



## Your Monthly Update

*Dear Colleague*

Welcome to the August 2010 newsletter from Pure Bio Ltd.

### Did you know:

People with high levels of vitamin D in their blood are forty per cent less likely to develop colorectal cancer, according to research which profiled the health of more than 520, 000 study participants (*BMJ. 2010; 340: b5500*)

The chosen topic for this month is:

## Chronic Obstructive Pulmonary Disease (COPD)

### Protocol Summary

Ranking	Nutritional Supplements	Botanical Medicine
Primary	<a href="#">N-Acetyl Cysteine</a>	
Secondary	<a href="#">Creatine</a> <a href="#">L-Carnitine</a>	<a href="#">Ivy Leaf</a>
Other	<a href="#">CoenzymeQ19</a> <a href="#">Evening Primrose Oil</a> <a href="#">Fish Oil</a> <a href="#">Magnesium</a> <a href="#">Vitamin C</a>	<a href="#">Anise</a> <a href="#">Elecampane</a> <a href="#">Eucalyptus</a> <a href="#">Gumweed</a> <a href="#">Lobelia</a> <a href="#">Mullein</a> <a href="#">Wild Cherry</a> <a href="#">Yerba Santa</a>
<p><b>Primary</b> – Reliable and relatively consistent scientific data showing a substantial health benefit.</p>		

**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

**Chronic obstructive pulmonary disease (COPD)**, also known as **chronic obstructive lung disease (COLD)** and **chronic obstructive respiratory disease (CORD)**, refers to chronic bronchitis and emphysema, a pair of commonly co-existing diseases of the lungs in which the airways become narrowed. This leads to a limitation of the flow of air to and from the lungs causing shortness of breath. In contrast to asthma, the limitation of airflow is poorly reversible and usually gets progressively worse over time.

COPD is caused by noxious particles or gas - most commonly from tobacco smoking - which triggers an abnormal inflammatory response in the lung. The inflammatory response in the larger airways is classified as chronic bronchitis, which is diagnosed clinically when there is regular expectoration of sputum. In the alveoli, the inflammatory response causes destruction of the tissues of the lung, a process known as emphysema. The natural course of COPD is characterized by occasional acute exacerbations, mostly due to infections or air pollution.

## Symptoms

Gasping for breath and a sensation of a heavy weight on the chest are the main symptoms of advanced cases of pulmonary emphysema. The deepest part of the lungs is affected: the alveolar sacs responsible for the exchange of oxygen and carbon dioxide. These normally elastic sacs overstretch, making it difficult to exhale fully. The air that remains trapped hinders fresh air from entering and each new breath brings minimal oxygen to the blood. At first, breathing is difficult only during laboured exercise such as walking up stairs. A dry or rattling cough often accompanies the breathlessness. The air-filled, barrel-like chest is a distinguishing characteristic of an advanced state of emphysema. Bronchitis can be life-threatening for those in the late stages of emphysema, when parts of the lungs can collapse. Emphysema is irreversible, though the symptoms can be improved. This condition also places enormous strain on the heart.

## Causes

- **Age** increases the chances of developing emphysema, since tissue elasticity reduces with age. A constant low-grade infection due to poor respiratory health contributes to emphysema. Increasing overall health and resistance with immune system support and increasing lung capacity with mild exercise and good nutrition are essential for preventing emphysema and deterring further complications.
- **Smoking** - The primary risk factor for COPD is chronic tobacco smoking. In the United States, 80 to 90% of cases of COPD are due to smoking. Exposure to cigarette smoke is measured in pack-years - the average number of packages

of cigarettes smoked daily multiplied by the number of years of smoking. The likelihood of developing COPD increases with age and cumulative smoke exposure, and almost all life-long smokers will develop COPD, assuming that smoking-related, extra-pulmonary diseases (e.g. cardiovascular, diabetes, cancer) do not claim their lives beforehand.

- **Occupational exposures** - Intense and prolonged exposure to workplace dusts found in coal mining, gold mining, and the cotton textile industry and chemicals such as cadmium, isocyanates, and fumes from welding have been implicated in the development of airflow obstruction, even in non-smokers. Workers who smoke and are exposed to these particles and gases are even more likely to develop COPD. The effect of occupational pollutants on the lungs appears to be substantially less important than the effect of cigarette smoking.
- **Air pollution** - Studies in many countries have found that people who live in large cities have a higher rate of COPD compared to people who live in rural areas. In many developing countries indoor air pollution from cooking fire smoke (often using biomass fuels such as wood and animal dung) is a common cause of COPD, especially in women.
- **Genetics** - Some factor in addition to heavy smoke exposure is required for a person to develop COPD. This factor is probably a genetic susceptibility. COPD is more common among relatives of COPD patients who smoke than unrelated smokers. The genetic differences that make some peoples' lungs susceptible to the effects of tobacco smoke are mostly unknown. Alpha 1-antitrypsin deficiency is a genetic condition that is responsible for about 2% of cases of COPD. In this condition, the body does not make enough of a protein, alpha 1-antitrypsin. Alpha 1-antitrypsin protects the lungs from damage caused by protease enzymes, such as elastase and trypsin, that can be released as a result of an inflammatory response to tobacco smoke.

## Other risk factors

A tendency to sudden airway constriction in response to inhaled irritants is a characteristic of asthma. Many people with COPD also have this tendency. In COPD, the presence of bronchial hyper-responsiveness predicts a worse course of the disease. It is not known if bronchial hyper-responsiveness is a cause or a consequence of COPD. Other risk factors such as repeated lung infection and possibly a diet high in cured meats may be related to the development of COPD.

## Lifestyle Modification

Smoking is the underlying cause of the majority of cases of emphysema and chronic bronchitis. Smoking should be stopped immediately and, although quitting smoking will not reverse the symptoms of COPD, it may help preserve the remaining lung function. Exposure to other respiratory irritants, such as air pollution, dust, toxic gases, and fumes, may aggravate COPD and should be avoided when possible.

The common cold and other respiratory infections may aggravate COPD. Avoiding exposure to infections or bolstering resistance with immune-enhancing nutrients and herbs may be valuable.

## **Dietary Modification**

Malnutrition is common in people with COPD and may further compromise lung function and the overall health of those with this disease. However, evidence of malnutrition may occur despite adequate dietary intake of nutrients. Researchers have found that increasing dietary carbohydrates increases carbon dioxide production, which leads to reduced exercise tolerance and increased breathlessness in people with COPD. On the other hand, men with a higher intake of fruit (which is high in carbohydrates) over a 25-year period were at lower risk of developing lung diseases. People with COPD should, therefore, consider eliminating most sources of refined sugars, but not fruits, from their diet.

Chronic bronchitis has been linked to allergies in many reports. In a preliminary trial, long-term reduction of some COPD symptoms occurred when people with COPD avoided allergenic foods.

A recommended first-aid treatment for emphysema is a mucus-cleansing juice diet for several days. A combination of raw potato, carrot and parsley juice is a good system cleanser and has been effective in relieving emphysema. Parsnip juice is an excellent remedy for those afflicted with emphysema because of its phosphorus and chlorine content. These elements benefit the lungs and bronchial system.

- Weight loss is important if the person is overweight, to minimize the strain this condition puts on the heart. A light, nutrient-rich diet that emphasizes fresh, preferably raw, vegetables and fruits will provide important vitamins needed for tissue health, notably beta-carotene and vitamin C. Raw foods maintain vitamin C and enzymes, the immune-system boosters, which are destroyed by cooking.
- Avoid mucus-forming foods, including red meat, eggs, dairy products, refined and processed foods, and coffee. Keep salt intake to a minimum, especially with oedema, which can develop with advanced emphysema.
- Chili peppers have a soothing effect on the lungs, due to the substance capsaicin which they contain. Capsaicin causes the mucus in the respiratory system to thin. Anise oil mixed with a tablespoon of honey half an hour before meals is another remedy to relieve the symptoms of emphysema.
- Horseradish contains an antibiotic substance similar to penicillin. Add honey to grated horseradish, mix well and press through a cheesecloth. Cook the residue with half a cup of water and raw cane sugar. Press through cheesecloth again and add to the syrup. Take one teaspoon a day or as needed.
- Eat one to three fresh garlic cloves every day. The active substances in garlic oil are excreted via the lungs, thereby disinfecting, promoting secretion and relieving cramps in the lungs.

## Other therapies

- Regular breathing exercises are important. Exhale through the mouth and hum at the same time, using the diaphragm, neck, throat and shoulder muscles.
- Exercise in fresh air. Start with short walks and increase length daily. If breathing becomes difficult, decrease the exercise time or walking distance. Swimming is also an excellent way of strengthening the lungs.
- Loosen the breathing apparatus with massage over the chest area.
- Negative ions may counteract the allergenic effects of positively charged ions on respiratory tissues and potentially ease symptoms of allergic bronchitis, according to preliminary research.

## Nutritional Supplement Treatment Options

[NAC \(N-acetyl cysteine\)](#) helps to break down mucus. For that reason, inhaled NAC is used in hospitals to treat bronchitis. NAC may also protect lung tissue through its antioxidant activity. Oral NAC, *200 mg taken TID*, is also effective and improved symptoms in people with bronchitis in double-blind research. Results may take six months. NAC does not appear to be effective for people with COPD who are taking inhaled steroid medications.

[Creatine Monohydrate](#) - *5 grams TID for two weeks, and then 5 grams once daily*. In a double-blind study, people with COPD received [creatine](#) or a placebo for 12 weeks. After the first 2 weeks of supplementation, all participants underwent an outpatient pulmonary rehabilitation program. Compared with the placebo, creatine significantly increased muscle strength, muscle endurance, and overall health status.

[Ivy Leaf](#) - *50 drops of a concentrated alcohol extract BID*. One double-blind trial found an ivy leaf extract to be as effective as the mucus-dissolving drug ambroxol for treating chronic bronchitis.

[L-Carnitine](#) - *2 grams taken BID*. In double-blind trials, 2 grams of L-carnitine, taken BID for two to four weeks, led to positive changes in breathing response to exercise.

[Mullein](#) is classified in the herbal literature as both an expectorant, to promote the discharge of mucus, and a demulcent, to soothe and protect mucous membranes. Historically, mullein has been used as a remedy for the respiratory tract, particularly in cases of irritating coughs with bronchial congestion. Other herbs commonly used as expectorants in traditional medicine include [elecampane](#), [lobelia](#), [yerba santa \(\*Eriodictyon californicum\*\)](#), wild cherry bark, [gumweed \(\*Grindelia robusta\*\)](#), [anise \(\*Pimpinella anisum\*\)](#), and [eucalyptus](#).

[Coenzyme Q10](#) – *90 mg daily*. Blood levels of CoQ10 are generally lower in patients with COPD than those found in healthy people. In a clinical trial, 90 mg of CoQ10 per day, given for eight weeks, led to improved oxygenation of blood, along with improved exercise performance and heart rate.

[GLA \(\[Evening Primrose Oil\]\(#\), \[Borage Oil\]\(#\), \[Blackcurrant Seed Oil\]\(#\)\)](#) and [EPA/DHA](#) - A greater intake of the omega-3 fatty acids found in fish oils has been linked to reduced risk of COPD. In a double-blind trial, people with COPD received a fatty acid

supplement (providing daily 760 mg of GLA, 1,200 mg of ALA, 700 mg of EPA, and 340 mg of DHA) or a placebo (80% palm oil and 20% sunflower oil) during an eight-week rehabilitation program. Compared with the placebo, the fatty acid supplement significantly improved exercise capacity.

[Magnesium](#) - Many prescription drugs commonly taken by people with COPD have been linked to magnesium deficiency, a potential problem because magnesium is needed for normal lung function. One group of researchers reported that 47% of people with COPD had a magnesium deficiency. Thus, it appears that many people with COPD may be magnesium deficient, a problem that might worsen their condition; moreover, the deficiency is not easily diagnosed.

In a double-blind study, IV magnesium improved breathing capacity in people experiencing an acute exacerbation of COPD. In the study, the need for hospitalization was also reduced in the magnesium group (28% versus 42% with placebo). IV magnesium is known to be a powerful bronchodilator.

[Vitamin A](#) - 25,000 IU or beta-carotene, 50,000 IU - and [Vitamin C](#) - with bioflavonoids, 5,000 mg - are necessary for healthy connective tissue in the lungs as well as for a strong immune system.

The chlorophyll in green food supplements, such as [chlorella](#) or [spirulina](#), is also highly recommended, as it is most vital for cell renewal.

## **Botanical Treatment Options**

An excellent herbal remedy is [myrtol](#) (myrtle oil), which can be obtained in gelatin capsules that dissolve in the small intestine, where the myrtle oil is absorbed and will be expelled through the bronchial mucous membranes and the pulmonary alveoli. A strong disinfectant, myrtle oil loosens and promotes excretion of mucus and freshens the breath.

[Horsetail](#) is excellent to help repair and maintain lung tissue. Take 10-20 drops of horsetail tincture diluted in water or in combination with herbal teas made of thyme, coltsfoot, fenugreek, lobelia, agrimony or mullein.

Add 1 drop of [butterbur](#) tincture to one glass of water and drink daily for eight days, then increase to 2 drops per glass of water. If there is a strong reaction, dilute more.

## **Homeopathy**

An experienced homeopath should be sought for a more extensive treatment.

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