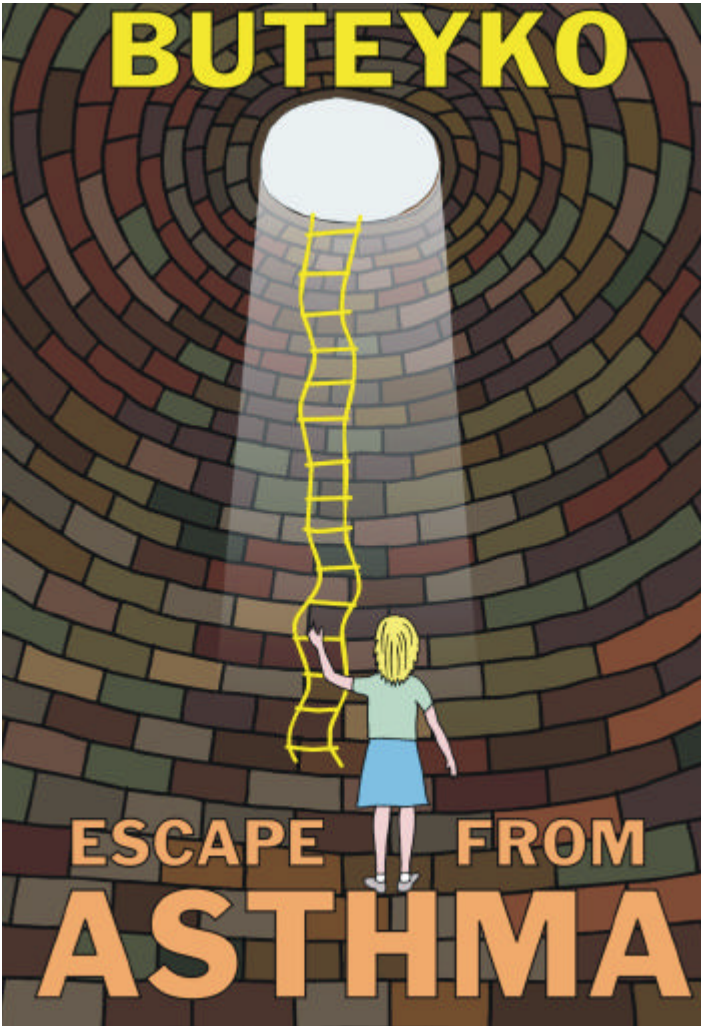
BUTEYKO
ESCAPE FROM
ASTHMA

Please do not discard. The following information might help a friend.

The purpose of this booklet is to draw attention to a rational new approach to reversing asthma and the many related chronic hyperventilation disorders.

For more information on chronic hyperventilation syndrome and Buteyko therapy, see:

http://www.wt.com.au/~pkolb/buteyko.htm

Companion Booklet:

"Buteyko — Guide for doctors"

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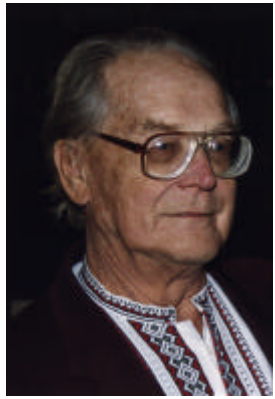
WHY YOU HAVE ASTHMA

You have asthma because you have been habitually breathing more air than your body requires. This holds for all asthmatics, no matter what "type" of asthma they have.

It was in Russia that this discovery was made by medical doctor and scientist, Professor Konstantin Buteyko. Naturally it surprises many asthmatics who feel they are not getting enough air and may even be suffering from severe airway obstruction.



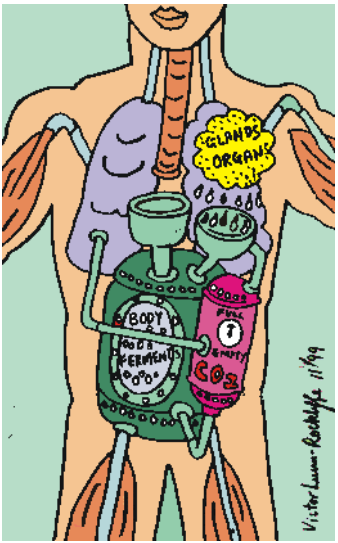
K.P.Buteyko

In fact, the health problems resulting **from breathing too much** are vast and varied and have been described in the medical literature for the whole of the last century. **Every part of your body, every organ and every system is affected by over breathing.**[8] This disorder has been given many names[14], but ***Chronic Hyperventilation Syndrome*** **(CHVS)** describes best the huge complex of symptoms to which it gives rise. What is still puzzling those doctors familiar with CHVS is why this elementary piece of medical science has remained hidden in the medical journals.[8,10]

The good news is that Professor Buteyko has developed a simple therapy that teaches you to make a habit of breathing less. This will reverse the disorder together with its symptoms, including asthma.

Breathing is a mechanism for regulating the acidity of the blood through the controlled release of carbon dioxide.

The body does not have to **regulate** Oxygen since under normal breathing conditions the blood holds just about as much oxygen as it can. If you hyperventilate (breathe more than you need to), you don't get any more oxygen. Too much breathing flushes out too much of that valuable carbon dioxide. As will be shown later, with insufficient carbon dioxide not enough oxygen can get to the brain, and as a result you become dizzy and faint.

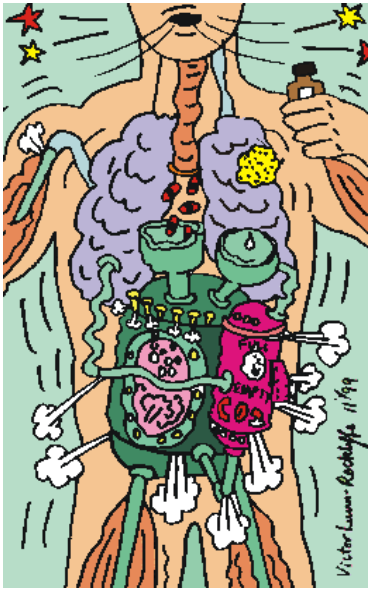


A popular myth is that carbon dioxide is nothing more than a waste product. Yet it is as important to life as is water, which is just as much a waste product.

The body contains a complex biochemical factory, which produces hormones, enzymes, and everything needed to keep you healthy. Many hundreds of biochemical processes rely on the right mix of carbon dioxide in

water to make the right products in the right quantities.

If you breathe too much for too long, over breathing becomes a habit and you develop a chronic shortage of carbon dioxide[4,8,12,13]. Since all the chemicals the body manufactures and all the body's control functions depend on carbon dioxide[7], a shortage upsets the entire biochemical balance of the body[8] leading to a whole host of disorders. Some of these, commonly found in the medical literature, are listed at the back.

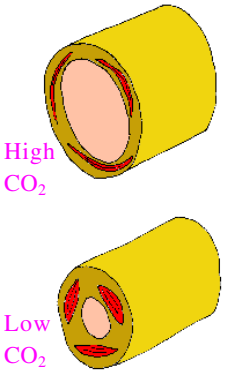


But apart from the massive disturbance to the body's biochemistry, a shortage of carbon dioxide has two other very important effects.

1. ***Poor oxygenation of tissues:*** Haemoglobin is the component of blood that collects oxygen from the lungs and delivers it to the body's tissues where it is needed. Carbon dioxide helps to unload the oxygen. This basic physiological principle is known as the **Bohr effect** and has been understood for a long time.

The importance of this lies in the fact that if the baseline level of carbon dioxide is low, then oxygen is not fully released from the haemoglobin when it is required, and goes back to the lungs on a wasted trip. The result is that if you breathe more than you need to, your cells actually get less oxygen, resulting in a feeling of breathlessness which makes you try to breathe even more.

2. Smooth Muscle spasm: Low carbon dioxide is known to cause spasm in the smooth muscle found in the walls of blood vessels, the bronchioles of the lungs, ducts, glands and the gut.[3,4,8,12,13] Reduced blood flow resulting from narrowing of the blood vessels due to spasm of the smooth muscle, together with the depressed Bohr effect can cause migraines, fainting, angina pains and high blood pressure.[3,12] Spasms are known to occur in the duodenum and in the gut producing conditions such as spastic colon and irritable bowel syndrome.[12] The spasm in the bronchioles produces wheezing as found in asthma[3,4,8,12,13].

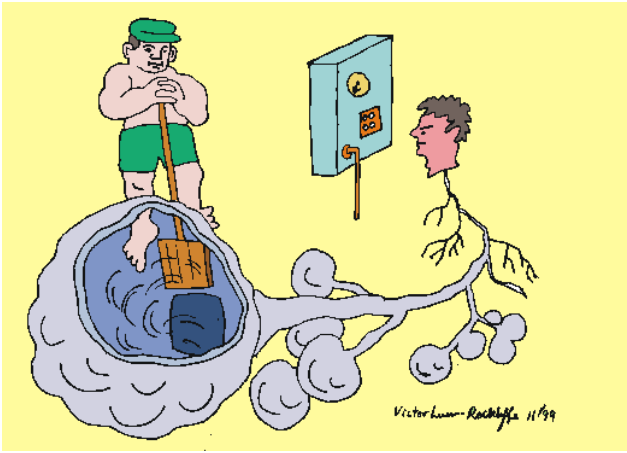


ASTHMA

The two major components of asthma are bronchospasm and inflammation of the airways

1. <u>Bronchospasm</u>

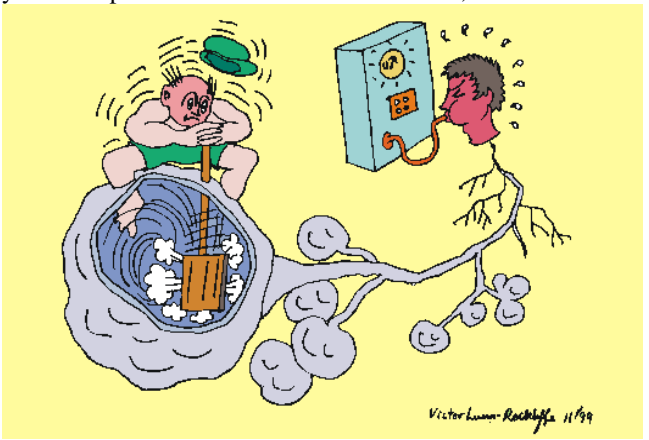
The bronchioles are the tiny end branches of the respiratory tract. These little tubes carry air into the sac-like alveoli where the gas exchange between air and blood takes place. The alveoli are very tiny, a pair of lungs containing some 500 billion of them. In the walls of the bronchioles you find the



smooth muscle standing guard at the entrance to the alveoli. Its function is to regulate the amount of air going into the alveoli in order to even out ventilation throughout the lungs.

In asthmatics the baseline shortage of carbon dioxide pushes the bronchioles near to a state of closure, making them

twitchy and quick to react to any further momentary increase in breathing. A stressful thought, a stressful allergen or even a hearty laugh can push them over the edge. So when your doctor asks you to take a deep breath and blow into a spirometer or peak flow meter, you shouldn't be surprised if you end up with an asthma attack. In fact, the instrument is

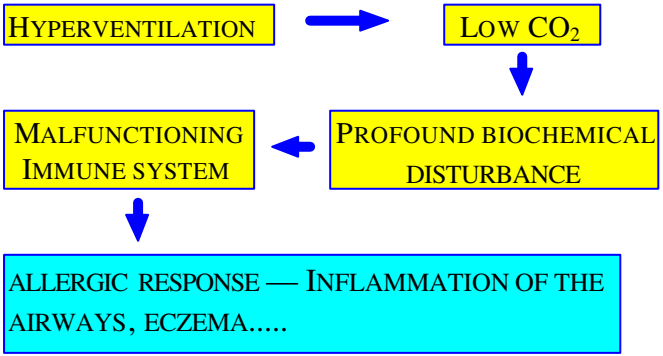


really measuring your lungs' ability to respond to over breathing. The lungs of asthmatics have bronchioles that are particularly good at doing their job. For this reason, according to the Buteyko theory, these tests are not considered useful indicators of disease.

2. <u>Inflammation of the airways</u>

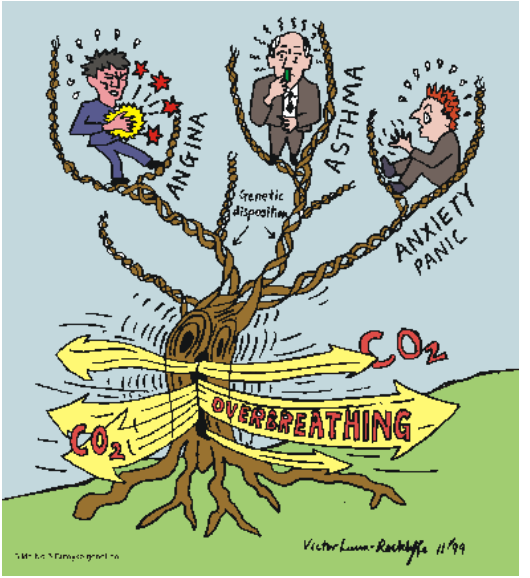
Professor Buteyko tells us that allergic inflammation of the lungs is the result of a malfunctioning immune system. This is the consequence of the biochemical disturbances caused by an abnormally low level of carbon dioxide.

Your immune system is a finely tuned biochemical warfare mechanism designed to seek out invaders and destroy them. It has to distinguish between invaders that will cause you harm and the harmless material you get in your blood after a meal, or some pollens you may have inhaled. The immune system cannot function properly if its biochemical building blocks are disturbed. People who have abnormal allergic reactions have an immune system which is failing to perform its functions correctly. In the case of arthritis, the disorder causes the body's immune system to turn on itself. In asthmatics the immune system has trouble differentiating between serious and harmless foreign material. That's why harmless pollens can cause inflammation of the airways, triggering hay fever or even asthma in people who breathe too much.



WHY DO NOT ALL HYPERVENTILATORS GET ASTHMA?

So why do some people who breathe too much get asthma, others get arthritis and others get high blood pressure?



The answer is that it depends very much on genetic predisposition. We are as different from each other internally as we are externally. As one biochemical process after another becomes affected by low CO_2, the way the body compensates is very individual, varying from person to person. That's why not everyone who habitually hyperventilates gets asthma.

WHAT CAUSES CHRONIC HYPERVENTILATION?

There are many factors that can make you habitually breathe too much. One of them is the popular idea that breathing more than you need is good for you, although there is no scientific basis for this notion. Eating too much, not exercising enough and keeping too warm can also make you breathe too much. But the one we all know to be the cause of many diseases is chronic stress. And this is how it works:

The body sometimes deliberately produces a shortage of carbon dioxide. It does so as part of a process designed to deal with a physical threat to life known as **the fight or flight response**. A chain of biological changes comes about as we are faced with a life threatening situation. These are intended to enhance our chances of survival.

All stresses we face, including pleasant ones, elicit this response to some extent. We are familiar with the sweaty palms, pounding heart, **rapid breathing** and heightened nervous activity whether before an exam, a romantic encounter or from seeing moving shadows in a dark alley. These effects are very real and are well understood by doctors.

They cause no harm provided the stress is properly **discharged** and it is **short lived**. But today we face new kinds of stresses for which we were not designed.

If the stress lasts for a long time, then biochemical changes take place inside the body that makes breathing too much become a habit.

Stresses faced by modern man often remain undischarged and linger on for a very long time. Examples include work related stresses, social stresses and financial worries.

STRESS → HYPERVENTILATION

STRESS × TIME → HABITUAL HYPERVENTILATION

The resulting low carbon dioxide causes many of the normal fight or flight responses intended for preservation of the individual to turn into debilitating disorders.

HOW DOES BUTEYKO THERAPY HELP?

In the same way that over breathing for too long becomes a habit, so Buteyko therapy reverses this process. **By learning to breathe less over a long time you can restore CO_2 back to a healthy level.** The effect of this is that hyperventilation disorders, such as asthma, disappear as your CO_2 level is raised.

Learning to do this is something like learning Yoga or a martial art. Typically you are taught the method by a Buteyko practitioner who will:

- Explain your condition to you.
- Demonstrate the posture and breathing technique that will help you reduce your breathing.
- Ensure that you perform the breathing exercises correctly.
- Teach you how to measure your breathing correctly.
- Advise on life style changes as they affect you personally.
- Help identify problems that may hold up your progress.
- Provide motivation, support and follow up.

SYMPTOMS OF HYPERVENTILATION SYNDROME

See references p15-16

Biochemical

Electrolyte changes[4,12]
Elevated Lactic Acid[8]
Elevated lipids[12]
Elevated calcium ionisation inside cells[12]
Elevated sugar levels[12]
Hypophosphatemia[10,13,15]
Accommodation to low CO_2[4,12,13]
Elevated uric acid[12]
Loss of CO_2 and base reserve[8,12]
Low Calcium ions[8]
Poor oxygenation due to Bohr effect[4, 8,13]

Cardio-vascular

Palpitations[1,3,4,8,10,12,13,]
Cardiac neurosis[1,3,12]
Angina pain[12]
Myocardial infarction[12]
Wolfe-Parkinson-White syndrome[12]
Arrhythmias[3,4,12]
Stenosis of coronary artery[4,12,13,15]
Tachycardia[3,8,12,14,14]
Failure of coronary bypass grafts[12]
Right ventricular ectopy[12]
Silent ischaemia[12]
Elevated blood pressure[12]
ECG: Flat or inverted T-wave[4,12,13,14]
Vasoconstriction[3,4,8,12,13]
Reduced cerebral blood flow[3,8,10,13,15]
Mitral prolapse[1,3,12,14]
Low cardiac output/stroke volume[15]

Digestive

Spastic colon[12]
Dysphagia[3,8]
Dry mouth[1,10,15]
Flatulence and belching[1,3,10,15]
Irritable bowel syndrome[12]
Dry throat[3,15]
Hiatus hernia[12]
Duodenal spasm[12]
Globus[3,8,14,15]
Vomiting[8]
Bloating[8,10]
Constipation[8]
Epigastric Pain[8]
Aerophagia[3,8,12,14]
Diarrhoea[8]

General

Migraines[3,12]
Failure of Transurethral resections[12]
Edema[12]
Restlessness[12]
Da Costa's Syndrome[10,12,13]
Excessive sweating[3,13,14]
Burnout[12]
Raynaud's disease[8,12]
Chest Pains[1,3,4,8,10,12,13]
Post traumatic stress disorders[12]
Weakness, listlessness[1,3,8,10,12,13]
Genito-urinary disturbances[3,12]
Nausea[14]
Renal colic[12]
Influenza-like symptoms[12]
Sleep disturbances[3,8,12,15]
Exhaustion[3]
Fatigueability, exercise intolerance[8,10,14,15]

Neuro-muscular

Muscular stiffness and aching[8,12]
Myalgia (muscle pain)[3,8]

Cramps[3]
Muscle spasm[3,4,8,12,13]
Tetani[3,8,15]
Fibromyositis[15]
Head and Back pain[14]
Tremors or shaking[3,8,14]

Neurological

Paresthesia, numbness[1,3,4,8,10,12,13]
Twitching Eyelids[8]
Headaches[8]
Increased sympathetic tone[8,10,13,14,15]
Nerve irritability threshold altered[15]
Decreased parasympathetic tone[3]
Unilateral paresthesia or numbness(left)[14]
EEG abnormalities[13]
Diplopia[8]
Syncope, fainting[3,4,8]
Feeling of chilliness[14]
Hot/cold sensations[14]
Visual Disturbances[3,4,8,13,15]
Dizziness, light headedness, giddiness[1,3,4,8,10,13]
Intolerance of bright light & noise[3]
Hyperactivity[3]
Auditory Disturbances[4]
Seizures, epileptic fits[4,8,13]

Psychologic

Tension[3,8,15]
Fear of insanity[3]
Depersonalization[3,14]
Hallucination[3]
Lack of concentration and memory loss[1,3,15]
Nightmares[3,8]
Unreal feelings[3,14,15]
Panic attacks[3,12]
Anorexia[10]
Depression[10]
Feelings of inadequacy[10]
Anxiety[8,12,13,15]
Maladjustments in life[10]
Phobias[1,3,8,10,12]
Obsessional behaviour[10]

Respiratory

Asthma[3,4,8,12,13]
Choking[14]
Chest Tightness[3,4,8,13]
Irritable cough[3,8,15]
Sighing and yawning[3,8,13,14,15]
Dyspnea[4,10,12,13,14]
Bronchoconstriction[14]
Shortness of breath, air hunger[1,4,8,10,12,13]

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