Introduction

About me

Hi, I'm Palo, and I've spent over 10 years coaching and guiding people on their journey towards a better life, improved health, and a more positive self-image. Through countless daily interactions, I've gained valuable experience and insights into what works and what doesn't when it comes to transforming your body and mindset.

This ebook is the culmination of all that experience, packed full of actionable tips and strategies to help you get the results you want. Whether you're just starting out on your health and wellness journey or you're a seasoned pro looking for some fresh ideas, this guide is for you.

The theme of my life has been me spending time in different places, both physical and abstract, where different elements and worlds merge and me making the best out of it.

I studied Applied Kinesiology (AK) while at the same time coaching CrossFit in two different gyms, or boxes as they call them in the CrossFit world.
The technicality, attention to detail and the finest nuances of neurology, hormonal systems and physiology of exercise and nutrition from my studies were met with the raw power, enthusiasm, mental fortitude and sense of belonging from the CrossFit experience.

However, I found that AK was missing practical applications while Crossfit was missing a deeper explanation of WHY and HOW it actually works. Having the knowledge in both fields, I was between both worlds and took advantage of this space.

I soon realised that what we do in the gym is simply not enough for long term and sustainable change, and that all the theory and detailed understanding of the human body is also useless without application.

One day has 24 hours. That is 168 hours a week.
Even if we would spend 2 hours a day in the gym and actually working out (which is NOT recommended at all), we are still left with 154 hours a week. I would say that those hours outside of training matter.
They are actually THE critical hours.

Training, or any movement is just a stimulus. And after this stimulus, there is a specific time for adaptation of all stimulated systems. We cannot have one without the other.
One is not more important than the other. We need both stimulation, and we need adaptation. We need it often and we need it regularly. How we do anything is how we do everything.
How we breathe, sleep, eat and train our mind is absolutely essential to obtaining holistic results.These practices change our body.They change our mind, our spirit and our life.
That is why this is not a quick-fix guide for a six-pack or “how to lose 10 kilograms in 2 weeks”.This is a guide for long-lasting transformation.

There are 5 essential pillars: breathing, training, nutrition, sleep and cold exposure. These 5 pillars have the potential to fine-tune our life and teach you HOW to be in charge of your mood, how to control your attitude and not let the environment dictate how you feel. You are essentially in charge. YOU are in control.

4 Essential States

WHY

Because we CAN and if we CAN, WE DO. It really is as simple as that.
If you could be in charge of your mood, attitude, activation level,then why would you NOT want to do it?

We can take charge, and therefore we do.

In his book *Polyvagal Theory, Dr. Porges* describes 4 basic neurological states we can experience. From the most primitive to the most advanced. These stages are also linked to development of the brain across evolution:

- Freeze
- Flight
- Fight
- Flow

Any event of our life is pushing us towards some kind of reaction.

Flow is characterised by calm activities like socialising, digestion, and relaxation.
Fight and flight are expressions of the sympathetic nervous system, however, they are NOT the same. It is very different if you are the hunter or the hunted prey. Even if the physical expression might be the same, such as running, we all feel that there is a massive difference in whether you are running because you WANT TO (you are hunting) or you are running because you NEED TO (you are trying to escape from predators).
And fFeeze is a form of playing dead because there is nothing else left. It is the most primitive form of the reptilian brain in order to not be seen or detected as a last chance for survival in the face of a threat.

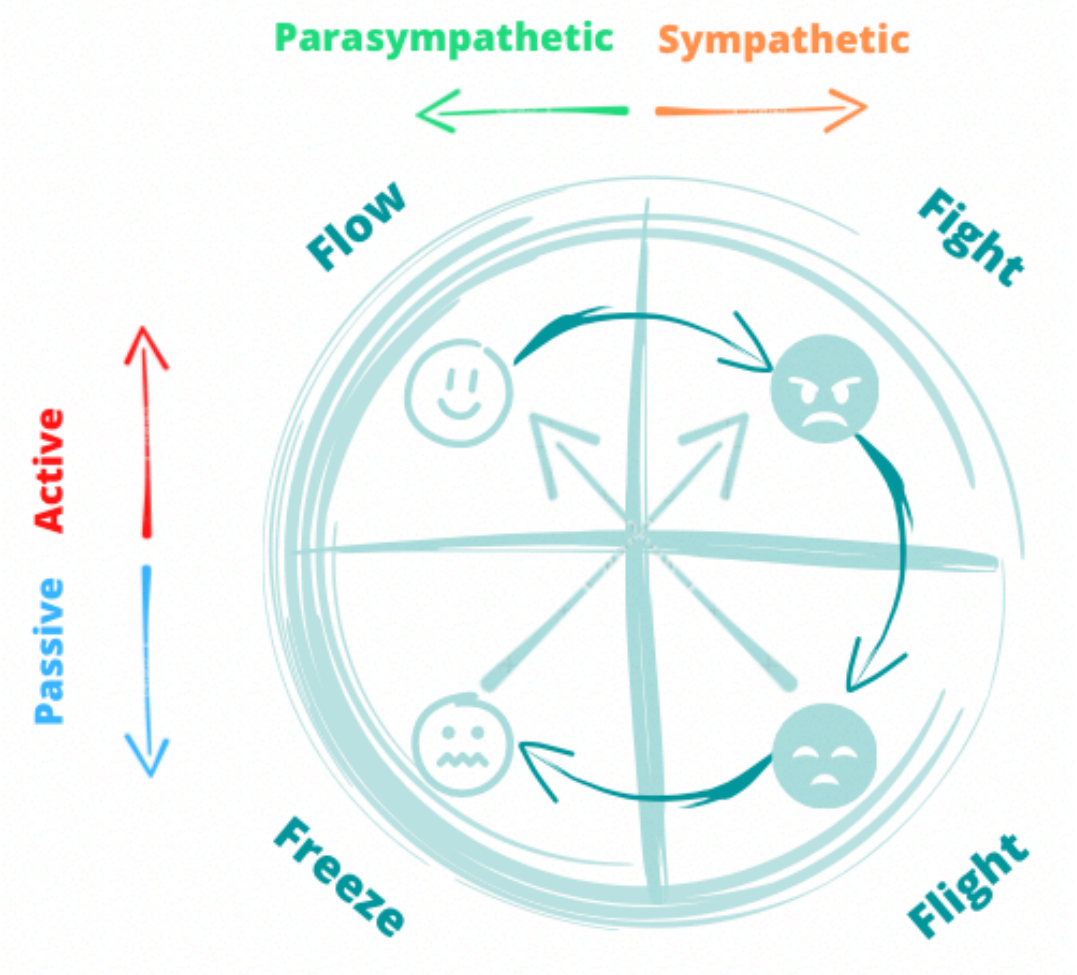
Flow and Freeze are regulated by the parasympathetic branch of the nervous system and Fight and Flight are regulated by sympathetic branch. These are just fancy names for neural pathways that are dominantly signalling to the whole body what to do. When we are training or in need of higher activation, the sympathetic nervous system will regulate the increase of blood flow to muscles and decrease the blood flow to the digestive system, because digestion of food is not a priority at that moment. On the flipside, when we are in nice company, enjoying food and good conversation, our skeletal muscles will be relaxed and circulation will be directed towards the digestive system by the parasympathetic branch.

Each of them prefers their own hormones and neurotransmitters to achieve their objectives, for simplification and clear understanding we need to know:

- Flow and Freeze are parasympathetic.
- Fight and Flight are sympathetic.
- Flow and Fight are active.
- Flight and Freeze are passive.

Therefore:

- Flow is active-parasympathetic.
- Fight is active-sympathetic.
- Flight is passive-sympathetic.
- Freeze is passive-parasympathetic.



We experience these stages and these states daily. We feel some states more intensely, some fluctuate less than others,and yet, at any given time we are somewhere on this spectrum.

We also know that it is possible to change the state we are in in order to control and move towards where we want to be on the nervous system spectrum.

Whether we are frustrated in traffic, angry because of clients, anxious about our kids' future, sad because of what our spouse said, it's important to keep in mind that all of these situations are somewhere on this spectrum and that we can stop being mere observers and instead actively step in and take charge of our state.

HOW

If we are aware of our state and we decide we want to change it - how do we do it?
How do we get from one state to another?

To simplify the process we can use this step-by-step guide:

1. Know where I am
2. Know where I want to go
3. Know what action(s) to take to overcome obstacles and get there

We can agree that this summary seems very simplistic and primitive and yet there is a LOT behind every step.

First and foremost there is one overlapping factor - our previous experience.
If I want to know where I am and change my state - I need to know where I currently am and how I am feeling at the moment in order to know where I want to go. And this is where our five pillars come into play.

Breathing gives us immediate feedback as to how we are currently feeling by focusing on the present moment, by listening and focusing on how we breathe. Breathing is a powerful tool that gives us the ultimate way to change states by manipulating the breath. Through breathwork we become actively involved in the breathing process and not “just a victim” of our breathing. Our breath is not happening to us, rather we want to be an active observer and become the creator of each conscious breath, eventually.

Nutrition influences our state in a longer term perspective. As will be explained, through our gut flora and neural communication, we can manipulate our potential state - how activated or how calm we are.

Sleep influences the quality of rest and therefore the essential balance between parasympathetic nervous system (PSNS) and sympathetic nervous system (SNS) branches. Sleep impacts breathing as much as breathing can impact sleep. Sleep impacts digestion as much as what we eat can impact our sleep. Our training influences our sleep and also sleep has a massive impact on our training. It is all interconnected.

Lastly, **Training** and **cold exposure** are the key components in our overlapping factor - previous experiences:
They give us an opportunity to experience all stages in a controlled environment and to learn.

The discomfort they provide helps us to understand what it feels like to be in flight, freeze, and how to get to fight or flow state
At this moment it is important to note one thing:

None of these stages are good or bad. They are all functions. Functions that are necessary for the system as a whole.
Of course it would be ideal to strive to be in Flow and Fight state rather than Flight or Freeze.
However, how could we control the whole system without knowing all of the functions? We literally NEED to experience each one of them, so once they come at us unexpectedly in life, we are not incapacitated and we know how to get out of there.
For example, training should push us to moments of fatigue that are so bad that we do not want to continue and we therefore then experience Flight - just to learn how to turn it over and build mental capacity to overcome this state. We need to go to the moment of Freeze so we understand how it feels and are aware of it if it happens in daily life - again, to be able to read ourselves and respond accordingly.

The same principle applies to cold exposure, and that is the true benefit of it. There are physiological benefits as well, however the mental benefits of building resilience and control over our neural states is exponentially more valuable for our life.

1. Know where I am

A simple guide to associate certain forms of mental processes with each state:

1. Flow - feeling
2. Fight - action
3. Flight - thinking
4. Freeze - no feeling, no action, no thinking - blank state

Flow is resting, digesting, socialising and communicating. That is pretty straightforward. Many people tend to think they are in Flow and yet, it is Flight. They got so used to it that they do not see the difference. Simple recognition sign is: IF you are in Flow, you do not overthink, you are purely in the moment, you do not need to plan, think ahead, worry. You are just simply in the moment.

Fight is pure action - no thinking, no overthinking, you just do what you need to do with presence of mind for the given task.

Flight is characterised by overthinking, the driver towards Flight is anxiety. Million thoughts, worrying, thinking about the future, regretting the past, thinking what we should have said, preparing arguments for the future, having virtual fights in our head with no real impact. People who experience Flight a lot are lacking HOW - they lack a way of dealing with problems. They know what they want, they do not know how to get there - therefore they lack actions towards the goal.

Freeze is when we are unable to not only act, but also unable to react. The driver towards Freeze is sadness. Freeze is where depressive thoughts and depression can kick in.

People in Freeze lack a WHY - they have no reason to get out of bed, they have no motivation and drive towards any action.

2. **Know where I want to go**

Once we establish that we know where we are, we should choose the right action in order to end up in the most favourable state for our situation and circumstances.

Getting out of Flight happens through Flow. We need to put those running thoughts into order and bring ourselves into the present moment.
If we try to go to Fight, that might be overwhelming as we lack the tools to deal with any strong action, and if the task would run over us again, we end up in the Flight and we are at the beginning.
When we start by putting our thoughts in order and calm our mind, then eventually we can build it up towards the Fight again - keeping the situation under control by choice.

When we want to get out of Freeze, the only way is through pure action; in the case of training, it is a very short, dynamic and powerful effort - more on that later.
The action should be generally very quick so that there is no doubt that it will be successful.
If we were to go from Freeze directly into Flow we would give a person who is lacking any reason, motivation and drive towards action even more time to feel the misery they are in.
That is not what they need. They respond best to quick prompt action that shows them that they are indeed capable and gives them an opportunity to find their purpose, giving them a short sense of “WHY am I doing this?" and then repeat another small action until they build up confidence in themselves.

3. **Know what action to take to overcome obstacles and get there**

This is where we merge the previous experience of self-imposed discomfort such as ice baths, cold showers, training and other practices like breathing, following the correct nutrition regime and getting proper sleep.
Each of these has a unique role in dealing with life and therefore a unique role in controlling our neural states.
Just through breathing itself, we can regulate and jump from parasympathetic to sympathetic nervous systems, activate Fight, suppress Flight and bring about Flow.
That can be the immediate effect of our ability to control our breath.
In the same way, we can “prepare the soil” for our mental state by eating the right food at the right time.

We will dig into each of the 5 pillars of BodyHack CODE and explain their role, interactions along with the effects of proper execution in and for our daily life.

Breathing

“Inhale the future, exhale the past, embrace the present”

WHY

Breathing is way more than just an exchange of oxygen and carbon dioxide. Inhalation *literally* has a strong impact on our “moment to moment” functioning. It is a two way street - the nervous system influences breathing and breathing can also influence the nervous system.
There is the nose and mouth, there is inhalation and exhalation, there is short and sharp, and long and slow.

Each of these have an impact on our mental state. Each of them has their own purpose. On top of that, we can also use it to diagnose how we are doing - get feedback for ourselves.
Observe people breathing, pay attention to little details and it will tell you A LOT about what is going on in their head.

General rules go like this:

Breathing	Parasympathetic /Flow dominance/	Sympathetic /Fight and Flight dominance/
Nose Breathing	✅	
Mouth Breathing		✅
Inhale		✅
Exhale	✅	
Short and sharp		✅
Long and Slow	✅	

The mouth is for eating and the nose is for breathing.

Switching our daily life's normal functioning to nasal breathing can be surprisingly challenging for many people. Yet it has a massive positive effect and makes a huge difference. First and foremost, nasal breathing filters and humidifies the air we breathe, which helps to protect our lungs and respiratory system. It also helps to regulate the amount of air that we take in, which can prevent overbreathing and hyperventilation.

Breathing through our nose allows for a higher efficiency of gas exchange in the body. Nasal breathing brings us into a state of very minor oxygen deprivation which results in our tissues being more "acceptant" to receive oxygen from the blood. A slightly lowered supply of oxygen increases demand and we teach our body tissues to be efficient and active, compared to an environment where they can be lazy because of oversupply of oxygen.
At the same time, nose breathing triggers a release of nitric oxide in the blood which has an immediate effect of vasodilatation - widening of the veins and therefore triggering better blood circulation.
Breathing through the nose triggers a parasympathetic branch of the nervous system, pushing us towards Flow state. It is calming. It also triggers fat burning through increased activation of the mitochondria. This applies to nose breathing at ANY time, including, but not limited to when you are working out.

On top of that - try to be angry, mad and furious while breathing through your nose. It just does not work! If you try to force it you might end up laughing pretty hard at yourself because it is just riddiculous. Try it and you will see for yourself.

There is a time and place for mouth breathing as well, however that is part of higher level self-regulation which we will talk about mainly with regards to cold exposure and training.

Each inhale and exhale is a rhythm of our life, and of our state and they should be in balance.
A healthy and present person's breathing cycle has no dominant points and has no pauses at any point either. It simply goes and flows.

When and where people pause while breathing can tell you how they are doing. If there is a pause after an inhale, that indicates a state of Flight - imagine a person being surprised or scared all of a sudden - their chest lifts, their eyes pop out, they sharply inhale and stop at the end of that inhalation.
People who are experiencing Flight or are anxious tend to inhale more than they exhale - they breathe up into the chest, and somehow forget to exhale. That creates imbalance.

On the other hand, if somebody pauses after exhaling, this indicates Freeze, sadness, resignation and passivity.

Simply focusing on inhalation and exhalation balance will make a huge difference in our ability to be in the present moment and will build awareness of the state we are in. First we need to observe how we are actually doing and then step-by-step and breath-by-breath working to consciously change it.

Short, sharp, long, slow, deep and shallow will always depend on the circumstances, and the goal - it is directly linked to whether we are inhaling or exhaling and whether it is through the mouth or the nose.
There are many options and some of the theoretically possible combinations are not even used as they do not make sense in practical application.

In each following section that is directly dependent on breathing, all necessary practices will be mentioned and described in detail.

HOW

For our everyday functioning including while we are sleeping, we want to inhale through the nose and exhale through the nose using a natural rhythm that gives us a nice balance without any pauses after the inhale or exhale.
The cycle should last around 8-10 seconds: inhale for 4-5 seconds, exhale for 4-5 seconds, no hold is necessary.

Whether mental or physical, if we face a situation that is making this baseline impossible to maintain, we still want to inhale through the nose.
And we can switch to exhale through the mouth.
It is crucial to make the exhale ACTIVE and through the lips. We want a slow, steady and long exhale through the lips, like we are trying to softly blow out a candle.
There are parasympathetic nervous system receptors in the lips. We can stimulate them through airflow passing gently through the lips. By the way, the activation
of these receptors is why kissing feels so good and how you can calm a child by stroking their lips gently.

Why stimulate these receptors? If the situation is pushing us to the reactive sympathetic nervous system, we push back to Flow state and the PSNS by focusing on breath control. We create active counterbalance and therefore we are taking charge of the situation.
By paying attention we will soon start to notice what is triggering us, what is causing the changes in our breathing and we will notice when we have the urge to switch to mouth breathing. In that moment we use our will power, make the effort to focus on breathing in through our nose and out through lips.

On the other hand, if for whatever reason we are feeling calm and the situation requires us to be more activated, we can use different techniques to go from Flow /or even Freeze/ to Fight.
We use growling and grunting from the back of your throat. The vibration on the back of the throat is stimulating to the SNS. If it is socially acceptable in our given environment we can also follow through by letting out a loud sound. This will push us towards the Fight state- build up a growling sound at the back of the throat and then finish it with a strong yell also produced at the back of the throat. The whole cycle can take 3-4 seconds and the nervous system will switch to a higher activation level instantly.

That's why people yell when they lift, before they lift, sometimes even after their lift or before an actual fight.
It releases a strong stream of potential energy that if directed correctly can have massive and important impact.
That's why charging soldiers in battle would scream and run fearlessly with wild looks in their eyes.
This can turn a soft, gentle lady into a fierce animal in seconds if she is willing to practise this. The main problem people have with this technique is usually the awkwardness of making wild sounds. It is possible to do it without the loud noise, however the effect will be lesser.

For example this technique is used often in the gym before attempting a max lift or highest jump, or sometimes in a closed office simply to get pumped and ready before a presentation.

Sometimes we need to turn into a hunter, and this is the way

The next step after realising how we breathe and using the proper method for the right purpose, is to use breathing techniques to enhance our results and actually accelerate the learning curve.
It's very simple: the more we do it the better we get at it. How can we breathe more when it is an essential part of existence? We do it with stronger intention and intensity.
Wim Hoff came up with many different techniques and protocols, Buteyko has his own methods, then there is box breathing and many more methods have been developed..

The method that covers the needs of teaching us neural state regulation and that meets our intention is based on hyperventilation followed by breath holds.
It is very simple and straightforward.
We do 20 breaths with high intensity. We want to get as much air in, and roughly 80% of the air out. So the emphasis is on inhaling. After the last exhale we hold the breath for as long as we can. Then we breathe in, hold for 15 seconds and exhale - the first round is done. We can do it for 2, 3, or 4 rounds. We can also eventually increase the intensity by adding more breaths by doing 30 or 40 instead of 20. These are all variables we can adjust based on our level, time availability or our mood.
It is *very* important to hold your breath after the exhale!
By hyperventilating substantial oxygen saturation is attained so that it is possible to hold the breath for longer than you would expect, even after exhaling.
Experiencing heat or cold waves, tingling in the fingers or even all around the body is completely fine. That is the feeling of strongly oxygenated blood flowing into tiny capillaries in intensities the body is used to.

If we want to go full speed, we can inhale and exhale strongly through our mouth, in order to maximise the volume of air flow. If we want to do a milder version, for example before going to sleep, we can inhale through the nose and exhale through the mouth.
Doing nose only breathing is possible as well, however it will limit the intensity and therefore have a milder effect than is intended.
We usually go through Flow to Fight and possibly even Flight for some moments and after doing a couple of rounds, we finish in Flow state very naturally.

It is recommended to do this practice daily and the effects are unquestionable. It will bring us into the present moment, we will feel energised, alive, calm and our mind will be clear.
We can do it in the morning to start off your day right, we can do it before a big event to bring our mind into the right state and release the stress. Many people use it before bed with a nasal inhale to clear their mind and prepare for sleep.

It takes 10-15 minutes and the results are spectacular.
We experienced people progressively making their anxiety of traffic disappear just by doing this practice for 10 minutes every morning before driving to work. Another client changed his 2 hours of tossing and turning in bed before falling asleep into a couple of rounds of breathing followed by a few minutes of calm recapitulation of the previous day.

Nutrition

“A crust eaten in peace is better than a banquet partaken in anxiety.”
Aesop

WHY

We will look at nutrition from a neural state dominance perspective.
This is not a manual on how to lose weight, how to gain muscle or any similar objectives.
We want to look deeper.
How does nutrition influence our mood? How does our mood influence our digestion?
How can we regulate our sympathetic and parasympathetic dominance by choosing the right food for the right time?And how can we eat in optimal conditions to maximise the benefits the food can offer?

First and foremost we need to realise that what we eat is not only duly transformed into energy, everything we ingest influences our nervous system. There are a couple of kilos of gut microbiome, or microbiota, in our digestive system. These are trillions of different bacteria that are essential for the functioning of our immune system, they help to synthesise certain vitamins and amino acids, and they help break down complex carbohydrates-they are important.
They also have a direct link to our brain. They reach and influence our brain and nervous system through the dorsal or ”back” part of the 10th cranial nerve - called the Vagus Nerve.

Different bacteria colonies react to different nutrients that are being fed to them. And different colonies therefore also send different signals through the vagus nerve.
If you eat sugar, the signals will be different than if you eat fat or protein. And here we come to the root of our system.

To keep the signalling clean and not to ‘mess it up’, we should focus on separating macronutrient ingestion into different times of the day based on our purpose.
On top of this, if we realise that bacteria reacts to what we eat, obviously *after* we eat it, we will come to understand that what we eat will influence the state of our nervous system in the following timeline, usually hours.
Therefore we eat for what is coming!

This is a two way street. At the same time that the reaction of the gut microbiome is having an impact on our neural state and activation, our neural state has a direct impact on how we digest food.
Ingestion is the proccess of getting food into our digestive tract.
Digestion is deeper. Digestion is how much of what we ingested is actually going to be utilised: turned into energy, or in general, turned into something our body will benefit from.
If we eat the same exact meal - same amount and quality, in two different scenarios, how much will be utilised will depend on the environmental circumstances of that scenario.

Scenario number one: Great day at work. Very productive and successful. Good chat and banter with colleagues, happy clients. You finish earlier because you can, and enjoy nice sunny weather on the way home. You have dinner with your partner, chat about your day, laugh and there is nothing that awaits you later, so you are chilled and relaxed.

Scenario number two: Work is pretty stressful as clients are unhappy with the latest outcomes. There was a nasty meeting full of yelling and blaming to a point that after lunch nobody spoke to anybody and even the air was heavy at the office.You go home later and it is an absolute blizzard on the way home. After coming in, food is ready, however you fight with your partner over a silly misunderstanding, and it escalates to unbearable intensity. You just want to go to your quiet place and finish your meal, when you realise there is a leak in the roof and water is dripping inside.
So instead of eating dinner, you just gobble down the meal in 5 minutes and rush to fix the leak, angry and frustrated with the whole world.

The amount of calories of the dinner meal in both scenarios is exactly the same.
Do you think that you would digest the meal the same way? That the same process happened with extraction of all minerals, vitamins or even macronutrients? The human body is not a pit where whatever we throw in it will just get burned regardless of the situation. We are very delicate and fine-tuned machines and HOW we eat our food is also determining how much we will benefit from it.

We can eat A LOT of volume and it still might be just a waste if the system is not in the right state to process it properly and correctly. We need Flow for proper digestion.

HOW

Keep it simple.
Eat natural food.
Carbs for fuel, fats to fill up and proteins for recovery.
Separate protein and carbs to optimise digestion
Eat to live, do not live to eat.

The most important thing that will improve your life, if you do not do it already, even if you would not do anything else about your nutrition is to: Eat natural food.
That means avoiding all processed food, seed oils, additives, sweeteners, stabilisers and so on. To navigate through this mess our food industry became - just the fact alone that we call it an industry is a bit concerning - we can follow three simple rules that will instantly help you to decide whether or not it is food worth eating or if it is better to be avoided.

1. If this food existed 120 years ago, you can eat it.

Most mass produced junk food came relatively recently - in the 20th century and therefore if this food you are considering could be found 120 years ago, it is generally safe to assume it might be a good, nutritious source.

2. If it needs a label it is not food.

Apple, egg, meat, cheese, carrot, lettuce - none of them need a food label telling you what it is, or what it contains. If the food needs to persuade you that it is food, that is suspicious. Avoid it.

3. Shop in the open spaces, not in the aisles.

Most supermarkets are designed in a way that the healthy stuff we are after is in nice open spaces - meat, eggs, vegetable, fruits. All the packaged processed food is in aisles on the shelves.

One general rule, which taps more into self-discipline, is to never buy stuff that you do not want to eat. If it is at home, it might be too tempting.

We described briefly the mechanisms of food having the power over our neural activation. Now we will look at what can be done and how we can get back on the horse and make this system work *for uS*.

Carbohydrates trigger sympathetic nervous signalling. Therefore they should be consumed when we want to USE them as fuel and utilise them as the fastest accessible source of energy. For example for workout or some other physical activity,

Proteins trigger parasympathetic nervous signalling. Therefore we use them for recovery. When we have steak or eggs with bacon, we very rarely feel excited to move, train or perform right after. Even cognitive performance is many times compromised. Because

proteins are the reward of hunting. We eat them after the hunt, after we deserve them, and then we can rest, digest it and ideally sleep.

Fats are somewhere in the middle, however animal fats like cheese, milk,and bacon will be on this spectrum, more towards the protein side - parasympathetic - and plant based fats such as nuts, avocado, and coconut, are more neutral just as most other vegetables.

Vegetables are considered neutral and we can eat them practically with every food because even though they have some carbs, they also have a very high amount of fibre which slows down their absorption - their impact on the nervous system is not that strong or significant.

Fruits have fibre as well, however they contain a considerably higher amount of carbs. Fruit is ideal to have pre-workout or to be eaten right after a workout.

The most beneficial food to have for our microbiome to flourish is fermented food.
Sour-cabbage, kefir, kimchi, kombucha. They feed the gut and create big diversity in your gut, which is exactly what we want and need. Diversity has countless physical and also mental health benefits. A healthy and diverse gut is a fundamental precondition for overall well-being.

We should also consider the use of spices. If we use a lot of spices and it causes a burning sensation, this can trigger sympathetic reactions l. Hot or spicy does not actually have a taste. Technically, it is a pain signal sent by the thermoreceptors reacting to temperature sensations. The substance “capsaicin” in foods seasoned with chilli causes a sensation of pain and heat. That is why we can also feel it in your eyes or different areas of the body covered by mucosa, or, for example, cuts and small wounds.
When we eat spicy food we can start sweating, which is just a thermoregulation mechanism - we are basically overheating. These are all sympathetic reactions, especially when people push it to extremes. We are in some weird masochistic way, basically micro-torturing ourselves. So using spicy food for dinner can be counter productive for our regulation as we want to stay in a parasympathetic dominant state as much as possible.

Everything said will of course depend on the dosage as well.
People tend to overthink and overanalyze. Overanalyzing is a Flight mechanism to avoid “just doing it”.
“So one egg for breakfast is fine?”
“If I have just a little bit of rice with meat, is it ok?”
“So I have chilli for dinner, but it's OK - it does nothing to me”
Anything is OK if you are OK with it - that does not mean it is optimal. If you are not sure, read it again:

Keep it simple.
Eat natural food.
Carbs for fuel, fats to fill up and proteins for recovery.
Separate protein and carbs to optimise digestion.
Eat to live, do not live to eat.

It is really easy to follow if you realise one thing:
Always assume you should do it “the right way” - IF you have to ask, it is probably *not* the right way.

We want to have carb rich food mostly at the beginning of the day and less and less carbs with lunch, ideally none for dinner.
We want to have little protein in the morning and more and more towards evening and finish with protein dominant rich dinner with no carbs.
Ideally we do not eat heavy protein meals with a side of carbs. That is messing with our digestion, as the PH in the stomach needs to be different to deal with carbs than it does to deal with protein.
On top of this, of course, it messes up the signalling to the nervous system.
So we confuse the nervous system: What should it do? Be activated? Or rest?

Before working out, we can have carbs, use them, and go crazy. Even if we refuel our body with higher carb intake like 2 bananas, or a handful of raisins immediately after a workout, the effect will be great, it will enhance recovery.

Supplements are supposed to supplement if you do not have enough nutrients in your diet. They were designed for convenience, however sometimes people push it too far with convenience.
If we need to add protein powder it is optimal to find some unflavoured, unsweetened purest version possible and have it as a second dinner.

These principles are generally applicable to any diet, belief or even religion.
We can be on a vegetarian diet, keto, carnivore, raw, hallal…these rules are universal. If you are on a vegan diet, or plant based, it will be a struggle to find protein sources to fit these rules, however if you are vegan you’ve most likely already dealt with this issue, or are struggling with it currently, so just implementing these few rules is not going to change this.
People doing intermittent fasting are implementing it as well and depending on what protocol they follow and how many meals they have they split their meals to carb meals they are breaking the fast with and protein meals they are ending the feeding period with.

This style of eating and self regulation is specifically taking into consideration that the main goal is regulation of the nervous system.
There are people who on the contrary recommend high carb dinner with the reasoning that it will increase insulin which is anabolic hormone and therefore we will get our gains as we sleep.
This is partially true. Insulin is anabolic. However, also eating protein increases insulin. Enough insulin to trigger anabolic processes, yet not in excess like carbs would do.
So it happens without triggering the sympathetic nervous system response in 2-3 hours after going to bed. Yes, carbs can temporarily “crash us” and we will fall asleep fast - we will also wake up in a few hours and have trouble falling asleep again.

Another common argument is to have carbs for dinner IF we have problems falling asleep because they can lower our cortisol and help us fall asleep.

Yes, carbs can lower our cortisol.
Also just simple nose breathing practice can do this as well, breathing techniques and exercises described earlier can too. And with no negative effect on sympathetic activation.

Using food as a tool to regulate our state is a superpower that does not really take much effort.
We just do the right thing at the right time. Observe what it does. If it works, we keep it in the toolkit, if it does not work, we disregard it and move on.

Sleep

“Happiness consists of getting enough sleep. Just that, nothing more.”
- Robert A. Heinlein

WHY

Sleep is the time when we experience the most consecutive parasympathetic activity. We restore and repair, sort out memories, even deal with traumas.
We could say that our time awake is sympathetic dominant-Fight and Flight- and our time asleep is parasympathetic dominant -Flow, possibly Freeze.
That would be very general, not detailed and not precise.
However, when we are sleeping, we generally want to be in a parasympathetic, Flow state.
And most challenges with not sleeping well or not being able to fall asleep come, when for different reasons, we are keeping the nervous system in sympathetic tension.

There are 3 main sleep stages and they all have their strong purpose.

- REM sleep
- Light sleep
- Deep sleep

We usually experience 20-25% of total sleep in REM, another 20-25% of total sleep in Deep sleep and the rest is either in light sleep or being awake.
Most people do experience a higher amount of Deep sleep at the beginning of the night, and that slowly fades away, and less REM sleep at the beginning. Then this turns over towards morning and just before waking up, we generally experience more REM sleep and less Deep sleep.This is a common pattern, yet, it is not necessarily a rule.

REM (Rapid Eye Movement) sleep is our dream sleep. It is the stage which is closest to us being awake.
This is the stage where we experience our mental recovery. Dreams are, by some, believed to be mainly that - expressions of previous experiences and a way of dealing with them.

In this time our brain is sorting our memories, turning short term memory into long term memory. Without REM it is very hard to learn something or retain learned information.

Alcohol is a huge killer of REM sleep. Many people experience very strong and vivid dreams when they stop alcohol for a longer period of time (multiple weeks or months).
Vivid dreams, even if we do not remember them later, we just know there was such an experience, are the sign of good, healthy REM sleep.

Light sleep is a very intriguing stage of our sleep. It used to be absolutely critical for our survival back in time and even today it might be influencing sleep in your household more than you could fathom.
Light sleep is a stage where we are very alert towards the environment - unlike in Deep sleep - and yet our brain is not too busy as it is in REM sleep.
This stage exists as a tribe preserving mechanism. When a bunch of people slept near each other thousands of years ago, it would not have been a very smart idea to go into Deep sleep all together at once. Light sleep is the stage which we can awaken from easily and warn others if there is some immediate danger.
We can observe here the beauty of evolutionary adaptation not only as individuals, also as a group. If we measure Light and Deep sleep of people who live together for a longer period of time, we notice their Deep sleep does not overlap. If you are in Deep, your partner most likely is in Light and vice-versa. In case there is danger, one of you will be able to detect it way sooner and wake up the other one if needed.

Deep sleep is a stage where we are practically unaware of anything that is going on around us. The brain has lower activity compared to Light or REM sleep and still it takes roughly 20% of all energy expenditure for itself.
This is the time where we recover physically. Tissue repair, protein synthesis, cell recovery are happening at the highest rate. It is clear and obvious why this is a very important stage, especially if we care about our body and even more if we pursue some level of athletic performance. However, even sedentary people with low or even zero aspiration for any physical activity need deep sleep. We are repairing our bodies constantly and always rebuilding what needs to be improved.
Deep sleep is the stage you do not want to be woken up from. It sucks, it feels really bad and it is exhausting. Switching in seconds from this resting, rejuvenating and peaceful state to being fully awake is a big shock to the system as a whole.

The length of the given sleep stage can tell us about the balance of the previous day, or even multiple days.
If we have extremely increased REM sleep, which is a predictor of cognitive and mental recovery, it might mean that we experienced a very strong mental load and the brain is trying to cope with it.
Same way an unusually long time spent it Deep sleep can mean an unusually big load on the body and need for “harder” repair than on an average day.
On the other hand, experiencing little REM or little Deep sleep in comparison to our standard does not necessarily mean we were “not stimulated enough” either mentally or physically. From experience, we know that in this case, usually overall sleep was compromised and we simply did not even spend enough time in a parasympathetic restful state.

Generally, regarding Deep and REM sleep, how we feel is the only guide we can have if we are not using wearable trackers, watches, rings or similar gadgets.
If we do, we should always also check and compare given data with the HRV curve to make an estimation of “what is going on” as precisely as possible. And of course - it will always be just an estimation of what the reason is behind those readings.

Heart rate variability (HRV) is a very good indicator of how well recovered we are. HRV is the measurement of variability between singular heart beats.
If our heart rate is 60 beats per minute, it is not 1 beat per second. It is only an average. It might be 1.2, 0.8, 1, 1.1, 0.9 … etc.
If the variability of these beats is high, we know we are in a parasympathetic dominant state. We are more relaxed and let's say the heart is beating with higher variability because it can. It is chilled.
If the variability is low, we are in a more sympathetic dominant state. The higher the actual heart rate goes, for example with physical activity, the more precise the beats become. With increased heart rate in healthy individuals, the variability of beats is lower and lower.
Therefore by measuring our HRV at night, we can tell how well we recovered, how deep we went into parasympathetic state - which is a goal for our night sleep.
HRV is a great tool for observing our neural load. When we are using tracking devices, we can see that the night after heavy training, our HRV might be lower than usual, as we are in sympathetic overload and then when we compensate for it the following day, with light cardio activity or easy nose only breathing workout, the HRV of following night is going to be higher again.
This is a self tracking and observing option that makes these devices more useful than just a way to pull out a cool screenshot of running distance for social media.
By following different training and bedtime routines and tracking our nightly HRV, we can figure out what works best for us individually.
One important note: Never compare your HRV to anybody else. What matters is your pattern - higher score (compared to your previous scores) means you are in a more parasympathetic dominant state. Lower score, you are in a more sympathetic dominant state.
Everybody has different total and baseline numbers. What I would consider a low score for me, can be the peak score for somebody else if we only look at absolute value.

HOW

Total amount of sleep we should aim for differs from person to person based on many factors; however if somebody claims that he is OK with 5 hours per night, he is not. It is temporary and they might feel OK and yet, their body and brain are most likely not happy about it at all.
General recommendations based on age groups are:

Newborns	0-3 months	14-17 hours
Infants	4-11 months	12-15 hours
Toddlers	1-2 years	11-14 hours
Pre-school	3-5 years	10-13 hours
School age	6-13 years	10-11 hours
Teens	14-17 years	8-10 hours
Adults	18-64 years	7-9 hours
Older adults	64+ years	7-8 hours

At night the body cycles through the stages of sleep. Usually it goes from Light to Deep to Light to REM. And then it repeats. One sleep cycle takes around 90 minutes.
And as mentioned before, more Deep sleep and less REM sleep is experienced in the first half of the night and then it switches and less Deep sleep and more REM sleep is experienced in the second half. People sometimes experience waking up after sleeping around 3 hours - that is when our second cycle is over. We might even feel rested and fresh at that point. On the other hand, if we are for whatever reason woken up before finishing the cycle, especially when we wake up from Deep sleep, it feels very bad.

Our ability to be calm and parasympathetic,Flow dominant, is strongly linked to our breath. Breathing through the nose is the first step to increase the quality of sleep. Some of us like to go “all in” and use tape on our mouths. This might seem a bit extreme and it might be uncomfortable at first, however it is a very simple and extremely efficient way to ensure that we breathe through the nose the whole night. I recommend doing some kind of practice round for a limited time and see how it goes, trying to stay calm, before just taping your mouth and attempting to fall asleep while suffocating.

To improve the quality and amount of Deep sleep we should simply go to bed earlier as Deep sleep is experienced mainly at the beginning of the night.
Experience and observations of many people show that the factor with THE MOST impact for improving Deep and especially REM sleep is consistency of sleep routine.
Consistent schedule of bedtime and wake-up time.
If total sleep reaches at least 7 hours, then consistency is shown to be more important for quality of Deep and REM sleep than actual amount.
The window should be as little as 15-20 minutes. So if my bedtime is set at 10pm, my window is 9:50 pm to 10:10pm
So if we go to bed every day at 10pm (+-10 minutes) and wake up at (5am +-10 minutes), it is possibly going to be more beneficial for quality of sleep than if we sleep 8 hours every night, but it is 9pm to 5am one day, then 11:30pm to 7:30 next day and so on.
First thing to focus on is consistency.

Another instant bio-hack for improved sleep is melatonin regulation. Melatonin is a hormone that is responsible for our circadian rhythms - the inner clock that every single cell in our body is running by. New born babies have 4x higher levels of melatonin than older people. That is why their sleep routine is very different.
Melatonin is photosensitive and it is regulated by light.
Experiencing natural sunset and natural sunrise is the most powerful tool to get our inner clock functioning optimally.
When the sun is rising and setting, the wavelength of its light is on the yellow and red spectrum. In the middle of the day, the sun is emitting a lot of white and blue light.
Our brain and body are reacting to those. And because all our technology, and sadly also most of our artificial lights installed indoors are also on the blue and white spectrum, it is messing up our inner clock and therefore our sleep.
Bulbs, neon lights, TVs, laptops, tablets, smartphones are all basically telling our inner clock that it is midday. Therefore melatonin (a photosensitive hormone) can not do its job and slowly fades us out to a nice sleep.
We often hear: “I can not sleep so I’m scrolling Instagram.” NO! You can not sleep BECAUSE you are scrolling on Instagram.
We should avoid exposure to blue and white light 60 to 90 minutes before bedtime.
One factor is WHERE is the light and another is preventing the unwanted light spectrum from getting into our head through the eyes.

First we will go through the OPTIMAL setting of routine 90 minutes before bed and then we will run through some alternatives that are going to help you without sacrificing so much needed screen time.

The optimal scenario is that there is only a yellow or red light in your house turned on 90 minutes before bedtime. No TV, no smartphone, no blue control lights from fridge or electric kettle.
The light source should be on the floor or lower than your eye level. So ideally we can use a salt lamp with a very soft yellow, red light.
Any light above our heads is telling our brain it is daytime - because the sun is above our eyes only at daytime. So to mimic sunset, we want the source of the light to be on the floor, or at least below eye level, to be yellow or red light and to be nice and warm with very little intensity.

If you can do this. Perfect. If you already have 10 excuses why this is not possible, you should still try it.
Instead of completely avoiding all screens and not using blue light sources at home, we can get blue-blocking glasses and simply wear them 90 minutes before bed.
Because melatonin is photosensitive, remember: putting glasses on, functioning for 90 minutes with them and then going to the bathroom without them and turning white light above your sink on is going to kill your effort in that second. Also if you go to the toilet at night, do not turn the light on, unless you have the glasses on. It is going to kill melatonin again.
Another option is to set a red filter on your smartphone. When you take this seriously, just make sure that it really is a proper red filter as it might appear so, and there still will be some blue or green light coming through.

This also applies to glasses. Blue light blocking glasses have strongly red (wine red) glass. If the glasses are clear or yellow, they are not blocking it, they are just filtering.
Those have their use as well and are fine for use in the middle of the day if you want to save your eyes when you have long screen time. Yet, we can be sure those are NOT going to protect your melatonin at night.

There are a couple of habitual factors that directly determine our parasympathetic vs sympathetic state dominance and therefore have immense power to influence our sleep as well.

Carbohydrate intake, especially from sources that lack fibre will promote a sympathetic state and therefore are not recommended to be consumed for dinner as it will compromise your state in the times when you are trying to calm down and go to resting Flow. We covered this in the nutrition section in more depth.

Caffeine is a widely popular substance and its effects and use is fascinating.
Coffee itself has very many so called bio active components and there is no doubt there are many benefits from drinking coffee besides the effect of caffeine.
Caffeine is also found in kola nuts, green tea, chocolate, guarana, yerba mate and energy drinks to name a few, and those are widely used as stimulants. Therefore we will look at caffeine intake and its impact on our neural states.
First we need to make clear that the mechanism of caffeine is very far from stimulating. Caffeine is simply blocking signals from body to brain that are supposed to “let us know” that the body is tired.
From the time when we wake up, we are slowly, progressively building molecules of adenosine in our body. The molecule is supposed to come to its receptors, bind into them and that will inhibit (suppress) our neural activity and therefore make us tired.
Caffeine has a very similar molecular structure and it is also able to “catch” into adenosine receptors. However it will not trigger the process of sending the signals that adenosine would. So caffeine will block the receptors and adenosine is free flowing around, unable to bind into the receptor and do its job - tell the brain that we are getting tired.

Aftereffects of once caffeine is broken down, is that many molecules of adenosine will bind into receptors at once and we crash.
So there is no secret energy source, or stimulation of the brain on an amphetamine-like principle. We simply fool the brain by blocking the signals.

Caffeine by its mechanism of action pushes us towards a sympathetic state and if you ever overdid coffee to a point of “caffeine rush”, you know what it feels like. Racing thoughts, difficulty to focus, some physiological symptoms such as increased breath frequency, increased heart rate, restlessness.
Isn't that very similar to an anxiety state?
That is our Flight state kicking in, as we push too far, the nervous system has a hard time dealing with this altercation between suppressed signals of us being tired and the brain attempting to focus on the task at hand.
These feelings and overwhelming sensations are the last thing we want when going to bed.
The half life of caffeine is 8-12 hours. That means that half of the amount of caffeine will still be active in the body after 8-12 hours. So having a double espresso with roughly 150mg of

caffeine at 4pm will keep us at around 75 mg (amount found in a single espresso) at 12am blocking the signals that we are tired.
So for reasonable consumption of caffeine, we should not do it later than 10-12 hours before our bedtime and we should do it in reasonable amounts. Two cups of coffee with around 100mg of caffeine with the second one consumed 10-12 hours before bedtime is a reasonable amount. We can find information that even 400-500mg a day is safe. That might be true, however safe does not mean optimal. Safe also does not mean it will not affect us negatively at all.

Delaying caffeine 1.5-2 hours in the morning has an amazing effect on energy levels through the day.
Long story short:
Cortisol, our stress hormone often linked to Flight state, is highest in the morning and slowly fades away though the day (in healthy individuals).
Cortisol helps to clear out adenosine molecules in the morning which means we are highly alert.
If we do have intake of caffeine first thing in the morning, caffeine binds to adenosine receptors and blocks them.
So we have build-up in adenosine that has nowhere to go.
Once caffeine is metabolised in the early afternoon, all the adenosine that was not cleared out will bind into receptors and strongly inhibit neural activity = we crash.
And that is assuming we did not have more caffeine in the meantime!
If we do have more caffeine along the way, we just push all that adenosine in front of us and the crash will be even greater later.
It needs to be understood that we are getting tired and the body is wearing out - it just has no way of letting the brain know about it. So the brain cannot have an adequate reaction to cope with it properly.
If we delay the first cup of coffee or other caffeine intake, we can avoid this and have more sustainable energy levels through the day.

This leaves us with a pretty specific window for caffeine intake. Assuming we wake-up at 6am and want to be in bed by 10pm. We have a 2 hour caffeine free window in the morning and then 10-12 hours before bedtime.
That gives us our optimal caffeine intake from 8am to 10am, maybe up to 12pm. Possibly, we can do a window between 8am and 2pm if we know that our tolerance is higher and sensitivity is lower.
This way we have sustainable energy levels throughout the day, little impact on parasympathetic state by caffeine and we get a good 8 hours of high quality sleep.

There are people who claim that they can have double-espresso and go directly to sleep. Yes, I was one of them. It is necessary to add a couple of facts here.
These individuals are most likely chronically fatigued, so they will fall asleep anyway.
Most likely they have higher caffeine tolerance because of excessive use. It is possible to “train” some tolerance individually, however there are strong physiological limits.That is why there is a range of: 8-12 hours. Some people need more time to metabolise caffeine than others, however it is not possible to build absolute tolerance with no effect.
What is critical to realise in this scenario is that we might be sleeping and yet the quality is so compromised that there is no proper rest. There is no Deep sleep attainable and even

though we might not be conscious, that does not mean we are getting proper rest. Quality of sleep is strongly influenced by the amount of caffeine in the system even if we do not feel it.

Nap or not to nap? Naps can be a powerful tool of re-energizing if used correctly.
If you have a habit of taking a nap throughout the day and it works for you, great. There are a few factors to consider to optimise the length and time of naps for our maximal benefit.

If we take a nap later than 4-5pm, there is a high chance we will compromise our night sleep.
If we are about to nap and it is past 4pm, we should try to use other methods to keep our energy at manageable levels and rather push harder in the later afternoon and evening so we can get to bed earlier.
If we plan ahead and take a nap even after 4-5pm as a compensation because we know we will have a late bedtime tonight, we should be aware that it is not the same. Nothing can replace nighttime sleep. Sleep between 9-10pm and 2am is irreplaceable. Especially if we usually are (and we definitely should be) sleeping at that time, the circadian rhythm-our inner clock - will not be able to compensate for being awake at that time before or after.

Length of nap is very important for us to consider if we want to maximise the benefits.
We take into account what we know about the sleep cycle.
We either want to avoid going into Deep sleep and that means keeping a nap max 20 minutes long, or we will go into Deep sleep, finish the whole cycle, and take a nap for 90 minutes.
These times are of course susceptible for individual adjustment, however as a starting guide it surprisingly works for most people very well.
The whole idea is to avoid being woken up in the moment when we are in Deep sleep.
People who claim that naps are just killing them and they feel even more tired than before, are most likely suffering only because they wake up at the wrong moment.

One very important thing to consider when regulating sleep is what we do with our nervous system and what neural states -Flow, Fight, Flight and Freeze- we are experiencing prior to bedtime.
We know very well how hard it is to fall asleep after an argument. Sometimes even many hours after the argument. Even just our memory is keeping us engaged in Fight or Flight and we have a very hard time getting out of it. Little disclaimer: It will not go away on its own, however there are ways to deal with even this kind of intense situation.

Some other things however, that we can regulate pro-actively are fully in our hands.
If we lift heavy or have intense training full of Fight expressions close to our bedtime, it will reflect on our ability to switch from this strong sympathetic mode into parasympathetic dominant Flow state.
There are people who are less and people who are more sensitive. Some of us can not even lift after 4-5pm or it will impact our ability to switch into parasympathetic later.
It is definitely a factor to consider. If we have a choice, we can prefer a Flow oriented workout in the evening over full on Fight, balls to the wall type of lifting, sprinting, jumping or martial arts class.
We will describe types of workouts and their impact on neural states in greater detail in the training section.

As we described in the breathing section, one thing that we can always do to immediately manipulate our neural state is turn our attention to breath and use it to calm down.
Focusing on nose breathing during daily activities, switching to nose only breathing if we can not fall asleep.
Also doing a few rounds of breathing exercises with hyperventilation might be a good way to go into parasympathetic dominant state.
Another way is to regulate ourselves through food. Eating a protein dominant dinner with fibre in a nice environment and pleasant company can also help us to tune down.
Focusing on light management and avoiding blue light is another great tool into our toolbox.

However, it is not magic. If the activation through the day is very intense it will be very hard. If we have a chaotic and stressful day, smash 6 double espressos along the way and some caffeine based pre-workout at 7pm on top of it, then we hit heavy squats and plyometric jumps by 8pm, listen to heavy metal for 30 minutes on the way home, it is very unlikely that eating 500g of grass-fed beef steak in complete darkness and then doing 15 minutes of breathing exercise is going to help us sleep like a baby.
There needs to be balance and regulation along the way, not only trying to put out a big fire by pissing into it and hoping it will work.

Training

“Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity.”
John F. Kennedy

WHY

“Fitness is not a destination, it is a way of life.”
It’s a super cheesy quote that is hiding a truly deep concept if understood properly.
James P. Carse wrote a book called *Finite and Infinite Games*. His concept is describing a world where there are at least two types of games:Finite and Infinite.
Finite games are the ones with firm rules, we know the number of players, objectives, length of the game. Simply put, we know when it starts, ends and what needs to be done to win the game. Virtually any sport from chess to Mixed Martial Arts are finite games.
Infinite games are games where the number of players is unknown, they can come and leave, we do not know when the game ends. And it only ends if we run out of resources to continue, or the will to keep playing. By this standard every relationship is an infinite game. Business would be looked at as an infinite game. We can not win a relationship. We can only keep it going. We can not win business, as was proven by Simon Sinek using his reference to business being an infinite game before.

By what metric can somebody win fitness? We can have an objective goal. And what happens in the moment we reach that goal? Do we stop? The results are not going to hold. That is not how it works.
Our health, wellness, training and fitness are infinite games. And our goal is to keep playing. Actually our ONLY goal is to keep playing.
Nobody on their deathbed will care about personal best squats when they were 24.
Even professional athletes-at least the smarter ones - eventually realise that even if they are winning and dominating one season, that might not be the case the next one. And approaching a career as an infinite game might be a good idea as well. Actual specific performance is only a very tiny part of many other factors and variables that are in the pot.

So yes, *"Fitness is not a destination, it is a way of life."*

In our system of neural state regulation this is even more prevalent and obvious. We can use breathing, sleeping and nutrition regulation to manipulate training.
However, this is a two way street.
At the same time we are using training and cold exposure to LEARN how to regulate life.
We possibly go through all of the stages: Flow, Fight, Flight, Freeze in one training session.
It is a mini-simulation of life.
Intentional, intensified and controlled exposure to neural states.
With the pure purpose of knowing what it feels like to experience particular states and mainly to know HOW to get to different ones. What strategies for breathing, thinking, mindset, self talk and even movement to use if we want to get to a different state.

And if we can do it in training, we can do it in life. The principles are the same. We are the same. In the training or outside. We do what we know, we react instinctively and that is something we want to change. We do not want to react anymore. We want to respond.
We do not want to be reactive, impulsive and without control.
Whatever comes at us, in training or in life we want to respond in a calculated, smart, controlled way.
To be able to do it, we need a lot of practice and loads of experience. We need to get to know ourselves inside out to be in charge.

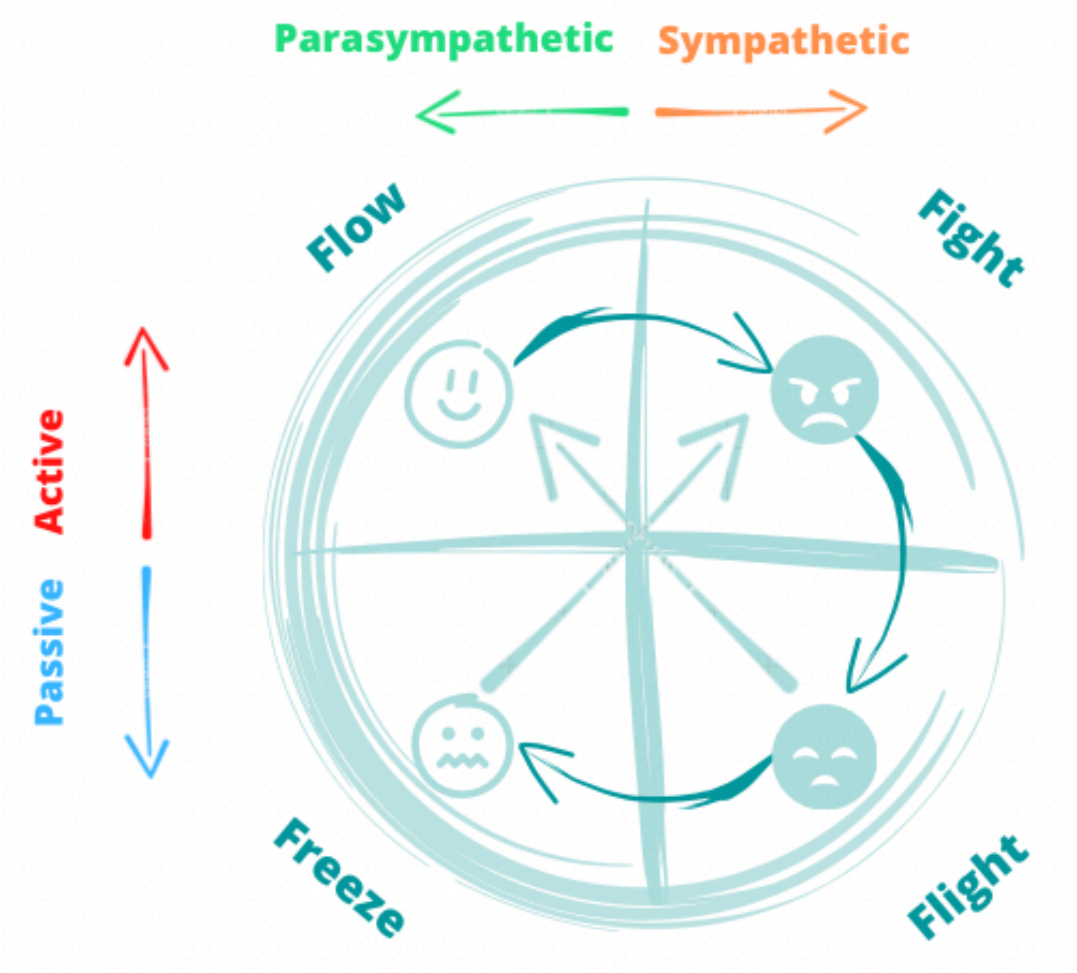
We are not offering one way of training. Runner, gymnast, powerlifter, weightlifter, crossfitter, bodybuilder, surfer or rock climber and all the other active people at all levels of performance - everybody can apply these principles of regulation.

Training gives us an opportunity to experience all stages in a controlled environment and learn.
I will repeat what was said before:

Flow and Freeze are parasympathetic.
Fight and Flight are sympathetic.
Flow and Fight are active.
Flight and freeze are passive.

Therefore:
Flow is active parasympathetic.

Fight is active sympathetic.
Flight is passive sympathetic.
Freeze is passive parasympathetic.



Training can help us to understand what it feels like to be in Flight,Freeze, how to get to Fght or Flow.
Again we need to remember one key point:
Neither of these stages are good or bad. They are all functions. Functions that are necessary for the system as a whole.
We strive to be in Flow and Fight and less in Flight or Freeze. We want to finish training in Fight or Flow, however, how can we control the whole system without knowing all the functions?
We literally NEED to experience them, so once they come at us unexpectedly in life, we are not incapacitated and we know how to get out of there.
Training should push us to moments of fatigue so bad that we do not want to continue and we experience Flight - just to learn how to turn it over and build mental capacity to overcome this state. We need to go to the moment of Freeze so we understand how it feels and are aware of it if it happens in daily life - again, to be able to read ourselves and respond accordingly.

We will use a simple CrossFit workout as an example to get a general idea of how all these states are working with us, for us and sometimes against us. Julien Pineau used this example many times during his Strongfit seminars.
The workout is a classic CrossFit “girl” workout called *Grace*.
It is 30 reps of clean and press. If you have done it previously with the right weight for your capacity, you know it goes something like this:
First 5-10 reps feels amazing, it's flowing, the body feels strong and we feel like we can be done within a minute, max 90 seconds. That is our Flow.
Around 10-13 reps in, we start to slow down and yet we still keep the momentum and are dominating the barbell, dumbbells or sandbag or whatever we are doing the workout with. That is your Fight mode. After 15-17 reps panic kicks in a little bit, breathing is pretty hard and after each rep we walk away from the equipment a little bit, like there is better air a few steps sideways from our working station. That is Flight. We literally flee from the danger. Danger here being the equipment staring at us and us knowing we are not done. We *get our shit together* and come back - switching back to Fight for the next rep or two, then stepping away again into Flight.
Eventually we reach a point around rep 20-22 of the workout, where we do not go away anymore. We stay there, lean over the bar, support our hands on thighs and just gasp there waiting for some strength to come back. That is Freeze. We froze over the workout, not even running away, just questioning *why the fuck* we’re even doing this. We again are able to switch into Fight, maybe Flight again, just because we fear the yelling coach more than the reps that are left. This cycle is repeated until we finish the 30th rep.
After finishing we either walk away in pain, or just roll on the floor incapacitated for the next couple of minutes, maybe hours if we really push our limit.

This sounds extreme and frankly, *it is*, however many people “train” like this 5x a week. We are not going to judge whether it is good or not (it’s not).
I believe that this kind of experience is important, however being exposed to this too often can lead to burn-out or injury. Anyway, this judgement is not the objective we are after.
We just want to understand here, fully and deeply, what these states look like and what they mean.
Why we experience them and why it is important to experience them from time to time.
Without that exposure we will hardly know what is going on if we encounter similar feelings of physiological symptoms in our daily lives.
The big question is - what can we do with it and how to take our control back so that it is not happening *TO* us. Rather we create our own control over neural states at least to some degree.

HOW

It is very clear that to be able to manoeuvre ourselves and be in charge of our neural state(s), we need to have a clear idea of what they look like and feel like. To make that simple, we will go through a description of workouts and experiences where we do not change between states and instead there is just one of them present for the whole time.

Flow workouts are the ones where we just cruise through.
Ideally we do it through our nose only breathing. Low heart rate, steady movement, nothing too explosive and the main focus is that this is done at a sustainable pace.
Doing nose only breathing in cardio workouts will naturally prevent us from going too hard.
Listening to our heartbeat or focusing on the breath rhythm is a very good way to prevent going into Flight.
The physical expressions of Flow workout and Flight workout can look the same on the outside, however what is inside is the determining part. If we have running thoughts, are nervous, anxious, overthinking or thinking about everything else but the workout, that is Flight.
If we do nose only breathing, focus on the breath, focus on our heart beat and are really in the moment - that is Flow.
When we start to push the intensity we can easily get to higher and higher activation and we are getting into Fight.

A Fight workout is a pure expression of action. The best - not the *only* - example for a Fight workout is short and near maximal effort.
Note that any activity can be done in Fight, even longer efforts, however by its nature it is easier to express Fight in short effort rather than a long one, where there is too much time to think.
It can be:
Pushing the sled for 20 metres as hard as possible.
Jumping as high or as far as possible.
Olympic lift or sandbag tosses.
There is no thinking, there is no feeling.
If you ask an Olympic weightlifter what he is thinking as he is lifting, the answer is most likely going to be: *Nothing. There is no time.* He is just doing what can be done. It happens too fast. And that is pure Fight.
If we do a CrossFit style of workout, or a longer run, interval training, HIIT - we can reach Fight as well. It is also way more likely that we will fall into Flight.

Flight state in a workout is Fight pushed too far. In Fight, we are hunting. In Flight, we are hunted.
The workout is starting to hunt and kill us, instead of us chasing and killing the workout.
Even if the physical expression might be the same - running at a certain speed - it is the mindset that determines where we are. The hunter is running and the prey is running as well. And we know that if for sure feels very different.
In Flight we are not dominating, we are dominated.
In longer efforts and workouts - whether it is bodybuilding sets, powerlifting sets, CrossFit WODS or even running any distance - when we push too far, we slip into Flight.
In lifting, it is that neurological crash, when we feel it is suddenly heavier than we would like it to be. When we feel that the weight is winning, not us. It is also the time when technique is starting to break down.
In longer, more conditioning dominant disciplines it is that moment when we do not want to be there. We are not DOING the work. We start ENDURING.
What can we do with that?

We can either unload the weight, slow down, get back into Flow and try to build it up from the beginning *or* we attempt to go from Flight back UP to Fight directly, push through, muscle through and see what happens.
However that is risky, and most likely an effort with very limited effect. Also, it can easily end up with dropping even deeper and ending up in Freeze.

There is a very interesting relationship between Fight and Flight. They are part of a limbic, emotional driven system in the body.
Objective outcome of effort is many times not enough to reach our expected result.
Let's imagine two scenarios. We are testing out a 400 metre run.

In the first scenario, we are well prepared, we trained for this a long time progressively, we are feeling great and we will hit our new personal record. From 1:05 to 59 seconds. It is not elite time, however it is great progress and we do not care because we are not elite runners.

In the second scenario, we are well prepared, we trained for this long time progressively, we are feeling great and we will hit our new personal record. From 1:05 to 59 seconds. It is not an elite time, however it is great progress. And in this case we did this test with our friend. A friend who only started to run with us a couple of months ago. He is fairly new to running. He has never really run since high school. And his time is 57 seconds. He is happy about it, bragging and teasing you for the rest of the brunch you go to with your running buddies.

For many people (not everybody) this SUCKS.
Effort was the same. Outcome was the same. However the feeling of dominance, the testosterone driven Fight mode and feeling you had after hitting that new personal best is CRASHED by some *newbie lucky idiot* you do not even know why you are friends with at the moment.
In scenario number one, you finished in Fight. In scenario number two, that is compromised by the buddy who does not even care about his time really, and you end up in Flight.

Comparison is a killer of joy. And repetitive comparison for the same reason can also be a killer of progress.
I know a young woman who was a very talented and hardworking CrossFit athlete. She wanted to level up her game so she moved states so she could train in a more competitive environment.
She was very much Flight driven and this new team was packed with a variety of talented athletes. Each time there was a workout with dominant gymnastic elements, she lost to gymnasts. In the same way she was losing lifting workouts and strength sessions to lifters and bigger girls in the gym. She never won conditioning training because there were people who were conditioning capacity specialists.
She might have been THE BEST overall, if put into a high variety of tests and looking at an average, but she was very rarely winning at any workout.
The fact that she was never training, always competing and almost always losing (in her mind), she was deeply cortisol driven, in a high anxiety Flight dominated neural state. After a year, she was way less fit than when she moved in. And her mental health got a huge beating as well.
Not because she was not trying, training, or not eating right. These were all on pointe. It was only because of her mindset.

Comparison is a killer of joy.
Perception creates reality.
Even with the same workouts, same results but different neural states - we will be winners or losers based on how we perceive it.

Freeze state experienced in workouts is when we go so hard compared to our capacity, that we literally freeze, and we do not want to move - we do not want to do anything. We do not really feel anything either. No thinking, no action, no feeling. Just blank mind and absolute crash of the nervous system.
Many times this comes after we are done, and it is how our body and mind are coping with overreaching stress. Doing this repeatedly and often leads to a plateau, possible injury and mainly we will not even like training anymore. Subconsciously we will start to associate the gym with this experience and we will want to avoid it eventually.
Exposing ourselves to Freeze from time to time just for the experience of it is not going to hurt. Again, to know what it is, what it feels like and what it takes for us to get out of that state, there is nothing like personal experience.
If this happens after a gruelling training session, we can support recovery by having some increased fat intake. Especially high animal fat food can help with compensation.

When we start our training, we are ideally coming from the Flow state and then take it wherever we want to by adjusting breathing, intensity, weight, reps, speed…whatever is needed.
However, for many people, it is an actual state of Flight or Freeze they are coming to the gym with. It is not as intense as described before. It is more of a chronic Flight or chronic Freeze linked to our overall daily life experience. It is not felt as intensively, however it is felt for prolonged periods of time - days, months, even years and it is often linked to overall mental health and mental state - anxiety or depression.

If we generally feel anxious, scared, overthinking and always trying to think 10 steps ahead, planning and assessing and rarely in the present movement - that is Flight.
In this state people lack their HOW. How to deal with stuff. How to stop overthinking. How to get more money, How to tell their boss what they really think without upsetting him…How to…fill in the blank.
They lack tools to deal with stuff.

If we are more passive, sad, nothing really excites us and makes sense, that is an overall Freeze dominated state. In this state, people lack WHY. Why get out of bed? Why even try? Why, why, why???
They lack purpose and motivation.

From this description it is pretty obvious that these are not the same and therefore also how we approach them is not the same.

If people are in Flight and they lack the tools for HOW to deal with stuff, we need to give them a chance to slow down those 1000 mile per hour thoughts, sort them out and then we can start working on the next steps with more clarity.

Nose only breathing cardio effort will do just that. We cover the display of the machines or take off their watches, so they are not distracted by numbers “Am I going too fast? Am I going fast enough?” and we let them focus on their breath and heart beat.
That will bring them into Flow, then we can start working on the next progression of building Fight and completing possibly the full circle.
If we try to jump from Flight directly to Fight for most it is overwhelming and crash back to Flight will follow. Notice I said “crash to Flight” - not progressive build-up that happens if we naturally step-by-step push the Fight state.

If people start in Freeze, they lack their purpose, the last thing we want them to do is to think some more. They do not need to think at this stage. They need to ACT.
So we give them action. Super short, super simple and very dynamic tasks that can not be done wrong and that they can not overthink. My personal favourite is destruction, or simulated destruction.
If we have a baseball bat and an old car - let's do it. If we don't, the medicine ball or slam ball will be just right. No thinking, no technicalities. Grab it. Smash it. Anyhow.
Or we can use an Assault bike - 15 seconds of absolute effort. Then they can rest even for 2-3 minutes.
That will bring them to Fight, and this expression of anger will make them move and eventually make them ready to focus on other tasks as well.

How to determine where we are? We just ask.
Out of these options, how do we feel? What is the closest to how we feel?

Flow	Happy
Fight	Angry, Driven
Flight	Anxious, Worried, Overwhelmed, Frustrated
Freeze	Sad, Depressed, Not motivated at all

If people can not tell you, or you can not answer it for yourself then you are in Flight - you are simply overthinking it already :).

This can change on a daily basis and that is alright. This is how we learn and how we learn how to regulate our daily life.

Breathing in Training for Different Purposes

As we mentioned in the breathing section, these are general rules that also apply for training the same way:

Nose Breathing - parasympathetic /Flow/ dominance
Mouth Breathing - sympathetic /Fight and Flight/ dominance
Inhale - sympathetic /Fight and Flight/ dominance
Exhale - parasympathetic /Flow/ dominance
Short and Sharp - sympathetic /Fight and Flight/ dominance
Long and Slow (soft) parasympathetic /Flow/ dominance
Deep - parasympathetic /Flow/ dominance
Shallow - sympathetic /Fight and Flight/ dominance

These basic rules are of course combined in different ways, and this guide should be taken into consideration within context and specific circumstances.

Nose only breathing
Nose IN, nose OUT

We use *nose only breathing* mainly when we want to move easily, have control and be in Flow. We can imagine it as a driver towards parasympathetic, Flow dominance.
Nose only breathing has the amazing ability to prevent us from going beyond a sustainable pace.
It is simply not possible. If we strictly maintain breathing purely through the nose, there is no chance we will push our pace beyond what is sustainable.
How ever fast we go and how ever uncomfortable it would feel, if we inhale and exhale through the nose, we are still maintaining solid control.
Imagine that the movement, intensity of contraction are pushing us towards Fight, possibly Flight - towards sympathetic, however we push back through maintaining our nose only breathing. We push back so we maintain balance and delay or avoid build-up in intensity.
We can use this for warm-ups, cool-down, long workouts where going too fast would simply be stupid, hikes, walks, etc.

Nose breathing triggers a release of nitric oxide in the blood which has an immediate effect of vasodilatation - widening of the veins and therefore better blood circulation.
Breathing through the nose triggers a parasympathetic branch of the nervous system and it is calming. It also stimulates the mitochondria of cells and we burn *fat MORE*.
If we are in a workout where we push the intensity too far, going back to nose only breathing (even if it is hard) is going to get us back on the horse and allow us to take control.
It is a counter balance for Fight and Flight. When we are training, whatever the lifts or movements are, we are automatically pushing the body to sympathetic - Fight or Flight- and we can control, manage and courterfight it by controlling the breathing and finding the proper balance in imposed intensity.

Using this *nose only breathing* for execution of the whole training session is also an option. We use it when we want to keep ourselves composed after the training to control the intensity and not to over do it. Keeping this style of breathing is preventing us from rolling on the floor and being useless after finishing. And by the way - the way we sweat is INSANE.

It is tremendously beneficial when we want to significantly build cardiovascular capacity.
I personally do it every day in the morning.
I use a nose only cardio workout as a complementary workout every day. I pick either a running, assault bike or /mostly/ Concept2 Bike and I do it for 15 minutes. Not looking at the display, just going and breathing through the nose.
When I started, I was able to do an average heart rate at 120-125 bpm.
After 2 months doing it daily, I was able to do AVERAGE of 168 bpm. Finishing very composed, I step down, shake the legs off, shower and with amazing oxygenation and clarity of mind go on with my day. It is MAGIC.
For the mental and physical benefits of it.

Nose to mouth breathing:
Nose IN, Mouth OUT

When the intensity is beyond a certain point (we can correlate this particular point being around the lactate threshold), it is practically impossible to keep breathing only through the nose. And if we want to push harder, simply because we want and can, we switch to exhaling through the mouth.
Inhale through the nose stays as it was and we will focus on exhaling through the mouth. We can think about it as a next step when pushing towards higher intensity.
What is very important is that the exhale is active. That means we are not just somewhat “letting the air out”. We actively PUSH the air out through our lips like we want to blow a candle. We push it out through the LIPS. That has its own effect itself. When we push air out through the lips we stimulate parasympathetic receptors that are in the lips and that is again helping us to regulate the intensity.
We push through movement one way - towards sympathetic Fight, possible Flight - and regulate and push through the breathing the other way - towards parasympathetic - Flow. That means that we are in control of how much intensity is imposed and delivered to the system.
It is most likely in this type of breathing that we will be able to experience some longer lasting Fight state. If we are always breathing through the nose, the Fight expression is limited - and that is good, that is why we have that tool. If we would switch to uncontrollable breathing - inhaling and exhaling frantically through the mouth - we are most likely going to crash into Flight very soon. Maintaining nose IN - mouth OUT breathing is going to help us to be on that sweet spot until we either stop, or until the inevitable will come. The inevitable being a slip into Flight.
The longer the exhale through the lips, the more towards “calming” we go.
Remember one thing - in 99% of cases, we do not have a problem with inhaling. The inhale is happening naturally and spontaneously. It is the exhale that people are struggling with. This also has a link to the nervous system -inhale being more stimulating for sympathetic states and exhale for parasympathetic with inhalation being a driver towards fear and anxiety.
If we focus on a proper strong exhale, let the air out, new air can come in and we can utilise that.

Mouth to mouth breathing:
Mouth IN, Mouth OUT

We can experience high intensity and very strong consequences by breathing like this even for a short period of time .
It is hard to imagine why anybody would even need this. Doing this type of breathing intentionally and intensively, can bring on a panic attack within minutes.
If it is the finals of the world championship and the last minute of burpees is separating us from winning a million dollars, then maybe it is the right time to use it.
Other than that, it is not necessary.
We should realise that training is training. It is there to make us better. A 5% maximum of training should be devoted to testing or competing.
And even testing and competing should be done smartly. We are not competing and definitely not competing daily.
And EVEN if we are thinking about doing a workout with panting, through mouth in and out breathing, it would need to be a pretty short effort as it is not sustainable.

And yet, this is what many people are doing. On a daily basis. In the gym and outside of the gym as well, in their daily life. That leads to metabolic and mental consequences. It is pushing sympathetic to its maximum, even when sitting at a table. And because it is for prolonged time, it is pushing mainly the Flight state.
Let's agree that doing even MORE of it in the gym is not the greatest idea ever. We want to avoid it in the gym and learn how to avoid it outside of the gym as well.

Growling and grunting is a very unique way of breathing, or for a more precise description, we should not say breathing, rather “air use”.
If we need to get hyped, angry, aggressive, ACTIVATED - we have our way.
The sound doesn't matter much. What matters is that it is intentionally aggressive and that it needs to come from the back of the throat. There are sympathetic receptors at the back of the throat and if we trigger them with vibration, we can get a very strong effect.
Doing this before a lift, jump, or a 1 rep max attempt is a great idea. First of all, it will automatically stop us from overthinking - Flight. It will definitely push us out of feeling much - Flow. And we are left with what we are after - pure ACTION - Fight.
I have experienced people being scared of box-jumps clearing amazing heights or people respecting sandbags too much, eventually lifting them only after using this technique just because they got the right mindset and focused on action. Focused on what is in front of them rather than a million reasons why it will not happen.

Muscle-Mind Connection

The muscle-mind connection is our ability to feel the right muscle, muscle group or muscle chain for the given movement. It is THE MOST important factor for long term overall balanced development.

We generally can observe three different degrees of awareness of this particular skill and we can summarise it into this table:

	Beginner	Intermediate	Pro
Movement	Going through	Doing	Creating
Tension	Not aware of	Can observe	Use intentionally
Limit	Experience	Experience and focus	No limit

Beginners are going through the movement without being aware of the tension. Without knowing what muscles are really working. They usually get very confused if we ask them: “What do you feel?” or “What muscles do you feel working?”
They are not focused on moving their body.
They are focused on moving the OBJECT instead. Whether it is dumbbells, barbells, the handle of a pulley machine or anything else. Their main limit for them is the fact that nobody told them it is not supposed to be like that, or simple ignorance.
Note that even people who train for years, even decades, might be in this category.
It is about awareness in the field of muscle-mind connection, not about how long we are paying for membership.

Intermediate level is already better. They do the movement, they generally have an idea of what muscle group or chains are supposed to be working and after the set they are able to answer what they felt. They do the movement and are able to observe the tension happening.
The limit for ultimate level of control is their experience in building muscle-mind connection or focus.
Focus is limiting them in the sense of where their focus is going.
Many sports and games are about the object of the game. The ball to the goal, ball to the basket, puck to the net, dumbbell to chest, barbell from the ground to hip, arrow to the target, punch to the face and so on.
Very few focus on HOW that movement of throwing, kicking, punching, catching, is actually done. What muscles and muscle chains are working and so on.
The ball, barbell and dumbbells will be the same after we finish the training. Our body should not be. So we should focus on that.

Pros in muscle-mind connection are people who mastered exactly that. They create the movement by putting the right tension to the right places as they are doing it. Being fully aware of what is working, how it is working and in case there is a compensation or some imbalance happening, they are aware and ready to fix it. This is the mastery we are after.

When we are moving weight or our own body, breathing is a key point for control. Not only for neural states management. It also manipulates our basic physiology.

If we inhale we have different responses in our muscles and their circulation than if we exhale. Therefore, for maximising the potential that breathing control offers us, we need to pay attention to what we do when.
Doing virtually any movement, there are three basic types of contraction:

Concentric - The muscle is under increased tension while it is shortening. This is happening when we are working against particular resistance. An example of this is shortening of the bicep while doing bicep curls on the way up.

Eccentric - The muscle is under increased tension while it is lengthening - so called negative repetition. This is happening when we are controlling resistance on the “way back”.
Example of this is lengthening of the bicep while lowering the weight from top position to bottom position of the bicep curls.

Isometric - The length of the muscle stays constant and the tension increases. An example of this is practically any stable position or hold. In our bicep curl scenario it can be holding the weight stable at 90 degrees in the elbow and resisting the gravitational force.

There is a big difference in effect on our muscles and also muscle-mind connection by how we breathe while doing concentric or eccentric movement.

Inhale on concentric - Exhale on eccentric

If we focus on strong inhales - preferably through the nose of course - on the concentric part, we are building awareness.
Inhaling through the nose will increase nitric oxide activity in the veins, will create more blood flow into the working area and we will get a better pump into the muscles.
Slow and controlled exhale, through the nose or through the lips on the eccentric part will support this rhythm. We do not want to hold our breath at any point. Inhale and exhale flow into each other fluently.

Exhale on concentric - Inhale on eccentric

This breathing is for hard execution. We can achieve a strong neural output.
We generally want to use it when the weight is heavy, resistance is high and we are not necessarily after building awareness anymore, we are after full on action.
Inhale as we load (eccentric), exhale as we execute (concentric) and again: we try not to hold the breath at all.

Use of isometric holds within the sets of movement is a great way to increase Fight state and at the same time work on building the muscle-mind connection.When we combine movements and isometric holds, a couple of factors come into play.

Normally when we do the movement and exchange concentric and eccentric contractions, the tension in muscles is changing and also the veins and blood flow are in a certain rhythm. Veins contract and dilute based on the rhythm of movement.
Tension is being created and tension is being released. Up and down, blood flow is pumped into the muscles more when tension is released and less when the muscle is squeezed.
If we combine it with nice breathing, inhaling on concentric, exhaling on eccentric and never holding the breath, we get a solid muscle pump and good circulation.
However intensively we do this, the heart rate will eventually stabilise at some point.

When we do isometric holds, this dynamic is changed. When muscles are squeezed in the hold, the veins are constantly constricted and blood flow is limited. The heart is trying to push blood supply through it, so in a short time our heart rate and blood pressure starts to go higher - even higher than it would go when exchanging concentric and eccentric contractions.
The nervous system activity is growing as well.
Fight mode is increased with only one limit - our will.
We can not really reach any physiological limit here, because our mind will give up first. And that is a good thing.

We also noticed that If we keep moving in a concentric to eccentric way again after this intense hold, the new increased intensity is pushing this experience to another level.

So we came up with the 20:20 protocol.
We can pick virtually any movement.
Do 20 seconds of movement, following a nice nose inhale and mouth exhale breathing method.
Then we do 20 seconds of active hold in the hardest position possible for the same movement.
We repeat this two times and then finish with 20 seconds of movement again.

20s Move
20s Hold
20s Move
20s Hold
20s Move.

This is 100 seconds of progressively built up intensity.
It’s an awesome way to learn what Fight state is, and what muscle-mind connection means.
It is a great way to get a hang of different types of breathing as well.

We use it as warm-ups, cool downs or even to do a full body workout.
Anybody can do it and the learning curve for building muscle-mind connections for some stubborn specific areas is very steep. We just need to stick to it and experiment with it ourselves.
Pick your poison.

Cold Exposure

“I think of cold as a noble force. Cold is merciless. It shows you where you are. What you are.” - Wim Hof

WHY

To be able to fight with any enemy the most important weapon in our armoury is knowledge of the enemy.
Cold exposure is not about cold water. It is purely about us being able to face and stand against our biggest enemies - stress and fear.
Any situation we are facing is neither good nor bad. Our mind is trying to judge and tell us something. Our emotional judgement towards the situation is telling us whether it is good or bad.

A long time ago, a poor Chinese farmer lost a horse, and all the neighbours came around and said, “Well that’s bad.” The farmer said, “We will see.”
Shortly after, the horse returned bringing another horse with him, and all the neighbours came around and said, “Well that’s good fortune,” to which the farmer replied, “We will see.”
The next day, the farmer’s son was trying to tame the new horse and fell, breaking his leg, and all the neighbours came around and said, “Well that’s bad,” and the farmer replied, “We will see.”
Shortly after, the emperor declared war on a neighbouring nation and ordered all men to come fight—many died or were badly injured, but the farmer’s son was unable to fight because of his broken leg. And all the neighbours came around and said, “Well that’s good fortune,” to which the farmer replied, “We will see…”
And so the story goes.

Reality is neither good nor bad.
The highest assets we can possibly have dealing with any situation are:

1. Knowing ourselves
2. Knowing how we can control the impact of stressor on us

We can not possibly know the stressor ahead. At least not always. We can not influence how all life around us is happening. We *can* influence how we respond to it and deal with it.
And we can do all this through the cold exposure.

There is one seemingly little, yet very significant difference between discomfort from training and discomfort from being exposed to cold water.
In training we are creating discomfort. By moving at a certain speed, doing certain reps and sets. Intensity is very easily manageable by us. Of course we are not always in Flow. The whole idea is not to be. Go to Fight, go to Flight and experience Freeze. So we have some idea how it is impacting us. However we are in charge of how hard we push.

Doing ice baths or other forms of cold exposure is different. It is more like life. The discomfort is imposed on us by the environment.
In training we create discomfort actively - by doing something the discomfort comes.
In an ice bath we experience the discomfort passively - by being passive - not getting out of the ice water. We increase discomfort by NOT doing anything.

And that makes a tremendous difference in how our brain perceives discomfort and mainly how we need to train the brain to deal with it.
Cold water experience is closer to a real life scenario where discomfort or stress are happening to us.
We either can leave the situation - Flight state - jump out of the ice bucket or shower, run away from conflict, avoid difficult conversation, OR we stand our ground, face it, use our mental strength and breathing to OVERCOME the discomfort.

To maximise the benefit of cold exposure and to do it right, we need to understand mainly one concept.
It is not about enduring. It is not about tricking our mind and repeating the mantra: “it is not cold”.
It is cold and that is the point!

Our brain is working on different frequencies at different times. For simplification and better understanding we will briefly introduce them:

	Frequency	Characteristics
Delta (δ)	0.5–4 Hz	Sleep
Theta (θ)	4–8 Hz	Deeply relaxed, inward focused
Alpha (α)	8–12 Hz	Very relaxed, passive attention
Beta (β)	12–35 Hz	Anxiety dominant, active, external attention,
Gama (γ)	35 Hz +	Deep concentration, epiphany

Delta waves are experienced in sleep, mainly in our deep sleep state.
We experience Theta waves in that interesting transition when we are not fully awake, yet we are not fully asleep as well. Also when we go somewhere, whether walking or driving, we do not even remember how a particular part of the road passed as we were focused on our thoughts. Not the best for traffic safety.
Alpha waves are the state people usually are trying to achieve through meditation. There is attention projected into some objects or inner entities, however it is quite passive and thoughts are slow.
We experience Beta waves during our daily functioning. There is some data that suggest that this is the only state where we can experience negative emotions. We can have negative thoughts in for example Alpha as well, however negative emotions are felt only in our Beta waves experience.

Gamma waves are produced in the brain when we are “in the zone”. When things are flowing, the activity we are doing is unrolling in front of us on its own. It all feels effortless and yet there is a lot of deep focus we are creating.

When we experience cold exposure, we are strongly thrown into Beta wave activity. And the biggest mistake people are doing is that they try to mediate their way into Alpha waves.
We need to do the exact opposite.
We do not want to escape, we do not want to make ourselves believe that the water is not cold. We should rather want to acknowledge that the water is cold and push through to Gamma state.

The whole idea is to dissociate from the discomfort and accept that even if it sucks, we are ok with it. That is very different from denying that there is any discomfort at all.

We perceive discomfort in two main forms.
As information - “It is cold”.
As an emotion - “I hate that this is cold”.

Our only (easier said than done) goal is to dissociate these two from each other. Disregard the emotion and only keep the information.

With the techniques I will describe, focusing on specific ways of breathing, we will get to a state where the emotional part of discomfort will completely disappear.
It is still going to be cold and the information part of discomfort can stay with us - it needs to stay with us!. From an evolutionary perspective it is absolutely critical that we keep that information. We are not denying that it is cold. We accept it.
“It's cold and I'm OK with it.”
It is very hard to describe this experience in words. Every time somebody new tries it they only acknowledge it *after* they go through the experience: “Now I know what you mean”.
The experience itself is un-transferable and very transformative at the same time.

Yes, there are physiological benefits to ice baths - increase in immunity, thermoregulation flexibility, fat burning is triggered, there is dopamine release for a period even longer than cocaine … and many others.
However these benefits are insignificant compared to what it does for our nervous system and the ability to go from that deep Flight state, absolutely freak-out mode, into Fight and eventually Flow. Just through breathing and mental focus.

HOW

Cold Showers

The first step for beginners is to start taking cold showers.

It literally does not take any extra time out of our day. We would shower anyway so just use it for some mental training.
It does not matter if we do it first thing in the morning or right before bed. It will have the effect we are expecting.
For some reason it helps us to wake up in the morning as well as go into deeper sleep in the evening.

The only thing we need to focus on is the breath.
When we turn the cold water on our body we need to focus mainly on exhaling.
The ideal procedure to maintain control and composure is:
Inhale strongly
Hold the breath
Get under the cold water
Hold the breath for some more time
Start exhaling slowly and softly through the lips.
Inhale shortly and sharply again through the nose.
Exhale slowly and softly through the lips.

Exhale is slow, and controlled through the lips.
Inhale is short, and sharp, through the nose.

We can start with doing this for a number of breaths at first. One exhale at first. Then prolonging the time under the cold water for more breath cycles. Or we can track it by counting. First couple of times, count to ten. Later, progressively increase the count to 15, 20 etc.
If we can get under cold water for as long a time as reaching the point of when it does not actually feel that cold and bother us at all, that is a win and that is what we are looking for.

The point when we reach this peace will be different every time we do it.
Sometimes it will come sooner, sometimes later, however, similar to an ice bath, it will most likely come within 90-120 seconds, usually even sooner.
We hope this goes without saying, however, we do not put hot water on ourselves.
This is it.
Progress is only a matter of consistency of exposure and focus. Consistency in how often we do it and focus on the breathing.

Hands and Feet Icing

Next stage in our cold exposure progressions is getting our hands and feet iced.
For different logistical reasons this might be the right alternative if ice is hard to get, there is no large bucket available, or you are not ready to invest as much yet, or want to see some benefits first.
We use any small bowl, little bucket or simply anything where we can soak our feet and hands. Fill it with ice, add some water.
Our palm accounts for 1% of the body surface.

So two palms from both sides are 4% of the body surface and this little surface holds 50% of the neural connections we have. It is a very sensitive area and therefore the effect on our neural state is very intense.
The process is pretty much the same as what we do when using a cold shower.

Inhale strongly
Hold the breath
Get feet or hands in
Hold the breath for some more time
Start exhaling slowly and softly through the lips.
Inhale shortly and sharply again through the nose.
Exhale slowly and softly through the lips.

Exhale is slow, and controlled through the lips.
Inhale is short, and sharp through the nose.

Try to hold (your hands or feet in the ice water) for up to two minutes following the breathing. Exposing the most peripheral parts of our body is going to give t us tremendous discomfort and the breathing method should be strictly followed. Many people find this even harder than a full body ice dip. There might be strong pain and discomfort in the hands and feet. It's ok, we just breathe through it.
The pain is many times just a sign of increased circulation and however strong it is, there is no real danger of any damage.
Pain is healing. The discomfort here is usually experienced on parts that are for whatever reason problematic. For example past injuries or overloaded joints.

Doing this just once or twice a week is enough. For the mental and physical benefit. More is not always better.

Ice Baths

The full experience of putting our body into ice is very similar to showers or icing hands and feet. The main difference is the intensity and also logistics.

We are trying to use water that is below 4 degrees Celsius. Of course, even 10, 8, or 6 degrees can do the job, however we know, and people who experienced it also can confirm, that there is a strong difference.

When we are doing an ice bath we start with breathing exercises as described in the breathing section. It is not absolutely necessary, yet it is strongly recommended.
It will bring our focus to our body and breath, give us a sense of turning our attention inward and especially for people who are new to it, it gives them at least some preparation before being literally thrown into ice water.
We usually do 3 rounds of 30 breaths, however that is strongly individual.
We want to simply finish calmly and not think about anything else, just what is coming.

Once we are ready, we again follow a similar breathing procedure:

Inhale strongly
Hold the breath
Get inside the ice water and dip down to neck level
Hold the breath for some more time
Start exhaling slowly and softly through the lips.
Inhale shortly and sharply again through the nose.
Exhale slowly and softly through the lips.

Exhale is slow, and controlled through the lips.
Inhale is short, sharp through the nose.

What really helps is counting. We are trying to prolong the counting up to 20-30 seconds for each exhale.
At the beginning it might be just 3-5 seconds and that is fine, each one should be longer and longer.
We want the exhale to be soft, gentle and long. That keeps us calm.
What we want to absolutely avoid is inhaling through the mouth. Gasping for air and breathing up to the chest in panic.

Before leaving the ice bath we need to dip our head down as well. Just for a couple of seconds. We can have somebody pour the cold water on our head with a smaller bowl as well.
It is important to balance the temperatures between the head and the body before leaving the ice water, and this will do just fine.

While we are dipped in the ice, we want to focus on breathing and ignore everything in our head that is screaming at us to get out of there.
There are many strategies the brain will use in an attempt to trick us to get out.
Boredom, frustration, anxiety, anger towards others or anger towards ourselves, shock or bargaining.

All of them are just expression of simple question:
“Is this really worth it?”
Is this experience, the pain, the absolute discomfort, the mental focus worth our energy we are spending on it?
Just stay calm and breathe.
Sweet movement of epiphany will come and suddenly we realise that it is not that bad at all.

The length of exposure in the ice is dependent on our personal experience and also a goal.
For mental purposes, all we need is to come to the stage that we are OK with the ice - the moment when we are peacefully leaving, not running away from it.
For the first time, just two minutes in the ice water is fine.
Maybe two separate sessions of two minutes 30-40 minutes apart if we feel like it.

We definitely should not exceed 8 minutes. There are people who stay in even longer, however all physiological benefits are only going to happen within the 4 minute time period, maximum.

After coming out of the ice, we need to warm-up. If we spend up to 2 minutes, we need to keep moving for at least 5-6 minutes intensively.
Push-ups, burpees, squats. Dynamic, whole body movements and still focusing on the same short sharp inhale and long slow exhale.
If we spend more time than 2 minutes, the cold has already started to affect our core temperature significantly and the warm-up needs to be way longer.

We need to get to a point where we not only do not feel cold anymore, however we need to reach a point where we feel strong heat coming from inside of ourself

It is normal to feel a little mellow, nicely tired for the rest of the day after such an experience.

I recommend doing cold showers daily - practically anytime you shower.
Ice bath or feet and hand icing on a weekly basis.
It is possible to do it 3 or more times a week, even daily, however for practicality and logistics it is not necessary. The mental and physical benefits are going to be there even with exposure once a week.

Keep an open mind and be flexible. If you are on holiday and there is an opportunity to jump into a cold stream in the forest or frozen lake - do not think twice. Do it. Seek discomfort, make it your friend and your sharpest tool.

Now It Starts

There was a lot said and now, there needs to be a lot done as well.
Let me tell you one last story before I end:

The book “Art & Fear” has a story about a ceramics course:
At the beginning of the course, the ceramics teacher divided the class into two groups of students.
She instructed Group A to create a large number of pots. This group of students will be graded solely on the quantity of pots they produce. Whatever quality is fine. Each one simply has to make as many pots as possible..They were set or pure ACTION.
The students in Group B, on the other hand, were instructed to create “the perfect pot.” Each student will be graded solely on the one pot. For them they had to think only about quality. They were set for thinking, analysing, and planning…

At the end of the course, the pots were lined up by quality.

And all the best pots were made by students in Group A. The group that was instructed to make as many of them, regardless of the quality.

Because their goal was quantity and action, they had a lot of experience with the process itself and every single one was always just a bit better than the previous one.
Due to their experimentation, they have become more skilled every day

While Group A was busy DOING and creating, Group B that was instructed to make just ONE perfect was so busy planning and designing the one ideal piece, that they were overthinking it and not creating. They ended up in Flight before they even did anything.
A lot of them had become paralyzed by the task…afraid of producing anything less than perfect.

The lesson is simple. We can hear it a lot and it is cliche for many.
“Focus on the journey, not the destination”.
I dare to push it even further. Make “HAVING PROGRESS” your goal. Make “HAVING PROGRESS” your destination.
It is not the one point in the future, not the one feeling we want to have or body we want to be proud of.
It is not success that we are after.
We are after progress. If we are moving forward, we are winning. That's it.
That is all we need.
Live in Flow, enjoy the good Fight, embrace Flight and conquer Freeze.