

Austin Quan Yin Newsletter

The Better Health News

Special Interest Articles:

- B vitamins and ADHD
- Antibiotics create "superbugs"
- Two surprising immune boosters
- Fever can be a friend
- Television and learning
- DHA and memory
- Lung problems and acetaminophen

Vitamin C & Exercise-Induced Asthma

Exercise-induced asthma is a condition where the patient suffers from asthma symptoms—breathlessness, cough and wheezing—with exercise. Japanese researchers have found that vitamin C relieves exercise-induced asthma. The study was a small one. It was presented at the World Congress of Asthma; Buenos Aires, Brazil on October

19, 1999, involved children who did not regularly take any asthma medication. The researchers tested the children, then gave them a dose of 2,000 mg. of vitamin C per day for four weeks. During an exercise test given at the end of the four weeks, eight out of 17 reported fewer attacks and better lung function.

B Vitamins and Postpartum Depression

People who eat a lot of sugar and refined carbohydrates tend to be deficient in various B vitamins. Supplementation with B vitamins can help to at least partially address a number of problems. According to a study ("Dietary Folate and Vitamins B₁₂, B₆, and B₂ Intake and the Risk of Postpartum Depression in Japan: The Osaka Maternal and Child Health Study," Miyake Y, Sasaki S, et al, *J Affect Disord.*, 2006 June 29), B vitamin intake may help to prevent postpartum

depression. The subjects of the study were 865 Japanese women who filled out dietary data questionnaires during their pregnancy. Of the group, 121 developed depression between two and nine months postpartum (scored 9 or higher on the Edinburgh Postnatal Depression Scale). Women who had diets high in riboflavin (vitamin B₂) were less likely to suffer from postpartum depression than those who had diets that were low in vitamin B₂.

B Vitamins and ADHD

Hyperkinetic cerebral dysfunction exists for many and varied reasons.

A study published in the *Journal of Learning Disabilities* (May, 1982;15(5):258-264) looked at B vitamin supplementation and hyperactivity. The subjects of the study were 100 children who were either hyperactive or had cerebral dysfunction. They were given 100 mg of thiamin qid, calcium pantothenate (source of B₅) twice daily, and 50 mg of B₆ twice daily 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, niacinamide or elimination diets.

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Different subjects responded to different aspects of the therapy. Eight of the 100 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.

Many children eat a lot of sugar and refined food. Considering that a highly refined diet depletes B vitamins, supplementing with a good B complex is often a very good idea.

Antibiotics Create "Superbugs"

According to the *Journal of the American Medical Association* (June 19, 2002;287:3096-3102, 3103-3109, 3133-3135), fewer doctors are prescribing antibiotics to children and teens than in 1990. This is an attempt to halt the rise in antibiotic resistant infections. Over use of antibiotics in the past has created antibiotic resistant strains of bacteria.

Doctors gave only 30 million prescriptions for antibiotics between 1999 and 2000 to children under the age of 15. Between 1989 and 1990 the same age group was given 45 million antibiotic prescriptions. This is according to the Centers for Disease Control and Prevention in Atlanta. The

number of office visits was the same for the two periods of time.

The authors of the *JAMA* article believe that the reduction in the number of antibiotic prescriptions was due to awareness that giving unnecessary antibiotics helps to create bacteria that are resistant to antibiotics. The article's findings were formed from surveys conducted with over 2,500 physicians. The surveys were conducted from 1989 to 1990, and then later from 1999 to 2000. The physicians reported on their use of antibiotics in as many as 13,600 office visits with patients under the age of 15.

Two Surprising Immune Boosters

There are a number of studies that show probiotic supplementation to be beneficial for 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 it 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 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*) or placebo 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."

You don't even need to take probiotics every day, according to research appearing in the *Journal of the American College of Nutrition* (2011 Aug; 30(4): 259-64). In this study colonization and persistence of *Lactobacillus reuteri* DSM173938 was determined. The colonization count was the same for daily supplementation and for supplementation every other day. Colonization declined when supplementation was discontinued.

The second surprising thing that helps the immune system is green tea. It turns out that drinking green tea may also reduce the chances of coming down with the flu. In one study, researchers looked at questionnaires about green tea consumption taken twice during flu season. Drinking between one and five cups of green tea per day reduced the incidence of influenza. Researchers found that there was a correlation between tea consumption and the incidence of influenza (confirmed by antigen testing) (*Journal of Nutrition* (201 Oct; 141(10): 1862-1870.)

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Fever can be a Friend

For some reason we tend to view a fever as a problem that needs to be brought under control. Normal temperature is considered to be 98.6° Fahrenheit, but a child's normal temperature may be a little higher; slightly over 99° may be normal in a child. There are many things, like physical activity, wearing a lot of clothes (especially in winter), or hot food, that can cause a child's temperature to be slightly higher.

Even if there is a fever, or temperature that is 99.5 degrees or higher, the fever is not the problem—it is a symptom. The fever is a positive response to the disease. It is a sign that the immune system is working. Fever increases the amount of a natural antiviral and anticancer substance in the blood, called interferon. Fever can also increase the white blood cells, and improves their ability to destroy bacteria and infected cells. Fever also hinders the reproduction of many viruses and bacteria. A mild fever may be a good thing—the immune system is working.

The idea of trying to stop a mild fever with a drug is not a good one. The fever is actually your body fighting the illness. If a child is sick, monitor him or her for dramatic increases in temperature and worsening of any other of his symptoms.

A temperature of 106° Fahrenheit can harm the heart and brain. If it gets that high, then you need to be concerned. During most infections, however, the temperature does not rise above 104° Fahrenheit.

Fever, of course, can be problematic. Sweating causes loss of salt, water and vitamins. During moderate fevers, we can compensate for these losses by drinking fluids and eating nutritious foods. Loss of appetite and lethargy are common occurrences in fever. If a child has a fever, and does not want to eat, don't force the issue—appetite will return upon

recovery. Do, however, make sure that the child gets enough water. Dehydration can make the situation worse. Sometimes soup or broth is appealing and can help to restore nutrients.

Aspirin reduces fever, pain, and inflammation, but pediatricians rarely recommend it. Taking aspirin during viral illness has been linked to Reye's syndrome. Reye's syndrome is a rare, potentially fatal childhood disease. In general, it strikes children under the age of 15 upon recovering from an upper respiratory illness, flu or chicken pox. Reye's syndrome is characterized by abnormal accumulations of fat in the liver and a severe increase of pressure in the brain. Typically the first symptom is uncontrollable vomiting and nausea. Other early symptoms include lethargy, drowsiness, disorientation and irritability. The swelling in the brain may cause seizures; coma and the child may stop breathing. A child with Reye's syndrome needs immediate medical care. The earlier it is diagnosed, the better the chance for a successful recovery.

Acetaminophen (sold under the trade name Tylenol), can reduce a fever. According to the *American Journal Respiratory Critical Care Medicine* (April 2004; 169(7):836-41), taking acetaminophen may have a link to asthma, in those who are susceptible. It may decrease levels of an antioxidant in the lungs. Antioxidants help protect the lungs against free radicals. Free radicals are unstable chemicals (like chemical bullets) that destroy cells. Antioxidants are like chemical "bullet-proof vests" that protect tissues. Lower levels of antioxidants may predispose people to lung injury and spasm in the lung airways—the symptoms of asthma. The combination of acetaminophen and aspirin is also good to avoid—the combination may cause kidney damage.

Television and Learning

Research appearing in July, 2005 issue of the *Archives of Pediatrics & Adolescent Medicine* shows that watching television can harm a child's ability to learn. Several studies were looked at. One study looked at 400 Californian students in the third grade. It found that the students with televisions in their bedrooms scored an average of eight points lower on math and language tests than those without television in their rooms. Students with a television and a computer scored higher, and students with a television and no computer scored lower.

Another study looked at nearly 1,800 American children. It found that children who watched more than three

hours of television per day before the age of three had lower scores on intelligence tests and academic tests when compared to students who watched less television. The tests were given at the ages of six and seven.

Another study in New Zealand found lower education levels among adults who watched a lot of television as children. Of course a child who is poorly motivated may watch a lot of television. So this particular study may be telling us that poor students watch a lot of television and not that watching a lot of television makes you a poor student.

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DHA and Memory

Docosahexaenoic acid (DHA) is an essential fatty acid that is found in fish oil. Research appearing in *Alzheimer's & Dementia* (2010 Apr 29; [Epub ahead of print]) looked at the effect DHA supplementation had on memory. The subjects of the double-blind, placebo-controlled study were 485 patients over the age of 55 with age-related cognitive decline (ARCD). Other than the memory problem, the subjects were healthy. They were randomly divided into two groups and for 24 weeks they were given either a placebo or 900 mg of DHA per day. The group receiving the supplementation scored better on tests evaluating visual spatial learning, episodic memory and verbal recognition.

There is other research that supports the value of DHA supplementation for memory. A study that appeared in *Neuroscience Research* (Volume 56, Issue 2, October 2006, Pages 159-164) found that supplementing amnesia patients with DHA and arachidonic acid improved scores on tests evaluating memory and attention. A double-blind, placebo-controlled study involving 49 women between the ages of 60 and 80 appeared in *Nutritional Neuroscience* (2008; 11(2): 75-83). It found that supplementing with a combination of DHA and lutein may improve cognition.

Lung Problems Linked to Acetaminophen

"The important thing is not to stop questioning. Curiosity has its own reason for existing."

Einstein

COPD is an acronym for *chronic obstructive pulmonary disease*. It is a term given to a group of diseases that block airflow during exhalation, making it increasingly difficult to breathe. It includes emphysema and bronchitis. Up to 24 million Americans show impaired lung function, which is common among those with chronic obstructive pulmonary disease (COPD), the third leading cause of death in the United States. Research appearing in the May, 2005 issue of the *American Journal of Respiratory and Critical Care Medicine* contains research that connects acetaminophen use with asthma and COPD. "Oxidative stress may increase the risk of asthma, contribute to asthma progression, and decrease lung function," writes Tricia M. McKeever, MD, from the University of Nottingham, England, and colleagues. "Previous research suggests that use of acetaminophen, which is

hypothesized to reduce antioxidant capacity in the lung, is associated with an increased risk of asthma."

Increased use of acetaminophen was associated with COPD and asthma—the higher the use of the drug, the higher the incidence of these two lung diseases. Use of acetaminophen was also associated with a decrease of lung function in general. Daily users of the drug had lower forced expiratory volume (a measure of lung function) when compared to people who never took the drug.

Signs and symptoms of COPD include:

- Constant coughing, sometimes called "smoker's cough"
- Shortness of breath while doing everyday activities
- Producing a lot of sputum (also called phlegm or mucus)
- Feeling like you can't breathe or take a deep breath
- Wheezing

