



## *Your Monthly Update*

### *Dear Colleague*

Welcome to the April 2012 newsletter from Pure Bio Ltd.

### *Did you know:*

As from April 2013 the European Parliament is outlawing the right for manufacturers of food and vitamin supplements to make any health claim that is supported by scientific studies. So, once in place, the law will prevent such claims as glucosamine being good for joints or probiotics supporting gut health.

If you do not wish to see such autocracy in place, support the ANH and alert your local MEP! – [www.anh-europe.org/health-claims-veto-2012](http://www.anh-europe.org/health-claims-veto-2012)

Don't forget our website on [www.purebio.co.uk](http://www.purebio.co.uk). We always welcome feedback and suggestions.

## **Asthma**

Protocol Summary

<b>Ranking</b>	<b>Nutritional Supplements</b>	<b>Botanical Medicine</b>
<b>Primary</b>	Vitamin C	
<b>Secondary</b>	Beta carotene Fish oil Lycopene Magnesium Pycnogenol Selenium Vitamin B6	Boswellia Butterbur Green lipped mussel Ivy Leaf
<b>Other</b>	Betaine Hydrochloride Bromelain Quercitin Molybdenum	Ginkgo

**Primary** – Reliable and relatively consistent scientific data showing a substantial health benefit.

**Secondary** – Contradictory, insufficient, or preliminary studies suggesting a health benefit or minimal health benefit.

**Other** – An herb is primarily supported by traditional use, or the herb or supplement has little scientific support and/or minimal health benefit.

## **Definition**

Asthma is a chronic lung disease involving an episodic constriction of the bronchial tubes that affects over 5 million people in the UK. Symptoms of asthma include episodes of wheezing, coughing, shortness of breath, and increased mucus production. Genetics, allergy, environment, infection, emotions, and nutrition all play a role in this disease, which causes inflammation of the airways of the lung.

## **Causes**

The immediate cause of an asthmatic attack is constriction of the muscular bands that regulate the size of the bronchial tubes. These muscles are under neurological control, but what triggers the nerves to inappropriately cause muscular constriction is not clear. The triggers for asthma can be primarily allergic or primarily emotional or induced by exercise or respiratory infection, or it can occur with no obvious causes. It is now being considered an inflammatory disorder.

The "hygiene hypothesis" is a proposed explanation for why allergies and asthma are now epidemic, especially in developed countries. The hypothesis holds that children who grow up in crowded and dirtier environments are less likely to develop these ailments than children raised in cleaner, more protected environments. The idea is that the developing immune systems of less privileged children are exposed to a high quantity of germs from an early age and so become stronger and more protective of health. The hypothesis recently got a big boost in credibility. Researchers at Duke University Medical Center compared the antibodies in the blood of laboratory rats and mice, which grow in a virtually germ-free environment, with those of wild rats and mice. All of the wild rodents had higher levels of IgG and IgE, classes of antibodies associated with immune and allergic diseases, but the wild rodents' antibodies did not tend to bind to the rat's own cells, as did the antibodies produced by the hygienically raised rodents. Instead, the wild rodents' antibodies efficiently and effectively attacked invading organisms.

## **Lifestyle Modification**

Being overweight increases the risk of asthma. Obese people with asthma may improve their lung-function symptoms and overall health status by engaging in a weight-loss program. A controlled study found that weight loss resulted in significant decreases in episodes of shortness of breath, increases in overall breathing capacity, and decreases in the need for medication to control symptoms.

## **Holistic Options**

A set of breathing exercises using the Buteyko method has been reported to significantly reduce the need for prescription drugs for people with asthma.

Antibiotic use during the first year or two of life has been associated with an increased risk of asthma in preliminary studies, highlighting the need to avoid gratuitous use of antibiotics in early childhood.

Acupuncture might be useful for some asthmatics. Case reports and preliminary trials have suggested acupuncture may be helpful for people with asthma, either as a treatment for an acute attack or as a longer term therapy for reducing the number or severity of attacks, decreasing the need for medications. The success of acupuncture may depend on other factors, such as the type of asthma being treated and certain characteristics of the patient. Nonetheless, since some controlled research has demonstrated positive effects of real acupuncture, people with asthma may want to consider a trial of acupuncture treatment to see if it helps their individual cases.

Relaxation techniques and yoga may benefit lung function by affecting emotional processes, muscles, and breathing. However, more research in this area is needed.

In addition to the treatment of existing asthma, probiotics also show promise for asthma prevention. Pregnant women who had at least one first-degree relative or partner with either eczema, allergies, or asthma (related diseases), were given the probiotic *Lactobacillus GG* until six months postpartum. In the group of women who took probiotics, the incidence of infant eczema was half that of the women who took a placebo.

## **Dietary Modification**

Vitamin C is a powerful antioxidant and anti-inflammatory. This anti-inflammatory activity may influence the development of asthma symptoms. A large preliminary study has shown that young children with asthma experience significantly less wheezing if they eat a diet high in fruits rich in vitamin C.

A vegan (pure vegetarian) diet given for one year in conjunction with many specific dietary changes (such as avoidance of caffeine, sugar, salt, and chlorinated tap water) and combined with a variety of herbs and supplements led to significant improvement in one group of asthmatics. Although 16 out of 24 people who continued the intervention for the full year were much better and one person was actually cured, it remains unclear how much of the action was purely a result of the dietary changes compared with the many other therapies employed.

Studies suggest that high salt intake may have an adverse effect on asthma, particularly in men. In a small, preliminary trial, doubling salt intake for one month led to a small increase in airway reactivity (indicating a worsening of asthma) in men with asthma, as well as in non-asthmatics.

Some asthmatics react to food additives, such as sulphites, tartrazine (yellow dye #5), and sodium benzoate, as well as natural salicylates (aspirin-like substances found in many foods). Guidance from a registered healthcare practitioner should be sought to help determine whether chemical sensitivities are present.

Although most people with asthma do not suffer from food allergies, unrecognized food allergy can be an exacerbating factor. A medically supervised "allergy elimination diet," followed by reintroduction of the eliminated foods, often helps identify problematic foods. This should be done under the guidance of a healthcare professional.

In addition to the treatment of existing asthma, probiotics also show promise for asthma prevention. Pregnant women who had at least one first-degree relative or partner with any mixture of eczema, allergies, or asthma (related diseases) were given the probiotic *Lactobacillus GG* until six months postpartum. In the group of women who took probiotics, the incidence of infant eczema was half that of the women who took a placebo.

#### **Specifically for exercise-induced asthma:**

1. **Warm up very slowly** to the point where you almost feel the "tightness" associated with exercise-induced asthma. Then stop and stretch or, if you're exercising vigorously, slow down. By taking this break, you often can block the development of asthmatic symptoms. You can then go back to your normal pace. This may take some getting used to, but can sometimes eliminate the need for medication.
2. **Try breath work.** The most effective approaches are pranayama techniques (breath control exercises taught in some yoga classes). Do these after the initial warm-up when symptoms are almost felt. For beginners, start with "The Relaxing Breath," a technique described in many books.
3. **Find a form of physical activity that minimizes exercise-induced symptoms.** Sports or activities that have intermittent rest periods (such as tennis, softball, and golf) can allow the body to regain control of breathing. Swimming may be better than running outdoors in cold weather, but no type of exercise is off-limits with proper treatment. In fact, some of the world's top athletes have exercise-induced asthma, but are nonetheless able to compete successfully in Olympic-level events.

#### **Nutritional Supplement Treatment Options**

**Beta-Carotene - 64 mg a day of natural supplement.** Some researchers have suggested that asthma attacks triggered by exercise might be caused by free-radical damage caused by the exercise. Israeli researchers reported that 64 mg per day of natural beta-carotene for one week in a double blind trial protected over half of a

group of asthmatics who experienced attacks as a result of exercise through its antioxidant effects.

**Caution:** Synthetic beta-carotene has been linked to increased risk of lung cancer in smokers. Until more is known, smokers should avoid all beta-carotene supplements.

**Fish Oil - 300 mg daily.** Double-blind research shows that fish oil partially reduces reactions to allergens that can trigger attacks in some asthmatics. Another double-blind study showed that fish oil supplements prevented exercise-induced asthma attacks in people with asthma. There is evidence that children who eat oily fish may have a much lower risk of getting asthma. Moreover, in a double-blind trial, children who received 300 mg per day of fish oil (providing 84 mg of EPA and 36 mg of DHA) experienced significant improvement of asthma symptoms. It should be noted that these benefits were obtained under circumstances in which exposure to food allergens and environmental allergens was strictly controlled.

**Lycopene - 30 mg daily.** Lycopene, an antioxidant related to beta-carotene and found in tomatoes, helps reduce the symptoms of asthma caused by exercising. In one double-blind trial, over half of people with exercise-induced asthma had significantly fewer asthma symptoms after taking capsules containing 30 mg of lycopene per day for one week compared to when they took a placebo.

**Magnesium - 300 to 400 mg daily.** Magnesium levels are frequently low in asthmatics. Current evidence suggests that high dietary magnesium intake may be associated with better lung function and reduced bronchial reactivity. IV injection of magnesium has been reported in most, but not all, double-blind trials to rapidly halt acute asthma attacks. Magnesium supplements might help prevent asthma attacks because magnesium can prevent spasms of the bronchial passages. In a preliminary trial, 18 adults with asthma took 300 mg of magnesium per day for 30 days and experienced decreased bronchial reactivity. However, a double-blind trial investigated the effects of 400 mg per day for three weeks and found a significant improvement in symptoms, but not in objective measures of airflow or airway reactivity.

**Pycnogenol - 1 mg per pound of body weight per day, in two divided doses.** In a double-blind trial over a three month period, supplementing with Pycnogenol significantly improved lung function and asthma symptoms and significantly reduced the need for rescue medication in a group of children (ages 6 to 18 years) with asthma.

**Selenium - 100 mcg daily.** People with low levels of selenium have a high risk of asthma. Asthma involves free-radical damage that selenium might protect against. In a small double-blind trial, supplementation with 100 mcg of sodium selenite (a form of selenium) per day for 14 weeks resulted in clinical improvement in six of eleven patients, compared with only one of ten in the placebo group. General prescribed dosage is 200 mcg per day for adults (and proportionately less for children).

**Vitamin B6 - 100 to 200 mg daily.** Vitamin B6 deficiency is common in asthmatics. This deficiency may relate to the asthma itself or to certain asthma drugs (such as theophylline and aminophylline) that deplete vitamin B6. In a double-blind trial, 200 mg per day of vitamin B6 for two months reduced the severity of asthma in children

and reduced the amount of asthma medication they needed. In another trial, asthmatic adults experienced a dramatic decrease in the frequency and severity of asthma attacks while taking 50 mg of vitamin B6 BID.

**Vitamin C** - **1,000 to 1,500 mg daily**. Supplementation with 1 gram of vitamin C per day reduces the tendency of the bronchial passages to go into spasm, an action that has been confirmed in double-blind research. Beneficial effects of short-term vitamin C supplementation (i.e., less than three days) have been observed. In double-blind trials, supplementation with 1,000 to 1,500 mg of vitamin C per day for 2 to 14 days prevented attacks of exercise-induced asthma. Two other preliminary trials found that vitamin C supplementation reduced bronchial reactivity to metacholine, a drug that causes bronchial constriction. The only double-blind trial of a long duration found that vitamin C supplementation (1 gram per day for 14 weeks) reduced the severity and frequency of attacks among adults with asthma. *A buffered form of vitamin C (such as sodium ascorbate or calcium ascorbate) may work better for some asthmatics than regular vitamin C (ascorbic acid).*

**Betaine Hydrochloride** - A study conducted many years ago showed that 80% of children with asthma had hypochlorhydria (low stomach acid). Supplementation with hydrochloric acid (HCl) in combination with avoidance of known food allergens led to clinical improvement in this preliminary trial. In more recent times, HCl has usually been supplemented in the form of betaine HCl. The amount needed depends on the severity of hypochlorhydria and on the size of a meal. *Betaine HCl should be used only under the supervision of registered healthcare practitioner.*

**Bromelain** - Bromelain reduces the thickness of mucus, which may be beneficial for those with asthma.

**Molybdenum** - **500 mcg per day**. In some people with asthma, symptoms can be triggered by ingestion of food additives known as sulphites. Pretreatment with a large amount of vitamin B12 (1,500 mcg orally) reduced the asthmatic reaction to sulphites in children with sulfite sensitivity in one preliminary trial. The trace mineral molybdenum also helps the body detoxify sulfites. While some doctors use molybdenum to treat selected patients with asthma, there is little published research on this treatment, and it is not known what an appropriate level of molybdenum supplementation would be. A typical American diet contains about 200 to 500 mcg per day, and preliminary short-term trials have used supplemental amounts of 500 mcg per day. People who suspect sulfite-sensitive asthma should consult with a physician before taking molybdenum.

**Quercetin** - **400 to 1,000 mg of quercetin TID**. Quercetin, a flavonoid found in most plants, has an inhibiting action on lipoxygenase, an enzyme that contributes to problems with asthma.

## **Botanical Treatment Options**

**Boswellia** - **300 mg TID of a resin extract**. One double-blind trial has investigated the effects of the Ayurvedic herb boswellia in people with acute bronchial asthma. Participants took 300 mg of powdered boswellia resin extract or placebo TID for six weeks. By the end of the study, the number of asthma attacks was significantly lower

in the group taking boswellia. Moreover, objective measurements of breathing capacity were also significantly improved by boswellia.

**Butterbur** - *Adults: 50 mg TID for adults; children: 50 to 150 mg per day, depending on body size.* In a double-blind study, adult asthma patients taking inhaled steroids took either butterbur extract or placebo. There was a significantly greater improvement in airflow in the group that took butterbur extract compared with those who took placebo.

**Green-Lipped Mussel** - *50 mg of omega-3 fatty acids BID.* In a double-blind study of people with asthma, supplementation with a proprietary extract of New Zealand green-lipped mussel (Lyprinol) BID for 8 weeks significantly decreased daytime wheezing and improved airflow through the bronchi. Each capsule of Lyprinol contains 50 mg of omega-3 fatty acids.

**Ivy Leaf** - *25 drops of a leaf extract BID.* A controlled trial on children with bronchial asthma suggested that 25 drops of ivy leaf extract given BID was effective in increasing the amount of oxygen in the lungs after only three days of use. However, the frequency of cough and shortness of breath symptoms did not change during the short trial period.

**Ginkgo** - *120 to 240 mg of standardized ginkgo or 3 to 4 ml of regular tincture TID.* Ginkgo biloba extracts have been considered a potential therapy for asthma. This is because the extracts block the action of platelet-activating factor (PAF), a compound the body produces that in part causes asthma symptoms. A trial using isolated ginkgolides from ginkgo (not the whole extract) found they reduced asthma symptoms. A controlled trial used a highly concentrated tincture of ginkgo leaf found this preparation helped decrease asthma symptoms.

Traditionally, herbs that have a soothing action on bronchioles are also used for asthma. These include marshmallow, mullein, hyssop, and licorice.

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