthma could be cut by 50% if physicians monitored beta agonist inhaler overuse by patients. An inhaler should last one month, but often prescriptions are given with unlimited refills and the doctor has no idea how often the patient is using the inhaler.

Other medications can contribute to asthma attacks. An article in the *Annals of Allergy* (June 1992;68:453-462) stated that drugs may be responsible for as many as 10% of asthma attacks. NSAIDs (nonsteroidal anti-inflammatory drugs) may be responsible for 2/3 of these drug-induced attacks. Other drugs, like muscle relaxants, beta-blockers, or antibiotics can trigger asthma attacks as well.

Diet plays a role in asthma. Research appearing in the *European Respiratory Journal* (2009; 33:33-41) looked at the dietary habits of 54,672 French women and the association with asthma attacks. Of the subjects, 1,063 currently had asthma with 206 having asthma attacks at least once per week. There was a strong correlation between the frequency of asthma attacks the adherence to a "Western" diet including pizza, cured meats, sweets and other processed foods. Also the types of fats in the diet affect asthma symptoms, according to research appearing in the *European Journal of Clinical Nutrition* (2005; 59(12):

1335-46). It found that omega-3 fatty acids were especially supportive to those experiencing exercise induced bronchospasm. This was supported by a review article appearing in the *Australian New Zealand Journal of Medicine* (1994;24:727), which found that a diet low in omega-3 fatty acids and high in omega-6 fatty acids, and the increased use of margarine may be part of the reason that asthma is on the rise. The article notes that asthma is low in Scandinavia and in Mediterranean countries where there is less omega-6 consumption and more consumption of omega-3 and olive oil.

In *Clinical and Experimental Allergy* (2000;30:615-627) reviewed research about nutrients that may affect asthma. Magnesium supplementation was found to reduce bronchial reactivity; magnesium is also a mild broncodilator. Vitamin C intake has been shown to reduce exercise induced asthma. Vitamin C levels tend to be low in athletes. Research in the journal *Thorax* (2009; 64(7): 610-9) also reviewed nutritional studies related to asthma and the intake of antioxidants, namely vitamins A, C and E. The authors concluded that "Relatively low dietary intakes of vitamins A and C is associated with statistically significant increased odds of asthma and wheeze." This was echoed in the *American Journal of Clinical Nutrition* (1995;61(Suppl.):625S-630S). A study appearing in the journal *Thorax* (May 2006; 61: 388 - 393) looked at 1,030 subjects and found that dietary vitamin C and manganese intake were inversely associated with asthma symptoms.

Diet is a simple and inexpensive way to improve asthma symptoms. Omega-3 fatty acids, magnesium, manganese and antioxidant supplementation can be of value to these patients. Unfortunately diet and supplementation are seldom recommended in medical offices.

Thiamin and Congestive Heart Failure

Patients on the diuretic furosemide (sold under the brand name Lasix) tend to be deficient in thiamin. A study appearing in *The American Journal of Medicine* (1991;151-155) measured thiamin status in 23 patients with congestive heart failure, and who were taking furosemide. A high thiamin pyrophosphate effect, which indicates thiamin deficiency, was found in 21 of the 23 subjects. Thiamin deficiency was only found in two out of 16 controls. This result was confirmed by other research appearing in the *Journal of the American College of Cardiology* (2006; 47: 354-61), which found that 33% of 100 hospitalized patients with congestive heart failure were thiamin deficient. Only 12% of healthy controls were found to be thiamin deficient.

Beriberi is the disease of thiamin deficiency. Wet beriberi affects the cardiovascular system and is characterized by an enlarged heart,

and congestive heart failure. There is some research that indicates supplementation with thiamin may be of benefit to patients with congestive heart failure.

A study appearing in *The American Journal of Medicine* (May 1995;98:485-490) looked at 30 patients with severe congestive heart failure who were also taking furosemide. In the double-blind study, the patients were given either IV thiamin (200 milligrams per day) or a placebo. The thiamin group experienced improvement in left ventricular ejection fraction--increasing by 22% in 27 patients who completed the full seven-week therapy. The authors of the study concluded that thiamin supplementation would be a beneficial addition to conventional therapy for congestive heart failure.

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Physical Activity and Back Pain

We hear a lot about core strengthening and the importance of doing specific low back exercises to help prevent back pain. It turns out that general physical activity may be just as beneficial.

A study published in the *American Journal of Public Health* (2005; 95(10): 1817-24), looked at 681 subjects with

low back pain. The researchers found that recreation involving physical activity, like participating in sports, had a positive effect on back pain. The more a subject participated in sports, the less likely it was to have back pain. Specific back exercises actually did not perform as well as general physical activity.

Nutrition and Child Development

"Education is what remains after one has forgotten everything he learned in school."

Einstein

Research appearing in the journal *Early Human Development* (Volume 85, Issue 7, July 2009, Pages 421-427) links the levels of antioxidant vitamins in newborns to improved development. Researchers measured levels of vitamins A, C and E in maternal blood and in the blood in the umbilical cord at the time of delivery in 150 sets of mothers and newborns. At age two, the children were evaluated using the Gesell Development Schedules. Children with higher levels of vitamin E at birth had better motor development, as well as language and social skills. Vitamin A levels also had a positive effect on motor

development. Taking vitamin A during pregnancy is not advised—use beta carotene.

Damage from lipid peroxidation can be linked to many complications in the newborn, and is especially problematic in premature babies. Research appearing in the *Archives of Medical Research* (Volume 33, Issue 3, May-June 2002, Pages 276-280) found that pre term infants have lower levels of vitamins A and E than term babies.

