Breath
the essence of life

Breathing is clearly paramount for life. It is also essential for good health. It is arguably one of the most powerful adjustments we can make to optimise our overall health and well being.

Breathing is the first thing that we do when we arrive in this world and it will be the last thing that we will physically do when we leave it.

We take around 25,000 breaths a day yet, statistically, 90% of us are not breathing optimally.

The good news is that it is never too late to learn. Breathing efficiently supports our biological and physiological functions as well as supporting our metabolism, sleep, fitness, brain health and fertility.

Historically, breathing has been at the centre of many religions and cultures. However, through the evolution of our increasingly busy and industrious lives, the art of breathing properly has been lost.

Recently, breathing has been taken more seriously with the resurgence of yoga, mindfulness and meditation.

Wim Hoff, AKA 'The IceMan', has become famous for his mind and body control in extreme cold through breath. Wim's notoriety extended to a controlled experiment where in a cold environment and using breath control, he managed to dispel an endotoxin (E.coli) that was injected into him.

The scientists tried to reject him as a freak until he agreed to the same experiment with others that he had personally trained. In the same experiment that involved 12 trained and 12 untrained people, the trained walked away fit and well while the others came down with flu symptoms.

In Patrick McKeown's book, '*The Breathing Cure*' (link below) he describes his BOLT score, designed to identify and provide feedback on how well you breathe.

This involves breathing normally, exhaling through the nose, then pinching the nose to hold the breath. The BOLT score is how long it takes to reach the first definitive desire to breathe.

He suggests the goal is 40 seconds with a score of less than 25 suggesting that the breathing is not optimal. He is quick to confirm that this is not a competition, it is a personal guide, which can easily be improved upon.

Improving a BOLT score can be achieved by breathing through your nose and practicing air hunger by controlled breath holds. He suggested improving your BOLT score can also enhance fitness, both anaerobic and aerobic and increase VO2 (the amount [volume] of oxygen your body uses while exercising as hard as you can).

So what happens when we breathe?

Air travels down the throat (tracheal carina) into the bronchioles and then to the alveoli which are like little bulbs, of which we have 500 million. This is the biochemical function which James Nester describes brilliantly in his book '*Breath*' as a river cruise with the alveoli like little docking stations which are surrounded by a river of plasma with red blood cells. The blood cells are like little boats – as they pass the docking stations, the oxygen molecules jump on.

The cells then journey upstream, disembarking on the way to provide fuel for the hungry tissues, muscles and cells. As they jump off, the waste product of this metabolic process, carbon dioxide (CO2), jumps on in place of the oxygen, before making the return journey, where we breathe out the CO2.

This all takes around a minute for one cycle with around one billion oxygen molecules boarding and disembarking!

What can we do to improve our breathing?

The first area to focus on is breathing through the nose. The nose is our first line of defence, like a gatekeeper.

In a single breath, more molecules of air will move through your nose than all the grains of sand on all the world's beaches, literally trillions, at around five mph and collected from several yards away.

The mucous membrane inside the nose is like a conveyor belt with millions of tiny hairs which filters and warms the air to body temperature as well as purifying and pressurising the air, sending pollutants and bacteria to the stomach which are then sterilised with acid before being excreted.

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When we breathe through our nose, we also stimulate the creation of nitric oxide (NO) which is our own body sanitiser, sterilising and cleaning the air entering our body. NO also dilates our blood vessels, relaxing our trachea, bronchioles and arteries allowing us to take in more oxygen, keeping the blood moving more freely, supporting normal blood pressure and caring for our cardiovascular health.

Through nose breathing, we are primarily engaging our diaphragm, the biomechanical function, which is the main muscle of the respiratory system. This is important as by using our nose rather than our mouth we are able to utilise 20% more oxygen. Engaging our diaphragm is also important for good posture, as this is the root mechanism for core control. Correct breathing helps good posture, and poor posture has been linked to back pain.

Science has suggested that optimal breathing for oxygen blood saturation is five and half breaths a minute, which is around three times less than most of our current breathing.

Our ancestors obviously knew this as, interestingly, this time frame correlates with many Buddhist religious prayers and chants.

Our breath controls our state

For me personally, one of the most thought provoking insights is the way our breathing affects our autonomic nervous system, the physiological dimension of breathing. We have two main nervous systems, our parasympathetic, referred to as our 'rest and digest' and our sympathetic, often referred to as 'fight or flight'. Generally, inhaling stimulates the sympathetic nervous system and exhaling the parasympathetic. Over breathing (hyperventilating) is signalling the brain that we are in a fight or flight situation, even if our environment is relaxing. This can place us in a constant state of anxiety and stress.

To breathe in an optimal state, McKeown suggests remembering the acronym LSD. Breathe *Light, Slow and Deep*. This will automatically move our state into being more relaxed.

These are a couple of my favourite breathing techniques:

Normalising your breathing

This exercise allows an efficient gas exchange and, for me personally, is a 'go to' technique to stabilise my nervous system and general state. Find an area with limited distractions, breath light and slow, so that you can't hear your breath. Breathe in through your nose for five seconds and exhale through your nose for the count of four. Do this six times counting the breaths in your head the whole time.

Box breathing

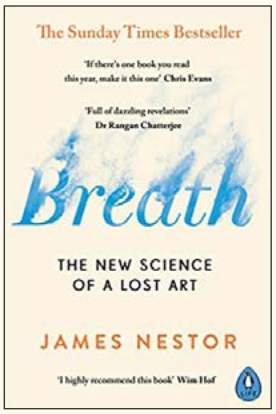
This technique was taught to the military as a way of staying calm while keeping alert. Decrease or increase the time length depending on your own comfort level. Breathe in through the nose for three seconds, hold your breath for three seconds, breath out slowly for three seconds, then repeat. Count in your head all the time while doing so.

Increase alertness

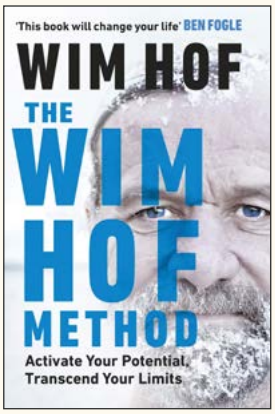
McKeown suggests using this technique before a presentation or interview, allowing you to move your attention away from racing thoughts and to become centred. Exhale through your nose, pinch your nose with your fingers to hold your breath while walking for 10 to 50 paces to generate a moderate to strong air hunger. Then stop walking, breathe in through your nose and normalise your breathing for 30 seconds. Repeat five times.

Awareness of your breathing is key. By taking just a few minutes out of your day to be present in the moment while concentrating on your breathing will enhance so many aspects of your life.

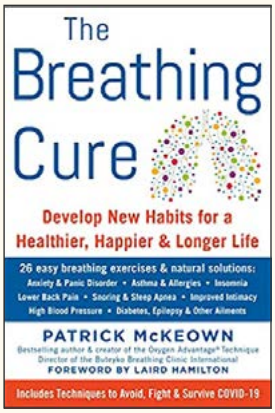
RECOMMENDED READING



Breath
James Nestor



The Wim Hof Method
Wim Hof



The Breathing Cure
Patrick McKeown