Introduction to Breathwork and Patrick McEwan

Hey, guys. Dr. Tom Moorcroft here. And we're coming back with another episode of The Healing from Lyme Disease Summit. And today, I'm really excited because we're being joined by Patrick McEwan and many people who work with me here about be take your breathing.

Many of you may be hearing this term for the first time, but one of the most important things it's like I was just telling Patrick before we started that back in my osteopathic training where we started to look at airway and how your nervous system and your airway interplay and health.

I was introduced to his work and so much of what we all do is so complicated and there's all these cool theories and we get a gadget or we go, we follow a guru who teaches us something and it just becomes more and more complicated.

The thing that I love about Patrick's work is he takes a complicated subject, boils it down in a way that one makes a lot of sense when you hear talk, but then also you can implement it right away in your life.

And as you know, for this summit, our whole goal is to not only put you in front of the greatest experts on the planet to help you recover your own health, but also to really focus on all the things that you can do yourself at home.

And so, Patrick McEwan, I'm just so happy for you to be here today. I should say that you are an international breathing expert. You're based out of Galway, Ireland.

But I really would love for rather than me to just read through a bunch of stuff. Why don't you tell us, like, how does this do you take a breathing thing I threw out there?

Like, what is it? And how do you even get started in it? And also welcome. Yeah, thanks very much, Dr. Tom. It's great and I think it's tremendous empowering people with the tools to be able to control their own house, because it's not all that often that we hear about it.

You know, it's it's it's very much fun the other direction. And I was lucky enough I came across to be a take home message back in 1998 or thereabouts.

I had chronic asthma. I had a stuffy nose. I was a chronic mouth reader. If you have a stuffy nose, your sleep is impacted. If you're a chronic mouth reader, you typically engage more of the upper chest. You breathe faster.

That triggers you into an increased stress response. So, you know, you kind of learn to get by with as many listeners here were will have realized with their own symptoms.

You know, you can number things as best you can. And I read the newspaper article and the article said two things that just simply said, breathe through your nose and your breathing should be light.

I was doing neither of those my matches open, but my breathing was often heavy, so my breathing was noticeable during sleep. My breathing was very noticeable, but even during rest you would notice me breathing.

So I did the nose and blocking exercise and it actually worked and and then it switched and I was breathing and I was feeling air hunger. Little bit uncomfortable at the start.

Kept with it. That night I use nasal dilator to open up my nose and I taped my mouth closed, which is, I know, sounds a bit bizarre. Now it's becoming more mainstream.

And I woke up not the first morning, but the second morning. It was the best night's sleep I've had in about 15 years. So those simple things, you know, and it's it's based on the work of this Ukrainian doctor, coach Dr.

Konstantin Pacheco. And he was looking he was sitting with his patients and he was observing that the security became the faster and the harder they breathed.

How Breathing Patterns Affect Carbon Dioxide and Stress

And he was asking the question, you know, was it the sickness which was causing them to be breathing faster and harder, or was it a faster and harder breathing, which in turn was feeding into their sickness?

And he came across Dr. 19 what, 1957 and started teaching his patients to read notes, but then really to slow down their breathing, to breathe life. And of course, he put his theory on carbon dioxide.

Now, that was the theory that was available today. So it's not all about carbon dioxide. The carbon dioxide may play some role. And I can't help thinking then about the Italian cardiologists and Banaji, who was looking at this for patients with chronic heart failure.

And his patients had exercise intolerance. You know, they were getting overly practice. They weren't able to do physical exercise, complex like. And Bernardi asked a question, is it the chronic heart failure which is causing the exercise intolerance, or do these people have poor breathing?

In other words, do they have a strong chemo sensitivity to the accumulation of carbon dioxide? He gave them breathing exercises and their exercise tolerance improved very similar discovery to mutation.

It's so interesting to me because it's like we all, you know, everybody's talking about deep breathing and we have to do this. So, I mean, I'm just saying, like and you talk about the the sort of the chemo receptors and the impact of, say, carbon dioxide and such.

And I just think in the COVID, we're hearing so much of it about this and that, and it's actually the next step down the line. But what's so important about like carbon dioxide and the depth, the breathing and and you know, how do you know what does that thing that carbon dioxide does in our body?

Because to me, when I I mean, to be honest, in medical school, we're kind of taught that that was the bad boy. Yeah, I know. It's not as clear cut as the funny things.

You know, it's it's really amazing. And in the same medical school, you will have read about the bore effects and the opposite hemoglobin dissociation curve, which is based on carbon dioxide.

So carbon dioxide is a gas that we produce from our metabolism and we don't inhale it from the outside in, but we produce it internally. But it's the volume of air that we breathe.

And what I mean by the volume is the respiratory rate multiplied by the total volume. So the volume of air we breathe normally as measured in minutes, the volume of air that we breathe determines the partial pressure of carbon dioxide in the lungs, and it's the pressure of carbon dioxide in the lungs that determines the pressure, pressure of carbon dioxide in the blood, leaving the lungs.

If we breathe too hard and too fast to cause a lowering of carbon dioxide from the lungs, this in turn causes a lowering of CO2 in the blood. And carbon dioxide isn't just a waste gas.

Our blood vessels constrict, but also hemoglobin, which is the main carrier of oxygen and blood, flows into oxygen more strongly. Now that also faster and harder breathing.

From a behavioral point of view, the body is telling the brain that the body is not safe and the brain then is launching us into that increased sympathetic drive.

So I think there's a number of things going on here. And when we do the opposite, when we breathe, knows, when we breathe, life even just softening and slowing down our breathing to the point that we have a tolerable air hunger.

So we're breathing a very soft jet for breath through the nose in a really relaxing, slow, gentle without because there's a reduction in the volume of air we breathe.

Carbon dioxide accumulates in the lungs, accumulates in the blood, leaving the lungs. And carbon dioxide is very good. TROPIC It stimulates the vagus nerve.

By stimulating the vagus nerve, it helps to dampen the stress response. So it's quite a wonderful gas. You know, there's a number of different functions to it and many people will experience cold hands include fish, especially people who breathe too hard and too fast.

Cold hands can be a sign that your breathing is under pressure. So it's interesting because if I hear you correctly, we're saying if you want to be able to deliver more oxygen to the cells of your body, you actually need more CO2, not less.

Yes, relatively speaking. We need normal and, you know, it's we don't want to choose too little. We don't want to have too much either. It's having that balance, but there's a fair parameter there.

So anything between 35 millimeters of mercury to 44 millimeters of mercury. And the body is really sensitive to the accumulation of carbon dioxide. But here's the thing.

Some people are just that bit more sensitive to the accumulation of carbon dioxide in the blood and describes their breathing. So their breathing then is harder and faster.

And what we want to do is we want them to deliberately, under breed for short periods of time to improve the person's tolerance to carbon dioxide, to reduce their sensitivity to the accumulation of carbon dioxide.

And then the breathing naturally becomes lighter and slower. And this is how Barnard patients were better able to do a physical exercise. They had a reduced chemo sensitivity to carbon dioxide.

Now there's another crux here. The sensitivity of the body to carbon dioxide is inversely related to the sensitivity of the bar reflects the bar reflex or pressure receptors in the major blood vessels.

And we want these pressure receptors to be very sensitive to changes in blood pressure. So, for example, these pressure receptors, if there is an increase in blood pressure, the pressure receptors should pick up on this and send a signal to the blood vessels via the brain for the blood vessels to decrease and the heart rate to slow down to help bring down our blood pressure.

And conversely, if the blood pressure is too low, the pressure receptors in the blood vessels and the major blood vessels should pick up on this and send a signal via the brain for the blood vessels to constrict the heart rate, to increase, to bring up the blood pressure.

So the sensitivity of the bar reflex is a very important indicator of the balance of the autonomic nervous system. If we have a strong chemo sensitivity to carbon dioxide, we have a reduced reflex sensitivity.

And this is an indicator that we are more at risk from cardiovascular disease. Now, that's not butanol. That's a paper by trim back back in 2017. But also, Bernard, you wrote about that as far back as 2001, 2002.

It's fascinating, Patrick, because so many people in the Lyme community, people listening to our summit here have like to show orthostatic tachycardia type symptoms, right?

Blood pressure is way down or way up depending. Heart rates are all over the place. And so you're saying that if we are improved and able to improve our tolerance of this carbon dioxide, we can actually improve our ability to

regulate a lot of these symptoms.

Well, we have to ask the question, can we recover or at least can we make some progress in getting better control of our conditions if we're in a constant sympathetic drive?

And, you know, there's an interesting connection here because the doctor, as far as I know, who discovered parts at that same doctor is the Costa. He was a physician.

And during the American Civil War, he also discovered hyperventilation syndrome. It wasn't called that at the time. So there's a very interesting connection there.

And the symptoms that these soldiers were experiencing when they returned from the front line, a fatigue, extreme breathlessness, high stress levels, inability to sleep.

Breathing, Autonomic Balance, and Symptom Regulation

And it took these soldiers a long time to recover, even when they were brought back to normal civilian society. But here's the thing about the Brits, and I don't want to oversimplify it.

If we change our breathing patterns, we can help to influence order major functions to help bring bring violence or for recovery. It's it's really so interesting because everything you just described is a symptom associated with a tickborne infection or with mold, but it's also associated with stress.

And like you said, coming back like from a battle situation and today we're under so much stress, it's almost like we're constantly, you know, constantly under this sort of battle like situation when and because you brought in a term that we talk a lot about, which is safety and it's like, you know, when you're not able to have a normal sort of CO2 balance and sensitivity, we are more sympathetic.

We're less able to get into that safety state. And then we talk a lot, you know, and sort of our circles about like the free state, you know, because a lot of people are like fight or flight for sympathetic is one thing and then rest and rejuvenate is your parasympathetic.

But that other part of that dorsal vagus nerve that gets you into that free state, the way to get out of that is safety. And it's interesting because a lot of times it's so funny how these things unfold as we're chatting about this because this is so important for those listening.

I think that when we look at safety and coming back into a, you know, from unsafe to safe, we think of it as a cognitive thing, like a higher brain fog.

But it's actually the reptilian lower reflexes that are pulling us back because I use the term sort of safety looking at calling up familiarity because your body gets in a comfort zone, as it's familiar with being in a free state or in a stressed state.

And if we try to change it too abruptly, we can reflex go back to it. And obviously my brain knows that I'm safe at my house and I don't need to be having tachycardia when I go to the bathroom, but there's a part of me that doesn't think that's safe.

So then I just started thinking, as you're saying, that does our body kind of not only destroy our receptors there, but do we get used to like, I mean, habituated to this sort of over breathing and this higher, you know, level or lower levels of carbon dioxide and holding on to the oxygen?

I mean, is is it hard for people to change this, I guess, is what I'm getting to carbon dioxide. It's not just so black and white. There's a couple of gray areas.

And this is based on there was a paper by horns ball back in 1996, got a group of individuals to hyperventilate. But

during the hyperventilation he had them re breed carbon dioxide to keep the carbon dioxide in the blood normal.

He was still able to produce the same symptoms of hyperventilation, so it didn't necessarily require a drop in carbon dioxide to bring on the symptoms.

And so it's just that little bit not black and white. There's a gray area. Now, does it mean that we control hyperventilation out altogether? Definitely not.

Hyperventilation as a concept has been around for over a hundred years. There's a questionnaire called the Nijmegen questionnaire that was first for hyperventilation and is now commonly used for breathing pattern disorders.

If we think of it this way, 75% of the anxiety and panic disorder population have dysfunctional breathing of that dysfunction, breathing, hyperventilation is a very common subset in the asthma population of 30%.

But I would believe it's a lot more based on the hundreds of people that we've seen over the years, thousands of people, very few people with asthma come in with functional breathing.

And all too often we believe that's not we believe, but it's commonly believed that the person with asthma is breathing fast and breathing upper chest and breathing that way because of their condition.

It's but it's it doesn't take into consideration that that breathing pattern is also feeding back into the condition. So you can have an individual and they get into a very difficult situation and are breathing naturally responds that when we go into that fight or flight, the response to it gets faster, our breathing becomes irregular, the total volume increases.

We're saying more. ET cetera. It's not just that the stressful situation changes are breathing pattern, but our breathing pattern is feeding back into that situation very little in terms of COVID.

But there was one written article in The Atlantic and they interviewed doctors at Mount Sinai Hospital with regards to patients with long COVID. And the doctor said that all of the patients presenting with long COVID had low carbon dioxide.

Now we have to bear in mind that anxiety is going to be a significant feature with this. And I remember over the years working with people with Chronic Fatigue Syndrome, a lot of similarities with Long-Covid Long-Covid.

In many instances, the severity is worse than what I've seen in Chronic Fatigue Syndrome. Breathing can be labored over chest individuals with long-covid can have difficulty talking.

They're running out of air. And of course that's going to drive anxiety and it's going to drive anxiety because it's very unpredictable in terms of their condition and was arrested.

When we do the breathing exercise, if we do a little bit too much, it can set them back. They don't know the triggers. So we have a very gentle approach then using breathing exercises.

And I use this based on worsening chronic fatigue syndrome, because over the years I did make mistakes. I had somebody coming in with chronic fatigue syndrome.

I would push them a little bit too hard and I would. Florida We have to bear in mind that the autonomic nervous system is very vulnerable, it's very taxed, and it's all about this gentle work with breathing different techniques now and doctor time, you know, people are making mistakes with long COVID, like slow breathing is typically a spouse to have to bring balance to the autonomic nervous system.

It's correct. But if you get somebody with long COVID, with labored breathing, their breathing is effortful and you ask them to breathe in for 4 seconds and then for 6 seconds, they are not going to be able to do it.

But yet those practices are in some hospitals. So and this is direct ignition that the breathing exercises need to be tailored according to the breathing pattern of the individual sitting in front of you.

So, you know, we do our best to put the information out there, especially for people with these conditions, to help them recover. But their journey can be long term.

You're talking about six months. You're talking about a little bit of a rollercoaster. You're talking about six months plus a roller coaster. But I would still go to the very fundamental service.

We should never wake up at a time out in the morning. That is the most simplest thing we should if we think of or if we ask this question, can we recover from any condition if our sleep quality is not good?

And how can we help to improve, stay positive and I would even start with that. But I think it's so interesting as so many little places to go. And I know you need to talk about some nitric oxide and the nose and stuff, but but I mean I think you hit even pre that like I'm always going back to the foundation so you know, and it's funny if people joke that domains deliver oxygen because the doctor still who created the professor said, you know, the rule, the artery or the yeah, the rule, the artery is supreme.

And his point was not that like we need to get more oxygen, but it was it with the normal functionality of the body, of the interplay between the carbon dioxide, the oxygen, the nutrition and the toxins out.

It's you know, and there was never a for sure this and a for sure that it was a it was like you said, like the optimization of the of the human ecosystem.

And one of the places that we all have so many people who are like, if believe exactly what you just said is if they could only sleep. Right. And so I've heard, you know, you talk about like the breath that you have during the day affects your breathing during sleep.

And so I was wondering if you could touch on that and then maybe roll in a little bit of this mouth breathing and how we might want to change. We might be able to address this during sleep.

Yeah, I breathing isn't automatically going to correct itself during sleep.

Sleep, Mouth Breathing, and Recovery

Therefore, if we have poor breathing during the day, it's going to translate into poor breathing during sleep. So for example, if you have an individual who's getting overly breathlessness during physical exercise, if they're sitting down and the breathing is relatively fast and noticeable, or if they have frequent sighing, if they measure their breath or time and it's quite low, these are indicators of an abnormal breathing pattern, and that would translate into faster and harder breathing during sleep.

And the brain is here to protect the body. If we're breathing faster and harder during sleep, your brain is going to arouse you from slow wave sleep or you're not going to get down into that deep sleep.

And that's where we need to be for lymphatic drainage and for recovery, for rest and rest, for a restoration, the sleep quality. I remember waking up at a dry mouth every morning up until the age of about 25 to 6 years of age.

I was chronically exhausted. I got to school, but I was the kid that was falling asleep. The class at a 14 years of age. I left school altogether because out of a total sense frustration with the education system.

I only wrote about it last year in the book called Atomic Focus, because when you leave school to 14, it's not something that you start shouting from the hilltops.

Now, I did go back. I did go back one year later, and I was driven. I wasn't leaving school to be a waster. I was leaving school because I wanted to be a manager and a supermarket.

That's why I was leaving. I did go back a year later and I got into university. It could have been a lot easier. And if you think about even this on a fundamental level, how many children are sleeping with their mouths open?

And it even goes more than this. And I talk about Alice in second. Even when we consider younger children. There was a study by Karen Banach that was published in the journal Pediatrics in 2012.

She looked at 11,000 children in a town in a town called Stratford upon Avon in the United Kingdom. Children with sleep issues at age five, if untreated, had a 40% increased risk of special education needs by age age.

She talked about the importance of slow wave sleep because the brain of the child is developing during the slow wave sleep. But if the child is having sleep fragmentation and if the child is snoring or if they have mouth breathing, these are all hypotheses.

In other words, that there is a reduction in the flow of their breathing, that their blood oxygen saturation drops or a stopping of the breath, for example.

This arouses them from deep sleep and as a result to the effects to development of the brain. Now, any of us, we all will have a time that we've had a bad day at work or whatever, and we find it difficult to fall asleep that night.

Or we wake up at 2:00 in the morning and are lying there. We know that morning we wake up, we're not firing on all cylinders. But what about the person who is in that state all of the time?

And when you think about somebody with chronic fatigue, like if we were to use the phrase wired for tires, you know, they're lying there. They're not quite enough.

They're not quite awake enough to get up, but they're not quite tired enough to go back to sleep. Now, for me, getting them across was absolutely fundamental.

Getting the tongue resting up in the roof of the mouth, being able to downregulate before sleep, like how do we downregulate? You know, it's the speed of the exhalation.

If I breathe out fast during rest, my body is telling the brain that the body is under stress. So, for example, anybody who's wishing to downregulate, I would say you're sitting in a comfortable chair.

Don't worry about perfect posture, okay? If you're sitting up straight, of course it's much better because you're not compressing the diaphragm. But it's more important to be relaxed and take a very soft, gentler breath entry.

And I was and are really relaxed and a slow and gentle breathe out and don't time because the breath is going to be a relative to you. It's that gentle, soft breath in almost an imperceptible breath into your nose, in a really relaxed and a slow, gentle breath out to the point that you feel a tolerable air hunger or a need for air.

Do that for 2 to 3 minutes and pay attention to the slave in the mouth. And if you have increased water, risk them out. You know that you're going into the rest and digest response.

You might feel sleepy, so you have to down regulate. So these are little tools that we can be helping. And I'm not going to say that it's absolutely you know, you're practicing for 10 minutes and you're absolutely sure it's.

No, but physiology, actually, we have seen changes in heart rate variability in as little as 30 seconds from slowing down the breath. You know, you could strap on a blood pressure cuff onto somebody.

You get a reading of, whatever, 160 over 100 or whatever it is, they've got high blood pressure. You have them then do slow breathing practice slow breathing, very soft breath, and then a really relaxed, slow, gentle that bring a feeling of relaxation to the body, do it for 5 to 10 minutes and try to cough and see has the systolic and diastolic.

Has it dropped in that period of 10 minutes? So these are the tools because stress we are not able for chronic

stress that human beings and chronic stress triggers inflammation.

And it's inflammation that's implicated probably in the vast majority of diseases and a very interesting discovery was made by a neuroscientist, Dr. Kevin Tracey, in New York.

He was working back in 90, I think it was 1998, working with rats. And he had an idea that if you stimulated the vagus nerve in the rash, he could have to block pro-inflammatory cytokines.

While he was doing his research, his colleagues were out in the corridors, apparently placing bets that it wouldn't happen. But he showed by stimulating the vagus nerve that he could have blocked pro-inflammatory cytokines that were triggering inflammation.

Now I know many doctors will say that stress is not a problem. Stress is a big problem. I totally agree. I say all the time like the number one cause of inflammation in the developed world is stress.

You know, it really is. I think it's so important that. Nobody wants to admit it because the society is being driven on stress. We are being pushed to our limits, pushed every way from the time we were a child's time going into school, achieving the best grades, the competitive system, getting out, getting our degrees, or if we don't go to university, getting into the workforce, buying a house that we're indebted to pay the house off for the next 30 years, maxed out your credit card, have the nice car.

You know, it's a crazy system and it's a crazy system that the system is putting us into a state of stress because we don't even know. We just accept that this is normal life.

This isn't normal life. Now I'm hitting 50. Pretty soon I'm I'm questioning it more and more. Something happens when you get that bit older and you're just saying, what is that all about?

You know? And there is time. We have to say, I was going to say something else there, but of course, we have to say it's time that we give ourselves some attention and we have to question what are we to Patrick?

I think he hit the nail on the head. I mean, there's two main things and that the most important thing is put yourself first, guys. You hear me talking about this, the whole summit and everywhere else I talk, you are worthy to have a great life.

You are worthy to receive healing. And yes, it will take some work on your part and you also have the ability to do that. And I just think about it like with Patrick, like with placebo, a lot of us talk about like 33% of all, you know, benefit in medicine and surgery is because of the mind body connection.

And I don't think that that's something we need to control for and throw away in a medical trial. I'm like, if my cholesterol lowering medication will lower my my cholesterol 8% more than my brain will, but my brain will do it at least a third of the way.

I'm like, I'm going to just go with my brain and my heart. So I think it's really important and I personal healing from Lyme and the visit I was like 70 to 75% better before I even found the doctors I needed.

And it was just by doing the thing that was put in front of me and one of the things I didn't have access to, you know, the work that you've done and beauty goes work back.

You know, when I was ill, but I, someone gave me an ashtanga yoga sort of journey to go on. And what I learned was and, and guys, I know I said this story a few times in the summit this time, but I think it's so critical, like yoga is movement on breath.

And so what I was taught was, yes, they were doing during the practice, there was deeper breathing, but the breathing should always be free and relaxed.

And if I changed that, if I went too hard in my life, then like I pushed you hard in the posture too. Like you said, Patrick, be competitive. It would change my breathing.

It would make it more and it would make it shallower, but it would be upper chest and tight. My teacher was like, That's not what it is. Everybody thinks this power yoga ashtanga thing is about competition and sport.

A No, no, that's not what it is. And I got better so quickly. And then my breath when I wasn't in the the rhythmic movement, it almost disappeared. I mean, my breathing changed so dramatically.

And then as I learned all this, I get excited, you know. But I also I think that that you're pointing out that, like, one, we could calm down a little bit and focus on ourselves a lot more.

Is is one of the biggest themes of our whole summit here. But the other part I saw a parallel that I just want to highlight for folks is Patrick just mentioned that like life is about go, go, go do this, do this, get more and more and more and get indebted and do all these things.

I really just had this little flashback that this is what Lyme treatment is like for a lot of people. We're always going for the next best shiny object, the next medication protocol, the next gizmo that I need to wear.

Now, we're going to talk about a lot of these in the summit. But what I want you to remember is I just said 75% of my healing occurred before I saw the doctors who could give me the gizmos, who could give me the medicine my body was ready to receive because I had done not 33% of the work, but 70, 75% of the work first reclaimed myself healing.

So I just want to say thank you, Patrick, for highlighting that because it's it's the way society is. We're seeing a reflection of that in this community.

And if we could take that breath, I want to go back to because you had mentioned I oh, my God. Just before we got on, guys, I just mentioned that Patrick I've followed his work for so long since some osteopathic friends introduced me, and it's just I'm like a kid, you know, a Christmas morning type of thing right now, being able to have this conversation because it's about how I got better, even if I didn't know all the work.

And then I've integrated this into my life and now we can share it with you. So again, just thank you for the time. Patrick I'm so excited you had mentioned, you know, with sleep and this idea and then you threw out this term the lymphatic system.

So I'd love to dove a little deeper into, you know, we're getting that deep sleep. You know, our brains are developing and detoxifying. But what's so important about sleep?

And then you had kind of touched on it a little earlier about this nitric oxide thing, and I would love to kind of maybe take sleep and work into nitric oxide because I think lymphatics and nitric oxide pair pretty well.

Nasal Breathing, Nitric Oxide, and Simple Exercises

I think sleep is a major foundation in terms of bringing balance to the autonomic nervous system and I'll talk about this in terms of if, for example, we have insomnia, which affects about 30% of the population, 10% have a chronically obstructive sleep apnea.

It affects about 25 to 50% of men and women over 50 post menopause are more susceptible. It increases by about 300%. When we have a sleep disorder, it causes dysregulation of the autonomic nervous system.

And you could have somebody doing all of the right things during the day, but then they're stopping breathing during sleep or having sleep fragmentation.

They're not going to lose weight so easily because it messes up their hormones. They're going to be more irritable,

cognitive inability, fatigue, their anxiety levels is going to be driven.

Our mood and depressed depression, for example, is significantly influenced by obstructive sleep apnea. I remember somebody coming in to me, I don't know, 15, ten, 15 years ago, it's a while back.

She was a woman in her thirties and she had depression. And I just asked her, you know, the way sometimes you're just working with somebody and just a talk was in your mind, has anybody ever investigated your sleep?

So she was coming in with mental health issues and I asked her, How do you feel when you wake up in the morning? Are you waking up at a time out? Do you have to get up to go to the bathroom once or twice during the night?

Do you find yourself lying in bed at two or 3:00, 4:00 in the morning for a couple of hours, just lying there hoping to fall back to sleep? She was very likely to have undiagnosed sleep apnea.

Mm hmm. Now she's getting treated for depression with psychiatric medication, etc., etc.. But counseling and whatever tools that she was using, you are not going to treat depression unless you and you treat the obstructive sleep apnea.

And when you look at people with PTSD, 73% of this population have obstructive sleep apnea in this in the Depression community, obstructive sleep apnea is very common and there's a commonality of symptoms there.

I can't remember off the top of my head, I just put a PowerPoint presentation together. And about three weeks ago, four weeks ago, it's been a while since I looked at it.

But if you look at the literature, you will see a huge crossover there. Now then we have to look at fibromyalgia and sleep apnea, and we have to look at the symptoms of women, menopause and dysregulation of the autonomic nervous system and sleep apnea, hot flushes, hot flushes, etc., etc.. So this is the whole thing about obstructive sleep apnea is crucial and it's something that's dear to me because I was that kid and teenager was undiagnosed sleep up there and a chronic masturbator now does a recognition that if you do wake up with a dry match in the morning, you are much more susceptible to snoring than sleep up there.

How are we waking up and really then we have to be asked and the question, if our sleep is putting us into an increased stress response, where are we going to get recovery?

We're not. We can be doing all of the right things during the day, but we're still not going to get to where we want to get to. And I taped my mouth closed and I remember, as I said, I woke up and it was one of the best night's sleep ever.

Now, we've been talking about this stuff for 20 plus years now. We're starting to get out there, you know, one sleep doctor, Dr. Christian Gaiman, who sadly passed away in 2019, he is the founding father of sleep medicine or is considered to be one of the founding fathers.

He coined the phrase obstructive sleep apnea. He developed aptly, I hope, up the index. He talked about the critical importance of restoring of breathing during sleep, but not just during sleep, but also during the day.

So we have to come back to this. What does our mouth do when it comes to breathing? Our mouth does absolutely nothing. All our mouth is a hole whereby air can go straight down her throat into the lungs.

But other than being an entry point, the mouth does nothing in terms of the breath. When we breathe through the nose, we have the olfactory nerve. We have all of this communication going from the nose up to the brain.

So, for example, sniffing out danger like our ancestors used our sense of smell and nasal breathing to be able to sense the environment. Visual spatial awareness is improved with nasal breathing versus mercury.

Memory, cognition and attention is improved with nasal breathing versus my breathing and if we were to look at the nasal airway and the connection via the brain, you will see that there's nerves right to the brain.

We don't have that for you. The mouth just wants to exist. It was first discovered back in 1991 called Nitric Oxide and the exhaled breath of the human being.

And nitric oxide is gas to when we breathe through our nose, we pick up this gas, we draw this nitric oxide into our lungs and nitric oxide is anti-viral.

It's a bronchodilator. It helps to open up the airways. It helps to redistribute the blood, shed lungs. And in 1988, a researcher called Swift with patients who had jaw surgery.

And after jaw surgery, their jaws were wired short, so they had no other choice but to continuously breathe through their nose. The partial pressure of oxygen in the blood increased by nearly 10%.

Now, is that not enough to talk about nasal breathing? And despite this, how many of your listeners wake up at a time out? I would say it's 50%. 50%. I'd be willing to bet you're right.

Like, I mean, it's just so many people. I remember when I first learned about putting the paper tape over my mouth and before I had the beard, kind of like we're both rock.

And right now, I just I've always had the soul patch and I just did the little Charlie Chapman. And I mean, the first night or two, it was kind of like challenging.

And then after that it was like my body was like done. And I did it for about three or four weeks. And I mean, I wake up with a dry mouth probably once every year and a half.

Now it's like it's just a very odd thing. And I find that like I go out places, I'm watching who's mouth is open and whose mouth is closed. Like, you know, it's just really an interesting thing.

So what what about do you take your breathing or the breathing approach that you work with and promote? How does that open up the nose? But I would say to people is if, for example, people are quite fatigued or if they have anxiety or panic disorder, go very easy with the exercise.

Now I have a presentation on YouTube for Long-Covid and I included all of the exercises. It's free. We also have enough coming out. It's free. By the way, I put $160,000 into this new app.

And the the purpose of the app is to help to bring breathing awareness out to the population. So it's got about 100 videos you put in your your breathing score and it will give you a daily program and it's free.

We're not asking for anything out of it now. I don't know. Everybody is saying to me, this is a crazy business model. I don't even know intuitively it feels the right thing to do.

So that's going to be out in about one or two weeks. So these exercises are all accessible and free, you know, of course, are in the box. You can get them up on YouTube.

The exercise that I would say to start off very gently is do small breast holes. Because I made the mistake by going too quickly with some people. And I've done that with myself on my ago.

And more is better, right? More is better. And you know what? Then we have a setback and then we're wondering, well, does it really work? And then we're going to have frustration sets in.

And we kind of the other thing about society that we're in now, it's almost that we are trained that everything is instant gratification and we have to be patient.

And we if we have an understanding of where we're going and what we want to do with it, it kind of gives us the patience. There that we're going to stick with it.

It really is about developing a habit. If the nose is stuffy, take a small breath in through your nose, that through your nose. Pensioner's implosion nose and hold for five, four, three, two, one, let go and just breathe normally now for about four breaths or so and again over by sensory and I have three nos I'm pensioners and hold five, four, three, two, one let go and breathe normally for about four breaths or so.

Now what I would say to people is start off with that one. If that feels very comfortable for you, then you can increase it to six, seven, eight, nine, ten plus seconds.

So always kind of dip your toe into the water and see how your body is responding. So to decongest nose, take a normal breath in through the nose, out through the nose, pinch the nose and hold.

And then you could just gently nod your head up and down or move your body. And you're doing it for maybe seven, eight, nine, ten, 11 seconds. And the reason being, I was I would say, go it go easy enough when the autonomic nervous system is a little bit taxed now.

But at the same time, we do need to get the nose open. But the more we breathe through the nose, the better it works. The nose will never get fully congested, but it doesn't typically get fully congested anyway.

But the nose will work much better the more we breathe through us and if you were worried about sleep, for example, we have a tape that goes right around the mouth as opposed to covering the lips.

And we brought it out for people with anxiety and panic disorder because, you know, of course, I want to get through my clothes. I'm working with children as well.

I want to get children breathing through their nose. But I couldn't ask a child to wear a tape covering their lips because of risk issues. So that's why we brought out a tape.

It was it's called Mayo tape. And I don't want to give a plug or anything like that, but we brought it out and in conjunction with my a functional therapy but so for people to feel like a little tape around your mouth is actually a very good thing to do if it's getting you as a support to breathe in the neck through your nose.

And because the difference can be it can be very fundamental. Yeah, I think it's great. And I, you know, it's like even my daughter, we had her do the old paper tape and straight over the whole thing.

So I, you know, and there's no paper tape on the planet that's probably too strong to keep your mouth closed if you really need to. But it does work. It's so good, guys, so and correct me if I'm wrong.

So in the note, when we're doing that breathing excellent, is it that it's the nitric oxide being created in sort of the sinuses in the face, like kind of flushing and opening up the nose, because in our community, a lot of it is and we look at mold and we talked a little about this earlier, you know, the way we think that patterns and pandas that originally described as strep but now known to be caused by other things, but at least in strep recurrent infection causes, in that nervous smell where you're talking about like how things can go up.

So the detoxification happens along that nerve of smell out of the brain, 20 to 30% of it. While we're in deep sleep. But the other thing is it's that route upwards where, you know, we're at that point of the more we get a strep infection, say, in our throat or our nose, the more our own cells hang out in our nose that are supposed to protect us, our immune cells.

And they go back into the brain and cause autoimmunity inflammation, and then we're you know, that piece about the mold, I think is just so interesting because it's congregating in the nose.

So I'm always trying to teach everyone how to get everything out. But is that really the key is like is it is it the nitric

oxide that's in the nose? It's kind of doing the opening or.

It's not really known, but it may be one of the factors. Traditionally it was believed to be carbon dioxide. So for example, when you took a normal breath in the nose, through the nose and you pensioners and you had your breath for quite a period of time, you put your body into a stress response.

So it's a combination of carbon dioxide and increased stress response that is causing the inflamed blood vessels in the nose to shrink, to concentrate.

Mm hmm. But nitric oxide could be playing a role and even coming back to that little exercise. When you breathe in and breathe out in your vaginas, nitric oxide is crawling inside the nose their way.

Now, when you let go of your nose, Newbury, then you're carrying that nitric oxide now into your lungs. So we are capturing nitric oxide when we're doing it.

Another way to do it for people who are big, even when your breathing is a little bit under par, the whole you could just take a normal soft breath, entry and nose and then you're humming and the acceleration you're just forming on the slow exhalation and then breathing through your nose afterwards.

Humming also generates the production of nitric oxide, probably because nitric oxide has been emptied from the parent as the sinuses incident, the there right.

But humming also helps to stimulate the vagus nerve so that can be practiced by anybody. You know, one minute here, one minute there. You could and you could do it as often as you want, just no side effects to it.

So it's worth pulling a simple thing. This is all so amazing. And I just think it's so important to be able to bring all this together to understand how something as simple as breathing and being developing the awareness of it can bring us out of a fight or flight state freeze and bring us back into rest and rejuvenation, optimizing immune function nitric oxide.

The one thing I really learned about new about nitric oxide during COVID is how anti-inflammatory it is because I'm always like the rain on people. I'm like, Oh, get your carbon dioxide and your nitric oxide up in your toes and your fingers are a better circulation.

But I'm kind of interested as an anti-inflammatory, so I think I love the way you package all of these things together for everybody in that excess way, because it's like breathing is something, it's free and you do it all the time anyway.

Why not just optimize it so as we kind of land everybody on this one, I mean, although I'm sure we could talk all day and all week about this, but how would you bring it all together if you were to kind of inspire folks?

Because, I mean, a lot of our people, our chronic fatigue and fibromyalgia, they may be getting triggered by autoimmunity from an infection or an exposure to a mold, or it might just be direct infection pieces.

Practical Takeaways and Resources

You know, how do we bring it all together for them to really go home? And I mean, I do want to just also highlight like the persistence and the patience and developing a habit just really struck out, you know, stood out for me.

So I really appreciate you saying that as well. But yeah, any kind of closing, bring it all together for everybody. I think first, first and foremost, the mouth is not for breathing your thing, thinking about breathing through the mouse.

There's so many aspects that are not helpful. So a switch to know is butchering rest during physical exercise. Allow your nose to determine the intensity of your exercise.

Only go as fast as you can while maintaining the breathing, the quality of your exercise would be much better and in time, the more you do your light gentle exercise, if you can do physical exercise, understand that people may have parts, etc.

they have their own issues there. But let your nose determine the intensity of your says get the macros during sleep. The small is a regular exercise that we do.

There is called breathing recovery. Start off with that. Anybody who comes in my dog a chronic fatigue syndrome, I typically ask them to do that for about 5 minutes.

For six times they'd and I have them do it for about a week or so. So there's a week of exercises there and after a week you could even double up to 10 minutes, six times 30 or 5 minutes every half an hour.

We it's much better to do a little bit often in terms of stimulating the vagus nerve. And that's a very gentle exercise that's accessible to everybody.

Now, for example, if your breathing is quite labored, don't hold your breath for 5 seconds. Hold your breath maybe for 3 seconds. Never do an exercise to the point.

At the end of the exercise, you should be able to do the exercise again if you want to. So never push yourself to the limit that your range of energy by the end of it and you kind of have to listen to your body with that.

There's also a relaxation that you can be doing. For example, we have a beautiful tennis court that's free, too, and as a guided 20 minute relaxation there, because sometimes it's nice to do a breathing exercise that's guided with relaxation, and it can be a very good thing to do.

For example, if you wake up at 2:00 in the morning and you're lying there and normally you're lying, there are 2:00 in the morning, you're thinking, Oh my God, if I don't go back to sleep, I'm going to be an absolute wreck when I wake up in the morning, how do I go back to sleep?

And that's just a psychological pressure to get back to sleep, which is going to hamper the very thing that you want to do. You could just do a relaxation at that point.

It's a 20 minute relaxation. So Dr. Thomas is maybe if you download the app and try it yourself and just see how it goes. But the feedback has been good over the last five years or so with us.

So there's a relaxation that you can be doing once or twice daily as well. And just even the very simple act of, you know, people say to me, well, breathing exercises are to take time.

And I want to say, what's the alternative? You know, we're stuck in our heads. We're worrying, we're anxious. We're often a lot of self critical, a lot of negative thinking going in, or we're giving our attention to major multinational platforms and we're giving them all of our attention.

We're bored. We can't deal with the boredom. We open up the phone, we start scrolling. They miss. They put the phone away, bring a little attention into your body.

Your body absolutely craves it. One of the most wonderful things that if I was never to teach breathing exercise is the ability to be able to tap into your own intelligence that's residing there and even just simply focusing on the breath coming in and slowing down the breath out.

Because whenever you take that breath in and the relax and slow, gentle breath out, your body is telling the brain that the body is safe. There's a huge communication going from the body up to the brain.

We can convey this information via our breathing. If, on the other hand, we are struggling for breath and we are breathing hard and we're breathing fast, the body is telling the brain that things are not good and the brain is here

to protect us.

So we do have some degree of control. And I understand that people with labored breathing, it can be a little bit challenging, but do is to a relative degree in other words soft and your breathing that a little bit soft and you're breathing by 20%.

By 30%. That's all you have to start off and keep working. But the one thing is you will find benefits that will happen pretty quickly, even in terms of just a calming of the mind.

And again, what is the alternative? Are we living our life constantly stuck and immersed in thought, drowning in our own thinking, and not having the ability to know that we can stop thinking by taking attention out of the mind and onto the breath.

And yes, I'm not going to say it's easy. No, it's not. It's challenging, but it's a lot less challenging than being stuck in our heads. So. Well said. I love it.

Just like you know it. That that's what I found the hard way through my healing journey. And so I appreciate you sort of encapsulating all for our audience because it is so powerful in, in, in healing.

And also, just like for me, it's like it's not just about healing from whatever is in front of you today. There's always going to be something in front of you.

It's at living our lives. So like everything you just said resonated so much. It's like really it is about the habit of how we live our lives, our lifestyle, not just getting over Lyme or getting over chronic fatigue.

So thank you so very much for that. And I will say I've done the the guided meditation. I think the one you're referring to the 20 minute when it is so cool because it's like I'm like, you know, your breath is like it's you get to that place where you're just it everything settles down and your breath not it's the first few times I did it, I was like, this is I'm trying a little too hard because I'm the competitive guy.

I was brought up in sports and, you know, doctors, whoever wants to be a doctor needs the great grades. So very competitive, really brought it right down me.

And it was just it was a really great access point. And the other thing I'd love to just highlight for folks is what Patrick has been saying about just going at your own pace, listening to your nose, listening to your body and your breathing.

I do. I love doing breath hold stuff. I've been playing with different types of breath work for a while. I always back to doing some of the basic work we've talked about today.

But what I realized is because I was competitive, I've tried very hard to do it and this has parallels in your linemen mold and other treatments is it's better like it.

Patrick When you said like scale it back a little bit, every time I scaled it back, I achieved more way more quickly, like I felt better. I my CO2 tolerance is way up.

But if I tried hard, it didn't because I think I got into that fight or flight competitive. So the same thing, guys, as you take all the work that Patrick shared with us today and you start to do a little bit of that, think about how you're like, I learned from the breathing that my movement and yoga should be on the breath and it shouldn't control the breath.

The breath is kind of like that barometer for how I'm doing. Take that into your your treatments and your approach to treatments. Yes, sometimes you need to push a little, but a lot of times we need to step back and give ourselves a little listen to the body.

So, Patrick, just everything you said resonates so much with me. It's how I recovered my personal health and it's

what I say to other people. So I'm just as I said at the top, you make it so simple.

Like, I know in my world I tend to complex the five things and things, if that's even a word. So I appreciate just laying it out this way has been amazing.

I'm sure like every single person listening to this is going to want to know where to get more information about you. And I'm assuming I know by the time this airs, the app will be out.

So but I'm assuming if they hop on your newsletter, they'll be able to do that. But where can they find out more about you and you know, know about the app and all the other resources.

Our website is beautiful clinical. That's beauty. Why co clinical and also on our YouTube channel the the are the three at the moment is your take looks at it and the new app that's coming out is oxygen advantage and does a separate YouTube channel.

Now what differentiates one from the other oxygen advantage is a little bit more for sports, mental and physical performance. If you take our clinic is more about you take your message for how it's for recovery.

Cool. So good and we'll make sure we get links to all those things in this show, in the notes for everybody. But again, thank you so very much. This is like it's been an honor to chat with you and and again, guys, it's simple and so deceiving how important this information is.

And if you wanted to know how to improve your sleep, you wanted to know how to help improve detoxification of your brain. You wanted to know how to improve your pots and your Raynaud's type symptoms.

And again, none of this stuff is about not listening to your doctors and getting the proper diagnosis and treatment for maybe your sleep apnea or your asthma.

But this is a way that you can start to get control. And when you heard Patrick earlier talking about bringing down heart rate variability or I should say improving heart rate variability in as little as 30 seconds, increased heart rate variability means you're less susceptible to infection, you're less stressed, and your immune system is functioning better.

So it's just key markers at every little thing where you focus on your breath and just do that really simple breath, recovery, exercise and then take the next steps with the app is a way that you're going to be able to move forward and take back control of your health so that everything else that you're doing on the external world is working even better.

So again, thank you very much, Patrick McEwan. What an amazing interview. And everyone, we know that you have lots of things going on in your life and it's just such an honor to be to share this information that you've taken this time to be with us for this episode of The Healing from Lyme Disease Summit.

Until next time, I'm Dr. Tom Moorcroft. We'll see you in the next one.