



Special Interest Articles:

- Developmental condition disorder
- Lipoic acid
- Asthma and omega-3 fatty acids
- Asthma and supplements
- Peripheral neuropathy
- Drugs may trigger asthma attacks
- Diet and asthma

Probiotics Reduce the Intensity of Colds

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).

Overuse of Inhalers May be Dangerous

An article appearing in the *Archives of Internal Medicine* (July 15, 1997 vol. 127 no. 2 142-147) cites research done at Cornell and Stanford universities concluding that asthma inhalers that contain the drugs salmeterol or formoterol may be responsible for four out of five asthma-related deaths in the United States. The research was a review of 19 clinical trials that involved 33,826 patients. The meta-analysis concluded that patients using the inhalers were 3.5 times more likely

to die and 2.5 times more likely to be hospitalized than those using a placebo.

The inhalers, while relieving asthma symptoms, also manage to increase overall inflammation and sensitivity in the airways. Death from asthma is rare, about 5,000 per year in the US. But these inhalers do increase the chance of death. Even though inhalers offer temporary relief, they do tend to make the overall condition worse.

Developmental Coordination Disorder and Fatty Acids

At the end of three months, the children receiving the essential fatty acids had significant improvements in reading, spelling and behavior.

A study appearing in *Pediatrics* (2005; 115(5): 1360-6) looked at 117 children with developmental coordination disorder (DCD) between the ages of five and 12. The children were randomly assigned to receive either a placebo or a supplement containing a combination of evening primrose oil and fish oil (both omega-3 and omega-6 essential fatty acids). At the end of three months, the children receiving the essential fatty acids had significant improvements in reading, spelling and behavior. During a second three month interval, the children who were originally in the placebo group received the essential fatty acid supplement, and enjoyed improvements similar to the original treatment group.

Developmental Coordination Disorder (DCD) is characterized by poor coordination and clumsiness. Symptoms of DCD include clumsiness and delays in

development. The child may have delays in reaching certain developmental hallmarks, like sitting, crawling and walking. He or she may have problems with sucking and swallowing during the first year of life. There may be problems with fine motor coordination (small precise movements), like tying of shoelaces or using scissors. There may also be problems with gross motor activities (using larger muscle groups in a coordinated fashion) like jumping, running, balancing on one foot, or hopping. The child may "trip over his (or her) own feet", have an unsteady gait, or have trouble holding onto objects. It is estimated that 6% of school-age children have some degree of DCD. A child with DCD may also have a learning disability, communication disorders or problems writing (poor handwriting, spelling, and difficulty with grammar and pronunciation).

Alpha Lipoic Acid

Alpha lipoic acid is a fatty acid that is found in every cell in the body. It acts as an antioxidant and it helps to produce energy for the cells from sugar in the blood. It can lower blood sugar in diabetics, so people with diabetes should monitor their blood sugar when taking alpha lipoic acid.

Alpha lipoic acid is soluble in fatty tissue and in water, making it unique as an antioxidant and especially useful for protecting nerve tissue. It may even help protect the brain from free radicals and help

to prevent dementia. Alpha lipoic acid supplementation has been researched to be of value to people with peripheral neuropathy. Peripheral neuropathy is a condition where the extremities (starting with the hands or feet) will become numb, tingle or burn. It is commonly experienced by diabetics, but can also be caused by alcoholism, kidney failure, shingles, Lyme disease or other health problems.

Asthma and Omega-3 Fatty Acids

The *European Journal of Clinical Nutrition* (2005; 59(12): 1335-46) published an article that reviewed the research involving asthma and omega-3 fatty acid supplementation. The authors stated that fish oil supplementation may act to reduce inflammation and help to open airways.

Other research appearing in the *International Journal of Tuberculosis and Lung Diseases* (2007; 11(1): 103-9) looked at fish consumption, and the relative consumption of omega-6 and omega-3 fatty acids in 1,002 pregnant Japanese women. Increased fish consumption and consuming more omega-3 fatty acids (in relation to omega-6 fatty acids) reduced the chance of having a child with asthma.

Another study that appeared in *Clinical and Experimental Allergy* (2007; 37(11): 1616-23) looked at the dietary habits of 16,187 subjects between the ages of 23 and 54 years. It found that a small amount of fish in the diet reduced the chances for developing asthma. The subjects who never ate fish during childhood had an increased risk of developing asthma at an early age.

Pregnant women who had an increased risk for having a child with asthma were involved in research that appeared in *Pediatric Allergy and Immunology* (2004;15:517-522).

The 616 women were instructed to give the newborn either 500 mg/day of fish oil or a placebo. Breast-fed infants were not given a supplement until the age of six months (there is a high concentration of omega-3 fatty acids in breast milk). The children were evaluated at 18 months of age (376 of the original group participated in the evaluation). Omega-3 fatty acid levels were measured and it was found that asthma symptoms, nocturnal coughing and doctor visits (for asthma), were reduced in those with high levels of omega-3 fatty acid in the blood.

When choosing a fish oil supplement it is very important to pay attention to quality. Fish can be a source of dioxin and mercury. It is better to find a company that has good quality control and that you trust than it is to shop for the lowest-priced supplement. Also, it is a good idea to avoid hydrogenated and partially hydrogenated oils (sources of trans fats). Trans fats can promote inflammation.

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Asthma and Supplements

There are about 300 million people suffering from asthma worldwide, with asthma causing 250,000 deaths in 2007 (according to the World Health Organization). While medical intervention can save an asthmatic's life, nutrition and natural health care can improve the day to day management of the disease. Using nutrition is important, considering that inhaler overuse can increase the chance of dying from an asthma attack. 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. 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.

Magnesium is nature's muscle relaxer and can help to open airways. A randomized, placebo-controlled study appearing in the *Journal of Asthma* (2010; 47(1): 83-92) looked at 55 subjects between the ages 21 and 55, with mild to moderate asthma. They were randomly divided into two groups and given either a placebo or 340 mg of magnesium per day over a 6 1/2 month period. The severity of the subjects' asthma was evaluated using pulmonary function testing, methacholine challenge testing and subjective questionnaires about the severity of asthma and the quality of life. The researchers found that the subjects who received the magnesium were much more resistant to the methacholine challenge and also had great improvements on their pulmonary function tests. The magnesium group scored higher on the quality of life questionnaires as well.

There are many studies that show the benefit of antioxidants for reducing the frequency and severity of asthma attacks. A meta-analysis appearing in the journal *Thorax* (2009; 64(7): 610-9) found that a high intake of vitamins A and C was

associated with a reduced risk for asthma. An article appearing in *Clinical and Experimental Allergy* (2000;30:615-627) also stated that antioxidants can play an important role in keeping asthma under control. It specifically mentions beta carotene and vitamin C playing a role in helping to keep airways open. Research appearing in the *New England Journal of Medicine* (1991;325(8):586- 587) found higher levels of free radicals in patients with asthma when compared to normal controls.

Omega-3 fatty acids are also beneficial for asthmatics. They help to reduce overall inflammation and have a protective effect on the airways.

Diet and supplementation can help to improve asthma symptoms. One very nice thing about utilizing nutrition to improve asthma symptoms is that it does nothing to interfere with any medical treatment. Good nutrition doesn't really treat asthma, it improves general health. You don't really treat asthma, you treat the whole patient and that results in better management of asthma.

Proper diet, essential fatty acids, magnesium and antioxidants have all been researched and have been shown to improve the general health of asthmatic patients. Exercise is also beneficial. According to Professor Thomas A. E. Platts-Mills, MD, PhD (at the 54th annual meeting of the American Academy of Allergy, Asthma and Immunology), some of the risk factors relevant to asthma in developed countries were not relevant in areas where walking or playing for 2 hours or more a day was normal behavior.

Peripheral Neuropathy

The word neuropathy is from a combination of the words "nerve" and "pathology". The word peripheral means away from the center of the body, meaning in the extremities. Peripheral neuropathy is nerve damage that generally starts at the tips of the fingers and/or toes and gradually works its way up to involve the hands and/or feet. It can move further up the limbs as it becomes more severe. The nerve damage is experienced by the patient as either a burning sensation, pain, numbness, tingling or possibly poor muscle control. It is generally felt in both hands or feet (as opposed to something like carpal tunnel syndrome, which only affects one hand). When the feet are severely affected it can result in poor balance and a tendency to fall.

There are a number of causes of peripheral neuropathy. It is commonly seen in alcoholics and people with diabetes. It can also be the result of genetic disorders like Charcot-Marie-Tooth disease, or Friedreich's ataxia. Systemic problems like vitamin deficiency (especially a thiamin or vitamin B₁₂ deficiency), pernicious anemia, or kidney failure can also result in damage to the peripheral nerves. Infections, like AIDS, Lyme disease, or syphilis can also result in peripheral neuropathy. Other causes include heavy metal or chemical poisoning, direct damage to the nerve and poor circulation in the extremities.

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Drugs May Trigger Asthma Attacks

Approximately 20 million Americans have asthma, nine million of them are under the age of 18. The prevalence of asthma increased by 75% between 1980 and 1994, with an increase of 160% in children under the age of five. In 2003, there were 12.7 million physician office visits and 1.2 million outpatient department visits due to asthma. There were 1.9 million asthma-related visits to emergency departments in 2002. In the US, there are approximately 5,000 deaths from asthma annually. Direct health care costs for asthma in the United States total more than \$11.5 billion annually; indirect costs (lost productivity) add another \$4.6

billion for a total of \$16.1 billion. Prescription drugs represented the largest single direct medical expenditure, over \$5 billion.

According to an article appearing in the *Annals of Allergy* (June 1992;68:453-462), between 8% and 10% of all asthma attacks may be due to medication. Nonsteroidal anti-inflammatory drugs (NSAIDs--common painkillers) are responsible for more than 2/3 of drug-induced asthma attacks. Other drugs that can trigger attacks include beta-blockers, cholinergic agonists, antibiotics, muscle relaxers and cholinomimetic alkaloids.

The road to good health is always under repair.

Diet and Asthma

A number of studies show that diet can improve asthma symptoms. Research appearing in the journal *Thorax* (2006; 61(12): 1048-53) looked at the diets of 598 Dutch children between the ages of 8 and 13. It found that a diet high in fish and whole grains reduced the risk of asthma. Antioxidants in the diet seem to be especially beneficial in reducing asthma symptoms. Another study appeared in the journal *Thorax* (2006; 61(5): 388-93) that looked at diet and asthma symptoms in 515 adults with asthma and 515 matched controls without the disease. It found that a low intake of fruit, vitamin C and manganese increased the risk for asthma symptoms. Low levels of vitamin C in the serum was also associated with asthma.

Just as a good diet can reduce asthma symptoms, a poor diet can make them worse. Research appearing in the *European Respiratory Journal* (2009; 33:33-41) looked at the diets of 54,672 French women. Researchers found an increased risk of asthma attack associated with following the "Western diet". Eating processed foods, pizza, and refined foods can increase the frequency and severity of asthma attacks.

Fruits, vegetables and nuts provide antioxidants, and since the two components of asthma are inflammation and airway constriction, a diet that is high in antioxidants may go a long way in preventing attacks.

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