Introduction to Patrick McKeown

I am incredibly excited for our next guest, and I was just telling him he's made a big impact on me. He's taught me some things and I thought I was pretty enlightened and know quite a bit about health and recovery and breathing, but but Patrick McCown, who is our next guest, taught me some things that I did not know.

And I think you're going to learn some things that you might not know that can really impact you. Patrick is an international breathing expert. One of his books that I read a couple of years ago was called The Oxygen Advantage, and it was mind blowing.

The research and just the concept he talked about were so enlightening for me. And I absolutely loved him. And now he's come out with his new book, which actually I have a copy of right here. You've got to get this book.

It's called The Breathing Cure, and we'll talk about some of the things that breathing can help with. And it's a lot more than you would think. Breathing is so critical to almost, well, everything.

I would say that that we think about in ourselves, the way we process and think our creativity, and also so many different health functions. Patrick's worked with elite athletes.

He's worked with Swat teams, military teams. So not just in helping people heal and optimize their health. He goes into that high performance realm with what he does too.

And so I'm excited to have you here. Patrick, thank you for joining the Global Energy Healing Summit. We really appreciate having you here. And it's great to be.

Thanks very much, Tom. Yeah. You're such a humble guy. You really are. You've impacted so many people. And we were talking earlier and I heard a little bit about your journey, but I want you to share it with people.

You're an expert. I think you're one of the people to go to in the world, on the planet when it comes to learning how to read effectively for energy, health, focus, all these great things.

But you didn't start out by being a great breather, did you? No, no, it's as well as I stumbled into this field, if if somebody had told me that I was going to be teaching breathing for the rest of my life, I'd say you're on acid or something.

I'd say it could be possible. I had very poor breathing as a kid growing up into my teenage years. And, you know, you don't just have poor breathing. You don't. Just like I was a mouth reader.

My nose was stuffy. I was breathing a little bit faster and upper chest. And you're typically in a fight or flight response. Your mind is agitated. My sleep was very much impacted.

Personal Breathing Problems and Discovery

And I remember when I was a student at Uppsala University in Sweden, the students were telling me that I was snoring, but then they would say that I stopped breathing completely and I had no idea what that was.

That's obstructive sleep apnea. But that's obviously, you know, a sign of obstructive sleep apnea is when you're stopping breathing during sleep. But I was tired, and I can only look back, back in the years of as far as about 1998, that I was doing exams and I was studying, I didn't have the concentration to do what I was doing.

It's not that I wasn't intelligent, but how can you concentrate if you don't have the energy? My breathing was really

in a bad place, and I can think of all of the people that have dysfunctional breathing patterns because it's relatively common, but it affects more pockets of the population than others.

But in a normal population, it's about 20 to 30% of the population. However, and people with anxiety and panic disorder in the literature is as high as 80%.

Yeah. So up to a different pockets of the population, a large cohort of dysfunctional breathing, and they're not even aware of it. And what's more, you know, oftentimes when we hear about the brat, we're not taught about breathing from a biochemical point of view.

Or, you know, there might be an emphasis on the biomechanics. There's not necessarily an emphasis on the resonance frequency. So, you know, I read going back to 1997, I happened across a newspaper article, and the article spoke about breathe through your nose and Breathe Light.

And I was doing neither of those. I used the nose and blocking exercise to help decongest my nose. I switched to nasal breathing. I practiced breathing less air.

Now it was uncomfortable because when you breathe less air for a period of time, you build up carbon dioxide or carbon dioxide accumulates in the blood and you feel our hunger.

But it was the first time that I noticed that my blood circulation by temperature of my finger started to increase. Yeah, I always had cold hands and courses, and I never understood.

I never realized that my blood circulation was influenced by my breathing, and the fact was that I was breathing a little bit too fast, a little bit too hard, and that was causing my blood vessels to constrict.

I'll tell you a story. I remember going in to do an exam in Trinity College in Dublin. I was a bit anxious going into the exam hall, and I took a walk for about 3 or 4 minutes before going into the exam and during the 3 a.m.

four minute walk, but this is back in 1996. I took these full big breaths, and I walked into that exam hall and I was totally spaced out, and it took me several minutes to get my head together.

Can you imagine going into a high pressured situation and I had done the wrong thing? Yeah, I had Hyperventilated and I watched yesterday a just a brief interview by Doctor and Rank rang, and shortly he was interviewing a brain surgeon, and the brain surgeon spoke about whenever he's in a tricky situation during surgery.

He said in quotes, I stopped myself from hyperventilating, by stopping himself from hyperventilation. He said that the people around him think study has nerves of steel.

I have to bear in mind that when we're in a stressful situation, the body physiology changes. But this is where we can tap into that physiology by having an understanding of the breath.

And it really is by breathing in and out through the nose and by breathing nice and breathing slow and breathing deep. Yeah. And you've given us actually a lot already.

I want everyone to think about what he's saying, because how many of us have learned, like, take a deep breath in, bow down. Ha. Right. And that's actually that's not a great pattern as well.

No it's not. Well, if you like, if we look at the breath itself, we can stress the body or we can relax the body through the breath. And if I want to stress the body what we could do is we can take a full big breath in and a full big breath out and a big breath in and a full big breath out.

So we're speeding up. We're speeding up the breath. We're increasing the breathing volume. That's a stressor. But if I want to relax the body, it's all in the exhalation.

And we want to take a soft breath in through the nose and a really relaxed and a slow and gentle exhalation. And by having a relaxed and a slow and gentle exhalation, it stimulates the vagus nerve.

This secretes the neurotransmitter acetylcholine, which causes slowing of the heart. And when the heart rate is slowing down, the brain is interpreting that the body is in a safe environment.

Now there's a time that we want to be stressed. But too much stress is bad right. And to give you an example I very soon in the next week I worked with elite shooters and Police.

And we will be talking about how to change breathing patterns when an officer runs into a situation and you can imagine an officer is running into a situation, they're going to be hyper vigilant.

The heart rate is ramped up. Their breathing rate is fast. Now if that officer is overly stressed and they have a gun, if they make a mistake, lives, you know, can be lost.

And that's and that situation, the situation is that the stress could be too high. So we want to train the person how to down regulation. So it's always different states depending on the person.

And many people you know they are with increased sympathetic drive. But as most it it's really about coming back to your everyday breathing patterns. Time.

I was in the corporate world back in 1998, 1999, and, I didn't like it. And when I look back, it wasn't necessarily the job and the competitive pressures that was the problem.

Breathing, Stress, and the Autonomic Nervous System

What was the real problem was my own physiology. I was already in that fight or flight, I poor sleep, when you were in that stage, you're not in a good stage in terms of, you know, applying yourself to reach your full potential.

Yeah. No way. Well, and like you, I had the I wish I would have learned what you learned at an earlier age like you did. But I grew up a mouth breather, too, because my nose was always stuffy and I just thought, you know, I've got stuffy nose, so breathe through the mouth.

And my sleep wasn't that great. And but I don't think I learned it until I was, you know, in my maybe 40 years old. So, now I'd spend, you know, 20 years of of.

I'm 60 now, so 20 years of breathing to my nose, which made a huge impact. But oh my gosh, I wish I would have learned it earlier, but thank God I did learn it.

And so even if someone's 60 years old and learning it now, now's a great time. When I look at the book, it says, you know, the Breathing Cure is the title of the book, and you've got, you know, asthma, children's breathing, you know, Covid, diabetes, epilepsy, insomnia, pain, mobility, high blood pressure, like breathing can impact all those things.

Yes, yes. And the research shows that I can. Yeah. Because if you look at the research over the last 30 years, if we were to look at heart rate variability and heart rate variability is an objective measurement of vagal tone.

So say, for example, therapists of old words, you know, the client would come into the therapist and the therapist would monitor the client's pulse rate.

Right. And as the terrorist was feeling the client's pulse rate, monitoring the speed of their heartbeat, that also be watching the client's breathing and what the term boss is looking for.

Is there a difference in the time between heartbeats on the inhalation versus the exhalation? Right. The person who is in good balance with the autonomic nervous system, their heartbeat is in random, but it's also when rhythm.

So on the inhalation the heartbeat should be faster. And on the exhalation the heartbeat should be slowing down. So this synchronicity is called respiratory sinus arrhythmia.

Now for a person who is stressed and this could be it or emotional stress or physical stress. They don't always have that variation in their heartbeats.

So during the inspiration their heartbeat is timing. But during the expiration their heartbeat is the same or similar timing. So there's no variation.

Whereas you know, it's not a it's not a metronome. We need that variation. So in terms of them through the that we can influence what's called the viral reflex.

And these are our receptors and the major blood vessels in the carotid arteries and in the aorta. And we can infer stuff by a number of ways. Nose breathing during sleep helps to improve heart rate variability.

Breathing light. And this is actually for you breathe lesser. So say for example I have my own students coming in. I have to put maybe one hand on their chest, one hand just above their navel.

And I have them tuned in to their breathing pattern and really slow down the speed of the air coming into the nose and a really relaxed and a slow and gentle exhalation and a very soft breath in there, really relaxed and slow and gentle exhalation.

And the whole purpose is to breathe less air, not more. So what they are signage. When you say like the average person, when they breathe in, there are they breathing to maybe 70% of what they used to breathe?

Is there anything that they can kind of yeah. What does it do that 70% is a good is a good indicator. About 70. Oh okay. Yeah. So say for three 3 or 4 minutes.

You typically sit down focus on your breathing and take in 30% less air than what you're used to. And by doing that you're going to create air hunger.

And this signifies that carbon dioxide is increased in the blood. Now it's carbon dioxide increases. It stimulates the vagus nerve and has a very good trophic effect.

And it's also likely to be strengthening the bowel reflex. So one way of tapping into the autonomic nervous system is by breathing lesser. Now the ironic thing about breathing less air is when you practice breathing less air, even though you feel a little bit uncomfortable because of the air hunger, you will have increased.

Water is alive in the mouth. And this is telling you that the body is down regulation. So the vagus nerve, when the body is going into relaxation it typically manifests as increased water saliva.

Now conversely if we get stressed the mouth goes dry. So say for example a person who is overstimulated throughout the day and they can switch off during sleep.

We teach them to downregulation. And what you said earlier on if somebody has nasal congestion they are 2 to 3 times more likely to experience sleep problems.

Those sleep problems include snoring and obstructive sleep apnea. So for somebody with sleep disorder breathing including insomnia as well we have them down regulate down regulate the autonomic nervous system by breathing light and by breathing slow.

They feel their hunger. But the body and mind is going into relaxation. Now coming back to the bar reflex, because this is a very central component of the functioning of the autonomic nervous system.

You want the bar receptors in the blood vessels to be very sensitive to changes in blood pressure. If our blood

pressure increases, the baroreceptors should send immediate signals to the blood vessels to dilate and the heart rate to come down so that blood pressure normalizes.

And conversely, if blood pressure goes too low, the baroreceptors should send immediate signals to the blood vessels to constrict in the Hartford, to increase, to normalize blood pressure.

The sensitivity of the baroreceptors are how strong the bar reflexes is influencing vagus nerve or vagal nerve tone, and the vagus nerve is wandering throughout the human body.

And about 80 to 90% of the information by the vagus nerve is from the body to the brain. Now we can tap into the vagus nerve, as I said earlier, by breathing late, but also by breathing slow.

And this is slowing down the response rate to between 4.5 and 6.5 breaths per minute, with a good average being six breaths per minute, but also by breathing low that if we breathe and we're having optimal amplitude of the diaphragm by increasing tidal volume, we can stimulate the vagus nerve.

Now, if you look down at conditions for by heart rate variability is reduced. So people with anxiety, panic disorder, depression, diabetes type one, epilepsy, asthma, COPD, fibromyalgia, chronic fatigue and the list goes on.

You know, and this is where we can influence this stage. And by helping to strengthen the bar reflex we are improving the nervous system even to the point of inflammation.

So a neuroscientist called Kevin Tracy. And in 1998 and I think he was based in New York, he had an idea that if he stimulated the vagus nerve, then it would stop inflammation in its tracks.

Now, his colleagues were outside of this lab placing bets that he wouldn't do it, but he did. He was able to show it, and he then showed it in human beings by electronically stimulating the vagus nerve, he could reduce rheumatoid arthritis.

So this is something when we consider how harmful inflammation can be triggered, the human body. Yeah. And one of the ways is by stimulating the vagus nerve that it can block pro-inflammatory cytokines, which are chemical messengers that trigger inflammation.

So again, another example of how health and breathing can come together. Now, it's not that I'm saying that breathing is a cure all. I'm not saying that.

But if we look at the major disciplines of medicine, if I look at sleep and I had a, I had an article published in the Journal of Clinical Medicine about three months ago, it was looking at the phenotypes of sleep apnea and breathing.

Breathing Light, Slow, and Deep

Now, obstructive sleep apnea is very common in the Western world. It affects about 26% of men aged between 30 and 50 years of age, and 43% of men aged between 50 and 70 years of age.

It affects about 9% of females between 30 and 50. But once the female when she goes through menopause, postmenopausal women sleep disorder breathing increases 300%. Wow.

So with sleep apnea, the typical treatment is a CPAp machine. But the problem with this is that 50% of people abandon it after about six weeks. If you change your breathing patterns you will influence your risk of sleep apnea.

Number one, if you have your mouth open you have a greater risk of sleep apnea. The tongue is more likely to fall into the throat. Mouth breathing is turbulence in the upper airway.

Moisture is sucked out of the upper airway, contributing to inflammation, but also when you breathe through your

mouth, you typically engage the upper chest.

If we think of the muscles in the throat during wakefulness, our throat doesn't collapse. But during sleep, these muscles can become lazy and they don't help to maintain that open airway.

But these muscles are connected with the diaphragm breathing muscle. Now, if we're breathing through the mouth, were typically engaging the upper chest we have reduced amplitude of the diaphragm.

If we breathe through the nose and if we breathe low, we increase lung volume. And by increasing lung volume, the Trojans stiffer anatomically. So to die from is mechanically linked with the upper airway dilator muscles.

But also there's a gas called nitric oxide. Ultra oxide was first discovered on the exhaled breath of the human being in 1991. Nitric oxide performs a number of very important functions in the human body.

It's an erection messenger. And it's thought that nitric oxide also plays a role in sleep. But it's not fully understood when you breathe through your nose.

You're carrying nitric oxide laden air down your throat, and this seems to have some impact on the functioning of the upper airway dilator muscles. Now, in the times that are in US Covid, there was a paper published by a journal under Elsevier in 2020, and the paper was called Nasal Breathing Mitigate the Effects of Covid 19.

Now I know that nobody has been talking about the importance of nose breathing, but your nose produces nitric oxide, nitric oxide, by breathing through.

It's antiviral. It's antibacterial. And it's the first line of defense in terms of airborne viruses and bacteria coming into the human body. Yes. Our mouth does nothing.

Our mouth is our whole. That's all it is. When you breathe through them, out air goes straight down the throat into the lungs. Our mouth performs no function in terms of the breath.

And, you know, I think it would have been helpful for for a target is to put the information out there encouraging people to bridge the nose. You know, so there's just a few examples.

Now you could talk about asthma. We could talk about the connection between the nose and the diaphragm and the importance of the diaphragm, not just for respiration but for stabilization of the spine.

So, for example, 50% of people with lower back pain have dysfunction of breathing. But if I think of the anxiety population, the anxiety population are going maybe to their psychiatrist or their psychologist.

They're doing cognitive behavioral therapy. They're doing mindfulness. CBT is not going to change respiratory physiology. If you have a person who is prone to anxiety, it's not just that anxiety is causing their breathing to be fast and shallow, but their fast and shallow breathing is feeding back into the anxiety.

And this is the bi directional feedback. And also if you talk to these people, they're more likely to be tired. And if you're tired, it's going to affect your mental health as well.

So if somebody comes into me, what I desire is your panic disorder. I will show them exercises how to improve blood flow to the brain. And it's not by breathing hard, because if you breathe hard, you get rid of too much carbon dioxide from the blood through the lungs, and blood vessels constrict.

And not only is our blood flow constricted due to hard breathing, but hemoglobin, which is the main carrier of oxygen in the blood. The bond between hemoglobin and oxygen is stronger.

When we breathe too hard. So here's our person midnight society coming in. We give them exercises to stimulate the vagus nerve, to calm the central nervous system, to increase blood flow and oxygen delivery to the brain, to

slow down their breathing to and target the diaphragm because of the connection between the diaphragm and the emotions, but also to look at their sleep.

It's very simple stuff, but the simple stuff has been overlooked and I don't know why. You know, when I look at this field over 20 years and I'm, you know, again, I don't want to say that breathing is everything.

Of course it's not. But what I am going to say is this people have overlooked the depth of this. It's not just about this taken that deep breaths. It's not just about focusing on the biomechanics.

You know, if you went into a studio and you're hearing the instructor talking about breathing, and in the process the instructor is saying, now, I would like you to fill your lungs from the bottom up and you hear everybody breathing.

You should never hear anybody breathing inside a studio. It doesn't make sense because if you hear them breathing inside the studio, the likelihood is that they are over breathing.

And by over breathing, they're getting rid of too much carbon dioxide from the blood through the lungs. And this is reducing blood flow and oxygen delivery.

Yeah. There's so much done back there. It's amazing. I love your passion too, Patrick. Thank you. Let let's take a couple of things and just kind of, talk about them again.

Some people can really understand what you just said. So one of the interesting things was I used to have cold hands, too, especially in the wintertime.

You know, it's not that cold here in San Diego, but my hands be a little cold. And so when I started doing the exercises that I read about through you breathing, I would I started to notice that my hands were warmer and that the blood vessels in the hands were, like, popping out.

And and it was amazing, like increasing circulation. And just through changing my breathing now, when you, in the book that, I first read Oxygen Advantage and in the Breathing Cure, which people really need to get, it's 500 pages.

It's got so much information, but really well written and researched when when I listen to your method or actually because I watched the course on YouTube, I did listen.

But when I read about your methodology, you said like deep, slow. So like you already talked about about 70% of what were used to breathing. That took some conditioning.

I'm, you know, I think I have it now, but it takes a little while to, you know, to have that air hunger and be okay with it. And then I even got one of your masks that I exercise with.

And at first I like, ripped it off after, it's like, I can't. And now I can go, you know, several minutes because I learned to relax and and just know that that carbon dioxide buildup actually is helping me versus some people think know my oxygen oxygenation needs to be at 100 all the time.

That's that's actually, misconception. Correct? Yes. You know, what is one of the functions of carbon dioxide is it's it's a key for unlocking oxygen from hemoglobin.

Breathing for Sleep and Nasal Airway Health

And this was discovered back in 1904, a Danish physiologist called Christian bor b o h r and he spoke about the the pressure of carbon dioxide in the blood as being important because as carbon dioxide increases, blood pH drops.

And hemoglobin, which is a protein within the red blood cells, is the main carrier of oxygen. Hemoglobin releases oxygen in the presence of carbon dioxide.

Now if I have a belief that it's good to take these full big breaths, I'm going to be breathing harder. So I'm increasing the respiratory and I'm increasing the tidal volume.

So I'm increasing ventilation, I'm breathing too much air. And by breathing too much air I get rid of too much carbon dioxide from the body. And as I lose carbon dioxide, my blood vessels constrict.

But also as I lose carbon dioxide and blood pressure increases, the bond between hemoglobin and oxygen strengthens. So it's just one of those things in terms of, you know, breathing light.

Now, it's not that we want people to go throughout the day feeling air hunger. No. What we do is we have them practice reducing the volume of air that they breathe for five minutes here, ten minutes there.

And this helps to change their breathing patterns. And really what we're looking to do is to reduce their ventilatory response to carbon dioxide. Yeah. What does that mean?

Carbon dioxide is the primary stimulus to breathe. It's not oxygen. Every breath that you take into your body is not driven by a change in oxygen. Your oxygen has to drop from 100mm of mercury, which is about normal down to 60 before the drop of oxygen stimulates breathing.

You would have to be at a pretty good height for that to occur in terms of elevation. So every breath that we take, the primary stimulus is carbon dioxide.

But some people are more sensitive to the buildup of carbon dioxide than others. Right now, a well-trained athlete will have a reduced ventilatory response to carbon dioxide.

A very unfit person, and especially maybe somebody who is overweight and their breathing is hard and fast. They can have a strong response to the buildup of carbon dioxide.

A person with anxiety and panic disorder can have a strong response to the buildup of carbon dioxide. And if you have a strong response to carbon dioxide buildup, your breathing is harder and faster and faster and harder.

Breathing. During rest and sleep, the brain interprets that the body is in an unsafe environment and in that increased sympathetic drive. So we need to change the biochemistry of breathing.

Now I understand it can be a little bit uncomfortable, but there's something really positive in this if we expose the body to a bit of discomfort. So I was giving Brett Ward exercises just about an hour before.

We're talking. And at about 35 people going through a different breathing exercise. And I'm explaining to people, I'm going to give you a dose of suffocation, but I'm giving you a controlled dose of suffocation, and I want you to relax into that.

So you're feeling uncomfortable, but you're training yourself to relax into it. This, in turn, then, is helping to improve your tolerance and your resilience.

Because it's not just that we are, you know, the feeling of suffocation is one of these kind of primordial fears. Yeah, it's not a nice feeling, but we give you a controlled dose and this is desensitizing your body's reaction to that.

Now, of course, we're looking to improve your breathing patterns, but it's also helping you to withstand discomfort. Yeah. So for example, when you feel a stress.

So we're stressing the body a little bit to make those adaptations. So I think there's more in terms of just changing breathing patterns. But relaxing into discomfort can be important as well for the human body.

Oh I made a big difference learning that from you. For me too. As a kid I had that fear of suffered suffocation. I that was like my worst fear. So this has been super helpful.

And so the three things like so about 70% of the volume. Yes. Even though that was the thing that I had like, hey, how do you go? How do you how can you be light and deep?

But yeah, well that's right, you know, so say for example, your main breathing muscle is the diaphragm and it separates the Taurus, which is the chest, from the abdomen.

And you can't really feel your diaphragm, but it's located just at the base of your ribs right here. Yeah. Exactly. Right there. Now, if you place your hands on either side of the lower ribs and the objective here is that as you breathe in that your ribs gently move outwards.

And as you breathe out, the ribs are gently moving in. Now, what I would like you to do is to continue doing that time. So as you breathe in, your ribs are moving out.

And as you breathe out, your ribs are moving in. But now to really slow down the speed of the air. So as you breathe in, your ribs are moving out. And as you breathe out, your ribs are moving in your breath to silent, your breath to soft, and your practice mode.

Now you are breathing deep. You have minimal movement from the upper chest. As you breathe in, you have lateral expansion of the lower ribs. As the diaphragm is moving downwards, you have movement to the front, movement to the sides. You will have some movement to the back.

That's deep breathing in the true sense of the word. Yeah it's awesome. It was deep, but the volume was was still 70%. But it was. I could you know, I can feel it on there.

Yeah. And then the other thing was animals. Sorry to cut across you. Their animals can teach us a lot about breathing. You know, if you were to look at a horse, if you were to look at the domestic cast or any animal, they will invariably be breathing in.

And actually, the nose dog is not a great example because they have to pass. Right? Yeah. To regulate body temperature. But even if we were to look at an infant baby, the infant baby will be breathing like a healthy baby, like, okay, there have a faster metabolism.

So the response rate is a little bit faster, but they will be breathing low. You don't have to take full breaths to engage the diaphragm. It's gonna be nice.

And your, your methodology is, try. And it's not going to be perfect, but about six breaths a minute and and the the way I've practiced it for morning you is about a four second inhalation, deep inhalation, but then a longer six second exhalation.

And it is amazing. After you do that, you just feel so relaxed and you're breathing. Unless they're your circulation, my circulation is better. It's awesome.

So yeah, what a great methodology. You could as well. Like I suppose there's three different things here with breathing because if you think of breathing it's like a three legged stool.

One leg of the stool is the biochemistry. Second leg we can say is the biomechanics which is focused on optimal amplitude of the diaphragm and the third leg of the skirt school.

Then we could be doing as cadence breathing. And that's slowing down the respiratory rate to about six breaths per minute. And you could do it to, as you said breathing in for four seconds and breathing out for six.

And oftentimes we have people have their hands either side of the lower ribs and they are breathing in two, three, four out to three, four, five, six.

We're having an extended exhalation to further activate the body's relaxation response. Now, you could breathe in

for five seconds and that's for five.

And that's pretty good at getting balance. And you spoke about early run. I think it's a common enough thing that people are under emails and are so focused on what they're doing that they forget to breathe or stop breathing.

Yeah. So to help restore that, we bring in rhythmic breathing. And that could be breathing in for some people who have very poor breathing. I might do it for three seconds in and three seconds out and three seconds in and three seconds out just to help restore rhythm.

And it's almost that we're we're adapting new neural pathways, that we're changing the behavior of the person's breathing from being irregular to rhythmic, and with somebody else who is better breathing.

We might do breathing for five seconds and out for five and out for five, and then for five and out for five. So we can help to restore your new neural part.

Pathways to change the behavior of breathing. You know, breathing. And the brain changes. Now with your plasticity, scientists have realized that the human brain is is malleable.

It's it's it's pliable. And we can change it by changing our patterns. So after some conscious awareness, after a while, then that breathing pattern sticks and it becomes, yes, more unconscious, I love it.

Hey, one of the things that I also learned from you is taping my mouth shut. Yes. And and, I was telling you how my wife is like, you know, sometimes you want to talk, and I.

I've got the mouth shut, like, oh, dog it. I got lifted up. You actually have a tape where you can talk through it that's specially designed for people can get an oxygen advantage, but talk about taping the mouth shut.

Not during the day. By the way. Everybody. But this is when you sleep. Why is that an important habit for, most people raising, you know, 50% of the adults population wake up to the dry out in the morning, and if you wake up to dry out, you're more likely to be snoring.

Like, look at it this way. I'm going to make the sound of a snore through the mouth. And it goes like this. And now I'm going to close my mouth and try and snore through my mouth.

I can't, so my snoring stops once you get the mouth closed. Yeah. Now I'm going to make the sound of a snore to my nose and it goes like this. But now what I'm going to do is buried really slowly through my nose.

And I can't snore so easily when I breathe slow. It's not just about the airway that the resistance. You know, when we think about turbulence to breathing, more often than not, all of the focus is on the airway, but very little focus is on flow.

And during sleep, we need our lips together, our jaws relaxed, but our tongue resting in the roof of the mouth. Our tongue has got two places to be. It's either in the roof of the mouth or it's falling back into the throat.

And we don't want to compromise the airway, because a good airway is about the size of our Tom. And a poor airway is about the size and places of a big viral.

To give you an example. Now, if you're breathing hard and fast through an arrow, the airway, you're increasing the turbulence in the airway, you're increasing the negative pressure in the airway, and the airway is more liable to collapse.

For me and for thousands of people. I first started taping 21 over years ago, and I used to wake up feeling lousy in the morning. And, you know, I spoke about going in as a kid, going into school and a university student and society is demanding that we're able to focus and that we can, you know, we can be attentive to what the teacher is saying and that we can remember this information.

But if you have a child going in with poor sleep, that's not happening. How can this be?

Breath Testing, Training, and Resources

And, you know, if we think of like Maslow's hierarchy of needs is often, you know, bandied about and I have a revised hierarchy of needs for the modern day Maslow's hierarchy of needs.

Way back then it was fine. Let's revisit it. The most fundamental thing we can do as human beings in today's modern age is to get our sleep right. It's not about necessarily sleep hygiene.

Yeah, you know what? Don't look into your phones, don't drink alcohol. Don't eat food late at night, have a culinary bedroom. All that is fine. The elephant in the room.

When it comes to sleep is breathing in and out through your nose. And that's not just my words. The founding father of sleep medicine was a guy called Doctor Christian Gaiman on bass from Stanford Medical School.

He passed on in 2019. And I remember, you know, we spoke at different congresses, sleep conference conferences. I was talking about breathing and sleep, and he was talking about sleep apnea.

And I remember him saying it over and over and over to the doctors in the in the audience, the importance of breathing through the nose. Now here we have the top sleep doctor in the world talking about laser breathing, but the information hasn't necessarily trickled down to the population.

If you breathe through your nose, your sleep is likely to be deeper. You're less likely to have sleep fragmentation. Nose breathing is slowing down your breath.

My breathing is faster breathing. If you breathe faster during sleep, there's a greater turbulence in the airway. But also if you breathe fast during sleep, you're more likely to be roused from sleep because the body and the mind, the mind doesn't.

The brain is interpreting that the body is is under trash. So people with insomnia, fast breathing can waken them up. Now, sleep medicine has changed a lot in seven years, and even in sleep apnea, there's a recognition that there's four characteristics that contribute to sleep apnea instead of just one.

In other words, it's not just an anatomical issue that the airways compromised. There's also what's called loop gain, which refers to how stable is your breathing arousal threshold to whether you were a deep sleeper or a light sleeper, and upward airway recruitment in terms of how well do the upper airway dilator muscles function, you can impact all of the phenotypes of sleep apnea by changing your breath.

That's so far nobody has done research on it. And when I was writing the article with two ear, nose and throat doctors and we had a peer reviewed and published 10,000 word article, you'll see it up on PubMed and it's breaking down the application of light, slow and deep breathing to the phenotypes. Sleep apnea.

Think about just this in terms of recovery, in terms of mental health and in terms of performance. Even drivers, you know, look at the amount of road traffic accidents in the United States that are related to driver fatigue.

I think it's 20%. Just even looking at that alone. Now, for me, nose breathing was absolutely fundamental. And I woke up the second morning. I woke up okay. I came out the first night.

I wasn't isn't dilated to just breathe right strips to help open up the nose. And I woke up the first morning. I was kind of getting the hang of it, and I tried taping the again the second night, keep my mouth closed, and I woke up and it was just the most brilliant feeling, waking up, feeling refreshed, you know, like we get used to fatigue, but we shouldn't have to.

I'm nearly 50 years of age now. I better concentration and focus now than I did when I was 16. It shouldn't be that

way. You're still young man. You're still young man.

That's fair to me. But no, it is amazing when, you know, the first taping, my when I first started taping my mouth, it was like, okay, this is weird. Am I going to be able to get to sleep?

And it just felt a little awkward the first night. Okay, try it again. The second night, a little less awkward the third night. And now I'm, you know, the sleep is deeper.

I wake up more refreshed. My wife said I used to have this pattern of not apnea, but or or not not even that much snoring. But I would like, like breathe out sometimes because just kind of get, post nasal drip and now you know how it's all through the nose.

And one of the things you talked about in the book, when you breathe through your nose at night, it starts to expand the nasal cavities and then also it impacts the size of your, your, your, your what?

You you gave that example there versus airway. Like it starts to expand out. So breathing becomes easier right. Yeah. Like there's what's called the Starling resistor model.

And basically that refers to if there's a, if there's a resistance to your breathing upstream. So if you, for example, have a stuffy nose, the nasal congestion is going to cause increased resistance to your breathing downstream in the throat.

And this is increasing the risk of negative pressure by breathing through your nose continuously, your nose works better. And by doing breathing exercises, you can help to decongest the nose like anybody can.

Try this exercise. This has been known since 1923. Don't do this if you're pregnant or if you have got serious medical conditions. But if you have a stuffy nose or a head cold, breathe in through your nose and out through your nose.

Pinch your nose and hold your nose, and you could just gently nod your head up and down, holding your breath like this. And just keep on gently nodding your head up and down and holding your breaths and holding your breath until you feel a mother's just kind of strong air hunger.

Then let go. Breathe in through your nose. Wait a minute and do it again. Do that 5 or 6 times your nose starts to open up. Yeah, and the more you breathe through the nose, the better it works up.

Your mouth is the problem when it comes to sleep. It improves much of the resistance to breathing. Yeah. Now this is a problem when it comes to sleep I like that.

And when you say breath, hold there. Everyone, he said at after the exhale. Yes. You hold your breath. So actually you breathe out, but then you don't breathe back in, very quickly.

Because that way when we're running out of time here. But this has been such an awesome interview, I want to make sure that we also let people know at the end how to get in touch with you.

But talk about the the test people can do. I think you called the yes score where they can kind of test their, their breathing. And that by the way, that one, I was pretty good at when I first did it, but now I'm up to that magic number I think you said is 40s okay?

Yeah. Good stuff. Well done. Yeah. So the board score has been a test of breathlessness that has been used for about 50 years. And to measure your balls, you sit down for about five minutes.

Just allow your breathing to settle down and just take a normal breath in through your nose and out through your nose and your pinched nose with your fingers.

And your timing is how long can you hold your breath for, until you feel the first step and the desire to breed, or the first involuntary movement of your breathing muscles.

And then when you let go, your breathing should be fairly normal. So it's not the length of a maximum rattles. You're just kind of you're having a normal breath in and out through your nose and you're holding your nose and your timing is it's a comfortable breathable time.

So it's almost at your timing. How long does it take for the brain to react to the fact that you've stopped breathing? Yeah. Now, Professor Kyle Kiesel is a professor of physical therapy at Evansville University. And he looked at pretzel time as a measurement of functional breathing patterns.

He investigated what, 51 individuals. There were 27 years of age. And his conclusion was that if your old score was same, same exact same measurement, if it's above 25 seconds, there is an 89% chance that this function of breathing is not present.

So we want to establish a minimum score of 25 seconds and a goal of 40s. Now, some people will be surprised. Maybe they're both scores 10 or 11 seconds, but that would indicate that your breathing is a little bit faster in upper chest.

And that can impact your sleep. That's going to impact your focus concentration and resilience. It can impact your ability to physical exercise. Because a person with a low blood score will is more likely to experience disproportionate breathlessness.

Yeah they're more likely to gossip too soon. They're more likely to feel muscle fatigue. So it's a disability and anxiety and nervousness and things like that.

So a higher Boldt score probably is better with lower levels of anxiety. Yes. Yeah. Yes. And so yeah. How do they increase their score? Not just by doing it over and over again.

It's through the like deep slow practice right. Yeah. Yeah. But even time you know going to the gym do your exercise in the gym with your mouth closed.

Yeah. Initially it's a bit tougher because your nose is imposing resistance. You're breathing during wakefulness. And by breathing through your nose, carbon dioxide increases in the blood.

So you feel increased air hunger. But if you do your physical exercise, breathing in the neck through your nose, you're adding an extra load onto the breathing muscles.

This can help to strengthen and improve the function of the diaphragm. Nose breathing you're increasing carbon dioxide in the blood, and this can help reduce your ventilatory response to carbon dioxide.

But ultimately you're making your breathing much more efficient and economical. So if you do your physical exercise with the mouth closed. Now, what I would say to people is don't sprint with your mouth closed, because now you're really going to be excruciating air hunger.

Yeah, but do your job with the mat closed. Always remember this your mouth has no function whatsoever in terms of breathing zero. No strong statement, but really, really true and powerful.

Love it. So let's let's, let's share with people how they can get in touch with you. So your website is, oxygen advantage.com. Yeah. Oxygen advantage.com.

You have some wonderful tools there. I, I before I even, contacted you for the summit, I ordered your breathing mask, which really which I use when I exercise, which is really cool.

I have your belt. That also is very helpful throughout the day to kind of create a little restriction around the

diaphragm, bring that diaphragm to get stronger the light and also remind me to breathe light deepens.

So I love that, your prices are, I thought, super reasonable. So, check that out. And then, also the breathing cure is out now. It's not out in the U. S, though. The only place to get it.

I know your website, right. Yeah. So we have a it's in Europe. It's going to be published in the United States by Human X books. Yeah. And this is, it's I think the the expected publication date is August of this year.

There was a slight delay because of Covid, so I think the printers were just held back a bit. So yeah. Yeah. If you want to get it right away, go to Oxygen Advantage.

I, I preordered it on Amazon and then it's, you know, months away. But I got one through Oxygen advantage. And then also Patrick is offered, a great gift for you that you can get and, and register for.

It's one of his trainings. I went through it. It's phenomenal. He leads you through exercises not only in breathing, but how to calm the mind and thoughts.

And so is fantastic. So Patrick, thank you so much. It's really been amazing having you on. And I as I said, I thought I knew a lot about breathing, but you have taught me so much more.

So and I know you've helped so many people that are watching this too. So thank you so much for being part of our summit. Patrick. My pleasure. Thanks very much, Tom.

For.