

Breathe *easy*

It's the most vital body function of all but, JOANNA McMILLAN PRICE warns, we can't take breathing for granted

Breathing is an unconscious natural process, as instinctive as swallowing, sneezing or coughing. You breathe in and out thousands of times a day and probably never give it a second thought ... until something goes wrong.

Can how we breathe affect our general state of health? Many Eastern health philosophies and practices have claimed for years that it does. If you have ever practised yoga or meditation, for example, breathing is a central focus.

The belief is that breathing incorrectly leads to impaired function in practically every body system including digestion, respiration, metabolism and the immune system. Furthermore, it's claimed that correct breathing is not a natural process; for many reasons, it's a reflex that may be lost in adulthood. It needs to be taught and, once mastered, can improve physical and mental health, increase the ability to concentrate, promote relaxation and relieve stress.

Until now, Western medicine has largely ignored these ideas, but there is increasing interest in the use of breathing techniques to assist those with lung disease to breathe more easily and effectively. In fact, they're enormously beneficial for all, particularly for the relief of stress and anxiety.

Physiotherapist and *Life etc* writer Anna-Louise Bouvier says at least 60 per cent of people are poor breathers; anecdotally (from those she sees in her Sydney practice) this figure may be as high as 80 per cent. It seems a chicken-and-egg scenario: stress, anxiety

and poor posture affect breathing while, at the same time, poor breathing increases the level of stress and anxiety and even contributes to poor posture through the use of the wrong muscles, encouraging slumping.

Leon Chaitow, a UK-based holistic health practitioner, lectures and publishes widely on what he terms breathing pattern disorders (BPD). He claims BPDs are extremely common and that they disturb the blood biochemistry by affecting the balance of oxygen uptake and carbon dioxide elimination, resulting in an altered blood pH.

He further claims that this state, produced by incorrect breathing, causes or at least contributes to a vast range of symptoms ranging from muscular pain and tremors, anxiety and associated muscle tension, fatigue and sleep disturbances to gastrointestinal problems and heart palpitations.

It certainly seems physiologically plausible that insufficient oxygen and blood pH change could result in such broad-ranging symptoms. Yet mainstream medical research has yet to concur, stating there is insufficient evidence to support this theory.

How do we breathe?

Our lungs are like giant sponges. When we breathe in, air is drawn down the windpipe or trachea, which splits into two smaller tubes called the bronchi, and these carry the air down into the lungs.

The bronchi then split into increasing numbers of smaller tubes called bronchioles, a bit like the branches of a tree, finally reaching

the tiny air sacs called alveoli, of which there are some 300 million in each lung!

The walls of the alveoli are so thin, oxygen can pass through them and enter the bloodstream for distribution around the body. Similarly, carbon dioxide, a waste product of metabolism, can pass from the bloodstream into the alveoli ready to be expelled with the next breath.

The bronchial tubes secrete mucus to trap dust, dirt and bacteria and stop them entering the lungs. Millions of tiny hairs called cilia then sweep back and forth, helping to shift the mucus away from the lungs and keep them clean. Coughing also plays a vital role in this process.

Hence the recent advice in the media concerning children and cough mixtures. Paediatricians recommend these medicines not be given to children with a cough — they should in fact be encouraged to cough to help clear the infection. Similarly, those with lung diseases such as bronchitis or emphysema are encouraged to cough to help clear their lungs, particularly first thing in the morning when excess mucus and fluid may have settled in the lungs overnight.

It's important to learn how to cough effectively. You ought to be able to clear your lungs in two or three coughs. Your doctor or physiotherapist can teach you how to do this.

What are we doing wrong and how do we breathe correctly?

At the bottom of the chest cavity is the diaphragm, a dome-shaped muscle largely responsible for moving air in and out of the lungs. When we breathe in, the diaphragm moves down, allowing the lungs to fill with air, and when the diaphragm moves up it helps to force air out of the lungs.

If you watch a baby breathing, its belly

It seems to be a chicken-and-egg scenario: stress, anxiety and poor posture affect breathing while, at the same time, poor breathing increases the level of stress and anxiety.



The ability to breathe freely is something we take for granted — until there is a problem.

Struggling for breath

Millions of Australians suffer from lung disease and, for them, being able to breathe becomes a central focus of their lives. Asthma alone affects more than 2.2 million Australians and is our most widespread chronic health problem. One in four children, one in seven adolescents and one in 10 adults are affected. By international standards, this is high.

Chronic obstructive pulmonary disease (COPD) is the term used for conditions involving difficulty in breathing air out from the lungs. It includes asthmatic bronchitis, chronic bronchitis and emphysema. COPD affects up to one in six Australians over the age of 45 and, after heart disease and stroke, is the third leading cause of disease burden.

Yet unless you or someone close to you is affected, you probably don't know much about it. Similarly, lung cancer doesn't attract the same media attention as, say, cancer of the breast, yet it's the fourth most common cancer in women and the third most common in men. What's more, lung cancer is particularly deadly: the most common cancer to result in death for men, and second only to breast cancer in women.

What is emphysema?

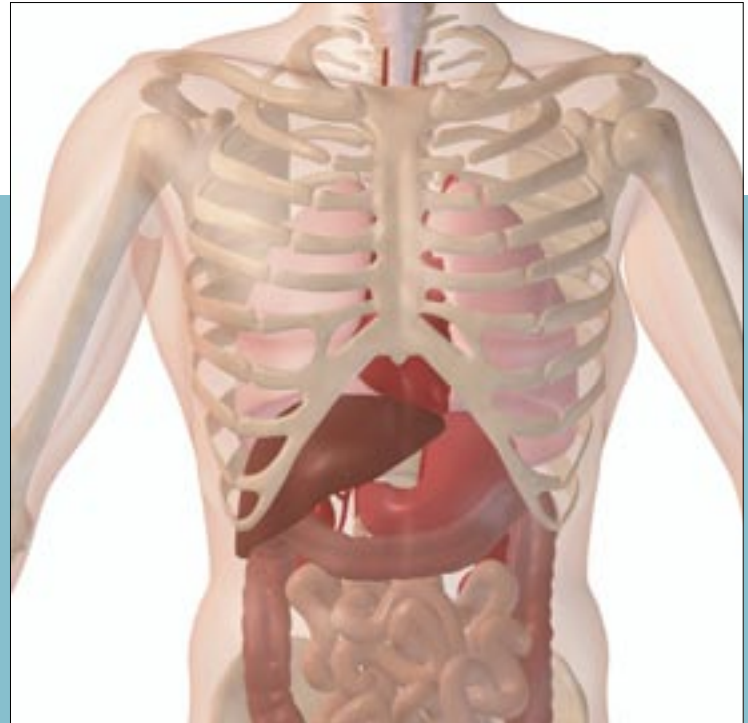
Emphysema is the result of damage to many of the alveoli, making it increasingly difficult for the body to absorb enough oxygen. In addition, the bronchial tubes become

Chronic obstructive pulmonary disease (COPD) is an umbrella term for conditions that make it difficult to breathe air out of the lungs. These include asthmatic bronchitis, chronic bronchitis and emphysema.

floppy and narrowed, making it hard to breathe in and out. The major symptom is breathlessness. This usually starts during exercise or when walking uphill but, as the lung's condition worsens, breathlessness can occur with everyday activities and become extremely debilitating.

What is bronchitis?

Bronchitis occurs when the bronchial tubes become inflamed and swollen. Excess mucus is produced as a result and clogs the airways. Sometimes the muscles surrounding the airways also tighten causing bronchospasm and this together with the swollen, narrowed airways makes it difficult to get enough air in and out of the lungs. Symptoms of bronchitis include a persistent cough that brings up mucus, wheezing and shortness of breath.



The overwhelming number one cause of both bronchitis and emphysema (and, it goes without saying, lung cancer) is smoking; giving up is the single most important step you can take to both prevent and treat the disease.

Frequent chest infections are common, so if you suffer from any form of COPD speak to your doctor about a flu vaccination and any other medication that may help. It is also known that emphysema can be hereditary. If you have a family member with the disease, you may be susceptible; it's even more important you avoid smoking and smoky environments since passive smoking can be equally harmful. Dusty environments are also damaging to lungs, so wear a mask when working in such conditions.

rises gently with each inward breath as the diaphragm contracts downwards and falls as it breathes out and the diaphragm moves upwards. Yet somehow many of us as adults have overridden the natural instinct to breathe in this way; instead we hold our bellies in (possibly because we're all trying to look slimmer!) and lift our shoulders with each breath.

This so-called shallow breathing is what correct breathing techniques aim to rectify.

There are numerous versions of how to do it and these, too, have changed over time. Many yoga techniques still teach a form of "belly breathing" — in yoga they call it the

If you watch a baby breathing, its belly rises gently with each inward breath as the diaphragm contracts downwards and falls as it breathes out and the diaphragm moves upwards.

"Complete Breath" or *Dirgha Pranayama* — where you allow the belly to expand with each inhalation and contract with each exhalation. This, however, is not quite correct, according to Bouvier, who says this common teaching practice leads to incorrect muscle use.

Instead, lie down and place your hands

on your ribcage. As you breathe in you should feel your ribcage expand (think of widening your ribs), allowing your lungs to fill completely; on the expiration, pull your stomach in very softly, almost as if the stomach is deflating.

Then think about the speed of your

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breathing. Do you take lots of shallow short breaths or slow, deep ones? Often when we get anxious the muscles around the chest tighten and we subconsciously start to breathe in a less effective manner, failing to fill the lungs or fully expel "used" air.

When you do feel anxious or stressed, take a few minutes to stop and concentrate on your breathing. Try counting to three as you breathe in, pausing for a moment, again counting to three as you breathe out. If possible, do this breathing through your nose as this helps you to breathe more slowly. The nose also plays an important role in filtering out dust and bacteria, preventing them from entering the lungs.

Alternatively, purse your lips as if whistling while breathing out; this slows you down and keeps breathing under control. Those who practise this type of breathing for 10 minutes or so once or twice a day, or any time they feel stressed, report great improvements in their anxiety levels and are generally more relaxed.

Can correct breathing help asthmatics?

Asthma is a kind of allergic response where the airways narrow, causing wheezing, chest tightness and difficulty in breathing.

Despite popular opinion to the contrary, food and food allergies are not usually linked to asthma. Far more likely triggers are colds and flu; dust mites in bedding, carpets and soft toys; animal fur or feathers; and pollen and moulds often found in damp areas in the kitchen or bathroom.

The good news for asthma sufferers is that breathing therapy may help. The Buteyko Method, developed more than 50 years ago by a Russian doctor called Professor Konstantin Buteyko, is a breathing program that claims to dramatically reduce or even eliminate the need for medications in many respiratory diseases, particularly asthma.

This method is gaining support from the medical community with the publication of the results of at least five trials in recent years — two in Australia, one in New Zealand and two in the UK — showing improvements in symptoms and a reduced need in asthmatics for medications such as inhaled steroids.

While Buteyko's theories of how the method may work have not been confirmed by the research, the fact that such improvements have been found is immensely promising for asthmatics.

So perhaps breathing is not as unconscious and natural an act as we may at first think. We know that we need to breathe to live, but it seems we also need to learn to breathe correctly if we're to live to our full potential.

For those with any disease affecting the lungs, breathing therapies are a must, but the rest of us can benefit, too. Take 10 minutes to think about it and see for yourself how it feels.

When you do feel anxious or stressed, take a few minutes to stop and concentrate on your breathing. Try counting to three as you breathe in, pausing for a moment, again counting to three as you breathe out.

Breathless with *love*

MAL CHENU relives the terror of his son's first bout of asthma

Watching my 20-month-old son struggle to breathe triggered a gut-churning terror. My wife and I stood either side of Daniel's cot in the emergency ward watching his belly rise and fall. The mere effort of taking in air exhausting his sad, tiny frame.

His hair was matted with sweat from the exertion, his eyes begging me to help, to make it go away. He cuddled his toy monkey weakly. Helplessness intensified the terror and I wept on the inside, fighting for the external calm the nurses had emphasised as important for Daniel.

It felt surreal. Blurred shapes moved around us, taking readings, changing drips, telling us things we tried to take in. Concepts like "oxygen saturation levels" and "breaths per minute" consumed us.

For the next few hours, Daniel received doses of steroids and the asthma drug Ventolin, administered every 20 minutes by nebuliser mask. The treatment was an ordeal in itself as he screamed and fought to push the mask away. It was heart-breaking to have to pin his arms and hold his head still to ensure the critical medication was inhaled and not lost into the air.

Despite all this, Dan was not responding. At about 3am one of the doctors told us an ambulance had been called to take us to the intensive care unit at the Sydney Children's Hospital. Our love was no match for the asthma. The terror climbed a notch.

All this had taken about 10 hours and our adrenalin-fuelled stoicism was waning. We babbled silly questions and complaints which the medical professionals fielded (mostly) with patience and understanding.

My wife rode in the ambulance and I followed in our car for the 30-minute drive across town, pushing ugly thoughts from my mind as I struggled to concentrate on the road.

Mal Chenu with his son, Daniel, an asthma sufferer, now two years old.



"The first thing you need to understand is he will get better," said another white-coated blur as we were admitted to the ICU.

If your baby has to be in intensive care with eight tubes and wires hanging out of him, this is what you want to hear. And you need to hear it a lot. Although asthma is common in children, it's taken very seriously — when you present at Emergency they see you immediately. About one in six kids are affected and, while deaths are rare, statistics are irrelevant when your only son is hooked up to beeping monitors.

I sat with Dan through the night, dozing when I could. Each time the monitors made a different noise I shuddered awake. Gradually, he responded and after about 24 hours we were moved to a general ward.

For the next five days and nights Angie and I stayed with Dan in shifts. It's incredible how draining just sitting and worrying can be. We took turns staying overnight and slept, if that's the right word, on a fold-out bed next to his cot. Beyond our curtained cocoon there was crying, cleaning, the glow of televisions for the sleepless and periods of eerie silence.

The treatments continued round the clock and Daniel's constitution was severely tested. Ventolin elevates heart rate, causing hyperactivity. Just when he needed to rest, he wanted to run around. When he slept it was like winning Lotto.

The idea with treating Dan's asthma was to stretch the time between the doses of Ventolin from a dose every 20 minutes or

so until we reached intervals of about four hours. Essentially, we had to accept medical opinion and treatment with blind trust and this was very frustrating when there was no apparent progress. It seemed like he should have been getting better quicker.

Late in the evening on the fourth day, his condition suddenly improved. Whether he was feeling better or was just "hyper" from all the Ventolin, Daniel dragged Monkey on a tour of the hospital from about midnight until 4am, riding the lifts to the point of obsession. I followed them around, exhausted and elated at once. He was getting back to his good old trying toddler self.

By the fifth day, Dan started chatting again and had the routine down pat. He held out his hand or foot for the staff to take his vitals and counted his breaths along with us during the treatments, now dispensed via his new permanent companion, the spacer: a cylinder with a mouthpiece at one end and a Ventolin dispenser at the other.

We were allowed out for a short walk and Dan had his first decent meal in days. My wife and I looked at each other through grateful, bloodshot eyes. We were spent, thrilled and in love. We had a kid in hospital, yet we were blessed.

It had taken Daniel just an hour to crash to the point of needing hospitalisation and nearly a week to recover to the point where we could take him home. We'd brought him home from hospital once before — for the first time — but this time, inconceivably, we loved him even more. ■