[Transcript] The Diary Of A CEO with Steven Bartlett / The Breathing Expert: Breathing Through Your Mouth Can Cause ADHD, Diabetes & Child Sickness! (Must Listen): James Nestor

You can exercise all you want, eat all the right foods, sleep eight hours a night.
If you are not breathing right, you will always be sick.
James Nestor, international best-seller on breathing.
As a species, we've largely lost the ability to breathe correctly.
James travels the whole world trying to figure out what went wrong and how to fix it.
99% of people are breathing dysfunctionally.
They don't realize the damage they're doing to their bodies and brains by being this way.
Look at the way we sit all day long, the way we sleep, the way we eat.
The modern world is conspiring to make us sick.
Diabetes, asthma, metabolic and autoimmune issues, anxiety, even ADHD.
Experts said it is 100% related to your breathing at night especially.
Really?
Bad breathing habits are a recipe for disaster, which is what has happened for so many kids today.
So if you're a parent and if you can hear them breathing when they're sleeping,
this is a big red flag.
But I believe that everybody can become a good breeder and these steps are free.
We can do this while we're seated here.
So the first thing is still...
Carbon dioxide is seen as this poison.
Why?
Levels over 800 into 1000 can have serious issues with cognitive and physical functions.
I've been recording our CO2 during this interview.
It's going up.
And if we were to continue working in here for the next few hours, you will...
Jesus.
James, of all the things you could have committed your life to, you could have committed a decade of work and effort to,
you decided to commit it to the subject matter of breath and breathing.
Why?
It was a number of things that happened.
And personally, professionally, over a number of years, I never set out to write a book about breathing.
I mean, what a boring subject, right?
Until I started having breathing problems that came back year after year.
I surfed a lot in San Francisco.
So I was getting bronchitis.
I was getting pneumonia, mild pneumonia.
It was nothing to worry about.
I'd go to my doctor.
I'd be given a pack of pills and sent on my way.
This kept happening year after year until a doctor friend of mine was looking at me.
We were out having a drink and she's like, I think there's something going on with your breathing.

It's a breathing.
You know, this is just something we do automatically.
It's nothing I considered.
She's like, oh, you might want to go to a breath work class.
And I went to a breath work class and it completely blew me away on a number of levels.
I was able to get over the respiratory problems I had.
I don't write about this in the book because I didn't want to make my experience be indicative of everyone else's experience.
But all the issues I had completely went away, 100%.
And so I started looking into this more just personally.
What else I could learn about breathing and how it could benefit me for athletic performance, for sleep and more.
And noticed that my health was changing in all the right ways over and over again when I was adopting different habits.
So that was more than 10 years ago.
Actually, that was probably 12 years ago.
And then I started writing about freedivers, started freediving myself and learning the limits of breathing
and how you can do things that are supposed to be scientifically impossible by harnessing the power of your breath.
That's what really got me interested as a science journalist.
So your symptoms, the symptoms you had of, what were those symptoms at the time?
I was mouth-breathing a lot when I was working out.
I was always mouth-breathing when I was jogging.
I was mouth-breathing, doing karate, mouth-breathing, surfing.
And I noticed at night, I could not remember a time when I did not go to sleep with a huge glass of water by my bedside.
I would wake up numerous times throughout the night.
My mouth was very dry, very pasty in the morning.
I thought this was completely normal.
I also noticed that when I was working out at really high levels, I would start to wheeze a bit, like I could hear myself breathing.
And I thought this was normal.
Whenever I talked to people about it, they said, oh, welcome to old age.
This is what happens when you get older.
And I didn't think that that was a good reason to be breathing so dysfunctionally.
But it really took someone else to point it out for me to understand that maybe there was a problem there, and maybe I should fix it.
And your friend who was a doctor then suggested this breathwork class, you go to this breathwork class.
And is it the one session itself that helped you, or was it the practices you took away from that session that helped you?

That one session completely blew my mind.
So it had all of the hallmarks of flakiness and new age-iness, you know, all the people flowing, flowing clothes.
There were some headbands.
I said, good God, what am I doing here?
There's a lot of this stuff in San Francisco, so I'm kind of used to dream catchers, all that.
And it wasn't until I sat down and started actually got rid of all of that, all those problems in my brain that were making me resist really giving myself to this problem.
I got rid of that, started breathing.
And I write about this at the beginning of the book, but I completely sweated through my t-shirt.
It was not a warm room.
It was quite cold in there, I sweated through my t-shirt, there's sweat marks on my jeans, my hair was sobbing wet.
And this was from sitting in a corner of a cold room, just breathing at this certain pattern.
So it obviously released something in me.
And when I mentioned this to doctors, I went back, they said, oh, you had a fever.
Oh, you know, the room was too hot.
Oh, you were covered in blankets.
All of that was false.
There was something else deeper happening.
And they didn't understand it from their medical training.
So I tried to get answers elsewhere.
And that's what I spent years doing.
You spent years doing, I mean, your book on the subject matter comes out almost a decade later.
So in hindsight now, you have those answers on why you sweated through your clothes and why you had that physiological reaction.
What is the answer?
I do not have opinions as a science journalist.
I am a filter.
So my job is to talk to absolutely everybody.
And especially when people, doctors tell me, oh, don't talk to those people.
They don't know what they're talking about.
Those are the first people I'm going to talk to.
So I talked to everybody and tried to synthesize what I've learned the truth, according to all of these different cultures, all of these different ways of learning and put that in a book that the general public can understand.
So I have my own personal views on it, but I try to keep my personal views out of what I write.
And then the sort of next significant, I guess, catalyst event that was an inspiration point for your work was in 2011.
You said you went and covered the free diving championship in Greece.
What did that experience add to the inspiration cloud that would then form the book?
What did you learn about the nature of breath from that?

Yeah, it's so funny.
You know, as you go through life, there are some experiences that you have that you have no idea that you were opening a completely different door and you're just going to be walking through that door for the next decade.
So that's what happened in Greece.
Didn't really know anything about it.
So I went out there and just had my mind blown.
I mean, you have these people who are at the surface of the water, take a single breath of air, one breath and dive down 120 meters on a single breath of air and come back up five minutes later and go and then get out of the way for the next competitor.
So you watch them.
The water is very clear there, right?
It goes down.
Visibility is 150 meters.
You have them just disappear into nothing the size of an hand and then completely disappear into the ocean and come back.
And I said, my God, there's so much we don't know about breathing and also about the limits of the human body.
I want to learn more about this.
I want to experience this as well, not diving down that deep, but I want to access more of what I've been given because I think we've been sold pretty short on what our limits are and what we should be doing and shouldn't be doing.
I think our bodies are much more potential than that.
When I was when I was reading through your book, you describe breath as a pillar of health, which is a pretty big statement to make.
Because when we think of pillars of health, we might think of, you know, exercise or diet, but breath hasn't been considered a pillar of health.
I think, to be honest, for the first 27, for the first 29 years of my 30 year old life, I purely viewed breath as this thing that just happens.
Unconsciously, that is inconsequential.
And it's only in recent times because your work has influenced some people very close to me that I started to second guess that.
Where do we stand as a society at the moment when we're talking about the majority of people in terms of our view of what breathing is and the role it plays.
And then I also want to understand why that's wrong.
Because as I said, I thought of breathing as just this thing that happens.
And it was quite unnerving to understand that that view has potentially been impacting me in profound ways without me knowing it.
Like you said, I've been pointing at the wrong thing.
I've been thinking I need some pills or I just can't sleep or I've got in, you know, someone might think they're an insomniac or whatever.
But you make the case quite profoundly that breathing is much more than an unconscious act that

we just do without thinking about.
Well, breathing is something that just happens and how wonderful that is that we've evolved to not have to think about every breath we take.
That would be a real problem.
But that doesn't mean we can't take conscious control of our breathing and then elicit different effects from our body.
So we have adopted habits according to our breathing from our environment, from the way we sleep, from our mouth structure and more that are not the best habits to have for breath.
So the reason why people spend so much time doing breath work and rehearsing slower breathing, lower breathing, breathing through the nose is to reset a natural habit so that you don't have to think about it.
I mean, I don't want to have to constantly be checking in on my breath throughout the day.
I want that to be automatic, but that takes a lot of time to get back to that healthy state to make it unconscious.
Where do we get these bad habits from?
And because I think, you know, surely my body, I'm the product of, you know, several, I don't know, thousands, gazillion years of evolution.
Surely my body is doing it correctly by default.
What has changed that is causing me to do it incorrectly?
Your body is not doing this correctly by default.
What has changed is this modern environment is conspiring to make us sick.
And I don't think that that is an exaggeration at all.
If you look at the way we sit all day long, if you look at the way we work, if you look at the way we eat, if you look at the way we sleep, all the pollution, noise pollution, air pollution, we're surrounded by this is why we are so sick.
This is the environment.
The human body is so well equipped to live a healthy life, which is why indigenous cultures, the few left, they don't need to go to a cardiologist or a pulmonologist or a dentist.
They have straight teeth.
They breathe perfectly.
They don't have all of these problems that we have today.
So these are diseases of civilization.
The vast majority of problems we contend with, we have created in the last few hundred years.
And one of the problems with breathing is that our facial structure does not allow us to breathe in a healthy way anymore.
And it did hundreds of years ago.
We know that from the skeletal record.
What are some of the most common modern problems then that the environment we live in have caused?
And here I'm talking about diseases.
What are the everyday diseases that you've discovered are byproducts of our misunderstanding and our bad breathing habits?

Show me a list of the top diseases and they're all related to it, even diabetes.
Who would have thought that the onset of diabetes could be triggered by poor breathing habits at night?
But that is exactly what researchers have found.
Because if you are choking on yourself all night, as so many people do,
you aren't resting, you aren't entering stages of deep sleep, which means your body never restores and your body is going to break down.
So researchers have known this for 50 years.
There are scientific studies showing this over and over again.
So that's just with diabetes and metabolic issues, autoimmune issues for the same reason.
You're constantly breathing like this, stooped over.
You're causing undue inflammation to your body.
You're causing nervous system dysfunction.
You're in that sympathetic state, which after a while will trigger a bunch of autoimmune issues.
So many of these things not exclusively are related to breath.
They are exclusively related to diet, exercise, sleep and breath.
You can eat all the right foods.
You can sleep eight hours a night.
You can exercise all you want.
If you are not breathing right, you will always be sick.
And I've heard that six years ago by a researcher and believe it more now than I ever have.
At the very start of your book, you test these things on yourself.
You did an experiment, which I found really, really interesting.
I think that experiment has actually stayed with me for a long time because then it's impacted me in the gym a lot every time I'm on that bloody treadmill.
I'm thinking about what I read.
But why did you want to do that experiment on yourself and what was the experiment?
I didn't want to do this experiment on myself.
I really did not want to do it.
No one else was going to do it.
There had never been a human trial of nasal breathing versus mouth breathing for this amount of time.
And I was talking to Jayak Arnayak, who's the Chief of Rhinology Research at Stanford, the top, top of his field.
And I said, we know what happens to animals when they breathe this way.
We know all the deleterious effects of mouth breathing on kids, on adults, on old people, on sleep, on athletic performance.
Why can't you test this?
Let's get a big group of people and test this.
He said, it'll never happen.
We're not going to find funding.
And he thought ethically there would be problems doing it because he knew what damage could be

caused by becoming a mouth breather.
And so after all of this, I just kind of gave up and then I had an idea.
I said, well, what if I did it and what if I got one other person?
We will sign up.
We'll sign whatever waivers and we did it.
It was just two people, but that was the maximum we were allotted.
And he said, okay, but he had no money for it.
So we had to pay for this experiment at Stanford, which was not the cheapest thing I've ever paid for in my life.
But I wanted to know.
I'm writing about mouth breathing, writing about all the problems and writing about my subjective experience of how it transformed my life becoming a nasal breather.
I wanted to see that experience dictated and documented in data by machines.
And that's why we did it.
And how did it go?
Terribly, it was awful.
So just to let people know, this was an experiment in which for 10 days, we had our noses plugged up, right?
And then for another 10 days, we had all of that stuff released from our noses and we were almost exclusively nasal breathing.
Everything else in those 10 day periods was exactly the same.
We ate the same foods.
We walked the same number of steps.
We exercised the same.
So exactly the same.
And we did scientific studies and took a bunch of data before, during and after.
We were collecting data three times a day as well, looking at what was happening to our bodies, our sleep, our inflammation and more.
And we knew this wasn't going to be pleasant, but I didn't know it was going to be this bad.
Like it was really not trying to be overdramatic, but it was awful, awful.
And I'm so happy I never have to do that again at the same time.
I feel so sorry for people who do not realize that their noses are stopped up, who have been living this way for years and don't understand that this is their main source of their issues with migraine sleep problems and more.
I can see it in you when you described it as being awful that you were almost teleporting yourself back to that chapter.
I could see it in your face.
A little PTSD from that still.
It was bad.
When you say bad, what do you mean specifically?
It was the first few days.
So I did this with breathing researcher and breathing therapist Anders Olsen from Sweden.

He was the only person that would do this.
And he flew from Sweden on his own dime to try to understand this.
He had been talking about nasal breathing for 10 years, right?
And so he said, okay, I want to put this to the test.
I want to see if I'm right or wrong.
So the first few days we were kind of laughing.
I was like, how bad did you sleep?
We were comparing.
We went from zero snoring to full on snoring and sleep apnea within a couple of days.
And so we were comparing and kind of showing off how sick we were.
But then after about a week, we saw three days ago, like I wasn't able to sleep at night
and I was dreading every single night going to sleep because my mouth was so dry
and my sleep was so bad.
I was so tired after sleeping nine, 10 hours a night.
I was so tired and the data proved that as well.
So it got really bad by the 10th day.
We were in really bad shape.
And again, I want to mention like so many people, especially during allergy season,
are plugged up for months at a time.
They don't realize the damage they're doing to their bodies and brains by being this way.
How many people are breathing incorrectly in your view?
How many people, if they went and did a practice or they had the understanding
that's in your book and that you speak about, do you believe would have better overall health and well-being
if they made a change to their breathing?
By taking simple steps, I believe that everybody can become a better what is considered a good breather.
And these steps are free and they're available for everybody.
If you look at the percentage of the population who is breathing dysfunctionally,
I've heard different percentages from different people, respiratory therapists who do this all day long
to elite trainers of Olympians.
They say 95 to 99% of the people that they see are breathing dysfunctionally.
So it's basically everybody.
Some people, obviously there's a curve to that.
There's an asthmatic with panic attacks that is breathing very dysfunctionally.
And then there's an athlete who can push through the pain and win that competition but is still breathing dysfunctionally.
So there's an arc to that.
We all sit somewhere on that spectrum.
We all do.
Yeah.

And I'm not a perfect breather.
You're not a perfect breather.
Like it's hard to find a perfect, perfect breather.
Just like it's hard to find someone that eats perfectly every single meal.
And that's probably not the person you ever want to hang out with anyway.
You referred to tribes there and people that are not living in our environment.
And also, you talk a lot about breathing as a lost art.
I'm so fascinated by, I think I spent the last couple of years really fascinated by how our ancestors lived their lives
and how they did things.
I was talking to Dr. Daniel Lieberman about running and feet and muscle strength and all those things.
And I've spoken to so many other people about processed food and all of these modern sort of misalignment diseases
where we're not living in alignment with ourselves have become a really important part of my understanding of how I should be living now.
Breathing as a lost art, what did you learn when you looked back through history about how people breathe?
And what did that tell you about how we're doing it wrong?
I learned that we didn't need breathwork classes hundreds of years ago.
We already had bodies that were able to breathe in properly.
We were living in an environment that supported healthy breathing.
I love Lieberman's work, by the way.
I've learned so much from them, including a lot of the stuff on scales and breathing.
So I learned a lot, a lot from him.
So, you know, people say, well, how do you know that we can't go back in time?
What you can do is look at Indigenous cultures, which is what Lieberman and so many other people have done.
And they found they don't have problems with their feet.
They don't have problems with their backs.
They don't have heart disease.
They don't have asthma.
Why is it that Mennonites, these are these groups in the U.S. that live this very traditional lifestyle, right?
Some people say that asthma is genetic.
So Mennonites and Quakers, who aren't around any technology, right?
They have 0.5% of their population has asthma.
Meanwhile, in the U.S., 10% of the population has asthma.
So obviously, the environment has so much to do with our health and it absolutely affects our breathing.
For all the things I mentioned earlier, how are you sitting?
How are your stress levels?

How are you sleeping?
How are you working out?
All of these things will weigh upon how healthy you are able to breathe.
And so in the context of the modern world, so if we didn't need breath work a couple hundred years ago,
the introduction of things like pollution, I understand.
But are there everyday things like the chair I'm sat in right now and the way that I work every day that have impacted breathing
and then the modalities like asthma and these other things?
Absolutely, yeah.
And we could go through a few of those things.
So when you're sitting, as I sit eight hours a day and try to stand at the standing desk as well,
you are inhibiting your ability to breathe properly.
So I'm sitting forward in this chair right now.
Even if I wanted to take a deep breath, it's really hard.
I have to struggle to do that because my diaphragm, which is right underneath the lungs,
is unable to descend properly to allow for that proper inhale.
Can you explain what the diaphragm is?
Sure, the diaphragm is this umbrella shaped muscle that sits underneath the lungs.
The lungs are just like two balloons.
They don't inflate themselves.
They need the diaphragm to come down.
It creates a vacuum and air comes into the lungs.
When we exhale, that diaphragm pushes up and pushes the air out of the lungs.
So that's how we breathe.
It's not the lungs doing the work.
The lungs are just these fleshy bags, right?
It's that diaphragm descending, creating a vacuum.
Air comes in and that diaphragm ascending, lifting back up and pushing that air out.
So you need proper diaphragmatic movement in order to breathe properly.
When our bodies aren't allowing us to do that,
when you're sitting on a bus or sitting on a plane for 12 hours at a time
and you're seated like this, you aren't able to breathe properly.
That means you're only breathing into your chest.
You aren't accessing all of this other area.
If you're just breathing into your chest, you have to breathe way more breaths.
The reason is so much of that area you're bringing that air into does not participate in gas exchange.
It does not soak up that oxygen that's in the air.
So most of us spend most of our days like this.
Slumped over in the chair, like, yeah.
And breathing like that.
We can live this way.

It doesn't mean we're healthy.
We can live on three pieces of pizza every day, right?
We have enough calories to do that.
It doesn't mean we're healthy.
So that's the number one thing.
You can sit in a chair properly to breathe, right?
But it takes some effort.
If you look at Indigenous cultures again, look at how they're sitting.
Look at their spines.
It's a beautiful thing.
They're sitting in a way that is conducive to proper breathing.
Any statue, any ancient statue, look at the posture.
The posture is for people that can't see this right now.
The posture is straight up or is it constant?
It is straight up but relaxed at the same time.
It is having a straight spine.
I know once you learn this, it just, it makes you neurotic after a while.
That's the first thing is to really notice how you're sitting.
When we get stressed out, when we're answering emails, we're over a laptop.
I spend so much of my life doing this.
Then we also have a stress response, which further reduces our ability to breathe properly.
We start to breathe too much.
We start holding our breath and we breathe too much.
Our posture is like this.
Everything is conspiring to make us really poor breathers.
This isn't some far-flung hypothesis I have.
It's basic biomechanics of how the body works.
The diaphragm part is really interesting to me because you refer to,
and many people refer to the diaphragm as the second heart,
because it's a muscle that is autonomous to some degree.
The heart, I don't control my heart.
I can control my diaphragm, but when I don't think about it, it kind of controls itself.
It's not accurate.
Yeah, absolutely.
It's an autonomic function.
But by taking conscious control of that diaphragm, you can control your heart.
You can control your blood flow.
The diaphragm also does an incredible amount of work pumping blood into the heart
and pumping lymph fluid throughout the body.
When you see people only using 5-10% of their diaphragmatic movement,
which is considered normal now, just moving the diaphragm this much,
their hearts have to work so much harder to just pump blood,

and their bodies have to work so much harder to pump lymph fluid,
which you need to get rid of all that waste, right?
The body likes movement.
The fluids need to be moving.
So just by taking a slightly deeper breath and exhaling a little more,
you are able to help your heart rate out,
which is why your heart rate will start to go down after a while.
You're able to help your blood pressure in some cases.
You're able to pump lymph fluid in more just by taking a slower, deeper breath.
And, you know, just look to the animal kingdom for your guidance on this.
We don't need any fancy animation to show us what proper breathing is.
Look at a healthy dog sleeping.
Look at a healthy infant sleeping and breathing.
Look at indigenous cultures, how they sleep, how they breathe.
You can't tell their breathing.
And that's what healthy breathing is.
It should not be perceptible.
So when a lot of people hear about healthy breathing,
they want to overdo it, right?
They want...
Yeah, I feel great.
If you look at a monk or someone who's a master breather,
you cannot tell their breathing.
It's so soft and so subtle that it just comes in and comes out.
That is someone who is balanced.
Their nervous system is balanced.
Their breathing is balanced.
Are these habits we can learn?
You talk there about posture and about the diaphragmatic movement
and what percentage of the diaphragm we're kind of using
and how much that's filling our lungs.
Are these habits we can learn?
Absolutely.
Because even posture feels like...
It's like, it's quite hard to sit like that.
If you start paying attention to your breathing,
your posture is going to get better.
It is hard to be leaning over like this and take a huge breath.
Look what happens to your posture.
Form dictates your breathing.
Your breathing dictates your form that was written in the Dow like 1200 years ago.
So once you learn how this proper, slow, deep breathing works,

your posture by virtue of that will get better.
Would you recommend...
Because a lot of people do work in offices.
I'm one of them.
I spend a lot of my days, sat down, 10 hours looking down at a screen.
What would you recommend for us?
Well, I think the science is pretty clear on standing desks.
Convertible standing desks are really helpful to sit for part of that time,
to stand for part of that time whenever I'm on the phone, which is often I'm standing.
So I just press a little button and I go back to standing.
When you're standing, you're opening up your chest, these inner costals.
You're opening up to allow yourself to naturally breathe deeper breaths.
So you can do that sitting, but you just look kind of corny like sitting like this all the time.
So I think that that's a good hack.
I think that the science is very clear that every couple hours,
I'm not very good at this.
I'm trying to get better.
Go for a walk for 10 minutes.
Take your call while you're walking around to reset things.
That's just one of many different components looking at the posture
and its relationship to healthy breathing.
When I was reading through your work and I was thinking about having this conversation with you,
this is really, I guess, slightly obvious, but I also can understand how it's a stupid question,
which is if nose breathing is so beneficial for our health and wellbeing,
then why do we have the capability of breathing through our mouths?
Great question.
How wonderful that we have a backup system in case anything happens to our noses that we don't suddenly die, right?
So you can drink through your nose, right?
It's really hard to do that, but you can and it goes down to your stomach,
but that doesn't mean it's the right thing to do, just like with breathing.
Again, look at the animal kingdom.
Look at a cheetah running at 100 kilometers per hour.
How is it breathing?
And then out through its nose.
The only time that a horse starts breathing through its mouth is when it's sick.
So that is a sign that it's sick.
A horse running at a sprint is breathing through its nose.
This is the organ we are designed to breathe through,
and no one who has studied rhinology would argue otherwise.
There are 30 different functions that the nose does for breathing.
So not only does it help filter air out and heat air, but it helps capture moisture,

about 40% more moisture, so you don't have to constantly be drinking water.
When I see people jogging and they are breathing through their mouth
and they're carrying like four different water bottles,
they wouldn't need those water bottles if they just learned to breathe through their noses,
because the body is designed to capture that moisture.
That's what the nose does and all those hairs do.
And then there's nitric oxide, which is this miraculous molecule
that plays in the central role in vasodilation, circulation, and more,
and it kills viruses and bacteria.
This all happens in the nose. This does not happen in the mouth.
Nitrous oxide only happens in the nose?
Nitric oxide. Yeah, we get six times more nitric oxide just breathing through the nose.
Six times more.
How?
And if you, because of all of these different tissues, they release nitric oxide
and there is some science showing that this boost of nitric oxide
can significantly help us defend more from viruses and bacteria, including colds.
So breathing in and out through the nose.
There's a lot of work in nitric oxide and COVID rehabilitation.
Who knew we can produce so much of it in our noses?
If you hum, you can increase that to 15-fold.
So humming, you're going to annoy everyone if you do this, increases that nitric oxide 15-fold.
And there was one study that showed this guy completely got rid of his rhinitis
just by humming for about 10 minutes, four times a day.
So these are simple tricks you can do.
They are free available for everyone.
The humming also helps to calm the body down because we have the vagal nerve, right?
The vagus nerve, vagal tone is right along here.
So when you hum, you're sending signals to the vagus nerve and you're calming your body down.
What is humming doing?
Humming is stimulating more nitric oxide and allowing it to break free from all of those tissues.
So you hum in your nose?
Yeah, and you can feel the vibration there.
So somebody sent me this device like three months ago that they now have a device for people who don't want to hum
that goes on your nose and hums for you.
If that's going to help you hum, you can do that.
But I found it's just kind of easier to pick a song you like and hum that.
When you talk about the common cold and flu and infection, did you see a clear correlation between people that had good breathing habits and the common cold and bad breathing habits?
There have never been like a huge study done on that on humming and nasal breathing in the common.

And there never will be, right?
No one's going to fund that.
I can say anecdotally, absolutely.
And if you look at the biochemistry, if you look at the physiology, if you look at all the functions of the nose,
you can deduce, it seems very clear to me that you will be susceptible less to certain viruses, certain bacteria by breathing in and out of your nose.
You mentioned COVID there.
Your book came out right as COVID hit, which is unbelievable timing.
Yeah, yeah.
Some people thought I'd planned that somehow.
It was interesting.
The first week the book came out, somebody criticized it for taking advantage of this pandemic.
Without bothering to notice, the book was printed and in warehouses six months before anyone had ever heard the word COVID.
And I worked on this book for years and years and years.
So yeah, lockdown in the U.S. was in March.
This book came out in June right on the heels of it, which was absolutely bizarre to me.
And all of the research, looking into breathing patterns, looking into nasal breathing,
how that can help rehabilitate people with long COVID and with acute cases of COVID is very solid.
And I still don't see anybody talking about this.
What are the most important things that we're not talking about as it relates to things like COVID from your research and your book?
I think the most important, well, it depends on whose stock people in breathwork communities have been talking about.
Yogis have been talking about, Buddhists have been talking about it.
So I think in Western medicine, you come in and your doctor assesses your health, listens to your heart,
maybe looks at your cholesterol.
They're not looking at your breathing.
And this is especially important for kids.
I cannot tell you how many hundreds, thousands by now of parents have written me.
Their kids are on all these different pills.
None of them are doing anything.
They have ADHD.
They're flunking out of school.
And I am astounded that more pediatricians and more doctors aren't looking into this
because so many millions of kids are suffering because of their breathing is so terrible
and it's been so terrible for so long that their bodies are now rebelling against them.
And why are kids breathing in such a way?
Because you think of a kid.
I think we form these bad habits when we're adults or later on in life.

But the thought that a kid has developed such a bad habit somewhere is quite hard to take.
See, all roads go back to those skulls, right?
And that anthropology and those ancient cultures, right?
So these kids are not able to breathe well because their facial development is so retro-nathic,
which means it has grown so far backwards that their airways aren't able to open up enough.
So whenever they put their heads on a pillow,
that's what it sounds like.
So it is a problem with facial development that we did not have hundreds of years ago.
And you can see this.
I spent years looking at ancient skeletons and they did not have these problems.
So right out of the gate, we're messed up, right?
Our facial function is messed up and it's making it harder for us to breathe.
Add on top of that pollution, bad sitting habits, bad breathing habits,
and you have a recipe for disaster, which is what has happened for so many kids today.
So I have to ask where that facial issue started and how that is being passed on.
Because in my mind, evolution or de-evolution, whatever the word would be in this case, stopped.
I thought we stopped changing and evolving because we are no longer being selected out
of the gene pool.
There is no stopping evolution.
Evolution means change throughout time.
It does not mean progress.
So when people use the word evolution to mean we're evolving better and we have these better capabilities,
that's not what the word actually means is change throughout time.
And we can change for better or for worse.
And for the past few hundred years, we have been changing for the worse.
This is not my opinion.
This is a scientific fact.
So it comes back to that question.
Why?
Why would an animal change for the worse?
And it goes back to my answer, the environment.
We can trace the exact point that our facial structure started growing in this deformed way
to make us less susceptible to healthy breathing, too,
that changed in such a way to make us such poor breathers.
And that point is right when industrialized food came into different cultures.
So that happened at different times, came in first to England and France,
then it spread to Germany, then it spread to Scandinavia,
then it spread through the rest of the world.
You can see in a single generation of eating industrialized foods,
things that were canned, things that were bottled, things that were baked,
things with sugar in it.

Single generation, 50% of the population will have crooked teeth that didn't have it before.
Crooked teeth are indicative of having a mouth that's too small for your face.
Your mouth grows too small, teeth have nowhere to grow in, so they grow in crooked.
What else is a problem with having a mouth that's too small for your face?
You have an airway that's too small, you aren't able to breathe properly.
So we can see that exact point.
And researchers have done this for decades and decades,
and I've seen these skulls before, after industrialization.
And the same story plays out no matter where you are on the planet.
So that is what has ruined our faces,
and that's why we look so different than we did 300 years ago,
2,000 years ago, 20,000 years ago.
Why did our mouths get smaller at that point?
Because of industrialized food elicits very little chewing.
You don't need to chew very much when you're eating soft foods.
So if you think about it, our ancestors chewed for like three, four hours a day chewing.
Raw meat, bones, roots.
Think about the foods you ate today.
Well, maybe not you, because you're probably eating healthy food,
but the food that most people are eating, everything's soft.
It takes a few bites, it's gone.
There's no rigorous chewing, and if you don't get that early on in life,
your skeleton does not develop properly,
and your musculature does not develop properly,
and you grow a different kind of face that makes you much more susceptible to poor breathing habits.
Does that then mean that one way we can avoid these breathing-related disorders later in life would be to have our children eating more difficult foods when they're younger?
Absolutely, and if you look at the reasons why our ancestors all had these
pronathic, really strong faces, these huge airways,
it's because they were breastfed for a minimum of two years,
and after that, they weren't weaned on to applesauce or baby food.
They ate adult food, right?
There was no such thing as Gerbers back then, a few hundred years ago.
They went from being breastfed to eating adult food, which requires a lot of chewing.
That's the main driver behind how our faces have developed and devolved in the past 300 years.
The point there about being breastfed for two years, why is that consequential?
This is where I get into a lot of trouble here.
I want to be very... Don't worry.
Do I get in trouble as well?
You might. Trust me.
I want to be extremely clear here.

I am a journalist, and I go out and talk to experts in the field.
These are not my opinions.
What I'm telling you, what I have been told by dozens and dozens of experts,
and I'm not shaming anyone for feeding their children any way they want.
That's none of my business, okay?
What I have learned from several experts is the stress and chewing required for breastfeeding will help pull the face out and develop a larger airway.
Again, I want to be very clear.
I'm not shaming modern mothers.
You're under an incredible amount of stress, bottle feeding, perfectly fine.
You want to do that?
I think it's great, but that stress, and you think about it,
like for two years, if you're constantly pulling that face out,
the face is going to develop differently, right?
So that makes sense to me.
But even if a kid is bottle fed, which is great if you want to bottle feed a kid,
as long as they're eating healthy food that they actually chew after that,
I believe my personal opinion is you can develop all of that proper facial structure,
and you can also use some different orthodontic devices to help push that along,
and you will be perfectly fine.
What is the difference between the bottle and the nipple,
like in terms of what it does to my...
Yeah, see, when I mentioned we're both going to get in trouble here,
this is what I was talking about.
I will not visually demonstrate.
You can look it up on YouTube, anybody,
but it's much easier to feed from a bottle.
It requires less stress to feed from a bottle.
When you are breastfeeding, it is much more activating for the infant
to have to glom onto the breast,
and the nipple goes actually deep into their mouth, almost down their throat,
and it requires more chewing stress.
We know this, which is why a lot of kids,
when they're given the choice between the two,
they want the bottle because the bottle is easier.
They want more food more quickly,
and again, I want to be clear just because you are bottle-fed or whatever early on.
It does not mean you're doomed.
Some of this sounds depressing,
but I considered it inspiring and empowering to know the science behind this
so you can fix what the core issue is,
and I'm convinced that kids who are bottle-fed

can be wonderful, perfect breathers by adopting other habits beyond that.
You mentioned hyperactivity as being corollary to breathing.
If you're a parent and you have kids who are having health issues,
even if they don't have health issues,
look at how they're breathing at night.
This is so important.
Look at how they're breathing in the day.
If they're breathing the vast majority of the breast through their mouth,
you have to fix that.
Number one, they will be much more susceptible to asthma, allergies,
and other issues later on in life,
especially at night if they are breathing through an open mouth,
and if you can hear them breathing when they're sleeping,
this is a big red flag that you better look into immediately
because there will be so many downstream issues caused by that breathing pattern.
This is increased risk of diabetes,
increased risk of autoimmune issues,
increased risk of asthma, ADHD, and more.
Some researchers, this is not my words, this is what they told me.
They said, there is no such thing as ADHD.
What that is is sleep-disordered breathing, period.
Really?
They said it is 100% related to your breathing at night, especially.
Again, that is not my view.
This is what they have said.
I think that's a bit of an exaggeration,
but I don't think it's too far to say the vast majority of those issues
if your kid has sleep apnea or is snoring are caused by that.
They are not sleeping well.
If you are not sleeping well, what do you do all day long?
Your body is trying to stay awake,
so they are giving Riddlin to stay awake.
They are giving sleeping pills to go to sleep.
Those sleeping pills will make their breathing worse
because they loosen all of the muscles in here
and they cause more resistance when they are breathing.
Even if you hear a slight resistance to it,
that is cause for alarm as well.
I know this seems overblown like some crazy warning,
but there are 500 scientific references available for free on my website.
Look at the work by Christian Guimino, who is at Stanford for 40 years.
He was sounding the alarm in the 70s and nobody listened to him.

People still aren't listening to this and it is a serious problem.
What's true for kids is also true for adults,
but I'll just cap that off right there.
Please do not cap it off, Heather.
I prefer when you talk.
The ADHD point is fascinating to me
because it has been a huge topic of conversation in society
because of the apparent rise in the disorder,
but the certain rise in the diagnosis of the disorder.
These researchers and scientists that believe that ADHD
is purely a consequence of early breathing habits,
what evidence have they got for that
or what studies have they done to show the correlation
between how we breathe when we are little and our chance of ADHD?
When they fix the breathing, the ADHD goes away.
Really?
For the majority of the cases.
Not for everybody.
For the majority of the cases, it disappears.
You can look at the studies.
I'm happy to provide those for you.
To me, it makes sense.
If you're struggling to sleep,
you are never going to be fully aware during the daytime.
This is one of the reasons why so many kids get their adenoids taken out,
their tonsils taken out, and more.
But unless you fix the breathing habits,
you can do those surgeries and they can be very helpful.
Unless you fix the breathing habits,
all of those problems tend to come back,
sometimes even more so.
You're not fixing the core issue.
It's breathing and breathing retraining, breathing habits.
Ahead of this conversation, we were doing some research
and we found that study that analyzed more than 11,000 children
over six years beginning at six months of age.
That revealed that children's sufferings from sleep disordered breathing
had a higher incidence of behavioral and emotional issues
such as hyperactivity, aggressiveness, depression, and anxiety.
They are 50 to 90% more likely to develop ADHD-like symptoms
than were normal breathers.
That blew my mind.

There it is right there.
I'm glad that you mentioned that and I didn't.
Yeah, and there's dozens of studies showing the same thing
over and over and over.
The question then becomes, I guess,
is if I have ADHD, I'm 30 years old.
Yeah, I think it depends on who you are.
I don't think that there's a blank prescription
to make a guarantee on any of this stuff.
I think it depends on what's the root cause of that ADHD.
We know in kids, it's treated as a neurological problem, right?
If that were true, then the drugs should work and they don't, right?
And I believe it's a physiological problem.
It's a breathing problem and that study is just one of many
that has espoused that.
If you're talking about an adult with ADHD,
what I know about adopting healthy breathing habits,
you will only benefit that benefit might be this big
or might completely transform your life, right?
You will only know once you do it.
So I don't feel comfortable guaranteeing anyone of anything.
There might be some respiratory therapist or breathing coaches
who will say, absolutely, I can cure your ADHD
with these breathing practices.
That's fine, but I don't think it's the same prescription
for everybody.
I know it'll help though.
Going further back up this train of thought then,
we're talking about exercise and nose breathing
at the very start of this thread of thought.
And I have sat here with a few people now.
I think it was Peter Atea who was talking to me about VO2 Max.
A subject matter I still fully don't understand,
but from what I understood, it was the amount of oxygen
we're able to take from each breath.
So that's a general measurement of the amount of oxygen,
how efficient you are at taking up oxygen,
which is related to breathing,
but it's also related to the respiratory system
and how you're able to extract that oxygen
from your lungs into your bloodstream.
And it's a good gauge of general athletic performance.

It's not everything, and there's been some pushback
against using that as a measurement.
But it's a general gauge, a good tool for that.
Is there a correlation between our health outcomes,
how long we'll live, and our lung capacity,
our VO2 Max, and all of that stuff?
Is there a correlation now?
So I had the same question years ago,
and I started looking into it,
and it turns out that numerous studies have found
that the healthier and larger your lungs are,
the longer you will live.
That is the greatest indicator of lifespan,
was lung size and lung health.
The greatest indicator of lungs?
The greatest indicator, according to these studies,
the Framingham study looked at 5,200 people
over the course of 70 years,
and they found that the people who lived the longest
had the largest and healthiest lung function.
They even did studies in which they were looking
at people who had lung transplants,
so surgically implanted lungs.
Those who were given larger lungs lived way longer
than those given normal size or smaller lungs.
So no matter how you get these larger lungs,
it's better.
And luckily, we don't need to get a transplant to do this.
We can practice healthy breathing.
We can practice stretches.
We can exercise, and this naturally can keep our lung size up.
It's very sad when you start looking at these charts
of what happened after you're 30.
You're almost there, so get ready.
It's a real bummer.
But your lung function starts dropping off very quickly,
and especially for women around 50 and 60,
your lung function and your lung size
starts shrinking, shrinking, shrinking up,
which means at the time you need more oxygen more easily,
it's much harder to get that.
And that's where people's health really starts disintegrating.

They start having problems.
The good news is you can stave off this deterioration,
this shrinking of your lungs by doing all the stuff
we're talking about by doing breathwork exercise by exercise.
What is yoga but stretching and breathing into this lung
and breathing into that lung so the yogis
knew this thousands and thousands of years ago?
And it's that it almost feels like that downward spiral
is kind of self-reinforcing and self-fulfilling
because if my lung capacity deteriorates,
my movement and my exercise capacity will deteriorate,
which means my lung capacity will deteriorate,
which means I'll move less, which is kind of this downward spiral, right?
Absolutely, and it's my belief after studying this stuff for so long
that that is the thing you want to pay attention to
more than anything else, especially as you grow older.
Your lung function, how much air you can pack into your lungs,
how long you can hold your breath,
all of this is indicative of your general respiratory function
and your general health.
So that little hint of using a breath hold every morning
to see where you are physically and mentally, I think is good.
They've used it for thousands and thousands of years
and now it's coming back.
This is something that a lot of these longevity experts
aren't looking into.
They're looking into nutrition and exercise.
They're not looking into lung capacity.
We get more energy from breath than we do from food and drink, right?
We take 30 pounds of air in and out of our lungs every single day.
And so I find it interesting.
They're focused on all these micronutrients,
all that stuff's important, right?
I believe most of it, but from what I know,
a lot of them aren't focused very much on their breathing.
I want to make sure that I have something that I can take into my own life there
for the expansion of my lung capacity,
because I'm sold on the importance of it.
So exercise expands my lung capacity.
Yeah, 15, 20%.
Just by exercising, by virtue of exercise,
if you're a good exerciser, your lung capacity will stay up.

Cardiovascular exercise.
Yeah, cardiovascular exercise.
There's ways to access that a little more.
If you're dysfunctionally breathing when you're working out,
you're not doing yourself too many favors.
So you have to remember the simple basic things.
You have to learn how to take a proper breath,
then apply that to your workouts.
You will see such an incredible difference once you do this.
This is what yoga is good for.
It's hard to do yoga without breathing well, right?
You can do it, but by virtue of all those different poses,
they're meant to open up your chest, right?
To expand this area.
So yoga, cardiovascular exercise with proper breathing through my nose,
breathwork practices at the start of the day.
I think biomechanics, the first thing is awareness to any of this stuff.
You can take your hands.
We can do this while we're seated here.
You can put it above your sit bones here.
Yeah.
And when you breathe in, breathe very, very low,
and you want your hands to move out laterally.
I don't care what your stomach's doing, moving out laterally.
So as you breathe in...
When you say low, you mean in my belly.
You want your hands to be moving outwards, okay?
I don't care what's happening with your lung, with your stomach.
I can hold my breath and move my stomach in and out.
So when people talk about a belly breath, that's not what we're doing.
When your hands are moving out laterally,
that means your diaphragm is descending.
That's how we can see if you're taking a proper deep breath.
So as you breathe in, you want your hands to be moving outward.
And if you take a cloth measuring tape,
you can actually measure your progress this way.
The next thing you want to do is take your hands, okay?
Take your four fingers, place them on your collar bone,
and put this one's very weird.
Place your middle finger right there.
So it's only your middle finger that's touching, okay?
And we're going to breathe deep.

Then we're going to move that breath up into our chest, okay?
Don't move your shoulders.
You want to see those fingers naturally separating, okay?
So this is not a flexing thing.
Your shoulders stay down.
It's like this.
Just like this, fingers on the collar bone.
We're going to take a big breath into our lower abdomen area.
Move it up.
And you want your chest to be expanding outward.
The last thing we want to do, take your hands and put them,
especially you need to do this, take your hands,
put them around your neck.
I want you to do that same breath.
You should feel zero tension in your neck.
There's none of this going on, okay?
It should feel soft and supple.
So let's take that belly to the chest breath.
If there's any tension, do it again until there's no tension.
Okay, now try that again, keeping your shoulders down, okay?
Do not move your shoulders up.
There's none of this going on.
You're very soft, very relaxed.
Take your hands above the hip bones.
When you're breathing in very deep, those hands should be out like this,
like wings, okay?
And you're going to breathe in deep and those hands should be moving out laterally.
You will start to feel those organs getting compressed.
That's good.
You want that.
Then you can move it up one more time.
So we're going to start low and we're going to move that breath up to the chest.
Keep your shoulders down.
Try it again.
Keep the shoulders down.
There you go.
Those fingers should be separating.
So this is something that you can check in if those hands are moving out laterally.
If those hands are separating on your chest, you are taking a proper biomechanical breath.
And that's what you need to focus on.
And you'll notice once you start learning how to access these different areas,
you start applying this to working out and your performance will tend to go up.

You'll be less exhausted at the end.
You'll just feel better all around.
So we should expect our chest to kind of move outwards as we breathe in.
You want to see your chest moving outwards because most of your lungs,
the expansion is in your back, but some of that is going to be happening.
This is not a pose that you want to do like this, right?
You should be very loose, very limber.
And when you breathe in, you want that air to fill all the way up there,
but you want to start low first.
That means the diaphragm is descending.
Most of the air that is soaked up from the lungs and that gas exchange happens at the bottom of the lungs.
So you want to be able to access the bottom of those lungs.
Because when you say you want to start by breathing at the bottom,
the symptom of me breathing at the bottom is it coming outwards on the sides.
Because everyone calls this a belly breath.
So people do this with their belly, but you can move your belly independently of your breathing.
This is a way that you can't cheat.
So a tape measure is good.
And if you get an inch, inch and a half, that's pretty good, but you can work that up.
And if you see really good breathers, people have practiced a lot of yoga and done it the right way, they can have this massive expansion.
And this is what ties into freedivers.
Freedivers are the experts accessing every square inch of their lung capacity to fill it with air.
And that's what they do, which is why if you ever see freedivers go to one of these competitions, they're short people, tall people, fat people, whatever, they all have these enormous chests.
Because they've been able to develop this incredible lung capacity.
One of the things that I think causes shallow breath is this kind of constant state of fight or flight, stress, anxiety, screens, social media.
It's funny because whenever people would have been listening to this podcast and started to heard you talk about breath and they would realize that they were probably at that exact moment doing really shallow breaths.
You talk about these freedivers who are able to extract, you know, 80, use 80, 90% of their diaphragm or more,
where you said we use 10, roughly 10%.
You use about 10% and oftentimes less than that, the average person.
What is the correlation between like stress and breathing?
And also, I'm talking now about like the everyday angst of life.
So we've talked about the skeleton, we've talked about anthropology, we've talked about biomechanics and posture,
but something else that ties into this, you're 100% right, is psychology, is your brain.
So how you breathe affects how your brain works, affects your anxiety,

but your anxiety also affects how you're breathing.
Again, it's another one of those circles.
What happens so often is when we're at work, we're so sensitized to threats and to fear that we overreact when something happens.
Even though it's not threatening our life, we get a nasty email from a friend or a email from the boss that's disappointed at the last project you did.
And we get stressed out, right?
And so what is the physiological response to stress is we clench up, we hold our breath, and then we breathe like this.
And we hold our breath again, and we breathe like this.
You think about thousands of years ago when we were out in the wilds, what would we do if there was a threat approaching?
You'd hold your breath to be silent, and then you breathe too much to get respiratory system ready to either fight it off or to run away.
So we're having this same response in our day-to-day lives now because we're so oversensitized to it.
So researchers have different names for this.
They call it email apnea or continuous awareness.
I mean, there's an academic name for it, partial attention syndrome.
I prefer email apnea, easier to remember.
No matter what you call it, it's the idea that when you're in the office place, you're breathing dysfunctionally because of this constant stress loop.
And they found there were some NIH studies on this.
They found that breathing this way can have long-term damage to your health, high blood pressure issues, all the things we had talked about, metabolic dysfunctions and more,
which makes sense because you're just constantly in this loop of fear and threat and stress.
So the quickest, most effective way, way more than drugs to take control of this stress is to take control of your breathing.
And this has been documented time and time again.
So when you notice you're breathing this way, you stop.
What I like to do is breathe two breaths in and then an exhale.
Looks like this.
That resets your respiratory system.
That resets your breathing pattern.
And then you can do a few rounds of that and go back to very simple five second in, five second out.
So let's just pretend you're in line at the airport.
Someone's cut you off.
You ordered something at Starbucks.
They gave you the wrong, you know, all the things that are just drive us crazy.
Nowadays, at that moment, I want you to breathe in, pause, breathe in again, let it out.
Relax yourself a little bit when you're doing these breaths.
Okay, breathe in, breathe in again and let it out.
Do that one more time.

Breathe in, a little more subtle.
Let in again and let it out.
So you did this in a very exaggerated way, which is fine, but you can do this so no one can tell you're doing it.
You can do it very subtle.
You probably feel a little different now than you did before.
Yeah, so much different.
You can return to then a slow, low rhythmic breathing pattern from there or whatever makes you comfortable.
I like five seconds in, five seconds out.
Also, what's beneficial for people if it's comfortable for them is four seconds in, six out will really mellow you out.
You could try that right now and breathe in.
Okay, first of all, slow.
I should not be seeing you here.
Okay, you shouldn't see it.
We're going to breathe in just very, very lightly.
We're going to relax here.
What does it matter if you see it?
Because you're trying too hard.
There is a time and place for that.
This is not it.
Okay, so breathe in, two, three, four out, two, three, four, five, six.
Breathe in, two, three, four out, two, three, four, five, six.
It doesn't have to be that exact pattern, but this will trigger all of that parasympathetic response in your body.
You can see this if you're looking at your heart rate variability.
It's amazing to see the difference that this happens just after a few breaths.
Looking at your HRV, looking at your heart rate, looking at your stress levels.
What is it doing?
You mentioned parasympathetic and resetting the respiratory system.
What is the parasympathetic and the respiratory system for dummies?
What is that?
How you breathe is going to activate your nervous system function.
Your nervous system function is going to activate everything in your body.
We can take conscious control of our breathing.
We can't take conscious control of our heart rate or liver function or any of that.
We can't take control of our breathing.
When we take control of our breathing, we can hack into our nervous system.
You can be in a sympathetic state just like we were.
You take a couple of those double inhales and exhales.
What's sympathetic state?

Sympathetic state is the act, the fight or flight.
This is the action part of your nervous system.
When you're in this state, you are ready for action.
What happened, which is great, we want to be ready for action.
We want to be ready to fight or run away from stuff.
We do not want to be in this state all day long.
Anxiety, anxiety, stress, because this is where autoimmune issues
and so many other problems come from by constantly staying stressed.
We want stress.
We want to be able to access stress for short amounts of time.
Then we want to flip back into this parasympathetic, this relaxing state.
If you look at, once again, animals in the wild, you even look at like a gazelle that's been attacked.
Five minutes later, it's just sleeping.
It has a nervous system that's able to pivot from one to the other.
Unfortunately, we live in an environment where we're always activating,
always pushing towards that sympathetic and it's making us sick, really, really sick.
Your breathing is the quickest way of taking control of acute stress.
Pills work.
Other modalities work, but in that moment is when you need the most help
and your breathing is the thing that can get you there.
People that have chronic stress must have awful breathing.
Absolutely.
They've documented that.
They've looked at their breathing.
They've looked at their carbon dioxide levels.
Carbon dioxide is indicative of how slow you're breathing.
If your levels are very low, that means you breathe like this.
You're just off-gassing all of this CO2 and they're always low,
especially for anxiety and panic as well.
They're always low, extremely low.
You ask someone with acute panic or anxiety to hold their breath.
This is usually what happens.
I'm never doing that again.
I've seen this hundreds and hundreds of times.
By breathing slowly, you're making them more comfortable with more CO2.
You're making them more comfortable with their nervous system function with themselves,
which is why this assessment of a breath hold is very useful and so important.
It's not only a diagnostic, it's a therapeutic.
Because while you're holding your breath,
you're also in the action of training yourself to tolerate more CO2,
which will calm your body down.
I'm going back to this point about the parasympathetic and the nervous system and anxiety.

Why does having an extended exhale help with anxiety?
You said breathe in for four, breathe out for six.
Why does extending that exhale by two seconds help with stress and anxiety?
If you really pay attention and a lot of people have problems doing this,
which is why it's helpful for them to look at their whoop or whatever,
you can place your hand over your heart.
When you inhale, you can feel your heart rate increase.
When you exhale, it slows down.
This is how HRV works.
This is how it's calculated is the difference in time on that,
the shortest distance to the longest difference.
This is looking at your nervous system function, respiratory sinus arrhythmia.
How you breathe affects how many times your heart beats.
If you're exhaling, which slows the heart rate down more,
what's going to happen to your heart rate?
It's going to start slowing down more.
That exhale, that slowing down and telling your body you're in a safe place,
that it can relax, is what triggers this response by the nervous system.
It's like tricking the body into believing that.
It's such a simple hack.
A lot of people say, this can't be true, but so many of us have these wearables.
You can check it for yourself and in real time to look at your heart rate variability,
changing your breathing pattern.
Look at your blood pressure too.
For many people, they can just switch their breathing.
After a couple of minutes, you can see drops of 15 points.
Not for everybody, but for some people, 10 to 15 points, just by switching your breathing.
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and in my home.
And there's a couple of products which have just revolutionized my life

because they meet the requirements that I'm looking for.
So if you're looking to try Hewlett for the first time and to get into it
and to join the Hewlett family, I'd highly recommend you try this out.
We talked about the pandemic earlier on in COVID.
One of the big conversations you must have seen playing out was that masks are bad for us because it's like trapping carbon dioxide inside the mask, which is making us sick.
I even see people having this conversation right now online in the wake of the pandemic.
They're saying, you know, these masks that we put on kids, they've caused sickness and illness in kids.
Carbon dioxide is kind of seen as this poison.
What is your POV on all of this?
Oh man, there's even more controversial than the whole breastfeeding thing, but let's go there.
Okay, so surgeons in Dennis have been wearing masks for 100 years.
They're able to function just fine.
They wear good quality masks and they wear them when they need to be wearing them.
There are several studies that support if everyone wears a mask
and if everyone is wearing that mask properly, it does seem to stem some transmission of COVID and other viruses.
That's the truth.
Now let's look at the other side.
We've been telling people that social distancing, at least in the U.S., after six months of social distancing,
which absolutely worked, they said, no, now you can go out as long as you're wearing a mask.
Did that do anything to stem the spread of COVID?
From what I see, no.
So there's a number of problems.
Most of the masks that people are wearing are terrible quality.
They're filled with chemicals that you are inhaling and they're causing a lot of health issues.
Okay, that's number one.
Second one is most of us are wearing them improperly.
We're not wearing them in the right way.
The third one is people feel this sense of comfort that they're actually protected wearing this mask, which is not the case in many situations.
And this is because I've done my own research looking at carbon dioxide levels in indoor environments
and have found these places that we were told that we could go to and we would be safe as long as we're wearing masks.
Completely not the case.
Some of these places had such high CO2 that it meant every seventh breath you were inhaling was someone else's breath backwash,
was someone else's exhale.
So I don't care how many masks you're wearing, they are not going to stop the spread of these

diseases
if you are in an environment where so much of that air has been recycled.
So that's really interesting to me.
I've never heard this before.
The idea that the amount of carbon dioxide in the room you're in,
which I guess is determined by how well ventilated it is,
has a relationship with how much recycle dare I take in.
How?
Absolutely.
And I learned all this after the book came out.
I was talking to a pulmonologist who said,
you really need to look into indoor CO2.
I said, well, why?
He said, that is a good way of determining how much of that air has been recycled.
So I bought one of these, which is a carbon dioxide meter,
and I've been recording our CO2 during this interview.
Jesus.
And so if you are outside, it's about 418,
it depends where you are, 418, 19 parts per million CO2.
That's healthy, right?
Even though CO2 is going up, it's causing climate change.
We all know that.
But for breathing, that is perfectly healthy.
Once you get into 800 parts per million,
some studies have found that when they are testing people,
when they are testing students, you see a 20% decline in test results,
just from 800.
By the time you get to 1000, you start suffering from things like eye irritation,
sore throats, other issues.
So we're probably breathing in every one in every 30 breaths
that I'm breathing in is your breath or the cameraman's breath.
By the time you get to 2500, you're in really bad shape.
One in every 17 breaths is a breath you're breathing from somebody else.
So we have been told by authorities that we should only worry about
levels that are up to 5,000 parts per million.
That is completely false.
There are over 18 studies that show levels over 800 into 1000
can potentially cause problems with bone demineralization,
kidney calcification, and chronic inflammation.
And so just since we've been sitting in this interview,
we started off at 700, and now we're at 1100.
And if we were to continue working in here for the next few hours,

this could be up to 1500, 1700,
which has been shown to have serious issues with cognitive function
and with physical function.
That's very scary.
And it's caused for a redesign of this studio because, I mean,
putting on the air conditioning, would that help?
Because that would...
No, it's recycling the same air unless that air is coming in from outside.
Does that air come from outside?
I don't think so.
I think it's recycled, and a really scary study I read was
a lot of schools are at 1500 to 2000.
Several studies have found this.
They have shown a 50% decrease in test results
when students were exposed to air with that much CO2 in it.
50% decrease in test results from 1500 to 2000.
I've recorded levels up to 4000 and 5000 in bars and subways and more.
Jesus.
Yeah.
This isn't my hypothesis either.
This is something I was told about about a year after the book came out,
and I've seen a lot of scientific studies since,
and I sent some of those to your team just to show that this isn't something I'm making up.
The ones you sent to my team,
I have some notes here I can pull up.
In one study of 24 employees,
cognitive scores were 50% lower when the participants were exposed to
1400 ppm of CO2 compared with 550 ppm during a working day.
We're nearly there.
So I am 50% dumber because you've been breathing so much.
I started, and I highly recommend nobody get one of these.
Why?
Because you go crazy wherever you are.
On an airplane, I've seen 2700 parts per million,
and you wonder why you feel like crap after a long flight.
Sometimes it goes up and then it comes down because they put in more oxygen,
but usually when the plane is warming up, it's 25, 2600,
which is why a lot of people just immediately go to sleep.
I think maybe they're doing it on purpose to mellow everyone out,
but if you think about cognitive function,
I mean, this is a 50% decrease and test results is insane.
And to think you have kids in these schools taking tests to go into college

and all of the air is recycled.
I mean, it's just when I mentioned at the beginning of our chat here
that the modern world is conspiring to make us unhealthy.
I think this is an example.
And from what I've seen, very few people are paying any attention to this,
and it's real.
You're reading the scientific studies over there.
This isn't stuff that I'm feeding to you.
It almost sounds like I'm smoking.
It sounds like I'm inhaling, you know,
because we talk about people have got to smoke outside to keep us healthy.
So we change the laws in this country so you can't smoke indoors.
Well, at least smoking is fun and it gives you a buzz, right?
CO2 is, you can't smell it.
It's really hard to sense it.
It's invisible.
And yet it's always there.
Any outside environment, you don't have to worry about it.
But indoor environments, especially in the buildings we've created now,
they don't have windows.
I can't tell you how many hotels, sometimes really nice hotels,
I go to open the windows.
My God, they've glued the windows shut, right?
And overnight, I watched this just ticking up 100 points every couple hours.
And you wonder why you wake up so feeling so much worse than you did
when you first came in there.
So this is real stuff.
And in a room like this, there's nothing you can do
because the HVAC system has been designed to just recycle the air
over and over and over again.
My hunch, and I'm probably wrong about this,
in the next few years, people are going to start requiring
bosses of companies are going to require that there be fresh air
for their employees because I think you're going to see big problems
with performance.
I mean, even just sitting here, now that you know this.
I feel tired.
So some of that's a placebo effect.
Sure, but don't you feel a little like warm and tired?
So take my word for it.
Do not travel with one of these.
It will make you a complete neurotic.

I'm doing it because I want to document it.
I'm going to be updating future editions of the book with some of this information
because I didn't know about this when the book came out.
But I think people really need to know about this and start asking hotels.
Can I open the window?
Before you run an office, can I open the window?
Like it's that easy.
You just need to open it a little bit.
It makes a huge difference just opening it a little bit.
People can't see this, but we sit in a room here
and we like air seal it for sound reasons.
So we don't have any windows in here.
This is a replica of my old kitchen, which is on the top floor of this building.
So the reason which had this wonderful huge balcony over there
that you could open the whole side of that side of the building
and walk outside into the fresh air.
But we moved it down here and made this little chamber
because of sound reasons.
I do sit in here for sometimes nine hours a day.
There's been an occasion a few times where I've done three podcasts in a day.
And I feel that now you've said it, I do feel incredibly fatigued.
I'm sure it's because I'm talking and having really sort of challenging my brain a little bit.
But I can only wonder if the studies are correct
and there's a 50% variance in my cognitive scores,
what would happen if I found a way to get oxygen into this room?
More oxygen in the carbon dioxide out.
I promise you'd feel better.
How much better?
Who knows? It depends on the day, depends on the person.
I promise you'd feel better.
I promise your brain would be operating and functioning better than it is now.
We're not meant to be in four white walls trapped inside, are we?
And this is the misalignment problem.
Never. This is that misalignment problem.
Even a hundred years ago, right, every building had windows that you could open.
Even 50 years ago, almost every building had windows you could open.
But now the standard protocol is because it's easier to heat and easier to cool, right?
You're creating this bubble, which is why if you go into like a Walmart, one of those stores,
there's no windows, there's no anything.
You just got blue light in this bubble.
You can control the environment much more easily.
But what is it doing to people's health?

So I'm the guy that asks for a hotel room, does it have a window?
And you get really funny looks until you start traveling with one of these
and start reading these studies and you realize how important it is.
So interesting.
One of the things that I've really taken from this is when I wrote my book,
I always go to the jungle to write.
I literally write the book in nature.
I've just realized that I'm actually increasing my cognitive performance
by going and sitting down by lake every year and writing versus doing it inside an office.
So when I reflect on tasks that require real cognitive performance,
honestly, like having an interview conversation or writing a book
or any sort of deep sort of intellectual cognitive tasks,
it's so important that those rooms and those spaces are well ventilated.
And the right light.
Those two things I think are very important.
And I think we're going to see so much of this changing in our culture soon
because people are going to ask for it and they're going to feel the difference.
So there's a whole bunch of different reasons why you're thinking more clearly.
It's not just the lack of CO2 right in the environment.
It's the natural light.
Your nature itself is just so inspiring and relaxing.
But this is one component of it without a doubt.
I'm shocked that nobody has ever told me this before.
Sorry about that.
Ignorance is bliss.
We both feel energized and ready to roll.
But I'm the type of person that would rather be empowered by information.
I like when people turn the lights on because we go through our lives
misdiagnosing the problems we're dealing with.
And so for me, knowledge is power because of course I've sat in this chair for a long time
and to know that there's a potential to potentially increase my cognitive performance
when I'm doing a conversation just by finding a way to get oxygen into this room is profound.
Without a doubt.
I ensure that that will happen.
In the morning when you do this diagnostic of holding your breath
so you get to the hotel room, you do this diagnostic, you hold your breath.
Do you time on a stopwatch?
Yeah, I time it on my watch.
So what this is is you can call it a bolt score, body, oxygen level test.
You can call it a control pod, call it whatever you want.
All it is is you take a breath in.
We're going to relax.

I thought we were doing a race.
I'm sure you will.
I beat James Nestor breathing.
You take a calm breath in.
And I'll tell you what it is and then we'll maybe do it,
which will make for terrible podcast time.
You guys can just snip it out.
But we're just going to take a calm breath, not a big breath.
To that point where it just stops when you're exhaling,
you don't push the air out.
It just naturally stops that neutral point.
We'll just practice this right now.
Take a breath in, just let the air out.
There will be a point where it just naturally stops.
That's when you start the timer on that neutral hold.
So you just take a breath in and breathe out.
I'm not going to tell you when I'm going to do this.
So you don't take an extra big breath and breathe in again.
Breathe out to neutral.
Hold your breath. Hold it.
As you're holding your breath,
the first point at which you feel resistance,
that means a swallow.
That means your diaphragm starts convulsing gently.
That means you feel a buildup of pressure at the back.
You have to be honest with yourself.
This is not a maximum breath hold test.
This is the very first point that you feel some palpable discomfort.
Then you go back to normal breathing.
So you won't be doing yourself any favors
if you're cheating past that threshold.
Good.
So what you want to get to is 40 seconds.
When you return to breathing,
the way that you know you've gone too far is when you go...
Your return should be...
Calm.
You're not seeing me return.
There is no effort.
So these are good gauges to know that you've pushed it too far.
So what you want to be going for is 40 seconds or more
to be holding your breath.

You've got 40 seconds.
I think you pushed it a little too far.
I was waiting for that point of just feeling a little bit uncomfortable.
Most athletes, even elite athletes,
get to 20 seconds when they first start doing this.
They've trained themselves to push through the pain.
They compete and they win,
but their bodies are not happy.
Which is why so many athletes peek,
and then they're a complete mess after they stop competing.
This happens with football players.
This happens with baseball players and more.
What most people do is about 15 seconds.
15 seconds.
15 seconds.
You would be surprised,
especially older people,
especially people with respiratory problems.
As I mentioned before,
people with asthma and panic about three to five seconds.
They have severe asthma and panic.
So you just start to understand how dysfunctionally their breathing is.
Their CO2 tolerance,
their ability for their lungs to extract oxygen,
their nervous system, and more.
Just because you got a low score,
that is just a diagnostic,
and it's a starting point to improve your breathing.
This is not a competition.
Do not compete with yourself.
We can get to stuff that is very competitive,
if you'd like,
but this test is just to tune in to how your body is responding.
And another warning,
I want to be very, very clear about,
do not take one number and think you're good to go.
This changes in the morning,
changes if your sleep is bad,
changes if your sleep is good,
changes after you eat and more.
So you take these throughout the day,
maybe three times a day,

and after a week of recording that number,
you average it,
that's your number that you're working with.
Does that make sense?
Perfect sense.
So take it at night,
take it in the morning,
take it at noon,
and just put it in your phone,
and then at the end of that week,
you'll have your bolt score,
is what they call it.
Patrick McEwen calls it that.
I can't stop looking at your carbon dioxide.
We just tick up here.
I wish this was like a stock meter,
we'd be in good shape.
You mentioned asthma there.
I mean, my perception of asthma,
I don't suffer from asthma,
so I don't know a ton about it.
I've never had no point in my life
if I've been forced to learn about it,
or has my curiosity led me there so far.
But my understanding of asthma
is that people are born with it,
and then they're given medicine.
That is the general accepted understanding of asthma,
and it's wrong.
So some people are naturally predisposed to have asthma,
but that is not a life sentence of asthma.
And the idea that a three-year-old,
a friend of mine,
his kid has asthma,
is given a butyrol,
is given all these different drugs,
they're taken out as adenoids,
they're taken out as tonsils,
no one's looking at his breathing.
I asked my friend, I said,
how does your kid breathe at night?
He's like, oh, he snores all night long

with an open mouth.
How does he breathe in the day?
His mouth is constantly open.
I said, nobody mentioned that.
Nobody mentioned that.
So I don't go for,
unless you've got a genetic neurological disease, right?
I don't go for this argument
that diseases that come on,
that are diseases of civilization,
that we are stuck with these diseases our whole life.
We certainly know that's true with diabetes.
Who thought that diabetes is actually reversible?
Type two diabetes is reversible
by adopting a different diet.
There's a company called Verda,
and this is what they do.
They reverse diabetes.
The same thing is true for asthma and anxiety.
That's my belief.
At minimum, you can reduce the symptoms.
If it really works out well,
you won't have any symptoms at all.
And I can say this now
because I've talked to dozens and dozens and dozens of people
who suffered through asthma for decades.
They weren't able to go outside and play as a kid.
They had to stay indoors.
They had to stay locked up.
Their breathing was terrible.
Who now have no symptoms of asthma
by taking control of their breathing.
Seems impossible.
There's a number of different clinical trials
showing that the effects of healthy breathing,
showing exactly what these effects of healthy breathing
can do for asthmatics.
That three-year-old, your friend's three-year-old.
Can you play out that story?
What was the end of that story?
He called me up.
He's like, you know a bit about breathing.

A little bit.
What can I do for you?
He told me what was going on.
He's like, they're taking out their adenoids.
They're taking out this kid's tonsils.
He's three years old.
They're taking out the kid's tonsils.
They're three.
And adenoids.
Because they think that that is the root cause of his asthma.
This will allow him to breathe better.
But what they don't realize, what they didn't mention,
as I mentioned earlier,
if you just take out adenoids and tonsils,
but don't fix the underlying breathing dysfunction,
all those problems come back.
This is true with asthma.
This is true with sleep apnea.
This is true with snoring and more.
So you have to fix that core issue.
So I hooked him up with a very well-known breathing therapist
who, and he's now, this just happened last week.
I said, I'm not going to argue with your doctor and your surgeon.
Maybe your kid needs all these things taken out immediately.
I will argue with the comment that he's going to be on oral steroids
and bronchodilators for the rest of his life.
I said, I don't think he's starting off on a good foot at three years old.
So he's now, and I'll let you know how it goes.
But if what happens to him happens to the hundreds and hundreds of other people
I've heard from, you can reduce the symptoms
and in some cases reverse them entirely.
You mentioned tonsils.
It just perked my curiosity because thinking back through my childhood,
so many people have their tonsils taken out.
And now I reflect on that through the frame of like,
misalignment and ancestors and stuff.
I go, why would we be cutting something out of our body?
That must be a misalignment problem of sorts.
That must be a symptom of the environment we live in
not being right for the human body.
That's my guess.
Why would a part of the human body that's taken

millions of years to evolve to this certain function
just all of a sudden be of no use in the past 40 years?
You have to start to ask that question.
So what is the root cause of those inflamed adenoids and tonsils?
Is it the fact that they are there and that's the problem?
Maybe for some people genetically, right?
That could be the issue.
But what's causing that inflammation?
You have to answer that question first before you're going to fix it.
And just going into a three-year-old to their mouth
and starting to rip things out,
my personal opinion is that that's a really bad idea.
I would go through a bunch of different methods
to see if you could improve the core condition first
before you revert to that.
Surgery is great.
I know people who have had their breathing absolutely transformed
by doing nasal surgery.
It works wonderfully for so many people.
But I would try to see what you can do with your natural body first.
So interesting.
I told you, my partner, she's got,
I think she's got like a deviated septum or something,
which means that breathing,
you can always hear a breathing through her nose
pretty much all the time, especially when she sleeps.
When she goes to sleep,
even, you know, she'll wear...
To be fair, she started wearing mouth tape.
I wanted to talk to you about this.
She started wearing this thing called Maya tape,
around her lips and has a hole in the middle.
But having that Maya tape round her mouth,
when we looked at her whoop scores in the morning,
really interestingly, her heart rate was flatter than ever.
So usually what you'd see in our heart rate
is kind of these like spikes upwards throughout the night.
So sometimes it might spike up to 60 or 70.
But with the mouth tape round her lips,
which kind of keeps your mouth closed throughout the night,
her heart rate super flat,
her wake events down, her sleep efficiency up.

I hear this every day.
Really?
I mean, yeah, this is the beauty of nasal breathing.
What the brain wants is a consistent fluid signal.
It gets that signal from your breathing.
So there's a study I'll send you guys on this,
that the clock, the master clock of sleep
and of the brain at night is that
cyclical, deep, easy breathing pattern.
This is what the body doesn't want to have
to fight and defend itself when it's sleeping.
This is its time to rest and restore and grow, right?
If you're constantly waking up, what's that doing?
The body has to stop what it's doing,
the repair mechanisms and address the threat
over and over and over.
And that's what's happening
when people are struggling to breathe.
Breathing like that.
So this doesn't shock me at all.
This is exactly what happened to me.
This was my same experience and it's the experience
that hundreds of people have had
and they've sent me their sleep scores for some reason,
showing their heart rate variability,
showing how much more deep sleep they're getting
and showing how rested they are in the morning.
So no matter how you get to nasal breathing,
if it's by force of will,
some people can just will themselves.
I think that's awesome.
That's the greatest way of doing it.
If it's a piece of tape, that's what I like using.
Myotape's fantastic.
It's been around for a long time
and it takes away some of the paranoia
that people have with first taping their mouth.
It's especially good for kids.
You don't want to tape a kid's mouth.
This Myotape just sort of,
it provides a gentle reminder to keep your mouth shut.
At any time you can talk, you can breathe through your mouth,

but it's just gently reminding you to keep your mouth shut.
I think it's great.
Some people use chin stress, whatever you want to use,
but breathing in and out through your nose at night
has so many benefits.
Your girlfriend has seen it.
Millions of people have experienced it now
and it's free and easy available for everybody.
It's profound and this whole discovery of breath and sleep
and the two-way relationship has just been so illuminating for me
and that's hugely part of the reason
why I wanted to have a conversation with you
to get that message out there.
The perfect rhythm of breathing,
there was this fascinating thing you talked about
that there is a perfect rhythm to breathing,
which is, it was quite spooky reading about it.
What is the perfect rhythm to breathing in?
It depends on who you are.
I've learned a lot more about this as well,
but a good first place to start
is this five to six seconds in, five to six seconds out.
You can get more geeky after you hit that.
I used to call this 5.5.
I write about this in the book with 5.5 seconds
and 5.5 seconds out.
That's 5.5 breaths per minute.
That's what researchers found to be really the most beneficial.
But then I got so many inquiries and emails
and letters from people saying,
you know, I'm into the slow breathing,
but I can't hit that half second and it's driving me crazy
and I've been trying for two weeks.
I'm like, good God, what have I done here?
So I'm now telling people five to six seconds is fine.
You don't have to worry about that half second being off
anything in that range.
But what I've learned since this book has come out
that tall people, six foot, six one and above
should be breathing even slower, larger lungs.
Diaphragm has more time to descend.
So around four and a half breaths per minute.

So that's about eight seconds in, eight seconds out,
even slower.
And for kids, they naturally need to breathe more.
So you want to start a kid off at, start at three and three out.
Just starting there and working up to that.
So this is a general guide that will work for most people,
a good launching spot.
But once you get there and you're comfortable for that,
you can actually view in real time your HRV
to find your perfect, perfect rhythm
because it varies a little bit for most people.
So slow is better.
If you're taller, yes, but not necessarily.
For some people who are panic, anxiety,
who don't have a very good CO2 threshold,
you have to start with two and two out.
Just doing that.
Once you get comfortable with that,
let's go three and three out.
Four and four out, right?
And you find what's most comfortable for you.
And it's wonderful being in the world of wearables
where you can actually see where your body is responding most to.
My girlfriend does a lot of that kind of...
I can almost describe it as like a psychedelic experience.
Is that what they call the inner fire stuff?
Or is that the holotropic?
I don't really know the difference between the two.
But when you do the breathing ceremonies,
it was almost like my ego dropped away the first time I did it.
I felt so emotional the first time I did it.
Not in like a sad way.
I just could see things a little bit more clearly in my life.
The first time I did one of these breath work sessions with her.
And I felt the need to apologize to a bunch of people
because I'd had an argument with someone that day about something small
and I just felt it was almost like my ego had just like dissolved or something.
What's going on there?
What is that?
You know, because it's people are prescribing this as a cure for like mental health
and trauma and...
Well, I could tell you what's going on biologically.

I could tell you what's going on psychologically.
Psychologically and more.
We'll start with the biology.
A lot of these very vigorous breathing techniques,
which I would strongly suggest people figure out your breath foundation
before you go on to these.
Don't just jump into this stuff.
Everything we've talked about, nasal breathing, slow breathing, proper biomechanics.
If you figure out all that, you will get so much more out of these more vigorous breathing exercises.
So a lot of these have you breathe very fast, sometimes through the mouth.
You may be saying, well, I thought you just said we shouldn't be breathing through the mouth.
For these short exercises, it's perfectly fine.
And you breathe that way to specifically elicit a stress response in your body that you are creating.
It's the same thing with ice baths, right?
Those aren't relaxing.
They cause a stress response.
So when you're breathing pranayama, kundalini, holotropic, you are stressing your body out.
And then you're learning how to use your breath to calm your body down, right?
Because all of these breathing techniques, you...
And then you hold your breath.
And then you breathe slow.
And then you go back to...
And then you hold your breath.
So you are learning how to take control of your nervous system function and stress.
And so that stress, you're compacting into this exercise so you don't carry it around with you the rest of the day,
like I do and so many other people do.
So you go there, you blow a fuse, and then you're able to be chilled the rest of the day.
So biologically, what's happening to your blood flow when you're over breathing, you are inhibiting blood flow to your brain.
People... I've heard this in breath work classes.
People say, the more you breathe, the more oxygen is getting to your brain.
That's why you're getting so high.
The opposite is happening.
You're inhibiting blood flow.
Right now, if we were to over breathe and...
Yeah.
You're going to feel lightheaded.
You're going to feel some tingling in your fingers.
That's not from an increase of blood circulation, but a decrease.
So you can breathe into a state in which you have 40% less blood flow to your brain by over breathing.

Hologtropic is classic.
You start feeling all kind of...
My cramps.
Your hands start going like this.
That's from all the INIs.
Calcium being glommed on with albumin.
So all of these and lack of CO2.
So this is a classic response.
Some breath work people say, it's because you're going back in time and you're becoming a bird.
And all that's beautiful if you want to believe that.
But what is actually happening to your body is that we're losing that calcium is being sucked up and that CO2 is being inhibited.
So that vasodilation is happening and it's causing...
You felt that.
I felt it too.
It's freaking when it first happens, but it's completely natural.
And it comes back when you hold your breath or you breathe more slowly.
I only knew I was doing that because of a photo.
So they took a photo of me while I was doing the breath work exercise and my hands were in the air.
I didn't put them there and my fingers were curled like a crap.
It was like that.
It was like that.
Whoever's running that breath work is doing the right thing because you want to get to that state if you're ready for that state.
So that's what's happening to the brain and the body.
You were denying yourself oxygen.
You were stressing yourself out so that you can live without that stress after that class.
Sorry.
So how is it getting the stress out of me though?
The same way that a cold bath is going to get the stress out of you.
The same way that going to a gym for a half an hour or an hour, you're working getting the stress out.
The same way of going to a yoga class for an hour.
You're like, I feel so relaxed, right?
This is compounding that stress.
It's stressing out your physical body and your brain.
It's really pushing it so that you can be reacquainted with what a threat actually is, right?
You're not over sensed.
So when an email comes in from a friend and they're being kind of pissy at you, you don't completely lose your top, right?
And say, I never want to talk to you again.
And I think that's one of the reasons why after that class, you just went, whoa, I have a better

perspective on what stress is, how I should be treating other people around me
and how my brain should be feeling, that relaxed feeling that you have.
So it's harder to quantify psychologically, especially psychically or spiritually, what's happening as a very personal experience.
However, I will say, having done a lot of this intense breathwork, you know, this vigorous breathwork, I've seen people absolutely transformed by it.
They do it one time, then they come back the second time, they're a little better at it and they get rid of a lot of luggage, psychological luggage.
People have go through some real stuff when they're doing it.
I think it's beautiful because this is something that we're doing completely naturally with our own bodies that we have access to.
There's nothing exogenous about it, right?
You know, this is something that we are commanding inside our nervous systems.
So that's something I think needs to be explored a lot more.
I tried numerous times to get into an MRI machine.
I wanted to do blood work.
I did one study, which was not in this book in the Hypoxia Lab at San Francisco, one of the oldest Hypoxia labs.
And it freaked out the researchers so much that they really didn't want to be a part of it.
So because my hands did that thing and they were pulling blood and my CO2 was so low that, you know, they wanted to put me into the ER.
I said, no, no, I feel great.
I said, this is what it's supposed to be doing.
But they want to see everything consistent all the time, right?
They see these big dips in CO2.
They see this stress.
They associate that with serious illness.
They don't realize when you bring it on yourself, it's something that you can help to master.
And so I hope that more research will look into what happens to the brain during these vigorous breathing exercises because not a lot has been done.
But I know it's very beneficial for people.
And there's been several studies showing just how beneficial it is for depression, for anxiety, even autoimmune issues and more.
Of all the things we've discussed, what is the most important thing that we've missed that is pertinent to breathing, health, well-being and, you know, daily practices?
What is the most important subject matter that we've missed in this conversation?
I don't think it's necessarily that we've missed anything.
I think it's the importance of sort of doubling down on a point I've tried to make a few times is you don't need to pay for this stuff.
You don't need to read a bunch of different scientific articles to know that breath is a healing and very nourishing modality.
This is something that's available to us all day long, all night long.

So you can just focus on these simple things, get good at those simple things and work up from there.
Ultimately, I would love if people finally were able to work up to go to these big breathwork powerful sessions because I don't know anyone that's gone to one of these and hasn't really gotten something out of it.
I think you're living proof of that right now.
I'm an ultimate skeptic as well.
As am I, that's the nature of my job.
So just adopt these simple things and I will say a final word.
Breathing dysfunction is a serious problem, especially with kids, especially for adults as well.
So take this seriously, fix it and I think you'll really see the benefits from that.
You're here in part because you're doing a BBC Maestro series, aren't you?
I am.
My team told me yes.
Which is very exciting.
Have you written it yet?
I'm in the midst right after this.
I'm presuming it's going to be on some of the subject matter we've discussed.
It will be.
It's a basic guide and toolbox of exactly what to do and when and how to improve these conditions.
But it also contains, 90% of this book was thrown out, right?
Because I didn't want to have a 600 page book.
So I'm able to slip in all this other stuff that was thrown out and some of this more mystical, some history,
but a lot of science as well.
James, I could talk to you forever about this.
I really, really could.
Your way of articulating the points and the research you've done is so captivating,
but I can see our carbon dioxide is ticking up.
Just in that time, about 170 points.
It's so funny.
I feel like I'm like, you know, all of a sudden, I am going to buy one of those things though.
We have a closing tradition.
Okay.
Which is the last guest leaves a question for the next guest, not knowing who they're going to be leaving it for.
The question left for you.
Very simple.
What is it that drives you to be the best version of you?
Curiosity.
That's all.
That's the only thing that, not the only thing, but the main thing that I wake up in the morning.

I'm excited to take on the day because I have the luxury of having a job that allows me to be curious. I've had a lot of jobs that did not allow me to be curious, but I'm able to ask questions and have conversations.
And it's every day is a privilege because of that.
Well, I think from reading this book, as I said, this is the book that has sat on my bedside, on my girlfriend's side,
for the last, I think a year, roughly since we moved into that new place,
you've done a phenomenally great job of condensing the information to make it accessible and relatable to every type of reader out there.
But it's like a light.
Every other page, there's almost like a light bulb that's being switched on in my head about the way that I'm living my life
and how small, simple things that, as you say, aren't complex.
I don't need to buy some huge course or I don't need to become a master in anything can have a fundamental change in my life.
And that's why this book is so unbelievably important.
But I mean, the book speaks for itself because this book is sold like absolute crazy.
And it's one of those books that is being driven by word of mouth.
One person is passing it to another, you know, I can talk through the people in my team and the web of how the book traveled
and Jemima and then Mel and Sophie and so on.
And I think that speaks to this book.
I think it's fun.
It's a shame.
It's a real shame that I actually believe that this book is now required reading,
but it speaks to the misalignment problem and how far we've gotten from good habits as it relates to breathing
and the consequences that it's had on our health.
I'm very excited to see the BBC Maestro series as well.
I'll be checking out looking out for that because I love those series and they provide, as you say, an actionable toolkit
for a lot of the things we're talking about today.
I love the way you approach subject matters.
I love the impartiality of it.
I love the fact that you lead with the evidence first.
And as you've done throughout this conversation, you try and keep your opinion secondary to what the evidence is saying,
which I think is really important.
And a lot of people actually, they get quite scared of what the evidence is saying.
So they either avoid it or they don't mention it at all, but you hold that line really, really well.
Your work is going to help so many people.
I can't imagine millions and millions of people that you'll never get to meet.

So on behalf of all of those people, including my girlfriend, as I said,
she started a studio upstairs called Bali Breathwork because in part because of what you wrote.
So afterwards, I'd just love to show you it.
So you can see it because it's an example for you of all the lives that you'll never meet, that your work is touching.
You'll never get to meet.
Probably if we hadn't met today, you wouldn't even know there was a studio that had launched in London because of your work.
Or there was someone that's dedicated their life now to helping people with breath because of your work.
So on behalf of all those people, you'll never meet.
Thank you, James.
Your work is very necessary.
And I can't wait to see what you write about next.
I'm very intrigued.
I heard there's a book on the way.
Very excited by that.
Thank you very much for having me.
As you guys may know, we are a sponsor of this podcast and I'm a shareholder in the company.
As someone that is on the go pretty much 90% of the time, I always prioritise getting my work out in.
And for me, it's unnegotiable.
Working out, staying healthy and trying to optimise my body so I can achieve the results that I want.
But a new addition to my lifestyle, which complements my busy work schedule and my tough workout schedule,
is my prioritisation of my rest and my recovery.
I never quite knew how important it was until I started my Weep journey to understand exactly what's going on in my body
and how to look after my body.
Weep is a wearable health and wellness coach that provides you with the feedback and actionable insights you need
on your sleep, your recovery, your training, your stress and your overall health.
And seeing this data that Weep provides has made it 10 times easier to understand what my body needs
for it to reach its optimal state.
Helping me to conquer those long days and tough workouts without breaking down.
See for yourself by searching join.weep.com slash CEO to get a free month's free Weep membership on me.
And I have a suspicion you'll stick with it because I certainly have and I don't stick with much as it relates to wearable tech.
Enjoy it and let me know how you get on.
you