HACK THE FLOW STATE AND ACCELERATE YOUR PERFORMANCE, HEALTH & OVERALL WELL-BEING

Disclaimer:

Breathing exercises can cause powerful cleansing reactions and can be dangerous for pregnant women, people with organ transplants, GI problems and panic attacks, as well as those who take medication for diabetes, hypertension, hypothyroidism and other conditions.

Consult your healthcare provider before proceeding with the training.

BREATHING IN FLOW

INTRODUCTION

In this book, I'm going to teach you that **less is more and that when you do less, you will gain more in the performance of your skill, sport or profession**.

By the end of the book, you will have an understanding of the science and the results that reinforce the phrase "less is more". This book's purpose to not just to give you knowledge, but you give you the tools for the experience.

I want to remove all the unnecessary fluff for you and cut right to the chase. Sure, I need to give you enough information to underline how you will improve your performance and hack flow by doing less with your breathing. But I want to streamline the journey so you don't need to waste any unnecessary time, feeding you only with the necessary. (I will give more information so you can read through the scientific studies in the appendix.)

You will find out that carbon dioxide is not the villain we must get rid of. On the contrary, you'll see that CO2 is critical for healthy effective breathing and without it, illness, injuries, anxiety, depression and weight gain may overpower you.

So, when you reach the halfway point in the book you will be "best friends" with carbon dioxide and you will want out hang out with CO2 more. Because when you train your CO2 tolerance, you will supercharge your ability to hack the flow state of the mind and boost your performance in your skill, sport and profession.

The real secret here is how you breathe.

Not just in how you breathe while performing your task, but in how you breathe during normal daily life. It's this that determines how you breathe during your skill, sport or profession.

The basic formula is this: "Breathing too much air every minute, every hour, every day translates into excessive breathlessness during exercise. If our breathing is off during rest, it would be unreasonable to expect it to automatically correct itself during physical exercise." – Oxygen Advantage.

Ineffective, poor breathing will not only have a detrimental effect on your performance but also on your health.

Overbreathing is one of the most common and unconscious problems humanity is facing today. When you overbreathe, you are narrowing the airways, limiting your body's ability to oxygenate, and constricting the blood vessels, leading to reduced blood flow to the heart and other organs and muscles.

This invisible yet vital fuel of life is the first thing you get when you come into this world and it will be the last thing you have before you leave.

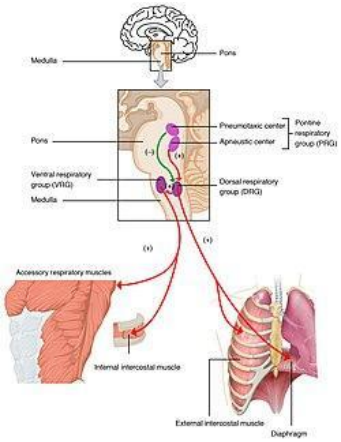
The funny thing is that the amount of oxygen your muscles, organs and tissues are able to use is not dependent on the amount of oxygen in your blood. (Your red blood cells are saturated with between 95% and 99% of oxygen.) What does determines how much of this oxygen your body can use is actually the amount of carbon dioxide in your blood. This is called the Bohr effect and we will discuss this later in the book.

The information in this book will impact your health profoundly, whether you're looking to improve your athletic performance, accelerate your skills, boost your business productivity or cure anxiety, fatigue, sleep problems, respiratory conditions, heart problems, hormone imbalances or weight gain issues. Then you must not only read but perform the exercises with consistency.

Great careers can plateau or even be cut short by overbreathing. When it comes to the crunch, it's your lungs that will let you down, and no matter how strong the rest of your body is, unnecessary, excess breaths will eventually wear you down. Through personal exercises or just watching sporting events, you will see that it's the athletes' lungs that surrender way before the arms and legs.

It's time to train your ultimate muscle and ignite life as you flow with intention through life.

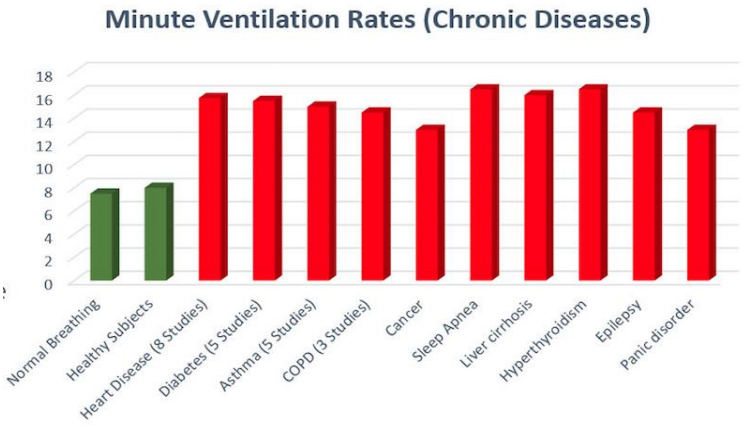
THE IMPORTANCE OF CO2 IN YOUR BODY



Carbon dioxide has been feared as the cause of environmental-related global warming. However, the benefits of CO2 in the human body are numerous. The air we breathe contains 78.09% nitrogen, 20.96% oxygen, 0.93% argon, 0.04% carbon dioxide and small amounts of other gases. But the interesting thing about carbon dioxide is that in our body, CO2 controls our breathing.

When carbon dioxide reaches to a certain level, a message is sent from your respiratory centre in the brain stem (located in the medulla oblongata and pons) to your breathing muscles (which we'll speak about in more detail in a later chapter) which trigger the inhalation. On your exhalation, you exhale carbon dioxide and a new breathing cycle begins. So it's the carbon dioxide that stimulates you to breathe.

Your body constantly produces carbon dioxide and when you breathe, you exhale the CO2 that has been built up in your body. Physical activities produce more CO2, hence you breathe more in your workout than you do chilling out.



So should you look to expel more carbon dioxide? Well, no.

Carbon dioxide deficiency in the lungs and in a lot of cases in the arterial blood is called Hypocapnia. Hypocapnia has been linked to many life-threatening illnesses.

Instead of thinking you need to remove CO2 you actually need to breathe correctly to maintain your CO2 levels. The carbon dioxide levels in your lungs range from 20 – 50 mmHg (millimetre of mercury pressure).

Scientific studies have shown that a normal level of CO2 in the lungs is 40 mmHg.

So what else does CO2 do for your health?

1. Vasodilation. Which is the dilation of your blood vessels, which decrease blood pressure. Physiological studies found that hypocapnia (low CO2) constricts blood vessels and leads to decreased blood flow to all vital organs.

2. The Bohr effect – coined by the father of world famous physicist Niels Bohr. In 1905, research by Danish physiologist Christian Bohr stated that arterial hypocapnia will cause reduced oxygen released in the capillaries.

3. Cell oxygen levels are controlled by your alveoli, CO2 and breathing. Hyperventilation causes alveolar hypocapnia (CO2 deficiency) which in turn leads towards cell hypoxia (low oxygen).

4. Oxygen transportation efficiency depends on the vasodilation and the Bohr effect. This explains the influence of hypocapnia (CO2 deficiency) on the circulation, and reduced O2 delivery.

5. Free radicals when cells are deficient in oxygen. This is called hypoxia. Medical studies have found that antioxidant defences in your body are regulated by CO2 and breathing.

6. Inflammatory response and chronic inflammation are regulated by breathing, since hypoxia increases inflammation. Hyperventilation also promotes inflammatory health problems.

7. Nerve stabilization. Lack of CO2 in the brain leads to “spontaneous and asynchronous firing of neurons”. This is with regards to: panic attacks, seizures, sleeping problems, addictions, depression and schizophrenia.

8. Muscle cell relaxation is normal to high with CO2 – however, hypocapnia (CO2 deficiency) causes muscle tension and poor posture, and has been known to cause aggression and violence.

9. Bronchodilation dilates your airways. Carbon dioxide is regarded as the most powerful among bronchodilators, due to its potent relaxant of smooth muscles and vasodilation.

10. Blood pH. Your normal pH is around 7.35 to 7.45. This balance is regulated by carbon dioxide. High CO2 content causes blood acidification and pH decrease, while reduced CO2 level increases blood Ph.

11. Lung healing. “Acute hyperventilation (routinely found during medical investigations in lung patients) can cause additional lung damage or injury to lung tissue and worsen any chronic condition, including lung cancers (lung tumor), chronic obstructive lung disease, lung fibrosis, lung nodules, lung carcinoma, blood clots in the lung, fibrosis of the lung, fluid in the lung, cystic fibrosis, asthma, bronchitis, emphysema, and many others. However, these pathological changes can be prevented or treated with a supplementary therapy that involves breathing training. Increased levels of carbon dioxide in the lungs can heal lungs and prevent complications due to these conditions” – Dr. Artour Rakhimov.

12. Glutamine synthesis is regulated with effects related to carbon dioxide. Glutamine plays a key role in protein metabolism, cell volumizing and anti-catabolism, and has been reported to boost your immune system.

13. Consistency of breathing is controlled by CO2. Poor CO2 levels leads to what doctors and scientists call “hypocapnic central apnea” which is to describe the origins of sleep apnea.

“Without the requisite amount of CO2 in the blood, blood vessels constrict and haemoglobin cannot release oxygen into the bloodstream; without the requisite amount of oxygen, working muscles do not perform as effectively as they should. We become breathless, or hit a wall in our capabilities. It becomes a cycle: it’s not just the breathless exertion that leads to panting. It’s the panting that leads to breathless exertion. Eliminating overbreathing is the key to harnessing the potential of the CO2 you already have inside you.” – McKeown, Patrick, *The Oxygen Advantage*.

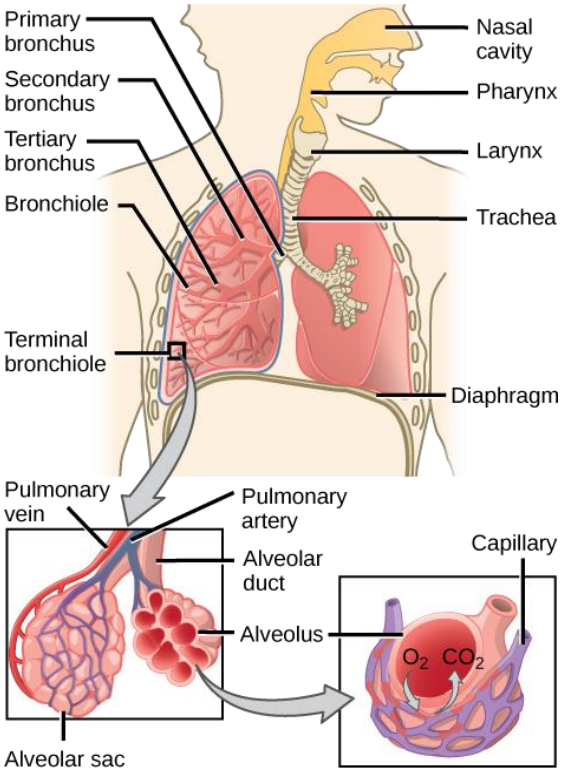
O2: THE FLOWING JOURNEY OF OXYGEN

In order for your cells to stay alive, they need a gas called oxygen. Oxygen gets into your body through a process called respiration – AKA breathing.

When you inhale, your diaphragm contracts (moves down) and causes a drop in air pressure. Higher pressured air rushes in from outside, bringing in oxygen.

The oxygen comes into the body through the nose. The nose is the superior way to inhale because there are tiny little hairs (*cilia*) that filter out unwanted substances and the air is warmed, as opposed to simply coming in through the mouth.

Nasal nitric oxide is predominantly produced in your nasal paranasal sinuses. Nitric oxide plays a captain's role in vasoregulation (the opening and closing of blood vessels), homeostasis (maintain balance in the body), neurotransmission (communication in brain cells), immune defence and of course respiration. We will discuss your nasal breathing more in a later chapter.



After oxygen enters the body through the nose, it goes down the trachea (windpipe). Once the air reaches the end of the windpipe, it enters the lungs. The oxygen then enters your bloodstream from your alveoli, which are tiny little sacs in your lungs where gas exchange take place.

Gas exchange occurs primarily through diffusion. The gas molecules move from an area of high concentration to an area of low concentration. Blood that is low in oxygen concentration and high in carbon dioxide concentration undergoes this gas exchange in the lungs. It's this concentration gradient that allows for the exchange during respiration.

At this point, 98% of the oxygen is taken up by red blood cells and 2% of the dissolved oxygen remains in the physical solution. Your red blood cells are powerful transporters of the dissolved oxygen, because they contain a special oxygen-binding protein called haemoglobin.

When your haemoglobin is fully saturated with oxygen, is a bright red colour. This is called oxyhaemoglobin. (When haemoglobin is not saturated, it's called deoxyhaemoglobin). From the haemoglobin, delivery to throughout your cells finally occurs.

BLOOD PH

As we now know, carbon dioxide determines how much oxygen is released into your tissues and cells, but carbon dioxide plays another big part in health. Carbon dioxide regulates your blood pH levels.

'P' stands for potential and 'H' stands for hydrogen. Hydrogen is the most abundant chemical element in the universe. Approx 90 percent of all atoms are made up of hydrogen. Water is a basic resource necessary for the survival of any form of life on earth and is made up of hydrogen and oxygen (H2O).

Generally, pH is the measurement given for determining the acidity and alkalinity of the body. pH is the most basic and fundamental measurement of the driving force of all our body functions. The pH range goes from 1-14, with 1 being highly acidic and 14 highly alkaline. A neutral pH is 7.0, so below 7 is within an acidic range and above 7 is within an alkaline range.

Our normal pH in the blood is 7.365, and must remain close to this or the body is forced to compensate. For example, when the blood's pH becomes more alkaline, breathing reduces to allow carbon dioxide levels to rise and restore pH. On the other hand, if the pH of the blood is too acidic, breathing increases in order to offload carbon dioxide as acid, allowing pH to normalise.

"Maintaining normal blood pH is vital to our survival. If pH is too acidic and drops below 6.8, or too alkaline and rises above 7.8, the result can be fatal. This is because pH levels directly affect the ability of our internal organs and metabolism to function." – Casiday R, Frey R, *Blood, Sweat, and Buffers: pH Regulation During Exercise Acid-Base Equilibria Experiment*.

We have an abundance of scientific evidence demonstrating that carbon dioxide is an essential element not just in regulating our breathing, optimising blood flow and releasing oxygen to the muscles, but also in maintaining correct pH levels.

Your body's relationship with carbon dioxide affects almost every aspect of your body's functions, and therefore indicates how healthy you can be. Better breathing allows carbon dioxide to ensure that all the interlocking parts of your system work together in harmony, allowing you to achieve your maximum potential in sporting performance, endurance and strength.

NITRIC OXIDE

Nitroglycerin has become the dynamite for your recovery and performance… it can help you explode your previous results out of the water. For more than 130 years, doctors were prescribing nitroglycerin for chest pain relief without knowledge of why it worked so well! I'm sure you know, but nitroglycerin is best known for making things go BOOM!

At the time, scientists didn't know that the nitroglycerin molecule was generating nitric oxide, and it was the nitric oxide that was dilating the blood vessels and supplying oxygen-rich blood to nourish the heart and relieve pain.

This simple molecule, which consists of one atom of oxygen and one atom of nitrogen, was first discovered by Joseph Priestley in 1772. Nitric oxide's molecular symbol is NO – however as I do not want to have lots of NO's in this book, I will be using the term 'nitric oxide'.

In the 1980s, nitric oxide was considered a toxic substance, causing smog. So when the first article appeared discussing the importance of nitric oxide in the body, the scientific community found it difficult to conceive that a gas so toxic outside of the body played such an important role inside the body.

During the 80s, Robert Furchgott studied the effects of acetylcholine on vasodilation. Acetylcholine is a neurotransmitter, which is a chemical released by a nerve cell or neuron. Acetylcholine causes muscles to contract, activates pain responses and regulates endocrine and REM sleep functions. Vasodilation is the opening of blood vessels. Dr Furchgott found that the dilation of blood vessels only happens in a special class of cells, called endothelial cells. Endothelial cells are on the walls of your blood vessels and are in direct contact with the blood. Behind the endothelial cells are the smooth muscle cells. The contraction and relaxation of these muscle cells is responsible for constriction and dilation of the blood vessels.

Furthermore, Dr Furchgott and his team found that without endothelial cells, the smooth cells would not cause vasodilation. This pointed to some other factor produced by the endothelial cells that would cause the relaxation. This is called the endothelial-derived relaxing factor (EDRF).

In 1977, Ferid Murad was investing nitroglycerin and found that released nitric oxide in turn caused the relaxation of smooth muscle cells. For more than 130 years, doctors had already been prescribing nitroglycerin for chest pain relief.

Then finally in 1986, Louis Ignarro found that EDRF has identical properties to the gas nitric oxide. This was the very first time that nitric oxide was shown to play a major role in regulating biological functions. In 1998 Furchgott, Murad and Ignarro were awarded the Nobel Prize for Medicine or Physiology. And in the same year, nitric oxide was proclaimed Molecule of the Year by the journal *Science*. It was described as a "startlingly simple molecule which unites neuroscience, physiology, and immunology, and revises scientists' understanding of how cells communicate and defend themselves."

NASAL NITRIC OXIDE

"Nitric oxide is released in the nasal airways in humans. During inspiration through the nose this nitric oxide will follow the airstream to the lower airways and the lungs where it increases the amount of oxygen intake in the blood." – Lundberg J., Weitzberg E., *Nasal Nitric Oxide in Man*, published in Thorax, 1999.

So what's so cool about nasal nitric oxide? It means, according to the quote from Dr Weitzberg, that when you breathe through your nose, you increase the oxygen consumption. So the more time you focus on breathing through your nose (until it becomes second nature to you) the greater the amount of oxygen you're feeding your system. Therefore, to boost performance, recovery, health and life, the greater the oxygen consumption, the greater the delivery to your cells.

The paper *Behavioural and Psychological Approaches to Breathing Disorders,* published in 1994, found that when you breathe solely through your nose, you create around 50% more resistance to the air stream than if you are breathing through the mouth. This in turn boosts your oxygen uptake by up to 20%.

"Since nitric oxide is continuously released into the nasal airways the concentration will be dependent on the flow rate by which the sample is aspirated. Thus, nasal nitric oxide concentrations are higher at lower flow states." – Lundberg J., Weitzberg E., *Nasal Nitric Oxide in Man*, published in Thorax, 1999.

So this shows that when you breathe through your nose, you can fully capitalise on the nasal nitric oxide. Nitric oxide is released from your paranasal sinuses which are air-filtered pockets surrounding the

nasal cavity. Nitric oxide is then continuously released into the nasal cavity. When you breathe lightly (let less in but get more) through your nose, you carry more nitric oxide down into your lower lungs.

Furthermore, nitric oxide does its work as a vasodilator (dilating the blood vessels), neurotransmission (brain cell communication) – the signalling of your cardiovascular system, basically, which turns you into

an optimal performance machine. So when you consider your blood circulation, which consists of 100,000 miles of vessels throughout the human body, nitric oxide plays a huge role in how your blood circulation functions. So using both endothelial nitric oxide and nasal nitric oxide is the wise and most powerful performance-enhancing choice you can make.

TESTOSTERONE

Controlled from your brain through the HPG axis (the hypothalamic, pituitary, gonadal axis), testosterone is produced by the testicles in men and the ovaries in women. Adrenal glands do produce a small amount in both men and women, but the majority comes from the sex organs. Testosterone initiates the development of the male internal and external reproductive organs and is critical for the production of sperm. Testosterone also signals to the body to make new blood cells, ensuring that muscles and bones stay strong. Testosterone also greatly enhances the libido of males and females.

THE BEST OF PALS

Testosterone assists in reducing inflammation in your arteries. So without testosterone, the plaque that forms in your arteries will harden. This is called atherosclerosis. It a disease/process in which plaque made up of fat, cholesterol, calcium and other substances found in your blood builds up and clogs your arteries, which in turn limits and may stop your blood flow. Testosterone plays a big role in breaking down this plaque, thereby clearing the way for the flow of nitric oxide to dilate the blood vessels. Which in turn leads to flow.

So the math is pretty straightforward… low or poor testosterone leads to low endothelial nitric oxide production (in the cells that line the interior walls of the blood vessels), which in turn leads to low sex drive, and poor blood flow, which can lead to an increased risk of heart disease.

Gentlemen, Viagra works because of the action of the nitric oxide pathways causing an increase in blood flow and better, stronger, longer-lasting erections. So guys with erectile dysfunction have low nitric oxide levels, and also low testosterone. Nitric oxide and testosterone are like best buds and will not go anywhere without each other. This *Breathing in Flow* program will resolve and boost any low testosterone issues.

Ladies, I don't want you to side-step the importance of testosterone for you. Testosterone begins to lower in your 20s to early 30s. Low testosterone results in a loss of bone strength, brain function, lean muscle and a loss of SEX DRIVE too… so ladies, it's very important for you to strengthen your nitric oxide through your training inside the *Breathing in Flow* program, so you can REBALANCE your testosterone levels back to the sweet spot.

FATIGUE

Acidosis happens when the pH of your blood is thrown into an acidic direction. Think of it like this: at breaking point, when an athlete just can't go on any further due to the intensity of the task, fatigue sets in and lactic acid builds up. You have dropped from an aerobic into an anaerobic state, where oxygen levels go from very limited to none. This gives you that feeling of burning in the legs and lungs, resulting in an overall heaviness which eventually stops you in your tracks.

What happens is that when your metabolism produces carbon dioxide, which then in turn produces carbonic acid, and this then turns into hydrogen and bicarbonate. With sufficient oxygen to the muscles, the hydrogen is oxidised (combined with oxygen) into the mitochondria (the powerhouse of your cells, and the energy for the body), resulting in the feeling of being like a Duracell bunny, lasting all day. However, when there is insufficient oxygen, the hydrogen cannot be oxidised so it connects with pyruvic acid to form lactic acid. Although a little lactic acid can be beneficial, too much will result in fatigue and failure.

With correct breathing practice, you can delay the onset of lactic acid and dramatically improve performance. This is done with breath hold on the exhalation. Breathing and holding after an exhalation will cause a decrease in the concentration of oxygen in your body and trigger an increase of lactic acid. Simultaneously, carbon dioxide is increased, leading to an increase in the concentration of hydrogen ions to shift the pH to increase the acidity of the blood.

With breath holding, you are deliberately pushing your body into an anaerobic state and in doing so you are conditioning the body and mind to become more familiar with and become more able to tolerate this state, therefore delaying the onset of fatigue, so that your performance can be maintained.

Research shows that repeated exposure to increased acidosis forces the body to adapt. This simultaneously improves your buffering capacity to combat the onset of fatigue. THE main buffers are haemoglobin (a red protein responsible for transporting oxygen in the blood) and bicarbonate.

Fatigue is not just a physical condition but a psychological one. The Central Governor Theory states: "The brain protects the body against the risks from extreme exertion. At some point, the brain tells the working muscles to stop or slow down. Fatigue is not just physical but also psychological phenomenon to maintain homeostasis."

So when we purposely train acidosis to impair homeostasis by breath-holding, we are training our brain to tolerate this strong build-up of acidosis, saying that we can “relax our body can go harder and faster no worries.” Breath work will therefore actively bring us control over our fatigue levels.

ALTITUDE TRAINING

With regards to altitude training, we need to discuss the makeup of your blood, oxygen saturation and breath holding.

THE BLOOD

There are multiple parts that make up your blood: red blood cells, white blood cells and plasma. Haemoglobin (red blood cells) are the main carrier of oxygen. Haematocrit refers to the percentage of oxygen in your blood. During normal conditions, haematocrit is usually between 40.7 – 55% for males and 36.1 – 44.3% for females.

Performance increases when you have an increase in haemoglobin and haematocrit. This increases the oxygen-carrying capacity of the blood, that in turns improves aerobic performance. This means that when we have an increase in haemoglobin and haematocrit, we can carry more oxygen.

OXYGEN SATURATION

Oxygen saturation is commonly referred to as “sats”. It indicates the percentage of haemoglobin that has bonded with oxygen. This can be fairly accurately measured with a pulse oximeter.

The normal range of oxygen saturation is around 95% – 99% in healthy adults breathing room air, which contains 21% oxygen. Don’t expect 100% because oxygen is constantly diffusing from the blood to the cells. Your body maintains a stable level of saturation during normal breathing and will fluctuate during exercises where more oxygen is required or when training or living in high altitudes.

BREATH HOLDING

With the correct technique found inside this *Breathing in Flow* program, you would be looking to lower your blood oxygen saturation, down to below 90% to 94% or in some cases even lower, after only a couple of weeks of training. This is the equivalent of living at an altitude of 3,000 – 4,000 metres above sea level.

So when you lower your blood oxygen saturation levels, you will fully benefit from altitude training without going into the mountains.

What exactly happens in the body during breath holding? When we speak of breath holding, we need to talk about the spleen. Your spleen is your blood bank. It absorbs excess volume and releases stores

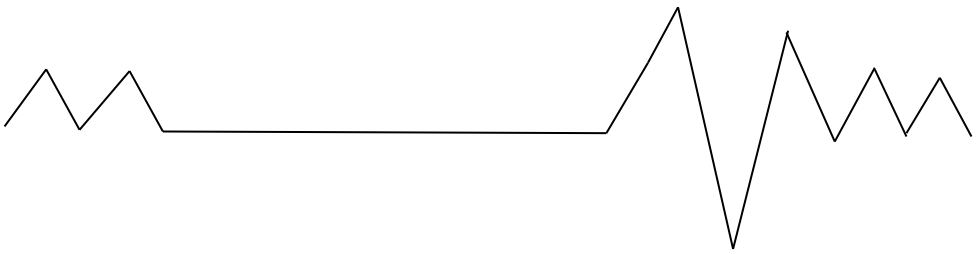
during moments of increased or decreased oxygen. So when there is too much blood, your spleen will hold on to it, and when there is not enough blood, your spleen will release it.

A study published in the Journal of Applied Physiology 2003 reported that when performing five maximum breath holds with your face immersed in cold water (each breath hold had a two-minute rest in between), it was found that the spleen size decreased by 20%. So this shows that the spleen reacts to low oxygen levels by releasing more oxygen-rich blood into your system.

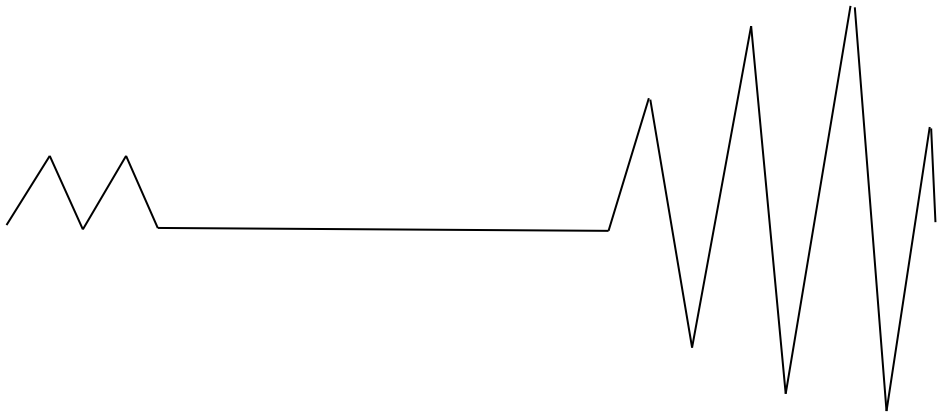
Additional studies in the Journal of Applied Physiology 2001 showed an increase in haematocrit (6.4% increase) and haemoglobin (3.3% increase) following five breath holds. (To recap, haemoglobin is the protein that carries the most oxygen, and haematocrit is the percentage of your entire blood carrying oxygen.)

Research therefore shows that we can produce a spleen contraction with only 30 seconds of breath holding, and for stronger contractions you can work to your maximum hold. When I say maximum, it's not until you pass out. In this method, maximum equals how long you can hold your breath and still return to normal breathing within a couple of breaths.

This diagram represents the ideal maximum breath hold, where the recovery to normal breathing is quick:



In this breath hold, you can see that the recovery to normal breathing takes too long:



To benefit from high altitude training, we are looking to drop our oxygen saturation to below normal. Anything below 90% – 94%.

A three-breath hold / three-group study was conducted called *Haematologic changes from spleen contraction during apnea and altitude in humans.* In Group 1, higher levels of carbon dioxide were in their system. Group 2 had normal carbon dioxide, and Group 3 had low carbon dioxide levels. The results were as follows: Group 1 (higher in carbon dioxide) recorded a 9.1% increase of haemoglobin compared to Group 2, and a 71.1% increase of haemoglobin compared to Group 3.

In the method of breath hold I teach in *Breathing in Flow* we are looking to increase your CO2 level quickly, to reap the rewards of a 71.1% increase. I will explain more and talk you through the technique in more detail but basically, you hold your breath after the exhale. So breathe in normally… breathe out normally… and hold.

Why a normal breath before holding on the exhalation? As you now know, having CO2 in your system is beneficial for you to improve performance, health and well-being. In the study *Haematologic changes from spleen contraction during apnea and altitude in humans,* it says, "an increased capnic stimulus (CO2 retention) during hold may elicit a stronger spleen response and subsequent haemoglobin increase than a breath hold preceded by hyperventilation" So maintaining a normal level of CO2 prior to your breath hold serves you well.

EPO

According to the *British Journal of Sports Medicine:* "EPO is a hormone which is secreted by your kidneys in response to hypoxia (oxygen deficiency). Erythropoietin (EPO) stimulates the maturation of red blood cells in the bone marrow, increasing oxygen delivery to muscles thereby enhancing sports performance."

The *European Journal of Applied Physiology* in 2008 reported results of a 24% increase of EPO with a breath hold experiment. Participants performed three sets of five maximum breath holds with each set separated by 10 minutes rest. Three hours after the breath holds, the participants' EPO peaked at 24% and returned two hours later to the original baseline.

HOLDING BREATHING STUDIES – SWIMMERS

An eight-week study into hypercapnic (high CO2) and hypoxic (low O2) training with elite male swimmers was conducted by the *European Journal of Applied Physiology* in 2008. The swimmers trained for 30 to 45 minutes per week. Each of the experiment groups held their breath for as "long as possible", where the requirements for the breath hold were that it had to be higher than the normal exhaled breath CO2 level of 45 mmHg (millimetre of mercury pressure). Along with the swimming training, the controlled group was subject to additional treadmill training (three times a week for eight weeks).

The results after eight weeks:

Experiment group (breath holding):

- Pre-experiment, haemoglobin levels were 144.63 gL (gram per litre)
- Post-experiment, haemoglobin levels were 152.38 gL (gram per litre)
- Results = a 7.75% increase in haemoglobin levels
- Pre-experiment, VO2 max was 63.60
- Post-experiment, VO2 max was 70.38
- Results = a 10.79% increase in VO2 max (the maximum or optimum rate at which the heart, lungs, and muscles can effectively use oxygen during exercise, used as a way of measuring a person's individual aerobic capacity)

Control group (no breath holding, just extra cardiovascular training):

- Pre-experiment, haemoglobin levels were 147.75 gL (gram per litre)
- Post-experiment, haemoglobin levels were 145.38 gL (gram per litre)
- Results = haemoglobin reduced by 2.37%
- Pre-experiment, VO2 Max was 59.46
- Post-experiment, VO2 Max was 60.81
- Results = a 1.35% increase in VO2 max

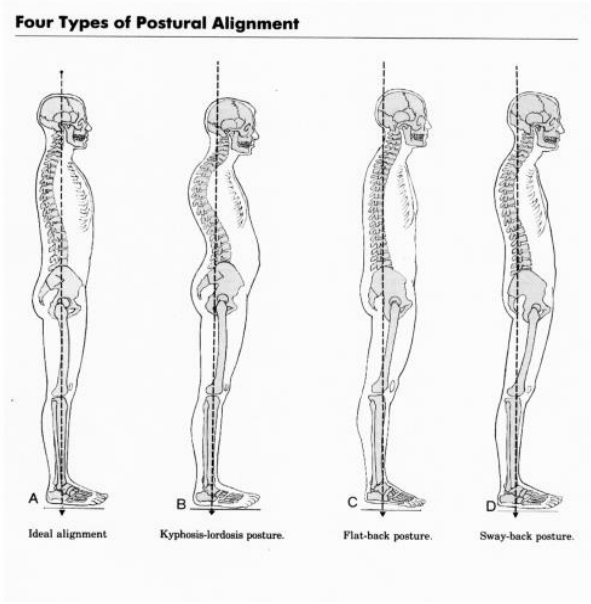
HOLDING BREATHING STUDIES – RUNNERS

A Canadian study looked at 15 distance runners (600m – 3000m) over six weeks. The runners were participating in official athletics competitions during the experiment.

- The 1st group who performed normal breathing reported a 0.3% increase in performance.
- The 2nd group who performed 15 to 20 minutes of breath holding on the exhalation once per week reported a 1.27% increase in performance.
- The 3rd group who performed 15 to 20 minutes of breath holding on the exhalation twice per week reported a 1.33% increase in performance.

POSTURE

Getting the right posture for breathing in flow is an important alignment you must make. The good news is that through the correct breathing found inside this book, you will not need to focus on posture – instead, you can focus on breathing in flow and your alignment will be found.



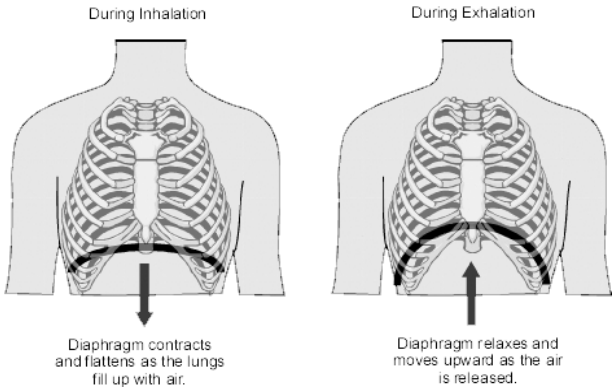
Correct posture, like your flow breathing method, will make you work more effectively. When you breathe and maintain an ideal alignment, you are accelerating your performance with these simple guidelines. However, after potentially years of poor posture, you must remain patient and look not to align with a general ideal posture, but instead to align to your own personal posture.

This is found by closing your mouth and breathing only through your nose.

With this resistance of air, you are forced to give attention to your breathing… when this focus is attuned, you will naturally find the point where you can breathe as effectively as you can. So the breath coaches your posture without you focusing on your posture. This will become more apparent to you when you start performing movements with your breathing in flow and your mouth taped up. Yes… your mouth taped up.

THE DIAPHRAGM

The diaphragm is your primary breathing muscle and like all muscles, it can be strengthened through training. This dome-shaped muscle is located inside the lower ribs at the base of your chest. During inhalation, your diaphragm



contracts and flattens to create space in your chest cavity for your lungs to expand. For this to happen your intercostal muscles, set between your ribs, assist your diaphragm by lifting your ribs to allow more air into your lungs. You have a backup set of muscles if the intercostals become impaired, including your sternocleidomastoid (the long muscle in the side of the neck), serratus anterior (largely responsible for the protraction of the scapula), pectoralis minor (the triangular muscle situated at the upper part of the chest), and the scalenes (they elevate the first rib).

FEEL YOUR DIAPHRAGM

Here are two exercises to give you a feel for the correct engagement of your diaphragm. The Placing the Hands exercise is designed for beginners of diaphragmatic breathing, whereas the Diaphragm Pump serves as a warm-up for your diaphragm, and is a great awareness tool for understanding where and how your diaphragm moves.

Placing the Hands:

1. Place one hand between your belly button and solar plexus, and the other hand on your chest.
2. Close your mouth.
3. Breathe in through your nose and as you do that, allow for your tummy to gently stick out.
4. Breathe out and let your tummy gently draw back into being flat.
5. Repeat this movement without tension.

Diaphragm Pump:

1. Place one hand on your solar plexus.
2. Breathe in through your nose twice.
3. On the exhale, hold your breath and pinch your nose.
4. Now, with your nose pinched and mouth closed, try and breathe through your nose.
5. You will feel your diaphragm contracting.
6. When you feel the urge to breathe, then breathe.
7. Repeat for 3-5 sets.

“Inhale from the diaphragm as it brings nitric oxide from the back of your nose and your sinuses into your lungs. This short-lived gas dilates the air passages in your lungs and does the same to the blood vessels.” – (Dr. Oz) Roizen, MF, and Oz, MC, 2006, You On A Diet Revised: The Owners Manual for Waist Management, New York, Collins.

Concluding this section, I would like to point out that when you breathe correctly with your diaphragm, you make your body and mind work effectively. This quote above from Dr. Oz shows that correct diaphragmatic breathing allows for the correct and effective flow of nitric oxide to your lower lungs. And as we learnt in the previous chapter, nitric oxide is your best friend. Remember, all are interlinked and united, and your breath is your most powerful control system.

Side note: This book is focused on improving your performance, health and well-being. However, I want to add this for any parents out there. If your children are breathing through their mouth… stop this as soon as possible. Most people do not know that mouth breathing can cause devastating effects on the health and growth of a child. I just want to quickly discuss a couple of points.

Teeth and braces: Mouth breathing can quickly dry out the mouth and decrease saliva production. Saliva is extremely important for neutralizing acid and helping to wash away bacteria. Without it, you and your child will have a greater chance of tooth decay and cavities. Your braces will take longer and your treatment will be much more challenging. The gaps between your teeth will become more difficult to close. Good news for your child's orthodontist, bad news for your child.

Speech: Mouth-breathing children struggle more with certain speech sounds. The most common speech problem is a lisp (often the inability to say "s" correctly). When your child constantly has an open mouth, they are more likely to have a "tongue thrust swallowing pattern." This type of swallowing pattern causes the tongue to stick out, or push forward while speaking and swallowing.

Facial development: Through mouth breathing, a child is more likely to grow with "less prominent cheekbones, a longer face, droopier eyes and lower facial muscle tone, a narrower palate, and even a smaller lower jaw in most cases. By closing the mouth and breathing through the nose, these negative growth patterns can be prevented."

Sleep: If your child is breathing through their mouth through the day, it's very likely that they are doing it while they sleep. So the combination of day and night mouth breathing is a power punch for these kids. Remember, with less oxygen to feed the brain, your child will have learning problems and the ability to focus at school will become an issue. As the child grows this will form an adult with chronic fatigue, tiredness, and brain fog – all common symptoms related to these issues.

Solution: Teach your child to breathe in flow as you learn yourself.

OVERBREATHING – OVEREATING

The intention of *Breathing in Flow* is to help improve your ability to enter the flow state and therefore activate your optimal state of performance. However, as you can see in this book, we do acquire other powerful side effects on this journey, and weight loss is another. Without going into too much detail, I would like to point out a few interesting things for you.

Since the 1950s scientists have identified that people who live at altitude lose weight. Sherpas and others who live at altitude in general are thinner than others living at sea level. Another study found that small amounts of exposure to low oxygen saturation can reduce body weight, blood sugar and blood cholesterol.

Also around the 50s, with the explosion of processed food, weight gain issues began to become more common. Processed food causes you to overbreathe. It appears that this is due to driving your pH balance towards a more acidic level, which as you know has a knock-on effect for your health.

It's widely known that stress causes overeating, and stressed people have a high blood oxygen level. So, for example, they may struggle to hold their breath on the exhale for over 10 seconds, and this is an indicator that the body is in a stress state. Therefore they are more likely to overbreathe and to overeat. The bottom line is that when you focus on your *Breathing in Flow* training, your waistline will also see the difference.

THE FLOW STATE – WHAT IS IT?

“Flow is being completely involved in an activity for its own sake. The ego falls away. Time flies. Every action, movement, and thought follows inevitably from the previous one like playing jazz.” – Mihaly Csikszentmihalyi.

“The state of being where you feel your best and perform your best.” – Steven Kotler.

“Flow state: you are not thinking ahead. You are just thinking about what is in front of you each second.” – Aron Ralston.

“If you can keep playing tennis when somebody is shooting a gun down the street, that’s concentration and ultimately being in the flow.” – Serena Williams.

“Everybody who has spent any time in flow knows it’s a deeply creative place.” – Chris Miller.

The flow state is your destination for optimal performance, optimal health and well-being and breathing in flow. In this section of the book, my aim is for you to of course learn more about flow, but to get you started I suggest you recall your own experiences of being in the flow state.

Be guided by the picture on the right: Instead of pointing outwards in admiration to your sporting hero, business mentor or coach, notice instead that there is only one finger pointing outwards while three are pointing inwards.

Similarly, your inspiration can come from inside. All the treasures found in the flow state are in you already. You have tasted it before. You already know. You only need me to remind you and help strip away the usual obstacles blocking your optimal potential.

LOOKING UNDER THE HOOD

Thanks to the breakthroughs in science over the last couple of decades, you can now look under the hood at this once mystical state of being. This state where miracles are born, where records are broken,

inventions are conceived and health and happiness are content. It's in the deep "now" of flow in which you can achieve what was previously unachievable and overcome anything that stands in your way.

There is a clear chain of events when you enter flow. The flow state begins with the release of norepinephrine and dopamine. This raises your heart rate, tightens focus and improves your pattern recognition.

Your brain waves move from beta towards alpha, giving you the ability to link ideas without internal obstructions and filters blocking your flow. At this point, your prefrontal cortex begins to shut down, giving you the sense of time distorting, effortlessness and a sense of self-dissolving into the task.

You are now in transient hypofrontality, where your inner critic has also shut up, opening you to your full potential. Your brain then releases endorphins and anandamide, giving you the ability to dissolve away distress and pain.

Simultaneously, anandamide boosts your lateral thinking, allowing you to solve problems in an indirect and creative way. As you flow deeper in, theta brain waves enhance your relaxation and intuition.

Concluding the experience, you release oxytocin and serotonin, giving you the "afterglow" feeling of trust, peace, sociability and well-being as you begin to digest the experience.

Now let's break down some of the technical descriptions of that journey.

TRANSIENT HYPOFRONTALITY

When you enter the flow state, you experience what is called a transient hypofrontality.
"Transient" means temporary, "hypo" is the opposite of hyper and, means to slow down or lessen, and "frontality" refers to the prefrontal cortex. The overall meaning is that we deactivate to fully activate.

These areas in the prefrontal cortex that are lessened are the seats of higher cognitive processing, where we distinguish between self and other, our sense of time and our internal dialogue.

This is why, when we are in flow, time seems to slow down. We merge with the consciousness, and we become one with what we are doing. It's same brain patterns that Tibetan monks experience during deep meditation, giving them the sense of being at "one with the universe".

In flow, our brain waves are at the bridge between alpha (8-12 cycles per sec) and theta (4-8 cycles per sec) opening the door to transient hypofrontality. Our brainwaves are in a pulsing at 7-8 cycles per sec. There has not been concrete pinpoint accuracy placed on what exact frequency this bridge is at. However, through my years of study, practise and coaching, I have found 7.83 Hz to be the sweet spot.

FLOW NEUROTRANSMITTER AND HORMONES

These six neurotransmitters and hormones are released according to the intensity of the task at hand. Too much or too little will not be flow. The feeling connected to each of these six is found in the appropriate progressive balance of the skill, and the challenge of the task. So the intensity of the feeling will be in accordance with the task and your sensitivity, or how relaxed you are during performance.

The six are:

1. Norepinephrine: Speeds up heart rate, improves muscle tension, triggers the release of glucose, giving you more energy. When your neural efficiency is up, promotes arousal and control of emotions.

2. Dopamine: Gives you the feeling of engagement in a task, excitement, adventure and rewards you for it. Dramatically increases your attention, improves pattern recognition and muscle firing times.

3. Endorphins: Neurotransmitters that create pain relief and a “euphoric” feeling. They are pretty strong, to say the least. There are 20 different types of endorphins, including beta-endorphins, which are reported as being 100 times more powerful than medical morphine.

4. Anandamide: The word is taken from the Sanskrit word Ananda, which means “bliss, delight”. Lifts moods, dilates blood vessels, bronchial tubes (adding in breathing), inhibits your ability to feel fear and improves your lateral thinking.

5. Oxytocin: The “love hormone”, derived from the Greek word “quick birth”. Originally associated solely with maternal behaviours or between sexual partners. However, recent findings point to a broader scope in human social interactions, including bonding, trust and emotional behaviours.

6. Serotonin: Affects mood, social behaviour, appetite, digestion, sleep, memory and sexual desire. "When serotonin has arrived, the state has already happened. It's a signal things are coming to an end, not the beginning," says performance psychologist Michael Gervis.

THE PERSONALITY OF FLOW

To deepen your understanding of the concept of flow, let's say that in the flow state, you are in your optimal personality. But keep in mind that flow is formless. This explanation is merely a teaching tool.

A personality is "a pattern of collective characteristics, behaviours and temperaments and emotional traits of an individual". Dissecting the personality of flow will allow for your recollection of personal experiences of the traits. A flow state does not need to express all characteristics at once – or at all. Perhaps one is enough for a state of flow. These characteristics are derived from the work of Prof Mihaly Csikszentmihalyi, the founder of the term "flow state", and godfather for all flow state research. When you read the characteristics listed below, try and remember times when you had that feeling, that sense, that state of having. For example, remember any time, as a kid or as an adult, when you had clear goals:

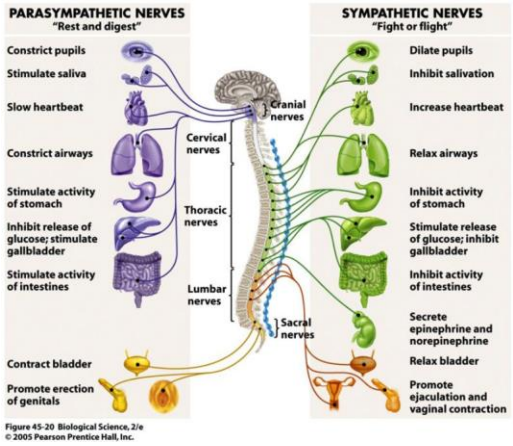
THE CHARACTERISTICS OF FLOW

1. Clear goals: You know exactly what you want to do in flow
2. Immediate feedback: You instinctively adjust/adapt on the road towards your goal
3. Action merges with awareness: You blend into what you are doing, dissolved into the task at hand
4. Progressive balance: Between your skill level and challenge of the skill
5. Deep presence: You are in the deep now
6. Self-consciousness is gone: Loss of your inner critic. Fearlessness, distractions and anxieties, don't surface
7. Altered perception of time: Time is distorted, either moving faster or slower
8. The sense of being at one with the task at hand
9. Emotional neutrality: Oxytocin and serotonin are dominant at the tail end of flow. You are emotionally neutral because you're so involved in the task at hand, all you want is to complete it

These nine only act as signposts, and you may well feel other characteristics expressed in flow. The important thing is for you to strengthen your own feeling of flow.

THE AUTONOMIC NERVOUS SYSTEM

There is an area of your nervous system called the autonomic nervous system which, largely unconsciously, regulates your body's functions such as digestion, respiratory rate, pupillary response, urination, sexual arousal and your heart rate.



You have two branches in your autonomic nervous system (ANS): the sympathetic (fight or flight) and parasympathetic (rest and digest). The sympathetic turns the volume up on your organs and glands, while parasympathetic lowers the volume.

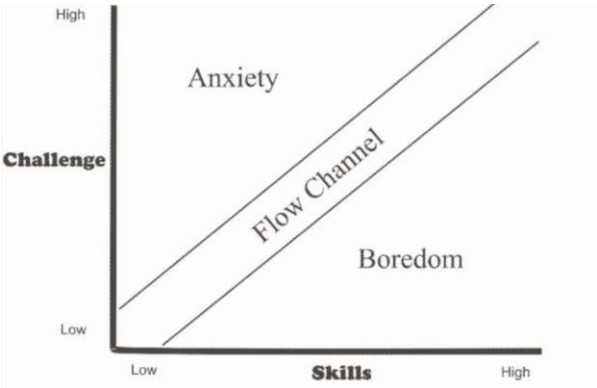
Using a method of measuring your sympathetic and parasympathetic responses, called heart rate variability (HRV), scientists have discovered that when you're in the peak performance state, there is a consistent push and pull between your sympathetic and parasympathetic systems.

In the flow state, your sympathetic and parasympathetic nervous systems are in a progressive coherence, and your main control system for your autonomic nervous system is… breathing in flow.

LESS IS MORE

To get a sense of the feeling of being in flow, I need to incorporate two things. The first is Mihaly Csikszentmihalyi's flow graph in his 1990 book entitled *The Flow*. The second is a "rule" of 4% progression that I picked up from work on the equation of flow data, put together by the Flow Genome Project.

Mihaly Csikszentmihalyi flow graph is displayed opposite:



The Flow. After Mihaly Csikszentmihalyi, *The Flow (1990)*, p. 74

As you can see in the graph, flow pulses between the progressive balance of your own

personal skill and the challenge level of the particular task you are undertaking. Boredom is nullified and anxiety is only touched.

As I personally feel is the best explanation, flow has a feeling, and that feeling has a density to it. For this explanation, let's say that the feel is heavy or light. Flow progressivity coherently sits between not too hard and not too soft. That progress is 4%.

So to recap the reported scientific studies on flow, Mckinsey and Co did a 10-year study on flow and reported top executives to be five times more productive when working in flow. US Navy Seals cut the learning time of sniper training and reported a 490% learning speed increase.

I remember a Tony Robbins story about when he had his first major breakthrough at a crazily young age. I'm sure he was in his early 20s. His mentor, who he was shadowing during his apprenticeship, was the co-founder of neuro-linguistic programming Dr John Grinder. Dr Grinder got a project to work with the US Navy Seals at sniper training school. At the time, this training was known as one of, if not the hardest training schools to pass. The stats were something like a 1 in 10 pass rate. Eight hours before Grinder and Tony were to go into the barracks to begin, Tony received a call from Grinder. "Sorry Tony, I can't make it… You got this… bye."

This was a case of really getting thrown in at the deep end. Sink, swim or get eaten by the sharks! So Tony went into the training facility as a tall, skinny, 20-year-old kid who was there to teach the trainers to cut their training down and help boost their pass rate.

First of all, he did nothing except observe the snipers and noticed a couple who stood out as good shot. Using specific neuro-linguistic questions, he found out what steps happened in the minds of those top snipers. Each time, he pulled out more and more details from the questions he probed them with.

In time, he established that the top snipers were mentally pulling the target closer to themselves in their mind, as if the target was only feet away. So he got all new recruits to physically move their targets until they were only six feet away. Once their confidence was high from hitting the mark, he moved the targets 12 feet away and so on, only moving the target away once the confidence of the sniper was peaking at that distance.

Concluding this section, I want to underline a few things. The story of Tony's first breakthrough is a great example of the 4% rule, and your own personal growth in flow. *Breathing in Flow* is your number one flow coaching tool, which will help you keep hold of the reins of that eager horse who wants to drive

forward without any presence and direction. Your inhale and exhale act as your refinements to the reins controlling your sympathetic and parasympathetic nervous system.

When you perform your skill, sport or profession, and when you are “forced” to breathe nasally, you gently push your skills and your challenge of your task in a 4% progression. You will find yourself deep in the flow personality, expressing a collection of characteristics which are appropriate and a balanced match for your skill, sport or whichever profession you are undertaking.

Now we have covered the science and psychology of the flow experience, it’s now time to begin your *Breathing in Flow* training.

THE STRUCTURE OF BREATHING IN FLOW

The intention of the *Breathing in Flow* course is for you to breathe effectively and productively, without tension. To align with the environment you are in, so that whether you are at rest, or active during a movement-based task (physical, mental or emotional), you're still breathing through your nose at the rate appropriate to the task. For example, at rest your aim is to have a breathing rate of three to seven breaths per minute. However, this is of course neither possible nor safe to attempt while running or boxing, or in moments of hard physical activity.

Therefore, your focus on your breathing rate should be performed during other moments, including rest, pre-sleep, post-sleep, driving, waiting in an airport, walking around the house, etc. Try to implement it during any activity where you can tune into a three-to-seven breaths per minute rate safely.

When the intensity of the activity increases, focus solely on nasal breathing (breathing in flow) and let your nasal system dictate your output during the activity. When your output on the activity pushes you out of breathing in flow, you will then use the three gears:

- Gear 1: Breathing in flow
- Gear 2: Nose to mouth breathing
- Gear 3: Mouth to mouth breathing

When you're forced out of breathing in flow, you will be heading to the second gear of nose to mouth breathing… then mouth to mouth breathing. Your job is to catch yourself through your own personal awareness at gear 2 or gear 3 and slowly, gently and calmly, guide yourself back to breathing in flow. We will discuss the three gears in more detail shortly.

THE PENDULUM BREATHING PRINCIPLE

Nothing in nature stops – there is only an appearance of a stop or pause. Everything is on a consistent flow. Even as you sleep, your body and mind are working. So is your breathing. Aim not to look for a pause in your breathing rhythm – instead, blend into the pendulum breathing principle.

This is where your breathing moves like a pendulum. Your inhale and exhale appear to stop – however, they move like a pendulum and are only changing direction. In the beginning, pay attention to the transition from the inhale to exhale and notice the changing of direction.

For example, let's recap the movement of your diaphragm: During inhalation, your diaphragm contracts and flattens to create space in your chest cavity for your lungs to expand. On the exhale, your diaphragm returns to its dome shape. For you to get an external sense of this happening, your tummy sticks out when you inhale and returns on the exhale.

Quick Test:
Take 30 seconds and imagine your tummy moving like a pendulum… then take another 30 seconds and sense your diaphragm moving like the pendulum.

The pendulum breathing principle is one of the core aspects of breathing in flow… flowing from one movement to other… from an inhale to an exhale… flow.

FULL BODY BREATHING

The skin is your largest organ and acts like a blanket, protecting all the other internal organs. Breathing with your organs has been practised by many ancient cultures for centuries, with exercises such as liver breathing and kidney breathing. Today these exercises are still being practised consistently. The strength of these exercises comes through the correct use of intention, energy, visualizations and the breath.

When your attention is drawn to breathing throughout your full body, not only do you access these ancient traditions, but you also stimulate your nervous system which gives you a sense of heightened awareness, not only of your body and mind, but of your surrounds. Simultaneously, your circulation of blood flow and energy are greatly enhanced, therefore improving performance. The ancient warriors of the past practised this exercise diligently.

Full body breathing is performed by having the mouth closed and by breathing through your nose. Once breathing in flow is found, bring your awareness to your body. You will feel that your body expands on the inhalation and contracts on the exhalation. As you diaphragm contracts to create space for your

lungs, full body breathing works the same way. Full body breathing creates space for your organs and glands to breath.

So simply feel as if you're breathing throughout your full body – this is full body breathing.

WITHOUT TENSION

Breathing without tension should be fully ingrained into your being once you start your training. When you consistently practise to increase your CO2 tolerance and reprogram the brain stem signal to breathe, you'll find that the only way to do this is to RELAX. Relax through the buildup of CO2. Instead of fighting the tension, relax through the tension.

For example, the blood oxygen level test is an exercise you will be doing regularly. It consists of exhaling your breath, pinching your nose and stopping breathing for as long as you can. Once the build-up for your need to breathe is close to max (but not maximum), then return to your normal breathing in flow resting rhythm (three to seven breaths per minute). For you to increase your time to hold the breath, you must relax through the instinct to breathe – this will by-pass your old tolerance level.

TUNE INTO FLOW

To better get a sense of the destination of *Breathing in Flow*, what it feels like and your perception when in flow breathing, let's recap on what you learnt in the previous section about the flow state personality and have a quick reminder of the seven characteristics of flow;

1. Action merges with awareness: You blend into the breath, dissolving to breathe, and into your environment.
2. Immediate feedback and progressive balance: You feel a balance between your breath and the environment, adapting to the evolving pressures of the environment while maintaining a progressive breath in flow.
3. Deep presence: You are in the deep now of the moment, the breath.
4. Self-consciousness is gone: You lose your inner critic, feeling fearlessness, where distractions and anxieties don't surface.
5. Altered perception of time: Time becomes distorted, either moving faster or slower for you.
6. The sense of being at one: You feel this sense of oneness with the breath. You are in unity.
7. Emotionally neutral: You are emotionally neutral as you are only the breath of flow.

When you perform your skill, sport or profession while breathing in flow, you will express the flow state personality, and on reflection, you will recall a few of the characteristics you expressed.

IMPORTANT: When you are breathing in flow… your will is in flow. The second you think "Am I in flow?" then you are out of it… you can not measure or analyze yourself during a flow experience. Re-read *The Flow State – What Is It?* chapter if you don't understand this point. I say this because this is one of the biggest traps people face when learning to hack the flow state. Trying to analyzing during a flow – if it's being done, you are not in flow.

BREATHING IN FLOW

Being at rest is our first port of call for looking at breathing technique. Rest/recovery is the more avoided state for many, whether they are athletes, in business, executives, fitness enthusiasts – actually, in my 25 years of experience, it includes 99% of people. You must understand that a rested and recovered body and mind is what gets you into flow. If you have read or watched any of my videos on the flow state, you will know about the four cycles of flow. This is just a means to explain steps that will trigger flow.

- ***Struggle***: This is where you are perhaps learning a new skill, or feeling out a new project where you're not quite clear on the direction yet, or how to achieve the goal. Frustration, tension and anxiety are common traps in this stage.
- ***Release:*** This is the stage where you relax, losing your tension and frustration by simple breathing – not just physically breathing but by mentally breathing. This aids in the release of nitric oxide to dilate your blood vessels so you can flush away the tensions created by the struggle.
- ***Flow state:*** Once you go through the struggle and release, you are triggered into the flow state. With the powerful release of the neurotransmitters and hormones during a flow state, your body and mind must recover.
- ***Recovery:*** This need for recovery is most noticeable after a supe- strong flow state. For example, after the flow event, you will probably still be up all night wired to the buzz. But you will sleep well and dream strong. The next day, you may be sluggish. The art of helping your body to recover is the most critical step for a flow state performance hacker.

Note that recovery includes the following: sleeping correctly, energy control, nutrition, hydration, breathing less throughout the day, etc. Your focus in this book and the training is to master the art of breathing in flow. And that art is to breathe less, especially at rest.

BREATHING IN FLOW AT REST (DAY TO DAY)

Below are seven checkpoints for breathing in flow while at rest. It will serve as a summary for what you have learnt in this section and in the preceding pages. This is your map guiding you through breathing in flow while simultaneously developing awareness. You will notice that as you progress, you will focus on different parts of the seven. For example, most of you will need to focus on numbers 1 and 2 with attentive consistency. You will catch yourself breathing through your mouth a number of times before it sinks in. However, by applying the training program we are going to walk through in the next section, this problem will be solved… *if* you do the training.

The same principle applies to the other parts of the seven. Your hunger for breathing in flow will guide your progress.

The seven checkpoints of breathing in flow:

1. Keep your mouth closed.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stop, only a smooth transition like the movement of a pendulum.
5. Ensure you have full body breathing awareness.
6. Tune into your rhythm.
7. Breathe three to seven times per minute (this is your target… if you are not there yet, just relax and remain patient – your training will get you there).

This is breathing in flow.

Let's now move on to the training.

THE TRAINING PROGRAM SUMMARY

In the following sections, you will find a number of different training programs. Everyone must consistently practise Program 1: The Core Program. This should be your five-minute daily routine. However, for those of you who are serious about change, then Program 2: The Art of Rest and Recovery will be all the fundamentals for you.

The other programs are determined by your Blood Oxygen Level Hold test score and the skill, sport or profession you are training in.

Program 1: The Core Program

Program 2: The Art of Rest and Recovery

Program 3: Morning Body and Mind Enhancer

Program 4: Flow Walking

Program 5: Flow Running

Program 6: Simulating Altitude Walking

Program 7: Simulating Altitude Jogging

PROGRAM 1: THE CORE PROGRAM

This is the foundation program, your basic requirements for breathing in flow. In your foundation program you have three exercises. However, the ***Nose De-Congestion Exercise*** only needs to be done if you are… congested. ***The One-Minute Breathe*** is designed to give you a score of your rate of breathing per minute. As we discussed earlier in the book, you should be aiming to breathe less, because breathing less is an indication of a healthy, strong, flexible body and mind. And your final exercise is the ***Blood Oxygen Level Hold***. Here you will be holding your breath on the exhale for as long as you can. The duration of the hold is dictated by how quickly you can recover from the hold. Recovery is measured by how quickly you return to your normal breath rhythm, which is worked out from your One-Minute Breathe test.

Blood Oxygen Level Hold is also a test of how well your body is saturated and how well your CO2 tolerance has developed. Keep a record of your score as it will dictate the programs to follow. Your score is the length of time in seconds that you are able to hold your breath until you feel the tension to take a breath. Along with this foundation program, you can also increase your Blood Oxygen Level Hold score by:

1. Nasal breathe at all times, including during physical exercise and sleep.
2. Avoid taking large breaths while sighing, yawning and talking.
3. Practise *Breathing in Flow* exercises appropriate to your health and fitness.

When you consistently practise the *Breathing in Flow* exercises, your blood oxygen score should increase by a few seconds in the first week. Continue with the same intention of focus for a number of weeks and you will see a significant change in your score. In some cases improvements of 20 to 40 seconds.

PROGRAM AND EXERCISE SUMMARY

Duration: 5 minutes
Program and Exercise Summary:

1. Nose De-Congestion Exercise – 5x (only required if you need to decongest)
2. The One-Minute Breathe – 1 minute, and record number of breaths
3. Blood Oxygen Level Hold – 3 minute exercise. 3-5 holds total
4. The One-Minute Breathe – 1 minute, and record number of breaths

EXERCISE BREAKDOWN

NOSE DE-CONGESTION EXERCISE
(Only required in you need to decongest)

To unblock the nose, perform the following:

1. Take a small, silent breath in and a small, silent breath out through your nose.
2. Pinch your nose with your fingers to hold your breath.
3. Walk as many paces as possible with your breath held. Try to build up a strong air shortage, without overdoing it, of course!
4. When you resume breathing, do so only through your nose; your breathing must be calmed immediately.
5. After resuming your breathing, your first breath will usually be bigger than normal. Make sure that you calm your breathing as soon as possible by suppressing your second and third breaths.
6. You should be able to recover this breath hold within two to three breaths. If you cannot, you have held your breath for too long.
7. Wait for about a minute or so and then repeat.
8. Repeat this exercise five or six times until your nose is de-congested.

THE ONE-MINUTE BREATHE

The object of this exercise is to get a sense of how many breaths you take during one minute. Like the Blood Oxygen Level Hold test, you can also use this as a form of measurement of personal development.

Breathing in Flow:

1. Keep your mouth closed throughout.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stopping, only a smooth transition like the movement of a pendulum.
5. Full body breathing awareness.
6. Tune into your rhythm.
7. Be aware of how many breaths you take per minute.

BLOOD OXYGEN LEVEL HOLD

1. Take a small, silent breath in through your nose and allow a small, silent breath out through your nose.
2. Pinch your nose to prevent air from entering your lungs.
3. Count (or use a stopwatch on your phone) the number of seconds until you feel a medium/high level of desire to breathe.
4. At the first medium/high level of desire to breathe in, you may also feel the first involuntary movements of your breathing muscles (a jerky abdomen, and the area around your neck may have tension).
5. Release your nose and breathe in through it. Aim to recover back to your normal calm breathing rate as quickly as possible.
6. Once you have recovered to normal breathing. Close to the count of your One-Minute Breathe count, then repeat the full Blood Oxygen Level Hold three to five times.

PROGRAM 2: THE ART OF REST AND RECOVERY

This is the fundamental program that *is* the secret weapon for optimal performance, health and of course, hacking the flow state. When you aim to rest correctly and recover correctly, you will accelerate your ability to access flow on command. I use this as the fundamental program for anyone who trains with me on a one-to-one basis. If anyone is not living up to their potential, I ask "How is your breathing?" and "Are you sleeping well?"

If you are truly serious about improving your health, sport, skill or profession. Then follow ***The Art of Rest and Recovery*** program like a warrior preparing for battle.

PROGRAM AND EXERCISE SUMMARY

Morning routine:

1. Nose De-Congestion Exercise – 5x (only required if you need to decongest)
2. The One-Minute Breathe – 1 minute, and record number of breaths
3. Blood Oxygen Level Hold – 3 minute exercise. Hold 5x
4. The One-Minute Breathe – 1 minute, and record number of breaths

Late morning:

5. Tape-Up Breathing: 20 – 90 minutes
6. Sleep Taping: According to your sleep requirements (found in your bonus book *Ride the Wave of Sleep*)

EXERCISE BREAKDOWN

NOSE DE-CONGESTION EXERCISE
(Only required in you need to decongest)

To unblock the nose, perform the following:

1. Take a small, silent breath in and a small, silent breath out through your nose.
2. Pinch your nose with your fingers to hold your breath.
3. Walk as many paces as possible with your breath held. Try to build up a strong air shortage, without overdoing it, of course!
4. When you resume breathing, do so only through your nose; your breathing must be calmed immediately.
5. After resuming your breathing, your first breath will usually be bigger than normal. Make sure that you calm your breathing as soon as possible by suppressing your second and third breaths.
6. You should be able to recover this breath hold within two to three breaths. If you cannot, you have held your breath for too long.
7. Wait for about a minute or so and then repeat.
8. Repeat this exercise five or six times until your nose is de-congested.

THE ONE-MINUTE BREATHE

The object of this exercise is to get a sense of how many breaths you take during one minute. Like the Blood Oxygen Level Hold test, you can also use this as a form of measurement of personal development.

Breathing in Flow:

1. Keep your mouth closed throughout.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stopping, only a smooth transition like the movement of a pendulum.
5. Full body breathing awareness.
6. Tune into your rhythm.
7. Be aware of how many breaths you take per minute.

BLOOD OXYGEN LEVEL HOLD

1. Take a small, silent breath in through your nose and allow a small, silent breath out through your nose.
2. Pinch your nose to prevent air from entering your lungs.
3. Count (or use a stopwatch on your phone) the number of seconds until you feel a medium/high level of desire to breathe.
4. At the first medium/high level of desire to breathe in, you may also feel the first involuntary movements of your breathing muscles (a jerky abdomen, and the area around your neck may have tension).
5. Release your nose and breathe in through it. Aim to recover back to your normal calm breathing rate as quickly as possible.
6. Once you have recovered to normal breathing. Close to the count of your One-Minute Breathe count, then repeat the full Blood Oxygen Level Hold three to five times.

TAPE-UP BREATHING

Tape-up breathing is.. .well… you tape your mouth up. Taping your mouth up has fantastic breathtaking benefits (hope you like that one).

Of course, it forces you to breathe nasally, control the rate and rhythm of your breath, control the rate of physical output and minimise the amount of air you can draw in, therefore simulating altitude training, which in turn builds your CO2 tolerance, which in turn increases blood oxygen saturation levels.

When you're forced into nasal breathing, you will begin to notice that your diaphragm works correctly without thought, and your posture will evolve into your natural alignment.

<u>Tape-up breathing is a powerful flow state trigger.</u>

The recommended tape is zinc oxide tape which you can easily pick up at your local pharmacy. I recommend practising this exercise at home. Your least likely to get interrupted – although your family might have other thoughts!

Once you decide the time of this exercise, just do what you regularly do at home. Walk around, watch TV, cook, clean…

TAPE-UP BREATHING

1. Tape up your mouth.
2. Duration = 20 minutes.

Over time, increase the time you stay taped up. Work from 20 minutes, 30 minutes, 40 minutes… up to 90.

SLEEP TAPING

Sleeping is the optimal time for rest and recovery and unfortunately most people are not fully using its benefits. As part of this book, I have given you a bonus book I wrote called. ***Ride the Wave Of Sleep***. Read through *Ride the Wave of Sleep* to fully benefit from your sleep.

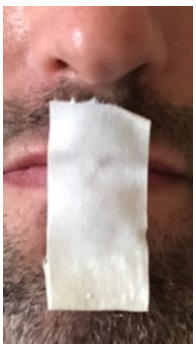
In it, you will learn tricks and tips to improve your sleep. You will learn about sleep cycles and how to ride the wave of them. You will find out what time is best for you to wake up and go to bed, and pre- and post-sleep routines.

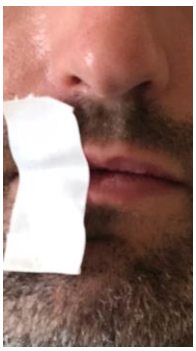
Complementing the information you learn in *Ride the Wave of Sleep*, we need to add one powerful trick, which will accelerate your recovery, stop you snoring and open you up to hacking flow when you're awake.

Tape your mouth up and go to sleep.

I know, it might be quite unsettling… I was unsettled when I first started training in this manner. But after years of doing it… I have had no problems along with the thousands of others who practise this method. It was Dr Buteyko who brought this method to light, by prescribing it to his chronically ill patients as a cure.

In the image you will see three ways of taping your mouth up. Really, these are designed to build your confidence in sleeping with your mouth closed. Your aim is to get to the point where your whole mouth is closed. But take your time, be patient with yourself. Remember no tension, no stress. You must be relaxed.





CONFIDENCE IN YOUR NASAL AIRWAYS

I use ***Breathe Right Nasal Strips*** personally and have my clients use them for sleep and training when they feel the need.

These strips help to open up your nostrils, adding in nasal breathing. They are really easy to use and you can buy them in your local pharmacy at a low cost.

So adding these strips, taping your mouth and using sleep cycles found inside ***Ride the Wave Of Sleep*** will catapult your sleep, recovery, health and performance.

SUMMARY

At first glance, this might seem a lot to add into your daily routine, but it's really not. Your morning routine will consist of One-Minute Breathe and Blood Oxygen Level Hold, and will take around five minutes. The Tape-Up breathing does not affect what you're doing the rest of the time. Your only requirement is to tape up your mouth. So if you're working on your laptop, you can write your emails with the tape on. If you're cooking or cleaning, you can do it with the tape on. And Sleep Taping is simple too. Once you tape up, just allow yourself to go to sleep… and job done.

I can't emphasize how much this program will change your life, performance and health, if you fully commit to practising.

PROGRAM 3: MORNING BODY AND MIND ENHANCER

This program will take 20 minutes.

PROGRAM AND EXERCISE SUMMARY

Morning routine:

1. The One-Minute Breathe – 1 minute, and record number of breaths
2. Blood Oxygen Level Hold – 3 minute exercise. Hold 5x
3. Single Nostril Blood Oxygen Level Hold – 4x each nostril
4. The Hands of CO2 Restriction Training – 2 minutes
5. Tape-Up Bodyweight Training – 4 minutes

EXERCISE BREAKDOWN

THE ONE-MINUTE BREATHE

The object of this exercise is to get a sense of how many breaths you take during one minute. Like the Blood Oxygen Level Hold test, you can also use this as a form of measurement of personal development.

Breathing in Flow:

1. Keep your mouth closed throughout.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stopping, only a smooth transition like the movement of a pendulum.
5. Full body breathing awareness.
6. Tune into your rhythm.
7. Be aware of how many breaths you take per minute.

BLOOD OXYGEN LEVEL HOLD

1. Take a small, silent breath in through your nose and allow a small, silent breath out through your nose.
2. Pinch your nose to prevent air from entering your lungs.
3. Count (or use a stopwatch on your phone) the number of seconds until you feel a medium/high level of desire to breathe.
4. At the first medium/high level of desire to breathe in, you may also feel the first involuntary movements of your breathing muscles (a jerky abdomen, and the area around your neck may have tension).
5. Release your nose and breathe in through it. Aim to recover back to your normal calm breathing rate as quickly as possible.
6. Once you have recovered to normal breathing. Close to the count of your One-Minute Breathe count, then repeat the full Blood Oxygen Level Hold three to five times.

SINGLE NOSTRIL BLOOD OXYGEN LEVEL HOLD

1. Close your right nostril with your thumb.
2. Take a small, silent breath in through your left nostril and allow a small, silent breath out through your nose.
3. Pinch your left nostril closed to prevent air from entering your lungs.
4. Count (or use a stopwatch on your phone) the number of seconds until you feel a medium/high level of desire to breathe.
5. At the first medium/high level of desire to breathe in, you may also feel the first involuntary movements of your breathing muscles (a jerky abdomen, and the area around your neck may have tension).
6. Release your left nostril and breathe in through it. Aim to recover back to your normal calm breathing rate as quickly as possible.
7. Once recovered to normal breathing. Close to the count of your One-Minute Breathe count, then repeat the Single Nostril Blood Oxygen Level Hold 4 times.

Once performed with your right nostril, repeat the sequence with the left nostril.

THE HANDS OF CO2 RESTRICTION TRAINING

AIM: The objective of this exercise is to create a CO2 toleration expressed in a thirst for air. This is done through using the pressure of your hands to limit your breathing capacity safely.

DURATION: Perform this exercise for 2 minutes.

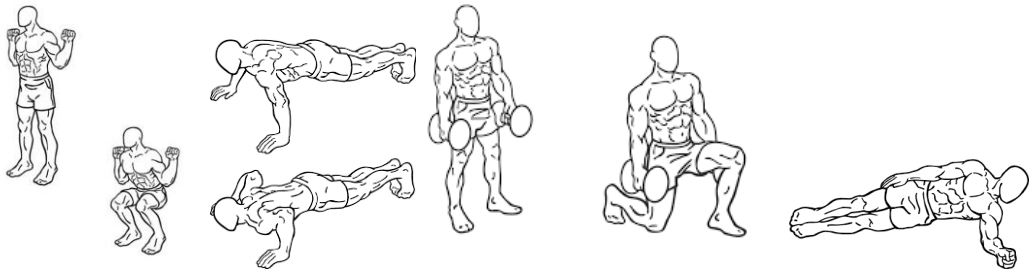
ATTENTION POINTS: If your breathing rhythm becomes chaotic or tension is created in your breathing muscles, then you have created too much thirst for air. If these indicators happen, stop the exercise and return to your normal breathing in flow.

1. Place one hand on your chest and the other hand slightly above your navel (this is to assist in correct breathing in flow. Just a training tool.)
2. Breathe in and gently guide your abdomen outward (without tension).
3. Breathe out and gently guide your abdomen inward (without tension).
4. Give attention to your breathing flow, noting the size and depth of each breath (without tension).
5. Now begin to apply gentle pressure with your hands to slightly reduce your breathing movements. It should feel as if you are breathing against your hands. (Pressure outside, not tension inside.)
6. Your aim is to gently lessen the depth of each breath.
7. Take in less with each breath than you normally would (training yourself to breathe less, resetting your breathing control system in your brain).
8. Allow a relaxed breath out, exhaling gently, slowly and easily.
9. Encourage a feeling of relaxation to your breathing.
10. Do not tense your body, hold your breath or pause your breathing. Continue to breathe smoothly but take in less air than before.

TAPE-UP BODYWEIGHT TRAINING

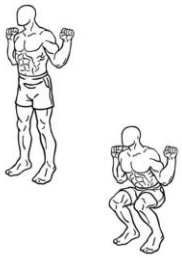
The objective of this exercise is to create a CO2 toleration by taping-up and shutting up. Here are four basic bodyweight exercises you can do anywhere. This is a simple welcome to moving with nasal breathing. So first, tape up your mouth. If you like, use the nasal tape too.

Remember, the intensity of your workout will change. Do *not* push yourself too much in the beginning. If you need to remove the tape, you have pushed too much. You are to perform this four-minute workout without stopping. Please warm up sensibly. And if you are not familiar with these exercises, contact me personally and I will assist.



Option 1:	Option 2:
Squat – 30 seconds Push Up – 30 seconds Lunge right leg – 15 seconds Lunge left leg – 15 seconds Plank – 30 seconds Repeat	Squat – 60 seconds Push Up – 60 seconds Lunge right leg – 30 seconds Lunge left leg – 30 seconds Plank – 60 seconds

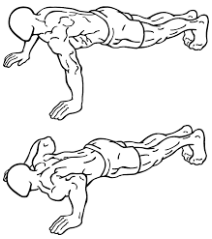
SQUAT



Quick checkpoint:

1. Stand with your feet shoulder-width apart.
2. Feel your feet balanced on the ground.
3. Keep your shoulders back and down without tension.
4. Begin squatting, using your feet as your guide.
5. Go as low down as you can without your heels lift, so your feet remain balanced on the floor.
6. Allow your knees to drift slightly over your toes.
7. Maintain your chest and position upright throughout.

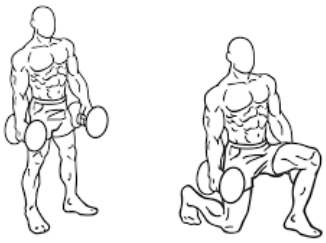
PUSH UP



Quick checkpoint:

1. Place your hands flat on the ground, thumbs in line with the outside of your shoulders.
2. Keep your shoulders back and down.
3. Keep your Belly button drawn in.
4. Keep your hips stable.
5. Lower down to the floor as comfortably as possible, maintaining good structure.

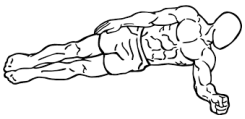
LUNGE



Quick checkpoint:

1. Step one leg forward.
2. Keep your front foot flat on the ground with the pressure equal over both feet.
3. Your rear foot should go onto your toes.
4. Keep your hips and shoulders facing forward equally.
5. Stand upright with shoulders back, and go down without tension.
6. Maintain this position as your lunge down until your knee is almost touching the ground.

SIDE PLANK



Quick checkpoint:

1. Align your elbow with your shoulder.
2. Keep your shoulders back and down.
3. Keep your belly button in.
4. Your hip should feel stacked up in line with the other hip.
5. Keep your neck in alignment.
6. Lift your hip off the floor, maintaining this position.
7. Check your shoulder and elbow on the ground are in alignment.

PROGRAMS 4 – 7: ON THE MOVE – THE THREE GEARS

When the intensity of the task pushes you out of breathing in flow, you will need to access the three gears. Flow is an optimal skill-based state, where you focus and pay attention to your task until it is at its optimal level. When you become tired, or are on the brink of fatigue, your focus and attention lowers. It's in this point that skill levels also diminish, opening you up to a greater potential risk.

If you are training to improve your breathing for your sport, you will and must go into the second and third gears to help your body improve its familiarity with these states. However, your ability to recover back into breathing in flow is critical for optimal success. For example, a boxer who has his opponent on the ropes will most likely push out of nasal breathing to finish the fight. A last-minute flurry of punches… ding, ding… but if the bell rings and he didn't manage to finish the fight, then he must quickly recover back to nasal breathing for the next round.

Standard interval training which you will have seen before is where people will run for an intensive period of time, then walk to recover. There is where Gear 2 and 3 are most common. However, the purpose of this book and training is to get you into the flow state while optimally improving your blood oxygen flow, CO_2 tolerance, health, etc. Therefore, we are looking to increase your familiarity and ability to maintain breathing in flow (Gear 1) while at rest and under pressure, using Gear 2 and 3 as your indication that you've pushed out of flow.

Gear 1: Breathing in flow. GREEN LIGHT
Gear 2: Nose to mouth. AMBER LIGHT
Gear 3: Mouth to mouth. RED LIGHT

If you fall into Gear 2 or 3, your job is to calmly, effectively flow back into Gear 1 – the green light of flow. :)

PROGRAM 4: FLOW WALKING

BASIC: Do you remember the seven checkpoints of breathing in flow:

1. Keep your mouth closed.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stop, only a smooth transition like the movement of a pendulum.
5. Ensure you have full body breathing awareness.
6. Tune into your rhythm.
7. Use three gears when needed.

ADVANCED: This is how the seven points are applied with tape:

1. Keep your mouth TAPED.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stop, only a smooth transition like the movement of a pendulum.
5. Ensure you have full body breathing awareness.
6. Tune into your rhythm.

PROGRAM 5: FLOW RUNNING

Flow running while breathing in flow is designed for experienced runners. If you are not a regular runner, please continue with flow walking until you sense you are ready for flow running. The duration of your jog or run is determined by your fitness levels. Please keep in mind that you are learning a new way to breathe while running, so pay attention to your internal signs, especially during advanced flow running.

FLOW RUNNING: Use the seven checkpoints of breathing in flow:
Duration: 20 minutes +

1. Keep your mouth closed.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stop, only a smooth transition like the movement of a pendulum.
5. Ensure you have full body breathing awareness.
6. Tune into your rhythm.
7. Use three gears when needed.

ADVANCED FLOW RUNNING: Use the seven checkpoints of breathing in flow:
Duration: 20 minutes +

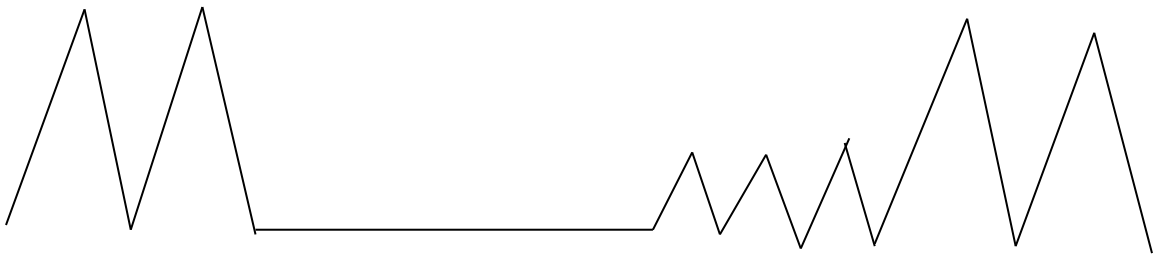
1. Keep your mouth TAPED UP.
2. Breathe in through the nose and out through the nose. The focus is on your nostrils.
3. Use your diaphragm without tension.
4. Use the pendulum principle on the transition of in-breath and out-breath, so there is no stop, only a smooth transition like the movement of a pendulum.
5. Ensure you have full body breathing awareness.
6. Tune into your rhythm.

PROGRAM 6: SIMULATING ALTITUDE WALKING

As you learnt in the previous sections, we can simulate an altitude of around 3,000 – 4,000 metres above sea level. Patrick Mckeown first brought this method to light with consistent results of lowering the blood oxygen saturation below 90% to 94%. You can test this out yourself with a pulse oximeter. Oxygen saturation is commonly referred to as “sats”. It measures the percentage of haemoglobin that has bonded with oxygen.

So in this training, we are going to further “force” the correct method by taping up your mouth. Habits are tricky to change without a coach present watching your moves – and in this case, watching to see if you open your mouth. So zinc oxide tape is your coach for this exercise.

Your aim is to create air thirst, by consciously minimizing your uptake. And that is exactly what you’re going to do in this session. It’s a blended combination of breath holding, shorter breathing and normal breathing in flow.



(This image demonstrates breathing in flow, holding breath, then taking shorter breaths, then returning to breathing in flow.)

1. Keep your mouth taped.
2. Walk at a comfortable pace while performing breathing in flow at your natural rhythm of the day.
3. Take a normal breath in and out, pinch your nose and hold.
4. At the point where you feel a medium to high need to breathe, breathe in around half the size of your normal breathing in flow for around 10 – 20 seconds.
5. Then return to normal flow breathing until you feel recovered.
6. Once recovered, repeat 11-21 times.

You can perform this altitude simulation on flat ground or better still, on uneven ground. Walking through woodland, small manageable hills, a gradient mix on the treadmill, or anything that will increase the intensity of the walk, will in turn increase the intensity of your simulation.

However, please note that taping the mouth may seem simple but really will push you physically and mentally. For the first few sessions, I suggest training in the presence of a friend.

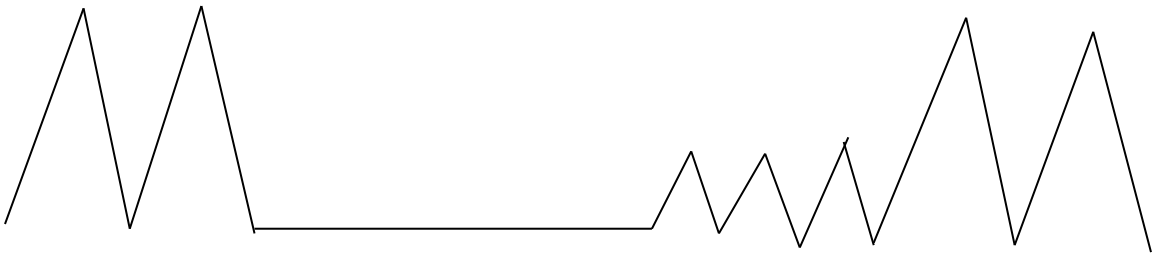
PROGRAM 7: SIMULATING ALTITUDE JOGGING

(NB This is the same format as walking.)

As you learnt in the previous sections, we can simulate an altitude of around 3,000 – 4,000 metres above sea level. Patrick Mckeown first brought this method to light with consistent results of lowering the blood oxygen saturation below 90% to 94%. You can test this out yourself with a pulse oximeter. Oxygen saturation is commonly referred to as “sats”. It measures the percentage of haemoglobin that has bonded with oxygen.

So in this training, we are going to further “force” the correct method by taping up your mouth. Habits are tricky to change without a coach present watching your moves – and in this case, watching to see if you open your mouth. So zinc oxide tape is your coach for this exercise.

Your aim is to create air thirst, by consciously minimizing your uptake. And that is exactly what you’re going to do in this session. It’s a blended combination of breath holding, shorter breathing and normal breathing in flow.



(This image demonstrates breathing in flow, holding breath, then taking shorter breaths, then returning to breathing in flow.)

1. Keep your mouth taped.
2. Jog at a comfortable pace while performing breathing in flow at your natural rhythm of the day.
3. Take a normal breath in and out, pinch your nose and hold.
4. At the point where you feel a medium to high need to breathe, breathe in around half the size of your normal breathing in flow for around 10 – 20 seconds.
5. Then return to normal flow breathing until you feel recovered.
6. Once recovered, repeat 11-21 times.

You can perform this altitude simulation on flat ground or better still, on uneven ground. Walking through woodland, small manageable hills, a gradient mix on the treadmill, or anything that will increase the intensity of the jog, will in turn increase the intensity of your simulation.

However, please note that taping the mouth may seem simple but really will push you physically and mentally. For the first few sessions, I suggest training in the presence of a friend.

CONCLUSION

A native Indian tribe living in Mexico called the Tarahumara have a deep-rooted culture of daily long-distance running. It's believed that this is due to the hunting style of literally running after their prey. Of course, they don't run faster than their prey, but they maintain consistent pursuit on the animal's trail.

Anthropologist Wade Davis, who is known for living with remote tribes and learning their culture over a number of months, stayed with the Tarahumara for a period of time and reported his experience hunting with the tribe.

Wade recalls that the hunt began early morning at a pace alternating between jogging and running. Once the sent of the trail was picked up, the hunters stepped up a gear to a consistent run, locking on to the prey with razor-focused intention.

Once the animal became aware of the chase, it too picked up a gear and accelerated. However, the tribe didn't break their stride as they remained glued to the target.

Each time the prey vanished, the hunting tribe would maintain its focus until the prey was in sight once more. Davis reported that over hours and even days, the hunt remained on, until eventually, due to the sheer tenacity of the tribe attaining their goal, the animal would eventually collapse from exhaustion.

Wade Davis was also a triathlete, so he was very familiar with running, but what stuck out for him was that the Tarahumara, throughout the entire hunt, never opened their mouths.

Ok, sure to talk. But they had a calm, focused look and their mouths were closed so they were obviously nasal breathing. Not only were they nasal breathing, but the Tarahumara ran over 100 km per day and had little to no problems recovering. To put that into perspective, elite long-distance runners battle to maintain 50 km day.

At any point during the hunt when they stopped, they would sit down, conserving their energy as much as possible.

When researchers finally began studying the Tarahumara runners over a course of 26 miles, they found some heart-racing data… (ah, sorry, I mean heart slowing). The data found that the heart rate of these

runners was at 130 beats per minute. Compare that to the average marathon runner. 160-180 beats per minute.

The Tarahumara are flow hackers, constantly breathing in flow and expressing the distinct characteristics of the flow state. Conserving their energy gives them the ability to maintain a high state of focus and strong intention. This same energy conserving is also done during the run, with no energy being wasted on unnecessary movements.

Their strong nasal breathing produced a perfect supply of nitric oxide, increasing their ability to remain relaxed under the physical demands of the hunt. Their nostrils acted like flow state maintainers as they created a balance of the sympathetic and parasympathetic nervous systems, being in perfect harmony with the task at hand.

And you, just like the Tarahumara, can do less and produce more.

"I'm going to teach you that **less is more and that when you do less, you will gain more in performance of your skill, sport or profession**."

Welcome to *Breathing in Flow*.

Wilson

REFERENCES

http://www.buteyko.com/method/index_method.html
http://oxygenadvantage.com/
https://www.acefitness.org/education-and-resources/lifestyle/blog/5716/how-posture-affects-your-breathing
http://starecta.com/body-posture-depends-teeth/
https://www.spineuniverse.com/conditions/neck-pain/how-your-neck-pain-may-affect-your-breathing
https://www.acefitness.org/education-and-resources/lifestyle/blog/5716/how-posture-affects-your-breathing
https://www.huffingtonpost.com/janet-carlson/is-your-child-a-mouthbreather-theres-new-help-at-the-dentist_b_5798888.html
https://www.healthline.com/health/breathe-deeper-improve-health-and-posture#posture-and-breathing
https://www.anabolicmen.com/how-to-increase-testosterone-levels-naturally/
http://www.peaktestosterone.com/Testosterone_Nitric_Oxide.aspx
https://alphanation.com/nutrition/positive-effects-nitric-oxide-natural-testosterone-production/
https://www.naturallyhard.net/testosterone-and-nitric-oxide/
http://www.yourhormones.info/hormones/testosterone.aspx
https://www.pritikin.com/your-health/health-benefits/reverse-heart-disease/331-sex-nitric-oxide-and-your-heart.html.
https://www.nutritionexpress.com/showarticle.aspx?articleid=286
https://www.youtube.com/watch?v=jJTl0VTROBc
https://en.wikipedia.org/wiki/Endothelial_NOS
http://www.reading.ac.uk/nitricoxide/intro/no/discovery.htm
https://www.jagranjosh.com/general-knowledge/what-is-the-function-of-hydrogen-in-the-human-body-1509018695-1
http://www.chemistry.wustl.edu/~edudev/LabTutorials/Buffer/Buffer.html
https://www.prima.co.uk/diet-and-health/healthy-living/news/a34570/breathing-techniques-the-oxygen-advantage/
https://www.ncbi.nlm.nih.gov/pubmed/16015135
https://en.wikipedia.org/wiki/Oxygen_saturation_(medicine)
https://www.ck12.org/biology/breathing/lesson/Processes-of-Breathing-MS-LS/
https://www.nsca.com/education/articles/kinetic-select/oxygen-uptake/
http://bio1520.biology.gatech.edu/nutrition-transport-and-homeostasis/gas-exchange-in-animals/
http://gemharrod.blogspot.ae/2010/05/explain-transport-of-oxygen-and-carbon.html
https://www.consciousbreathing.com/blogposts/carbon-dioxide-controls-breathing/
https://en.wikipedia.org/wiki/Respiratory_center
http://www.normalbreathing.com/CO2-vasodilation.php
http://www.normalbreathing.com/CO2-bohr-effect.php
http://www.normalbreathing.com/CO2-O2-transport.php
http://www.normalbreathing.com/co2-antioxidants-free-radicals.php
http://www.normalbreathing.com/co2-inflammatory-response.php
http://www.normalbreathing.com/CO2-stabilizer.php
http://www.normalbreathing.com/CO2-natural-muscle-relaxers.php
https://www.normalbreathing.com/CO2-blood-pH-respiratory-alkalosis.php
http://www.normalbreathing.com/patterns-irregular.php


BREATHING IN FLOW
HACK THE FLOW STATE
AND ACCELERATE
YOUR PERFORMANCE