

[Transcript] The Diary Of A CEO with Steven Bartlett / The LIFE-EXTENSION Doctor: "The ONE thing that's increasing your chance of early-death by 170.8%!" Peter Attia (E267)

Going from zero activity to just 90 minutes a week is about a 15% reduction in all-cause mortality.

Jesus Christ.

Dr. Peter Atia, world-renowned physician, the equal to doctor for anything performance or longevity related.

He has the secret for living a long, healthy, and happy life.

Most people listening to us are going to die from cardiovascular disease, cancer, diabetes.

If we want to really figure out a way to live longer, we need a totally different playbook.

How early do some of these diseases begin the minute you're born?

But we only really think about the risk over a 10-year time horizon.

As a 30-year-old, you don't get excited about exercise and your sleep, but there's a 400% higher risk of dying in the coming year when you compare the fittest 2.5% to someone at the bottom 25% in the coming year.

And then once you hit the age of 65, if you fall and you break your hip, there's a 15% to 30% chance you will be dead within the next 12 months.

You have to realize you're taking this for granted. Shit.

When you talk about the deterioration of health, you have these three categories, emotional health deterioration.

Why have you included that?

Because despite being very physically healthy, I was not living a good life.

I was in such an awful cycle of anger, workaholism that I don't think my marriage would have survived.

I realized I don't want to be this person and lose my kids.

I don't think I could have survived it.

And I'm sure many people listening to us can relate.

Were you able to discover the root cause of that?

More than that, I was able to get rid of it.

How?

So what you really need to do is...

What are the biggest misconceptions in your mind about weight loss?

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I have thought a lot about this, so...

Dr. Peter Atia, he is the man that wrote the book on how to live a long, happy and healthy life.

And he argues that everything we know about health and what that actually means, health of the mind, the body and the emotions is wrong and outdated.

He says that there's disease growing in you and me right now.

But the problem is, because we can't see it, we're doing nothing about it.

Dr. Peter's work turns the light on.

It allows you to see that in many cases, in action now will increase your chance of disease and a much shorter life by 70%, 170% and in some cases, if we don't take action now by 400%.

I've had lots of conversations on this podcast about health, about diet, about all of these things.

But for many of you, this one will be the one that changes your life.

This will be the one that makes you ask some difficult but important questions about your health and what health means for you.

I walked away from this conversation, realizing that if I don't take action now, I'm going to be forced to take action then.

And I can unequivocally say that this conversation has changed my life.

I have a suspicion it's going to change yours.

["Dogs of the Year"]

Peter.

Dr. Peter, you talk about so much in your work.

I've been through every interview you've done, your book, other conversations you've had.

You talk about a lot, so many things that I'm absolutely fascinated by.

My first question for you is, what is your mission and why are you doing this?

You know, I think that there is no greater desire for people than to be healthy.

Especially when you consider how we can define health more broadly than just physical health.

You can include kind of emotional health.

It's kind of the great equalizer

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and nothing else really matters if you don't have it.

So it doesn't really matter if you're famous or not famous.

It doesn't matter if you're rich or poor.

If your health is compromised

and anybody who's been through an illness

where their health has been compromised,

I think we'll realize in a moment

what they've taken for granted.

And I've just become personally,

endlessly fascinated by this topic.

And in my own quest to understand this better and better,

the next natural step was to begin to do it as a doctor,

to begin to kind of help patients with this.

And at some point, you can only treat so many people.

And so podcasting and ultimately writing a book

just became a way to put as much of that information

as possible out there for more and more people to access.

Do you know why you of all people became fascinated by this?

Was there a self-dominance that fell?

I think so, yeah.

I mean, I think I had always been interested in performance

because I'd always, at least as far back as being 12

or 13 years old, I'd always been obsessed with one form

or another of some sort of physical obsession,

whether it be boxing when I was really young

or marathon swimming later in life.

But when my daughter was born, when I was 35,

that was the first time that everything kind of pivoted.

And I had a little bit of a glimpse into the future,

I would say, and I just sort of realized,

oh, you know, the joy I'm experiencing in this moment

is so surprising to me, so unanticipated.

And I really want to be able to experience this again,

which means not just with other children of mine,

but potentially with grandchildren.

And on top of that, I had a bit of a wake-up call,

which was, I realized that all the men in my family

died prematurely of heart disease.

Obviously, I knew that fact before this time,

but I think it was the confluence of those two things.

It was the realization that, yeah, you know,

if you don't figure something out

and do something about this,

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you're probably gonna die of heart disease in your 60s, which is not that far from now, 25, 30 years from now. And you now really have a motivation to live longer and to live better longer.

And so that in many ways kind of began the change in my direction, my focus, to being one that was not purely just focused on performance anymore, but sort of focused on understanding health in a different way.

This concept of medicine 3.0 is a concept which I only discovered in your work. I've never had the time used before.

What is medicine 3.0 and how did you get to the point when you realized that there needed to be an iteration on the current system of medicine?

Yeah, the reason I think you hadn't heard of it before is I don't think it's been described before, so you can't be faulted for that.

But as I began writing the book and thinking about how I was practicing and how people like me practice, I realized that it is a very distinct change from the current form of medicine.

And in a way to not be just critical of the current form of medicine, I had to put it in the context of what existed even before that.

And that's how I sort of realized, well, we're in this version of medicine called medicine 2.0, but it's following something called medicine 1.0 and it's an enormous improvement above that.

So maybe I can spend a moment just kind of explaining what those three are.

And I think that's probably the easiest way to explain the current form.

So medicine 1.0 is everything that existed before we really understood the science of medicine.

So for most of human history, we had no idea why people got sick or why people died or what an infection meant.

And we sort of thought that these were plagues from the gods or things of that nature.

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But a couple of things happened
in the past few hundred years.
The first was the idea of a scientific method,
something that we take for granted today
where you can make an observation
about something in the world,
formulate a guess called a hypothesis
about why it's happening
and then design an experiment to test it.
That's called the scientific method.
That's an invention, that's a creation.
We had to figure that out.
Also things like a light microscope,
which up until 140 years ago or so didn't exist,
allowed scientists and doctors
to be able to actually see these microscopic things
called bacteria.
And then ultimately the development
of things like antibiotics and eventually vaccines.
All of these things made an enormous difference
in reducing the suffering and death
due to what I call in the book, fast death.
So fast death is pretty much how we used to all die.
Fast death would be trauma and infection.
And up until about 150 years ago,
life expectancy would have been high 30s, low 40s,
and most of us succumbed to fast death.
But with the advent of medicine 2.0,
through all those transitions I just described,
in the span of a few generations,
we've doubled life expectancy.
So now life expectancy is roughly twice
what I just said a minute ago.
And most people do not die from fast death,
but it's been supplanted by slow death.
Today, most people listening to us are gonna die
from cardiovascular disease, from cancer,
dementia or other neurodegenerative diseases,
complications of diabetes.
And on the one hand, that's a sign of progress.
It means like, hey, we're living long enough
to die from those things.
But we've made scant progress against those things.

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In fact, if you go back and strip out the top eight causes of infectious death or communicable death, death from communicable diseases or infectious diseases, today, if you strip them out, our life expectancy is not much better than it was in the 1800s.

In other words, that doubling of life expectancy that we've experienced comes almost exclusively to the reduction of those fast deaths and has little to do with any success we've had against slow death.

If we want to really figure out a way to live longer, and I would argue more importantly, live better, meaning when we're in the last decades of our life, not be in a state of total decline, we need a totally different playbook.

And that playbook is Medicine 3.0 and it involves real prevention.

So that means taking true steps at prevention very early in life.

It also involves being very personalized in how you do things.

So it means you can't just do pain by numbers.

You can't just sort of say the same thing to everybody.

Clearly, there are certain things that make absolute sense across the board, such as sleep and exercise.

But the way you might use medications is gonna have to be much more tailored to an individual.

Can you say that there are four points to Medicine 3.0, which is the prevention,

the being unique in your treatment to each individual, and honest assessment and acceptance of risk?

Yeah.

One of the things that I don't think we think enough about as doctors sometimes is risk, right?

Now, I think doctors are very good at thinking about the risk of doing something.

Yeah.

I think usually a doctor is pretty good at understanding.

If you have this surgical procedure, there's a risk of an infection, there's a risk of bleeding,

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there's a risk of all of these things.
If you take this medicine,
there's a risk of this side effect or that side effect.
But I don't think we spend enough time thinking
about the risk of not acting,
or the risk of not acting when we do.
So this is where I think it gets a bit more nuanced.
Prevention doesn't come without risk, right?
I mean, you're still gonna have to do something
in the state of prevention.
So the question is understanding the time horizon
upon which you're considering risk.
So I'll give you one very specific example.
At least in the US, and it might be the same in the UK,
we only really think about the risk of heart disease
over a 10-year time horizon.
So look at someone like you, you're 30 years old, right?
So what is your 10-year risk of having a heart attack?
I can tell you without knowing anything about you,
it's really low.
It's as close to zero as we could have in medicine.
But what if I did a blood test on you
and I found biomarkers in there
that were predictive of very high risk later in life?
Now that would be actually quite possible.
There's about a one in 10 chance
you might have a biomarker called LP Little A, for example,
which is just a certain lipid in your body.
About a one in 10 chance you have
that dramatically increases your risk
of cardiovascular disease.
My uncle died very early,
I believe in his 50s of cardiovascular disease.
Interesting.
So knowing that, by the way, could be helpful
because that would prompt me to ask you more questions
and wanna know more about all the people in your family.
So here we have a one in 10 chance.
And by the way, we wouldn't leave it to chance,
we would just check it.
And let's say we checked your level
and you had that lipoprotein
or you had an elevated level of another lipoprotein,

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Apo Lipoprotein Little B.

And again, these are kinda technical terms,
but they're very common things and they're easy to measure.

The medicine 2.0 view here would be,
well, there's nothing wrong with you now
and there's not going to be anything wrong with you
for the next 10 years.

We don't need to do anything about it.

Conversely, if I take a lifetime view of risk,
I would say, yeah, but the risk to something happening
in the next 40 years is actually quite significant.

So my risk of doing nothing is probably much higher
than my risk of doing something today.

So my risk of doing something today
would be non-zero but small,
but my risk of doing nothing
if I take the appropriate time horizon is much bigger.

This is one of the things in your book
that really got me thinking was,

I have to say, and I believe a lot of people
probably feel the same way,

I've gone through my life thinking to some degree,
I'll worry about avoiding these diseases later.

When I get to 45,
then I'll start taking this thing seriously.

Because then I'm getting into that territory
where most people I know that get cancer or Alzheimer's
or all of these cardiovascular things,
that's when it tends to happen.

So I'll think about it then.

Totally understandable.

And I'll frame this in the context of a question

I get asked all the time,

which is, hey, Peter,

when is the best time to start thinking about this stuff?

And I say, look, I can't answer that

because there are two competing issues that are crossing.

When I meet somebody who's in the last decade of their life,
do you know how much they are thinking about this?

Like it's all they're thinking about.

It's all they're thinking about.

Every minute of every day is a confrontation
with their own mortality.

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The problem is they don't have much time to change the direction of the ship. You may recall in the book, I write the sort of, I use the metaphor of the Titanic, right? It's not that the Titanic didn't see the iceberg, it's that it didn't see the iceberg in time. It didn't have enough runway to really move out of the way, and that's why the Titanic gashed the side of the boat. Now, at the other end of the spectrum, a 30-year-old like you has unbelievable potential to change the arc of your life. You have so much runway through manipulating nutrition and exercise and sleep and stress and all of these things to completely alter the disease trajectory of your life. The problem is, and I'm not just speaking to you personally, but more broadly to someone who's as young as you, it's harder to find the motivation because there are no reminders of your own mortality. You're Superman, right? The worst thing that happens to you is a hangover. So I always get asked, like when is the right time to start worrying about this? And the short answer is look as soon as possible, but then there's a reality that says for most people, it's not until they're in their 40s. Maybe once they have kids, that they start to appreciate their own mortality and that that provides some of the motivation to say, you know, maybe I'll be a little less focused on optimizing everything for today and I'll start thinking a little bit about tomorrow. So again, another way to think about this is saving for retirement. A lot of people in their 20s and 30s who are making good money aren't necessarily taking the most prudent financial steps to ensure financial freedom when they're in their 70s because let's be honest, it's more enjoyable to spend money today than to set some of it aside. But there are a lot of people later in life who think, I wish I was a little bit more responsible earlier on.

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How early does some of these,
Dizzy, if you looked at my sort of metabolic health
or if you were able to look inside my body,
which I'm sure you're able to do,
how early do some of these diseases begin in my life?
At what age do you see some of these things coming?
Yeah, it's super interesting
because there are some elements of you as a person
that are going downhill the minute you're born
and there are others that are not.
So let's use two examples.
Let's start with something
where your body is getting better and better
and you're probably only peaking now
but you haven't really started to age.
Your muscle quality, okay?
So when you were five years old,
your muscle quality was nothing like it is today
but as you enter your 20s,
the quality of those muscle fibers,
these type one and type two muscle fibers.
So these are kind of slow to fatigue
but high endurance fibers are the type one fibers,
the type two fibers are very, very powerful
but they're kind of quick to fatigue.
The quality of both of those fibers is very high
and the more you train them,
the higher quality they will be.
But as you enter your 30s,
you will now start to experience a shrinkage
of those type two muscle fibers.
You will be less powerful in your 30s,
in your late 30s especially,
than you were in your mid to late 20s.
So that's a form of aging, you are declining.
It's not an accident that the most powerful athletes
in the world are at their peak
in their late 20s and early 30s.
So sprinters for example,
that's a prime example of a pure, pure power sport.
We look at other things
like more of your muscular endurance
that will peak even a little bit later.

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You can keep that going a little bit later.
We look at certain forms of cognition.
So if we look at something called fluid intelligence,
this is raw horsepower, processing speed.
You have more of it right now than I do.
Meaning you're gonna have faster processing speed,
better memory, all of these things
are gonna be better when you're 30 at my age, I'm 50.
Because that's already started to decline in me.
There are some things however,
that began aging in you the minute you were born.
And one of them is actually going back
to this idea of atherosclerosis or cardiovascular disease.
Well, that's an example of a disease process
that begins right away at birth.
And even though it almost never rears its head
as far as death before you're 50,
make no mistake about it, it's starting on day one.
And we know this by the way,
because when we look at studies of people who die
for completely unrelated reasons.
So somebody who dies in a car accident
or soldiers dying in war,
and we look at the arteries of their heart,
we already see quite advanced disease.
So the truth of it is,
you already have pretty significant disease
in your coronary arteries.
It hasn't risen to the level of ever causing a heart attack
and it's unlikely to do so for another 20 years,
maybe even another 30 years.
But it's compounding.
It is compounding, exactly.
And if you want to live to be 90,
free of cardiovascular disease,
it makes a big difference if you can slow it down
when you're in your 20s and 30s.
Interesting.
That's really what I'm trying to change in myself
is I'm trying to find the motivation.
Like you said, when we're not confronted
with our mortality, it's interesting
because my life changed because of the pandemic in part

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because I got to see the relationship
between things like obesity,
poor metabolic health and mortality for the first time.
And that's really when I started working out
pretty much every day now.
It was three years ago in March, 2020,
when I was watching the TV.
And it was that confrontation of like,
oh my God, the reason why I'm having a better outcome
with this disease is because I'm in better metabolic health,
metabolic shape.
And it's funny that it has to take those things
in our lives for us to make the changes.
Quick one, before we get back to this episode,
just give me 30 seconds of your time.
Two things I wanted to say.
The first thing is a huge thank you
for listening and tuning into the show week after week.
It means the world to all of us.
And this really is a dream that we absolutely never had
and couldn't have imagined getting to this place.
But secondly, it's a dream where we feel
like we're only just getting started.
And if you enjoy what we do here,
please join the 24% of people
that listen to this podcast regularly
and follow us on this app.
Here's a promise I'm gonna make to you.
I'm gonna do everything in my power
to make this show as good as I can now and into the future.
We're gonna deliver the guests
that you want me to speak to
and we're gonna continue to keep doing
all of the things you love about this show.
Thank you.
Thank you so much.
Back to the episode.
When you talk about the deterioration of health,
you have these three categories, cognitive decline,
decline in loss and function of our physical body
and then emotional health deterioration.
Why emotional health deterioration?
Why have I included that in?

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Why have you included that?

Well, I mean, maybe I'll just take a step back and say where I kind of put these all in perspective.

So, you know, the title of the book, right, is Outlive, The Science and Art of Longevity.

And what is longevity?

Well, longevity is really about two things.

It's about the length of life and the word for that is lifespan, but it's about the quality of life.

And the word for that is health span.

And it's health span that has those three components you just described.

Health span, meaning quality of life, is determined by your cognitive function.

So, what's your processing speed?

What's your executive function?

What's your memory, all of these things?

It's determined by your physical health.

How much strength do you have?

Are you free from pain?

How much endurance do you have?

What capacity do you have to do whatever you want to do physically?

Are you limited in any way by pain, strength, movement, balance, et cetera?

And then the final piece is emotional health.

What's the state of your relationships?

Are you, do you have joy in your life?

Do you have a sense of purpose?

Are you happy?

Not all the time, right?

But do you have the capacity to regulate your emotions?

And so now to answer your question, why would that be included?

Well, the truth of the matter is it wasn't something I always included, right?

It wasn't something I necessarily thought much about until it was, I think, very starkly pointed out to me by a very astute therapist who in observing my own struggles in life said something to the effect of, isn't it really ironic that you are putting so much energy

into helping people live longer
and yet you are paying no attention to your own misery?
And I think that was about six years ago
and that was kind of when I realized
I needed to rethink my approach to this problem.
And as I write about in the book,
I think I would make the case today
that if your emotional health is suffering,
none of the others really matter that much.
So what you really need to do is think about a way
to have all of these things in order.
What does she mean by your own misery?
Well, I mean, I think at that point in my life,
I mean, there's no two ways about it.
I mean, I was just incredibly miserable,
incredibly angry despite being very physically healthy,
right?
Despite doing all of the important things
to be physically healthy, right?
Exercising, you know, in all the right ways,
eating well, sleeping well,
optimizing every aspect of my health,
but living a bad life.
What were the symptoms of that?
What were the kind of for you to start to spot that?
Because sometimes we don't know in our own behavior
and sometimes it's reflected back on from other people.
We'll get feedback from our wife or our girlfriend.
Yeah, I mean, detachment from others,
prone to anger, workaholism, selfishness, you know?
It wasn't subtle.
It wasn't like, hmm, I wonder if, you know,
I'm not being my best self.
No, if I was being honest and confronting it,
I was not living a good life.
Did you know that in the moment?
Had I asked you in the moment, are you happy?
What would you have responded?
I think I would have probably said to just that question,
sure, right, but I think to a deeper prodding,
no, and there were a lot of things that happened in there,
but certainly a very powerful one was going to the funeral
of a woman my age who was the mother

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of my daughter's best friend.
So my younger daughter's best friend,
her mom died of cancer.
And so all the parents, you know, were at the funeral.
And at the time I was, you know,
really going through a lot of difficulty in my own marriage.
And this woman who died was a very successful lawyer,
really pretty remarkable.
And I was really sort of struck
how at the funeral, people had the nicest things
to say about her.
What a beautiful mother she was.
She had three kids.
And nobody talked at all about her career.
Like there was not a single word
about her achievements in life.
It was only a discussion about the quality
of her life as a mother.
And that might sound very obvious
because when was the last time you were at a funeral
where they talked about someone's career accolades.
But that in a moment really fused an idea
from a book I had just read by a guy named David Brooks
called The Road to Character.
I don't have you read it?
In the book, David Brooks talks about this idea
of there being resume virtues and eulogy virtues.
And I really understood in that moment
that my entire life at that moment
had been only predicated on bolstering my resume virtues.
I had never spent a moment thinking
about my eulogy virtues.
And at that moment, to your question,
if someone had asked me, how is your eulogy?
I would have been brutally honest and said, it is awful.
There is not a single nice thing,
anybody who matters about me.
In other words, of the people who should matter most,
they won't be able to say anything nice about me.
Is that painful to admit?
Yes, it's painful to admit today
and it was painful to acknowledge then.
Wow, I'm so impressed that you're able to.

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Because thinking about cognitive dissonance
and how psychologically uncomfortable
that must be to face.
You hint in the book about,
I think it was in the last chapter of the book,
you start hinting about the origins of that behavior,
the workholism and all of those things.
And I can totally relate.
I think I'm a total workholic.
I think I sacrifice too much in the pursuit of like accolades,
sometimes in my life.
Everyone that knows me, including these guys,
will all say that about me.
And I've often tried to, in hindsight,
figure out where that came from in me.
And undo that.
It's funny because reading this book,
the last chapter, I actually wrote in my notes,
I just wrote, because the chapter's called Emotional Health,
I wrote Bracket's Trauma and the role that trauma plays.
I didn't expect to find that subject matter in this book,
about longevity.
What's your thoughts on the role trauma plays
and how we go about understanding it
so that we can live a, have a long health span?
I think there's probably a lot of people
who can relate to the stuff I write about
in the final chapter.
And you're right, that chapter is a significant deviation
from the first 16 chapters.
So there's 17 chapters in the book
and I basically make the argument
that I am the doctor for 16 of them.
The first 16, I'm talking about this,
as though I'm the doctor, you're the patient,
I'm gonna help you and this is how to do all this stuff.
And then in the final chapter,
I'm saying actually now I'm the patient
and I'm gonna kind of walk you through this journey I've had
and hope that it basically motivates each of you
to have a similar examination of yourselves.
And I think that many people,
I can't tell you what fraction of people,

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but I think many people have maladaptive behaviors in their life that are indirectly or directly the response to something that we would define as trauma. And trauma is a very vast concept, right? I think it's very easy when you hear the word trauma to think of abuse. And that can be physical abuse, sexual abuse, spiritual abuse, these things like that. And it's true, I did experience abuse in my life. But trauma can be much more than that. Trauma can be abandonment, enmeshment, witnessing tragic things. So there are lots of things that are traumatic, I discussed them in the book. And what happens to children who are traumatized and it can also happen to adults, but I think most often the formative years of our lives or when these things happen is we adapt. And I think that's the kind of remarkable thing about us is how adaptive we are. And those adaptations can often be very positive, but a lot of times they have negative, collateral or maladaptive consequences in addition. And some of those adaptations that are negative are addictions. Some of them are other maladaptive behaviors like anger. Some of them include things like codependency. So you can sort of look at people and realize that, hey, maybe that person who grew up in the home of alcoholics, even if it was an otherwise reasonably well-meaning home and it's not like they were getting hit with a belt buckle every night, but they weren't getting the type of attention that they needed. And their adaptation was to have an attachment disorder that wouldn't manifest itself really fully until they were apparent. So this type of analysis really, I think everybody needs to spend some time thinking about it and needs to spend some time asking themselves, hey, which of my behaviors are maladaptive? And it's something that's done and I think it needs to be done without judgment. This isn't about saying I'm a bad person because of X, Y, and Z.

Even though I think I can objectively look back at my own behaviors at that time of my life and say, those are awful behaviors. I'm not proud of those behaviors. But it's separating the behavior from the self. It's not saying I'm a horrible human. It's saying I'm a human who did horrible things and I want to understand why. I love that approach because I think about the maladaptive behavior patterns I had that stood in the way of my chance of emotional health and good relationships. And a lot of those stem back to my childhood and what I witnessed in my home and then the way that made me adapt and the beliefs it gave me about romantic relationships, for example. So I became totally avoidant of those until later in my life when I realized this pattern. The third point in your list of things that cause sort of, I guess, longevity of one's health span is that emotional health deterioration. So before we get into the other two, my question really was on that third point of emotional health, what for you has helped you to self analyze and become aware and to then get those things out of your way that stand a chance of costing you your emotional health? Was it therapy? Was it introspection? Is it journaling? Is it honesty with oneself? Well, I mean, in my case, I think the situation was so far gone that I actually had to go away on two occasions. So I had to go away in the first time for two weeks to an inpatient, like what's called a residential care facility, which was two weeks of like 14 straight days of 14 hours a day just doing trauma therapy in group and individually. And two weeks might not sound like a long time, but boy, that was about the most brutal, exhausting thing

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I'd ever done in my life.
And then again, I had to do it for three weeks
at a different facility.
So again, 21 days of inpatient treatment,
but also now really learning what the tools were
to manage myself.
How do I fix that behavior?
How do I manage it?
So it's sort of like you have an injury,
you go to rehab, there's an acute healing phase,
but then there's a, well, now you wanna make sure
you're strong and that you don't injure it again.
Cause that injury took place because of some weakness.
And that's not a perfect analogy,
but the point is, there's a reason
that your shoulder separated.
And we wanna make sure it doesn't happen again,
even once you're better.
And you sent yourself that choice?
Yes and no.
I mean, truthfully, I don't think I had a choice.
I don't think my marriage would have survived.
So I think it was,
I'm not sure I had a choice, truthfully.
So I went very reluctantly.
I did not wanna go.
But there was an ultimatum essentially.
Yeah.
Wow.
What was the greatest sort of gift that process gave you?
Oh, it gave me my life.
I mean, it literally saved my life.
Really?
For sure.
How?
Well, I don't think,
I don't think I would,
I just don't think I'd be alive today without it, right?
I think had I lost, I mean, I was on such a,
I was in such an awful cycle of,
I was in such an awful cycle of shame and self-loathing
and deterioration that I don't think I could have survived it.
So was that, that was a narrative in your head at the time

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that when you talk about shame and self-loathing,
that's what the voice in your head was?
Yeah, the voice is,
you are an awful human being.
That's why you behave this way.
And there's nothing that can be done about it.
You're born this way.
You are defective.
And this is what defective people do.
Look, in many ways, it's a lack of accountability, right?
It's sort of saying, you have no agency in this.
You can't change this because you are defective.
When they do an autopsy on you,
they will see something in the temporal lobe of your brain
that explains your pathology.
Were you able to discover the root cause
of that narrative in your head?
Yes, absolutely.
And more than that, I was able to get rid of it.
Really?
Yeah.
I'll give you one very tangible example.
I had a very, very vocal inner critic.
And I think, I'm sure many people listening to us
can relate to that, which is,
I was such a perfectionist.
I was such a workaholic.
But any mistake I made, I would eviscerate myself verbally.
So, and this was, I mean, this is mistakes that don't matter.
Okay, so one of my hobbies is archery.
I love archery.
So every day, almost every day,
certainly if I'm not traveling,
I'm gonna be out in the backyard shooting my bow and arrow.
Now, does anybody else care?
Nobody, right?
Does my livelihood depend on this?
No.
But if I'm not shooting well, I am screaming at myself.
I will break an arrow over my thigh.
And these are carbon arrows.
They'll leave welts the size of your finger.
One of the exercises we had to do was,

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and this was once I left the second therapy place
that was three weeks.
So one of the big realizations there
was that this was happening.
Cause that voice, like I didn't realize
that that was unusual.
So the exercise was every single day
until this voice goes away,
which I thought would never happen,
which meant I thought I was signing up
to do this exercise for the rest of my life.
You take out your phone and you talk into the phone
with a replacement voice for that voice
and pretend you're talking to your closest friend
as if it were them who made the mistake.
And I say, hey Chris,
I know you're having a bad day today.
I can tell it's hard.
You're not shooting well.
It's okay.
You know what?
Some days it's just not gonna go well.
Plus it is a little windy today, let's be honest.
That makes it a bit harder.
And why don't we just pack it up
and come back and try again tomorrow.
You know, just talk in a kind way.
Talk in the way you would literally speak to your friend.
And then I would send that recording to my therapist.
So every day my therapist is getting multiple versions
of these voicemails.
But this is important because I'm audibly doing this
multiple times a day.
And within about four months,
the voice just went away.
Really?
Yeah.
I've never come back.
How has it changed you as a father?
Oh my God.
How has it changed me as a person, right?
As a father, as a husband, as a boss, as a friend.
I mean, it's just, again, it makes me a little sad

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to think, oh God, I wish I knew this when I was,
I wish I did this at 25, you know,
instead of all of this, again,
I just think of all of the collateral damage in my life,
you know, all of the people near me who have suffered
unnecessarily as a result of, you know,
of me being a wrecking ball,
how much of that could have been prevented?
In some ways, this kind of comes back
to your very first question, right?
Which is, I'm 30, I'm invincible.
How do I get excited about this?
Look, maybe the answer is, as a 30 year old,
you don't need to get excited about, you know,
your nutrition and exercise and your sleep
as much as a 50 year old does.
But A, there's a lot of benefit to doing so,
because you'll get more benefit from it.
But maybe it's just focusing on emotional health
so that you get yourself fixed before you start a family.
Because I think, you know, and I think, you know,
I feel lucky, I think my kids are still young enough.
I hope that my kids don't have too many memories
of their dad in that state.
Your belief about where that came from,
although there's no evidence,
there's no memory of anyone, you know,
saying, oh, well, this happened and whatever else,
but is your belief that you weren't born with that
and that something might have happened
and you've kind of inferred that in some way?
Yes, I think that was a really, really important breakthrough
that happened on the 19th day of that second stint
I had in therapy, in that inpatient therapy session.
So that was a 21 day program
that I assumed was only gonna be 14 days
and at the end of 14 days, they needed me to,
they wanted me to stay another week.
Everybody wanted me to stay another seven days
and I was so reluctant at this point.
I was exhausted, I just didn't think I could do it again.
But they were adamant that I stay another week
and I knew the first time I had gone for two weeks and left,

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I left kind of against their recommendations
and I realized I never really got fully better.
I got somewhat better, but not fully better.
So I decided to just submit to them and say, okay, fine,
I will stay as long as you tell me to.
And it was on that 19th day that I had
perhaps the single most important revelation for me.
Again, this is very personal
and the point of this is not that everybody else
is gonna relate to this.
It's only that I hope everybody else is willing
to consider their own version of this.
But the last thing I could never let go of was
that I was born as a perfect child, right?
Like meaning we all are, right?
Not just me, but all of these kind of maladaptive behaviors
were the result of things that I didn't deserve.
And again, it's not all what we call capital T traumas.
It's not necessarily the abuse.
I mean, I think in my case,
perhaps the most impactful things of my childhood
were more like neglect and not traumatic,
not like the kind of neglect that has you,
you should be taken out of a house or anything like that.
I'm just talking about not getting a certain type
of attention that I probably should have had.
And for whatever reason,
that manifested itself in really odd behaviors
that as a kid, I just said, those are just bad behaviors,
but that's just who I was.
And I think what I realized is,
and what I finally came to accept is,
no, those are adaptations to something
that you didn't deserve.
And that might sound like a very subtle distinction,
but it made all the difference in the world.
And it made me realize, in part by looking at my own kids,
that there is a real innocence to children
that can very easily get injured.
And when it does, they're gonna make sure
that they don't get hurt again.
And the way they're gonna do that is, as I said,
initially in their best interest,

but ultimately it tends to result
in really negative consequences
for the way they formulate relationships with themselves,
for the way they form relationships with others,
for the way they're going to parent,
for the way they're going to be husband or a wife.
And so that was a huge breakthrough.
So important and so powerful.
And I don't think I've ever said this,
but really thank you for sharing that
because I got a lot from it.
And I've had lots of conversations about this,
but I've got a lot from that.
Specifically that point about didn't deserve for it to happen.
And really it's a response
that's trying to make sure you don't experience that pain again.
So it's really, again, it's your body is doing everything
in its power to help you and to protect you.
And some of these behaviors end up being maladaptive,
which then stand in the way of your chance of emotional health.
That is the third category of deterioration,
which is the emotional health deterioration.
So let's go a little bit earlier in the book
and let's talk about the decline
and the loss of function of our physical bodies as well.
Medicine 3.0, as we talked about earlier,
you talk about these five core things
that help to increase our chances of longevity
as it relates to our health span.
So what are those five things?
Well, there's the one we just talked about, right?
So all the tools that deal with
how do you improve your emotional health?
Again, most of modern medicine only thinks about,
if you think about where does medicine 2.0 rank on that?
It doesn't really accept in the arena of mental health, right?
When it comes to clinical depression, anxiety,
personality disorders, bipolar disorder,
there we have a branch of medicine called psychiatry
that deals with those things.
But outside of that, medicine doesn't really deal
with people like me.
None of my problems, quote unquote,

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rose to the level of a clinical diagnosis
that would require medical therapy.
Okay, tool two, exercise.
Again, we can talk a lot about it
if you want a little about it,
but the point is it is not remotely given anything
beyond lip service by medicine 2.0.
Medicine, if you go to your doctor here at the NHS
and say, okay, tell me what my workouts should be,
like good luck, right?
How much time should I be spending in zone two
versus zone five?
Like what type of lifting should I mean,
there's no way they're going to give you
that type of insight or specificity.
The third one is nutrition.
Again, sure, every doctor is gonna tell you,
eat less, exercise more,
but they're not really, for the most part,
going to be able to help you manage nutrition.
Certainly I didn't learn anything about nutrition
or exercise when I was going through my medical training
and most physicians don't.
So I'm not saying that there aren't doctors out there
who don't understand these things.
What I'm gonna say is they had to learn that stuff
on their own outside of their traditional training.
So crazy.
The fourth one is sleep
and that fits in the same category.
Sleep is an essential pillar of health,
but we learn nothing about it in our medical training.
In fact, most of our medical training
is paradoxically sleep deprived.
So it's sort of, it's a great irony.
The fifth and final thing that you have as a tool
in the Longevity Toolkit is all the molecules,
so drugs, hormones, supplements.
And there, that's the one thing you sort of do learn
in traditional medicine,
is you at least learn about the pharmacologic side.
But you don't really learn anything about supplements.
So most doctors don't really understand much

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about supplements.

And interestingly, most doctors don't really understand a lot about hormones as well.

So Medicine 2.0 is good at what it does, but it's very limited.

So it's kind of like having a contractor that only has one tool instead of five tools.

And as we discussed earlier, I think they're applying those tools too late in the game.

Let's start with exercise then.

How can you prove to me that exercise is important?

Yeah, it's a great question.

So start with, the easiest way to do this is to look at what the absence of exercise does versus looking at the absence or presence of other known bad things.

Now for me to explain this,

I have to explain a technical term called a hazard ratio.

So if you'll bear with me while I explain what a hazard ratio is,

it will reap lots of fruit later on.

A hazard ratio is a mathematical derivation that comes from looking at a group of people, following them prospectively, following them into the future, and looking at the rate at which they die.

So a hazard ratio is a number.

If that number is 1.5,

it means that there's a 50% increase in the risk of death for one group versus the other.

So for example, if we want to know, is smoking bad for you?

We might ask the question, what is the hazard ratio for smokers to non-smokers when it comes to getting lung cancer?

Okay.

And the answer is like 10.

Really?

You're about 10 times more likely to get lung cancer if you're a smoker than if you're a non-smoker.

Now, if you look at the hazard ratio across the course of life for all causes of death, it's about 1.5,

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meaning a smoker is about 50% more likely to die in any given year than a non-smoker.

Which you call all-cause mortality.

All-cause mortality is the gold standard for understanding death and disease, because it takes into account every form of death.

Okay.

Okay.

What if you have type two diabetes?

Everybody understands that having type two diabetes is very problematic, and people with type two diabetes are at about twice the risk more or less of cancer, heart disease, maybe one and a half times the risk of Alzheimer's disease.

But when it comes to all-cause mortality, every cause of death, it's about a 1.4 hazard ratio.

40% more.

40% increase in all-cause mortality.

Again, that's a stark number.

It means at any moment in time, if you take two people who are otherwise always identical, but one has type two diabetes and one doesn't, this person has a 40% higher risk of dying in the coming year.

In the coming year?

Yeah.

Jesus Christ.

Yeah.

Wow.

Okay.

We could keep doing this.

What if it's high blood pressure versus normal blood pressure?

That's a hazard ratio of about 1.2.

20%.

Same, everything I just said, but it's 20%.

Okay.

What if it's someone who has end-stage kidney disease?

Their kidneys don't work anymore.

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They're on dialysis, hanging by a thread,
waiting for a kidney transplant.
It's about 2.7.
That's a 170% increase
in all-cause mortality in the subsequent year.
Okay.
Now, let's talk about some other things.
What if I ask the question,
what happens if I take a group of 50-year-olds,
pick any age, pick any sex,
and we're gonna take the top 15% to 20% in strength
and compare them to the bottom 15% to 20% in strength
for that age and sex?
What's the difference?
What's the hazard ratio there?
What would your guess be?
20%, 10%.
Yeah, so 1.1 to 1.2?
Yeah.
It's three.
Shit.
200% difference in all-cause mortality.
Can you make a distinction between strength and muscle mass?
Okay, yep, we can do it.
So muscle mass, just if we did it just on muscle mass,
it's about two or a 100% difference.
So muscle mass turns out to be an amazing proxy for strength,
but strength is even better.
Okay.
Yep.
So high strength and high muscle mass
produce a hazard ratio of about 3.5.
Okay, because you can have a lot of muscles,
but not be strong.
Yeah. Kind of.
And you can be strong and have not as much muscle.
And that matters more, by the way.
But they're pretty tightly correlated.
Okay.
Yep.
Now let's look at VO2 max.
So VO2 max is the best tool we have
to measure peak cardiorespiratory fitness.

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So this is a test that you actually have to take.
It's done on a treadmill or on a bike.
They put a mask on your face.
And then the mask measures how much oxygen you use.
So in the book, I talk in great detail about this test.
It's something anybody can do.
It costs probably a hundred quid.
It's not like super expensive.
And everybody should know their VO2 max.
I really think everybody should know it.
And in the book, I even offer some ways
that you can estimate it just by running at a track
or something like that.
So...
Sorry, it's the measure of how much oxygen you're inhaling
and exhaling?
No, yeah.
The difference between how much you inhale and exhale
is how much you're using.
So the way the test is working
is there's a little oxygen sensor.
So if you're breathing in,
we know that the area you're breathing in is 21% oxygen.
We know the flow rate.
And let's just say you're blowing it out at 14%.
So we know you used up 7% times the flow rate.
We figure out how many liters per minute of oxygen
you're using at the max.
And what's good and what's bad?
Yeah, so it depends on your age and sex.
But at your age, so for a 30-year-old male,
we would say, oh, I need the table is in the book.
Really, I could estimate it,
60, 50, 56 would put you in the top 2.5%.
And that means that I'm...
Oh, sorry, what's that number mean?
Yeah.
That's 56 milliliters of oxygen per kilogram
of body weight per minute.
Okay, so a high number...
How much do you weigh?
None of your business, I'm checking.
How many kilos?

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I think I'm 96 kilograms at the moment.

Okay.

I'm very heavy.

So you would need to be 5.3, 5.4, 5.5 liters.

Yeah, no, no, yeah.

You'd need to be about 5.5 liters per minute.

You would need to consume 5.5 liters of oxygen per minute to come out to about a VO2 max of 56 or 57 milliliters of oxygen per kilogram per minute.

That would put you at the top 2.5% for your age and sex.

So I'm trying to figure out, is taking more oxygen from the air that I breathe, a sign of good health?

Yes, it means it speaks to how fast and hard your heart can pump and how good your muscles are at utilizing oxygen.

It is the most important metric we have for peak cardiorespiratory fitness.

And so if we're going a bit too...

Because I really want to understand this.

And I'm sure there's a lot of people that's trying to understand this as well.

So what are the things that stand in the way of good VO2 max in terms of my...

And also the lungs.

Yeah, it turns out that not much of it is limited by the lungs.

So the question is where are you limited?

Okay.

Okay, so how does this test work?

Do you prefer to run or bike?

I prefer to bike.

Okay, so we're going to put you on a bike.

We're going to put this mask on your face that allows no other air in or out.

It's only going to be metered by what's coming from the machine.

The bike is going to be one that has forced resistance to it.

It's called an ergometer.

So we're going to set it to 100 watts nice and easy.

I'm going to tell you to warm up for a while.

And then after a 10 minute warmup,

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it's going to start increasing the power
that you're forced to pedal against.
Okay.
And every two minutes,
we're going to add some amount, 25 or 50 watts.
And you're going to say you have to stay above
about 70 RPM.
And this test is going to go until you can't do it anymore.
It's going to go till you basically drop.
So what's limiting you is clearly not the amount
of oxygen in the air.
And it's actually not the ability of your lungs
to get oxygen into your blood.
You're limited by how hard and fast your heart
can pump that blood through your body
and how efficient your muscles are
at taking the oxygen out and using it.
And the difference between,
so again, a 30 year old who's in the top 2.5%
of their age group might be at 56, 57.
But to put that in context,
the guy who wins the Tour de France this year is 85.
Wow.
And by the way, when that number reaches 20
or certainly 18, 19,
you have a hard time just getting around.
Like you wouldn't be able to walk up a flight of stairs.
That gives you a sense of the gradient.
Now, let's get to my point that answers your question.
You asked, how can I say exercise is so powerful?
Well, what do you think is the hazard ratio
when I compare someone at the top 2.5%
to someone at the bottom 25%?
In terms of VO2 max.
Yes.
The top 2% versus the top bottom 25.
Bottom 25%, that's quite big.
Top 2% is quite narrow.
I'd say 1.5, which is what 50%.
So you think it's less important than strength?
Because we've just established for strength,
that's about three.
So I'm just, I'm increasing it now

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because I was so wrong on strength.

Yeah, yeah, yeah.

You see what I mean?

Well, what would I have said

had you not told me the strength one?

So.

By the way, I think your guess is a completely reasonable guess

because the answer is so absurd.

I'm gonna say 1.5 hazard ratio.

It's five.

Five.

Which means 400% difference in all cause mortality.

If you compare the fittest 2.5% to the least fit 25%.

Wow, so it makes a huge difference.

So this is why I can say with absolute certainty,
nothing compares to exercise.

Nothing compares to having a high VO2 max,
high muscle mass and high muscle strength.

They are more beneficial for you
than any bad thing you can think of is bad for you.

Why is the muscle mass piece so important
and the strength piece?

Why is that causing me to stay alive?

I think there are several reasons.

As you get, so there's,

I put them in two buckets, structural and metabolic.

Let's start with the latter.

Muscles are where you dispose of glucose.

So glucose regulation is one of the most important
metabolic functions of the body.

Our ability to metabolize glucose
and regulate glucose levels is central
to our existence on this planet.

And when we get it just a little bit wrong,
we go to hell in a hand basket.

That's what type two diabetes is.

Type two diabetes, raging type two diabetes
only means you have an extra five grams of blood sugar,
one teaspoon in your circulation.

That's it.

The difference between you and someone
with type two diabetes so bad
that they're going to get their digits amputated

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is an extra one teaspoon of glucose in the bloodstream.
That's how critical it is that we regulate our blood sugar.
And the most important part of blood sugar regulation
is having muscles that are big enough
to put the glucose into
and that are insulin-sensitive enough
to respond to the signal of insulin.
And glucose is stored in just a couple of places
in our body, right?
It's only stored in the liver and in the muscles,
but the muscles store 80% of it.
Okay, so muscles are really, really good
for glucose regulation
because it gives the sugar more place to hide.
That's right.
So the other reason muscle mass and strength
is so important is as we age,
fragility and frailty become an enormous liability in death.
There's a figure in that book
that shows the mortality associated with falling
and it becomes catastrophic once you hit the age of 65.
Once you hit the age of 65,
if you fall, which is pretty likely,
and you break your hip or your femur,
the long bone in your leg,
there's a 15 to 30% chance you will be dead
within the next 12 months.
Really?
Yes, it's insane.
Because you become sedentary?
Yeah, there's a lot of reasons for it,
but certainly a loss of function is a big one.
You can also just die as a result of hitting your head.
You can die from a fat embolism or a blood clot.
You can die from sepsis.
You can die from a heart attack because you,
there's so many things that can kind of kill you
in response to it.
But even the people,
the 70 to 85% of people who don't die,
50% of them will experience a significant loss of function
that never recovers after.
So this issue of sarcopenia,

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which is loss of muscle mass and frailty and fragility,
become the absolute keeper of death
for people once they reach the seventh decade of life.
Again, if you're 30 years old,
it's impossible to fathom this stuff
because you're indestructible, even at my age.
I mean, I feel indestructible and I'm 50, but this changes.
And we have to do all we can to ward it off.
So that's why muscle mass matters so much.
There's this kind of longstanding belief
that as you age, there's so many,
it's just kind of inevitable.
You put on fat, you know, you slow down.
And you're saying, and I think you communicated
very clearly in the book
that it doesn't have to be inevitable,
all of this stuff, to some degree.
Well, I mean, look, I'm very,
I'm very careful to try to be as realistic as possible.
I get a little put off when I see people
in this sort of quote unquote longevity space
saying things that I think are just science fiction, right?
Like, oh, at 90, you can be just as fit
as you are at 40 and stuff.
And I see zero evidence that that's happening.
I don't see any biotechnology on the horizon
that is going to completely and reversibly change aging.
Yet?
I don't think in our lifetime.
No, and this is something I spend an absurd amount of time on,
both as an investor and just as a person
who thinks about this from my own podcast
and the types of guests that I bring on
and the type of science that I'm paying attention to.
But no, I really do not see anything in our lifetime
that is going to undo aging.
I think we have some ideas of places we can look, right?
I think that, for example,
if you could completely restore the epigenome
to what it looks like in a young state
across the entire genome,
I think that could have a profound effect on function.
But do I see ways that we could do that?

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It's a longer discussion,
but I think the complexity there is many, many decades away.
That said, what I think we do not need to do
is accept the complete and total inevitability
of rapid decline.
So the decline is non-linear.
This is the important thing to understand.
So what was your decline from 20 to 30?
Wasn't that bad?
No.
And from 30 to 40, it's not going to be that bad.
From 40 to 50, it's going to be more.
From 50 to 60, it's going to be even more.
From 60 to 70, it's going to be way more.
And 70 to 80 is falling off a cliff.
So if you look at this,
actually one of the figures I wanted to include in the book,
but you're always sort of scrapped for space,
so we took it out.
But I have a figure that shows both muscle mass
and spontaneous physical activity in people by decade.
And it's just based on like a huge data sample of people.
And it's really interesting to watch the correlation,
how strong it is, right?
So physical activity and muscle mass go like this,
and they just fall off a cliff.
And the cliff for both is 75 for both men and women.
Like that's where you see an enormous reduction
in muscle mass and activity level.
Because of behavioral stuff?
Well, I think it's a, you know,
the age-old question is,
are they losing muscle mass
because they're becoming less active
or are they becoming less active
because they're losing muscle mass?
And I think it's both.
I think these two feed off each other.
And they get harder, right?
Presumably, because what you said about
the quality of the muscle as well.
That's right.
So you have to ward this stuff off, right?

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I mean, as your type two muscle fibers are deteriorating and you're putting more fat into muscle, the quality of that muscle, you go from being, you know, primed to Wagyu. So you have to ward that stuff off, right? And the way to ward that off is to lift very heavy things. That's the only way to stimulate the type two muscle fiber. This type two muscle fiber won't get stimulated by light movements. So it's not just that resistance training is necessary, but it's resistance training that's actually quite heavy. People will hear that, they go, okay, they get it. They're on board, they're gonna exercise. How much do I need to do? Because listen, can it be, is it, I've got to change my whole life and exercise seven days a week and run marathons now, Dr. Peter, or is this, what would you recommend? What would you prefer? So I always start this question by saying, how much can you do? But okay, I'm gonna play devil's advocate here. I'm gonna respond as one of my viewers might, I'm gonna say, listen, I'm so busy. You don't understand, Dr. Peter, I'm, I've got kids. I've got this, I've got a job. I'm already, I already have no time. I'm not sleeping out here. So I don't have any time. I mean, it requires a thorough discussion around that. Is that really true? No, of course it's not. Yeah, so then you have to get into the weeds. Like how much time are you watching TV? How much time are you on social media? How much time are you doing things that might not be as high a priority as doing this other thing? So once you kind of get through that, I do sort of put it on them and say, I would much rather you tell me the number than I tell you the number. I can tell you what I think the number is, right? Like if you're playing the optimizing game

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and if you're saying,
I want to be the absolute best fittest version
of me that is humanly possible when I'm in my 80s,
how much do I need to be training for that?
The answer is probably one and a half to two hours a day.
One and a half to two hours a day, seven days a week.
Yeah.
I mean, of course it's not gonna be the same every day
and it looks different,
but it's gonna average out to 10 to 14 hours a week.
But rather than tell somebody that,
cause I think that's very off-putting.
Yeah.
I would just say, just tell me what you got.
If you tell me you've got five hours a week
that you can do this,
I'll give you a great set of things you can do in five hours.
And my hope by the way is six months from now,
you're gonna feel so much better
that you're gonna say, you know what,
I would like to up this to seven hours a week.
What's the difference in all cause mortality
if I go from doing zero exercise to doing just a bit?
Yeah, that's a great question.
And for some people,
that question is all they need to get started.
Going from zero activity to just 90 minutes a week
is about a 15% reduction in all cause mortality.
So I'm 15% less likely to die.
In any given year from all causes,
if you go from being completely sedentary
to just doing 90 minutes a week.
Which is only like, what, I know,
15 minutes a day, 12 minutes a day.
Yeah, or just three times 30 minutes a week.
That's a huge, that's a huge shifting
of very important odds.
Yeah.
And truthfully, I probably spend more time convincing people
not on the all cause mortality data,
but on the health span data.
I thought so.
Because people don't, we don't think about a death.

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Yeah, death is so abstract.
It really, I don't think it,
I don't think it even sets in until you're in your 50s.
Like I think it's very,
it's very hard to capture the finitude
of what it means to be a human when you're young.
I think it's true at all ages,
but I really think it's so much better
to just focus on the quality of life you wanna live.
What do you wanna physically be able to do
throughout your life?
And it's easier in people
who have been around aging people.
Yeah.
Which again, a lot of people in their 30s,
their parents aren't even necessarily old enough
that they can fully appreciate it.
They might have to think,
well, do I still remember what my grandparents were like
at the end of their life?
And was I inspired by them?
And if so, that's what I wanna do, great.
And if I don't want what they had,
which is the answer I think most people
will have, then what do I need to do to be different?
What was it for you?
I remember what it was for me.
Yeah, for me it's, again,
I didn't know my grandparents.
I suspect just my training in medicine.
Like I was around so many people at the end of life that,
like, yeah, it was just imprinted early.
Mike, I told this story once or twice
in this podcast before,
but I was in Bali walking down some long set of stairs.
When I say a long set of stairs,
I mean down the side of a cliff,
going down to canoe with my partner.
And I was walking down those stairs in the sunshine,
it dawned on me that my father
probably couldn't walk down these stairs.
And my dad is maybe 60, 65.
And I thought he wouldn't be able to come down these stairs,

which means he wouldn't be able to go canoeing with his family.
And we share a lot of genetic information, me and my father, of course.
So that was one of those real big moments.
And actually Jack, who films a podcast, after I shared that with him, and we had some guests on the podcast, he shared with me his own moment where he was climbing a mountain, I think last month, weren't you Jack?
And he got to the top of the mountain and thought to himself, God, like it was such an unbelievable experience for him, that he, correct me if I'm wrong.
It was an epiphany moment, you go, I won't be able to climb this bloody mountain with all these people and feel this sense of accomplishment if I, and it's those moments for me where I thought, fuck, this is, that's my health span.
I want to be able to do this.
Yes.
You wrote one of the chapters in your book is about stability.
Found that really surprising again.
I'd never even come across the concept of stability or why it's important.
That's why it needed an entire chapter because it is a very foreign concept.
Chapter 13, stability, why?
Why is it important?
And what does it mean?
Yeah, I think this is, stability is a difficult thing to explain.
I mean, you can sort of talk about it technically, right?
Stability is the capacity to transmit force from the body to the outside world and from the outside world back to the body without injury.
So anytime you're taking a step, you're applying force to the ground.
That's what's allowing you to walk forward.
So you apply force to the ground, the ground applies an equal opposite force to you,

that's Newton's law, and you move forward.
When you're running, why are you going faster?
You're going faster primarily
because you're applying more force to the ground
and therefore the ground is applying more force to you
and that's propelling you forward.
The difference between me and Usain Bolt,
among other things, is his capacity to apply force
to the ground is two and a half times my ability
to apply force to the ground.
So in all that force, how do you make sure
that the action of the force mechanism
is all for the desired purpose, in this case propulsion,
and not for undesirable purposes like leaking of energy,
which is what it feels like when your knee hurts,
when you're walking down the stairs or your hip
or something like that.
So the analogy I use in the book to describe this
is that of a car, because I love cars,
and I talk about the difference
between a race car and a street car.
A race car can be even half the power of a street car
in terms of horsepower,
but because it's smaller, lighter,
and has a stiffer chassis and slick tires,
much more of its power is being delivered directly
to the road without slippage or energy loss,
and therefore it's going faster.
And so this idea is a very important part of aging.
So most people who have some sort of chronic injury,
it can really be traced back to an instability,
whether it be an instability of their scapula,
and that's why they really have tennis elbow
or an instability in their abdomen, in their lower back,
and that's why they have back pain,
instability in the feet that translates its way
up into knee pain.
All of these things matter greatly,
and a big part of how we train is making sure
that we do exercises that bolster our stability.
Again, this feels very relevant to me
because I'm currently got a grade three tear
on my hamstring, got a groin problem,

so I'm on physio for the grade three tear.
How'd you tear it?
Playing football,
but I have a couple of suspicions surrounding it
because about a month before,
I got the foot pain that they call...
Plantar fasciitis.
Plantar fasciitis.
So I went to the, I think it's called a podiatrist,
and I got my foot x-ray things done
where they give you the insoles,
and then following that, I got loads of injuries.
I think my hypothesis is that I took these insoles,
put them straight in,
and then proceeded to do two hours of football,
basically running a day.
And I think something in me just broke
because I suddenly got all of these injuries.
And then I was meant to be playing
at Old Trafford Manchester United's football ground
in front of 70,000 people.
And the day before in training,
I pulled my hamstring.
And I think that everyone's been speaking to me
about my injury and saying, well, you know,
maybe it was something in your lower back,
and maybe this, and maybe your feet weren't, whatever,
kind of rings true to what you're saying about stability.
I clearly have something which is not,
wasn't prepared for me to suddenly start training
for two hours a day.
And everything started breaking.
Well, and look, I mean, it's hamstring injuries
are very stubborn injuries.
And a lot of people are really imbalanced, right?
Much stronger quads than hamstrings.
My personal take is,
and I'm sure I'm gonna really upset some podiatrists here,
I think that insoles,
foot inserts, arch support,
probably should be reserved only for some people.
And most people actually need to learn
to strengthen the intrinsic muscles of the foot.

And that that's the issue that's underpinning the plantar fasciitis.
And once you have a, because by the way, your foot is not that much different from your hand in terms of the amount of musculature in it. And yet if you think about the dexterity that you have with your hands and the strength that you have in your hands, I think you'd be surprised at how weak your feet are. And I don't just mean you, I'm not singling you out. I mean, I think this is true for most of us because shoes really shield us so much from what our feet should be doing. So yeah, I think your hypothesis is actually probably spot on. And I think what you really need to do is strengthen your feet so that your arches can self-support and that you can sort of regain the springiness that is within your feet. I spoke to Dr. Daniel Lieberman about this. Yeah, yeah. He said the same thing. He said your feet were too weak. And it makes perfect sense to me because I do not think about, I always think in terms of my ancestors. And I think my ancestors didn't walk in these cushioned, blitz-yaga shoes. They were out, barefoot, building up the strength. And so when I went from my cushioned blitz-yagers to suddenly training two hours a day on feet that just didn't have the muscles, of course, I pulled loads of, I had all these issues. And so I actually changed my footwear and I don't have the insoles anymore. And I'm now using these Vivo barefoot shoes. Do you recommend those? Do you think they're good? I do. I mean, again, I think there's lots of companies that make them. I wear a brand called Xero, like X-E-R-O. But the Vivo barefoot's a great brand.

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And yeah, I think that a minimalist shoe is a great way to go.
I have the luxury of basically working from home.
So I'm pretty much barefoot, 24-7.
I work out barefoot at my own gym.
Like I'm in my, and then when I do my activities, like my rucking and stuff like that when I'm outdoors, like I'm in a wide-toed shoe that is, at most would have maybe an eight millimeter increase in heel, but yes, minimalist shoe.
Now, one thing to keep in mind is if you're transitioning from big shoe to minimalist shoe, don't do it all at once.
So you can also injure yourself in the right shoes if it's too much too soon.
They did say that to me when I bought them.
They said, just like sort of ease yourself in because you need to build up the muscles in your feet.
Super interesting.
No one's ever spoken to me about this before, but I just find it so,
I'm like, why didn't anybody tell me this?
I mean, we do a lot of things.
If you think about it, like think of all the things we do to kids at such a young age that set them down the wrong path, right?
We put them in big shoes when they're little.
We put them in desks to sit down in class and we take away a lot of physical activity.
Comfort, we prescribe comfort to everything and ease, convenience.
Have you read The Comfort Crisis by Michael Easter?
No.
Oh man, such a fantastic book.
And it talks about this.
Oh yeah, I mean, it's really the whole thesis of the book, right?
Is that we have engineered discomfort completely out of our lives.
And it's an enormous problem, both for our physical and mental health.
The answers are actually quite simple when you reflect upon it.

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And you go, how are we born to live?
We're so far away from how we were born to live.
And if I just followed more of the instruction manual
of my ancestors, maybe I wouldn't have all of these kind of,
you know, modern issues with that comfort
in many respects has caused me.
But it's tough because you have to sort of think about
what is the, there are a lot of gifts
that come from the modern world, right?
And like, I don't think you would want to go back
in time a hundred years and be alive.
I probably wouldn't live very long, would I?
Yeah, I mean, and let's even make it less than that.
Like, let's say even 70 years, like, you know,
once we're through the sort of infectious pandemic stuff,
right?
Like, would, you know, would we really want to go back
and be alive 70 years ago, just before World War II?
I mean, I wouldn't.
Like, yeah, they had electricity and stuff,
but I like the modern world.
But there's a huge set of responsibilities
that comes with the modernity of our world today.
Food is so abundant today.
I mean, these people did not struggle with obesity
because they weren't surrounded by really tasty,
hyper-palatable, calorie-dense food in total excess.
We are.
That means we have to exercise some moderation.
Most of them had far more physical jobs than you and I do.
I mean, you and I don't have to lift a finger
to make a living, whereas 75 years ago, we probably did.
And it's great that we don't have to.
I think you could argue, look, you're having
a far bigger impact on the world
than you would have ever had 75 years ago,
but that comes with a responsibility to yourself.
Is this why we're seeing this sort of resurgence
of discomfort as a hobby and a sport
in an industry?
I think so, yeah, I think so.
And again, Michael writes about this so well.
They write about, he writes about things called misogies,

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which are these very, very difficult, challenging things that you might have yourself do once a year.

He also writes a lot about something that is just an enormous hobby of mine called rucking.

Are you familiar with rucking?

So rucking is something that,

I think it was probably started by the military.

And it's really how the military does the great majority of its conditioning.

And it's walking with a weighted backpack.

And I mean, the military will do this,

but they might go on a 24-hour ruck where you're carrying half your body weight.

Wow.

So picture you carrying, in your case, right, like close to 100 pounds on your back for a day.

And so there's actually an awesome company in the U.S.

called Go Ruck that makes really good rucksacks that are just ergonomically designed

to put weight plates into,

and then they sell these plates and stuff.

So, I mean, this has become a total obsession of mine.

So I ruck three or four times every week.

And luckily, where I live in Austin, Texas, it's incredibly hilly.

So it's just up and down, up and down very steep hills.

And I'll go anywhere from, you know, 50, 60 pounds

on some days, I'll really push it

and go up to 100 for shorter rucks.

And, you know, I'm only doing it for like an hour at a time,

but it's very hot where I live in the summer.

So it's just, it adds an extra layer of discomfort,

but it's great.

Yeah, because I don't know whether it's just

what the circle I'm exposed to

and the information I'm exposed to,

but it just seems like all of these ultra athletic,

you know, painful, long distance sports

have become super popular.

The Spartans of the, you know,

I actually just recently invested in one

because of this very reason,

because I'm seeing this comfort crisis.

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And I always think that when there's one,
when one pole rises, the other one also rises.
So when digital music record, you know,
old school vinyl records became big.
And I think in a world of comfort,
people are going to seek out extreme discomfort.
And it sounds like you're doing that with your rucking.
Yeah.
If you've been listening to this podcast
over the last few months,
you'll know that we're sponsored and supported by Airbnb.
But it amazes me how many people don't realize
they could actually be sitting on their very own Airbnb.
For me, as someone who works away a lot,
it just makes sense to Airbnb my place at home,
whilst I'm away.
If your job requires you to be away from home
for extended periods of time,
why leave your home empty?
You can so easily turn your home into an Airbnb
and let it generate income for you,
whilst you're on the road.
Whether you could use a little extra money
to cover some bills,
or for something a little bit more fun,
your home might just be worth more than you think.
And you can find out how much it's worth
at [Airbnb.co.uk slash host](https://airbnb.co.uk/slash/host).
Sugar is an interesting topic,
because it's really been demonized, I think,
and maybe rightfully so.
But I wanted to talk to you about sugar,
because it's actually been really front of mind for me lately.
And when I say, literally, in the last 48 hours,
I went away to a wedding,
and I remember they didn't have a lot of drinks,
so I was opting for the sugar-free drinks,
the things that say no added sugar in them,
like, you know, I won't name them sugar-free drinks,
but sugar-free drinks.
Like, you know, I won't name the brands,
but the ones that have zero and diet on them.
First question is, is sugar the devil,

as people have become to tell me?
And also, if I'm drinking these zero drinks
with the diet and the zero on it, am I in the clear?
This is a very complicated topic,
and I think it's one that's also very contentious.
And it's also one in which I've probably,
my thinking has probably also evolved
as the science, I think, has kind of evolved.
So, let's start with what I don't think anybody disputes.
I don't think there's anybody out there thinking
that high-sugar foods are somehow nutritious, right?
That's not the question at hand.
The question is, calorie for calorie,
is sugar somehow different from,
let's just limit it to other sources of carbohydrates?
So, what is sugar?
So, I'm assuming when you're talking about sugar,
you're talking about sucrose or high fructose corn syrup.
Those would be the two dominant forms of sugar.
But just to demystify it,
sucrose, which is the white powder
you would put in your coffee or tea,
that's just one molecule of glucose
and one molecule of fructose stuck together.
That's table sugar.
And if you contrast that with pure glucose,
so like eating rice, it's basically pure glucose.
It's gonna be broken down into pure glucose.
How different are they?
Well, obviously the thing that differentiates them
is the fructose.
That's the thing that's different.
Now, it's true that fructose has a very different
pathway to be metabolized.
The body breaks down fructose in a very different way
from the way it breaks down glucose.
And by breaks down, I mean it gets energy from it.
The whole purpose of eating is to make this thing called ATP.
ATP is the currency of life.
It's the currency by which energy
is transmitted throughout the body.
And the way we make ATP out of glucose is,
I think I can probably say this,

smarter than the way we make it out of fructose.
The way we make it out of fructose has a problem,
a slight problem.
Now, it doesn't really matter
if you're not consuming a lot of fructose.
But if you're consuming fructose in a liquid form,
it has a real problem.
I.e. if you are drinking sugar, there's a real problem.
And the problem is this.
When you make ATP out of fructose,
you temporarily deplete the cell of energy
to the point where more energy is needed.
This is just a consequence of the speed
at which we metabolize fructose.
We do it quickly all the time in this way.
But if you're eating an apple, for example,
it's not really an issue
because yes, the apple has fructose in it.
But it's not that much and you're eating it.
So it's a piece of solid food with fiber and water
that's taking a long time to exit your stomach.
But if you drink a big glass of apple juice,
well, I mean, first of all, that's much more fructose
and it's liquid and it's just going straight out
of your stomach and your liver is gonna encounter it
much sooner as is your gut.
And therefore, you're much more likely
to wanna eat more after.
In other words, it creates more of a hunger response.
So the real issue with sugar is calorie for calorie,
is it more damaging than just glucose?
I actually think the answer to that question
is probably not.
Really? Yeah.
But in the real world, is that possible?
In other words, if I put you in a metabolic ward
in a hospital where you had no control over what you ate
other than me putting it in front of you
and I gave you two different diets
and one was higher in fructose than the other,
I'm not convinced it would make that much of a difference.
It's possible it would if we went to extremes.
Maybe at a high enough fructose level,

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we might actually induce more fat production in the liver.
We might actually create some fatty liver disease,
maybe even drive insulin resistance.
But I might have to go pretty high on that.
But the real problem is if I just let you have
as much fructose and sugar as you wanted,
you'd probably end up overeating in response
to this energy depletion thing.
So I don't sort of describe myself
as like a hardcore sugar avoider.
I mean, like we're here in London and I mean,
I'm gonna have dessert probably most nights, right?
I'm on vacation.
But I also acknowledge it that it's like not something
that I wanna be eating on a regular basis,
just added sugar all the time.
I don't drink sugar sweetened beverages.
That's definitely a place where I draw a line.
So I think there's something about liquid sugar
that is more problematic than solid sugar.
So I'd rather eat my sugar and at least have the benefit
of it being more slowly absorbed than drink it.
What's at least diet drinks though?
Yeah, so look, I don't drink them personally very often.
And in part, that's, I think due to a little bit
of uncertainty I think we still have about their impact
on our metabolism through our gut.
I think there's, I think there were emerging data
that suggest that at least certain non-nutritive sweeteners,
like things like, well, in the US,
it's like nutrisweet.
I think it's aspartame is the underlying agent
or saccharin or sucralose.
I think there's some suggestion that the effect
that they have on the bacteria on your gut
might be detrimental to your health.
I think it's too soon to really say that,
but my view is...
Don't take the risk.
Well, I don't need to, I suppose.
I love soda water, like I love carbonated water.
So I'm just happy to drink that.
But I'm sure once a month,

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I'm gonna have a Diet Coke or something.
But it's not a regular thing, but I will say this,
when I see people who are struggling,
for example, with weight loss,
and they're drinking four Diet Cokes a day,
one of the first things I'll do is have them stop completely
and replace that with just water or sparkling water.
Why?

I'm not sure, I just empirically have seen,
even though they're not getting any calories,
that A, either it's impacting their eating behavior
when they're not drinking the Coke,
or maybe it's having some negative impact on their gut
that is impacting the way they're metabolizing their food.
This is rather unscientific at this point,
but it's just empirically something I've observed.
Everyone cares about weight loss.

It's such a big topic.

Everyone wants to lose weight.

I mean, as you clearly specify, people wanna lose fat.
They don't wanna lose weight, people wanna lose fat,
which is something I heard you say.

What are the biggest misconceptions in your mind
about weight loss, because I guess the narrative is,
to lose weight, you just need to eat less.

That's kind of the, is that true?

And what are the big misconceptions that you hear
that we need to overcome?

Yeah, I think that is largely true.

I think that eating less is the more important step
towards weight loss, and that the role of exercise
is important, but less because of just the straight number
of calories you burn.

In other words, the increase in energy that you expend
through exercise is usually offset by increased appetite.

You use the word calories there.

Yeah.

Contentious words sometimes.

It shouldn't be.

People have come on this podcast and told me
that calories are, like the concept of it,
it's kind of like a lie, in the sense that they're not all
even, some fat, you know, a stick of celery

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has this many calories, and then when you boil it,
has this many calories, and it's...
Well, yeah, I think people tend to get a little off
in the weeds on stuff that might not matter that much.
Yeah, it's certainly true that not all calories
are absorbable the same way.
And an example of celery is a pretty extreme example
because so much of celery is an insoluble fiber, right?
So most of the mass of celery is water and insoluble fiber.
There are virtually no calories in celery.
But at the end of the day, it's not rocket science
to figure out how many calories you're ingesting
in a certain amount of food.
And the truth of it is, if a person wants to lose weight,
as you said, what they really wanna do is lose fat mass.
I've never met anybody out there who says
I wanna have less muscle.
So we wanna have less fat,
and therefore we have to create an energy deficit.
Now, there are other elements to this that matter.
So we just wanna leave on the side
that if you're sleep deprived,
you're gonna be very insulin resistant.
That's a much easier path to being overweight.
Not sleeping.
Not sleeping, right?
So you can't correct a weight problem
without correcting a sleep problem.
What about a stress problem?
Yep, that's even harder to correct
because it's harder to measure.
But yes, hypercortisemia, high stress,
makes it very difficult to lose weight.
My partner said this to me this weekend.
She was trying to figure out how in one stage of her life,
when she was, in her words, eating very, very healthy food,
she says, I still wasn't losing weight.
And she hypothesized in the car as we were driving
that she thought it might be to do with her stress levels
at that time in her life.
And I remember thinking,
oh, that's an interesting hypothesis.
Yeah, so high stress, poor sleep, inactivity,

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all of those things will make it very difficult to lose weight even in the presence of whatever perfect diet you're on.

So those things have to be addressed, right?

You have to be sleeping well.

You have to be active

because activity increases insulin sensitivity.

And we want those muscles to be sensitive to insulin

so that they quickly get glucose out of circulation.

And also exercise increases the sensitivity of your brain

to what are called satiety hormones,

the hormones that tell you when to stop eating.

So, and the difference between an exercising person

and a non-exercising person

is that that non-exercising person

has a blunted response to those hormones.

So sometimes they're eating

when they don't need to be eating.

They're not getting the message that says,

we have enough nutrition on board.

Now, anybody can blow through that signal,

but I would like to know that that signal is there.

So when all of that is said,

the question then becomes,

how do you create an energy deficit?

And basically there are three ways to do it.

There are three strategies to create an energy deficit.

I described them as CR, DR, TR.

So that stands for calorie restriction,

dietary restriction and time restriction.

So let's explain them.

Okay.

So calorie restriction is what it sounds like.

Just eat less.

That's the most direct way to go about doing this.

So, I gotta eat 500 fewer calories a day

and I'm gonna have to track what I'm eating

and count my macros and make that happen.

Okay.

That has the advantage of being the most direct way

to do this, but it has a disadvantage, frankly,

of being harder to do.

In some ways, you have to pay the most attention to it.

It also has the advantage, by the way,

of being pretty flexible and agnostic to what you eat.
So, you know, if there are certain foods you like,
there's no food that's off the table
when you're doing calorie restriction
that provided you're eating less overall.
Got a friend that said this to me,
said, it doesn't matter what you eat,
just restrict the calories.
I remember thinking that was strange advice
because he was like, you can have Domino's pizza every day,
you just, if you'll lose weight,
if you have less calories.
That's right.
Now, the problem is, he's absolutely right,
but the problem is it can be very difficult
to not suffer through calorie restriction
if you're just eating crap.
Because the body still, at the end of the day,
keeps score with respect to nutrition.
And the body still wants protein.
The body still wants nutrients.
The body still wants vitamins, minerals.
So, if you say, look, I'm gonna eat 2,000 calories
a day of Cadbury's, you might lose weight,
but you'll probably be in purgatory along the way.
And you certainly won't be healthy.
So, we also wanna make sure
we're not confusing health and weight here.
Now, we come to dietary restriction.
Dietary restriction is what most people think of
when they think of a diet.
This means, as I describe it in the book,
pick your favorite boogeyman or two
and just cut them out of the diet.
So, basically, everybody that's arguing
about their perfect diet
is arguing about dietary restriction.
So, you wanna take out carbs,
you wanna take out animal products,
you wanna take out everything but meat.
It's a carnivore diet.
You wanna go South Beach, paleo, Mediterranean.
Those are all just forms of dietary restriction.

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And, generally speaking,
the more restrictive you are in the diet,
the less you will eat.
So, I mean, I don't think it's an accident
that people who go on a carnivore diet
typically lose a ton of weight.
Same is true of a ketogenic diet.
I did it.
Yeah.
My scales, it was like this.
This was the, it was a horizontal line my weight,
maybe a little bit up,
and then I did keto for eight weeks
and it was a vertical line down.
Every time I hit those scales
and the Bluetooth thing sent my weight to my phone,
this vertical line down.
I lost a stone in the space of those eight weeks, roughly.
My girlfriend was like-
A stone is 16 pounds.
Something like that, yeah.
Eight kilos ish.
14 stone, what did I go from?
14 stone, five to, 14 stone, eight to 13 stone, eight, yeah.
Which I think, yeah.
And were you hungry?
I couldn't sustain it easily.
I'd say that because if we went to restaurants and stuff,
I was always trying to get like taking corn out of it,
like taking the wrap off a burrito and stuff
and whatever else.
Was I hungry?
After I got past the first week,
I wouldn't say I was hungry, no,
but I also didn't find it sustainable
because of, honestly,
because of the nature of the modern world
where it's so hard to find those things
when you're living a very fast paced life.
Hungry for some kind of nutrient maybe.
I think there was some kind of psychological calling
to go back to my previous diet.
And then I went to New York and that's when it fell down.

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And then did you regain the weight or what happened?

Oh yes.

Just as fast as I lost it.

I went from this keto diet to the New York diet

and it was so extreme,

how quickly I put that weight back on again.

Just being honest.

Yeah.

Well, it's interesting, right?

So again, it's a very extreme diet

and I think people are gonna definitely lose weight on it.

And look, for some people,

it's easy to sustain, for others, it's not.

But nevertheless, that's dietary restriction.

And again, I think the advantage of dietary restriction

is you're not being restricted in the amount you eat.

You're just being restricted in what you eat.

And the challenge then really comes down

to the craving of certain types of foods.

So obviously in a ketogenic diet,

you're gonna really crave carbohydrates.

So the final strategy is time restriction.

And people call this intermittent fasting as well,

but it's basically saying,

all right, how about I create a smaller window

in which I eat?

So I'm just gonna allow myself to eat

from noon to 8 p.m.

Or 2 p.m. to 8 p.m. or 2 p.m. to 6 p.m.

And the narrower and narrower you make that window,

the more likely it is that you will induce

a significant caloric deficit.

And therefore you will lose weight.

What do you think of fasting?

Do you fast?

Not anymore, at least not deliberately.

I mean, I sometimes end up fasting

just by the nature of whatever I'm doing.

But again, fasting has a lot of advantages.

It's conceptually the easiest by far.

I think it is just the easiest to execute on.

And because for most people,

it's just easy to not eat for a period of time

and then have no restriction when they are eating.
I think the biggest challenge of fasting
comes down to protein intake.
And protein is, in my view,
obviously I write about this in the book,
the most important macronutrient,
the one we need to be paying the most attention to.
And when you are intermittently fasting,
it is very difficult to get the right amount of protein in
and in the right doses.
And therefore it's the most difficult
to maintain muscle mass.
And we always have to remember that,
if we're losing weight,
we still want to be able to maintain muscle mass.
We want to just lose fat mass and not lose both.
I'm fasting as we speak.
I haven't eaten today yet.
I think it's just after six.
The reason for that is because before this podcast,
I realized that if I eat before I have a conversation,
my brain doesn't work.
It feels like, and having spoken to some experts,
the energy rushes to my gut.
So I can't speak as well and I can't think as well.
So I ordered the food just before you got here.
And then I said to my assistant, I can't eat it.
And within an hour of you, so I'll eat it after.
But yeah, the health benefits are one thing,
but the cognitive impact as well
has been quite big for me.
So you don't fast.
Not attention.
I used to fast a lot.
I mean, I used to do days and days at a time.
Alcohol, nothing I wanted to talk to you about.
I'm thinking of quitting.
What is the advice from a doctor like yourself
about alcohol?
And do you drink?
I do.
It's a very interesting topic.
So, and it's so long that I don't want to,

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I don't want to spend another hour on this
because I'm sure that's not the answer anyone is looking for.
I will say this, alcohol, ethanol,
which is the alcohol we drink is toxic.
Its toxicity is non-linear.
So its toxicity kind of goes like this,
meaning at low levels, it's just a little bit of an increase,
but the more you drink, the more it becomes toxic.
So, for most people, there's not an appreciable amount
of toxicity at one drink a day.
But two, three drinks a day starts to become quite toxic.
But there is no dose of ethanol that is helpful.
So the question becomes,
why is there so much epidemiology out there
suggesting the benefits of modest alcohol intake?
So there's this thing in the alcohol research field
called the J-curve.
The J-curve, so picture a J-curve for all cause mortality.
It means that at total abstinence,
mortality is here.
But as you drink a little bit,
the mortality goes down
before it really rises sharply as you increase the drinking.
That's what the epidemiology shows.
And it goes down.
Well, again, epidemiology is fraught with many limitations,
especially epidemiology of nutrition.
It's much worse than the epidemiology of, say, exercise
or infectious diseases.
And proponents of alcohol argue
and they might be right, to some extent,
that there are some pro-social benefits of alcohol.
Alcohol, at least in the former red wine,
is also potentially something that comes
with some antioxidants and things of that nature.
My view is that that literature is highly flawed
and that that literature is confounded
by a negative survivorship bias.
And it's confounded by the fact
that non-drinkers often have a health reason
for being a non-drinker.
And in other words, there are people
who are completely not drinking

because of a health reason
that's forcing them to be not drinking.
And people who drink and die as a result of it
dilute the pool of data that we have
of the toxic effects of alcohol as time marches forward.
So it's a long-winded way of saying,
I think anybody who's thinking about not drinking
should absolutely engage in that.
There's no health benefit to be drinking.
You asked me if I drink, the answer is I do.
But I don't drink if it sucks.
Like, in other words, there has to be a good reason
for me to drink.
So my sort of mantra is don't drink on airplanes.
Like, they always just have crap alcohol.
What's the point, right?
Like, if I'm going to drink,
if I'm gonna have a glass of wine, it has to be really good.
I don't have a hard time opening a bottle of wine
that I bought and deciding,
actually, I don't like it that much
and pouring it down the sink.
I'm not gonna drink it because it's there.
So that's kind of how I think about it.
Now, there are a couple of rules, I think,
that make drinking less toxic.
So rule number one is really try not to have
more than one drink in a day and definitely not more than two.
Hard rule there for me.
Second is I do not wanna be drinking more than three hours
or less than three hours before bed.
In other words, I do not want alcohol
to negatively impact my sleep,
which it has a devastating consequence of my sleep.
So if I'm gonna drink, I'd rather have a cocktail early
than drink into the wee hours of the night.
Sleep's really important to you, isn't it?
For sure.
Super important to me as well.
Been life-changing.
This little whoop thing.
Yeah, yeah, I see that there.
Absolutely changed my life.

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And you've probably noticed how your whoop score changes with and without alcohol in your system.

One glass and it's all flashing red.

And the first time that happened,

I had one glass of wine and I woke up the next day and my vital signs, my heart rate variability was flashing red and it literally says, did you have a drink last night?

It changed my life.

Yeah.

It changed my life forever.

And honestly, I'm absolutely obsessed with sleeping in a very healthy way.

Some people think, oh, that's, you know, you might be waking up and feeling bad.

No, I look at it and if I've not slept well,

I'll adjust my day accordingly.

You share some stats around sleeping in the book.

What is the stat or the two stats that changed your perspective on sleeping

or that really you would tell someone

if you're trying to convince them

of the importance of sleep?

It's so interesting.

I'll tell you, it's not even a stat.

I think it's more of, it almost goes back

to the type of discussion you'd have

with somebody like a Daniel Lieberman, right?

Thinking about this through the lens of our ancestors.

So I was always someone who

de-prioritized sleep.

You know, very busy person.

High energy didn't really seem to need that much of it.

Even in high school, it was sort of always go, go, go.

And, you know, at one point,

I was sort of having a discussion

with a colleague about sleep.

And I was making the argument that like,

I didn't really need any of it, you know?

And I almost, you know, made a point,

like it's almost a shame we can't just work our way out of it.

And he sort of posed to me in a very Socratic way.

Well, you know, given how evolutionarily

unwise sleep would be, right?

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You are unconscious for a third of your life.
And we know that our ancestors slept
on an average of about seven to eight hours every 24 hours.
They didn't do it always straight away,
but we know that they're sleeping
basically a third of their life.
That's a time when you can't forage for food.
You can't defend yourself against predators.
You are not mating.
Like there's nothing from an evolutionary perspective
you're doing.
Those are the three highest priorities of evolution
and you're not doing them.
Why would evolution have kept this thing around?
Like, and by the way,
why has no species figured out a way out of it?
And I think through that lens, I was sort of like,
huh, yeah, interesting.
Maybe this thing does matter.
So in some ways, I think that's probably
one of the most powerful things that you can hear.
And sure, there are lots of statistics
about how fragmented sleep, broken sleep, or short sleep
can increase your risk,
in particular of cardiovascular disease and dementia.
I think there's a less clear relationship to cancer,
but I think the relationship is quite clear
to cardiovascular disease and dementia
in addition to insulin resistance
and obviously therefore weight gain.
So for people, even if you're just coming at this
through the lens of weight or excess body fat,
I mean, that's probably motivation enough for many people.
And then of course, there's how you feel
and how you perform.
Oh my gosh, yeah.
And your creativity and your ability to articulate yourself,
which I noticed in your mood, huge one for me,
especially when you're running teams,
unslept days and my worst days.
The last thing I wanted to ask you about was just again,
a conversation I've had with my friends recently.
When I say my friends,

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I mean this group of my five best mates
and different voices in the group
about hormone replacement therapy.
And one of my friends in particular
is very keen on it.
He says that when we get older,
we should all take, I think testosterone,
I think it's TRT,
because it will help us in all these different ways.
And I've sat here and spoken to people
about menopause as well and the hormone therapy
you can take when you go through menopause.
What is your position on taking these
hormone replacement therapies
to improve our health span
and our emotional state, et cetera?
Yeah, I think it's a long discussion,
but I have a lot of podcasts on this topic
because I think it's so misunderstood.
You know, we have a lot of data
on the use of testosterone replacement therapy in men.
And while I think it is generally overprescribed,
and I think generally, at least in the US,
men are receiving TRT far too early in their lives,
I think the data for responsible use of TRT
are very positive.
So the risk, you know, again, historically,
the risk would be increased risk of prostate cancer,
increased risk of heart disease.
Those have not borne out.
Again, at physiologic doses,
a very low risk proposition that comes with many benefits.
Most notably, of course,
being benefits of body composition,
but also insulin sensitivity.
I think the cognitive benefits
are a little more controversial,
not entirely clear that testosterone replacement therapy
preserves cognition as we age,
but it hasn't been studied perfectly.
So I think that's a bit of a TBD.
As far as estrogen and progesterone replacement therapy
or hormone replacement therapy for women,

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I think this is unfortunately a very controversial topic that shouldn't be.

I think it's anybody who's really scrutinized as the literature here, as opposed to just chooses to believe what they were told, has to come away believing that it's a net positive for women, especially women who are symptomatic, right? So women who are having hot flashes and night sweats as they're going through menopause, they benefit enormously from hormone replacement therapy. And in the case of HRT for women, the estrogen is so important as it protects their bone density.

So women really go through this risk of osteopenia and osteoporosis when they go through menopause because their bones get weaker in response to estrogen loss.

So being able to restore that is so important.

And then of course, you have all of the sexual side effects of menopause as well that are ameliorated by estrogen.

Another thing that hasn't been yet completely well studied, but I think is becoming increasingly of interest in the United States is the use of testosterone replacement therapy in women as well.

So most people don't associate testosterone with women, but it's actually a very interesting statistic that women have 10 times more testosterone in them than they do estrogen.

It's just that estrogen is the dominant hormone for their sexual characteristics.

So we mostly just think about their estrogen and progesterone, but we should never ignore their testosterone because A, it's 10 times more abundant than their estrogen even though it's 120th as abundant as it is in a male.

But it still plays an important role in muscle mass, mood, and libido and sexual function, orgasmic function, all sorts of things.

So we think a ton about all of these hormones in our patients and I think you just have to make sure that if you're going down that path, you're doing it with a doctor who really understands it

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because there are some real big mistakes that can get made,
especially in young men who end up
on a high dose of testosterone
and they haven't been told that,
hey, by the way, a couple of years into this,
if you're on a high dose of testosterone,
you're gonna lose the ability to make your own
and you're not gonna be able to make sperm either.

And you can imagine, imagine being 30,
having some doc in a box,
put you on a boatload of testosterone
and then when you're 35, you're like,
yeah, I think me and my wife wanna have kids
and you're like, nope, that's not happening.
Wow.

So one has to know what they're doing
because there are ways to give other hormones
that preserve fertility and things like that.
I'm super scared of all this stuff.
I'm super scared of messing with the chemical balance
of my body.

It's my default is, I don't even take like,
what you call it, like, pedicin.
If I have a excruciating pain somewhere in my body,
I won't take any medicine
because I always ask myself the question,
what's the cost?

There's always a cost somewhere
and I don't think we think about that enough.
And one of the things obviously happening
at this chapter of my life is my hair is gonna recede
and I'm watching as my friends
all battle this in their own ways.
Some of them are doing the testosterone shampoo,
some of them are taking pills for it.

I am, I've surrendered.

It's going back.

I don't care because I'm too scared
to mess with my chemicals.

I don't want my libido to go.

I don't want to not be able to have kids.

No, actually, I'll just share
one last interesting story with you.

So there is the most common pills that are used for treating that are called five alpha reductase inhibitors. So again, I don't know what their names are in the UK, but in the US, the two drugs are finasteride and dutasteride. For receding hairlines. Yeah, okay. So these are drugs that block the conversion of testosterone to a more, much more potent androgen called dihydrotestosterone, DHT. So testosterone gets turned into DHT by an enzyme called five alpha reductase. DHT is the hormone that's driving hair loss. So understandably, if you take a drug that blocks that enzyme, you will make less DHT, you will have less hair loss. And these drugs do work, but a relatively small, but not insignificant number of men who take these drugs have awful side effects. And the scariest part is it appears that a subset of those men do not lose the side effect, even if they stop taking the drug. And the side effects are very sexual, right? So these are difficulty achieving orgasm, loss of libido, and so it's a very controversial topic, but I think it's something that we definitely wanna make sure men are aware of when they're taking high doses of these hormones. That is exactly why I'm not taking them. That is exactly why I'm not taking them. I'm just always scared. I have that default, messing with the chemicals in my body. There's no free lunch and life is there. Your book is amazing. Your book is really, really amazing. Very, very comprehensive. You took many, many, many, many, many, many, many, many years to write it. And it's really an amalgamation of all of your insights, your podcasts, your genius and your lived experience and your perspective. It's a wonderful, wonderful book that I highly recommend.

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Anybody who's interested in the subject map
we've talked about today, goes and gets,
there's so much more that we could have talked about in there.
If anybody wants the more and more detail
and all the stuff we've talked about,
the book is a place to go.

We have a closing tradition on this podcast
where the last guest leaves a question for the next guest,
not knowing who they're gonna leave it for.

And I don't get to read it until I open the book.

So the question that was left for you by our last guest,
they don't know who they're leaving it for, so.

This is also the longest question I've ever seen.

In this new age of AI, when humanity has logic machines
that will out-logic humans,

how are you going to help humanity lead with love?

What is your purpose as a human in a world
where AI is contributing to life?

I think my answer is gonna be very uninteresting
because I have relatively low expectations
that my life will matter that much in the new world.

So I think that the most important impact
I will have is on my kids.

I think this is probably more about the world
my kids will inherit.

And therefore, I think the most important thing I can do
is ensure that my kids are as well-adjusted as possible.

And as curious, as intellectually curious as possible.

And so whatever I can do to sow those seeds
is probably going to have a better impact
on the humanity of the world than anything I would do.

Thank you.

Thank you so much.

Thank you for writing this book
and giving me so much of your time.

I really, really appreciate that.

And you've helped me to answer
some really important questions in my life
that are genuinely really, really important.

And obviously my job then

is I go on and do this podcast forever
and I'm gonna continue to harvest all of that wisdom
and share it with everybody and take that forward.

[Transcript] The Diary Of A CEO with Steven Bartlett / The LIFE-EXTENSION Doctor: "The ONE thing that's increasing your chance of early-death by 170.8%!" Peter Attia (E267)

So thank you so much for your generosity there.
It's an amazing book.
You have a great podcast as well.
Highly recommend everyone go check this book out.
Outlive by Dr. Peter, an amazing book.
Thank you so much.
Thank you very much.
Really enjoyed it.
I'm someone that understands,
probably from doing this podcast,
the importance of having greens in my diet.
But do I achieve that every week
in the chaos of my life?
Do I achieve that?
Sometimes the answer is no.
With Huell's Daily Greens,
the probability of me achieving that
is now almost 100%
because of its convenience
and because of the ease of preparing this.
One scoop, ten seconds shake,
and you're ready to go.
This is the best product
that Huell have released in recent times.
Many of you will think of alternatives to this,
but I've tried those alternatives
and none of them are as tasty
as Huell's Daily Greens.
It was out of stock because of the demand.
It's now back in stock for everybody in the USA.
Right now it's not available in the UK,
but when you get a chance, just try it.
That's all I'm going to say.
Just try it.
And I think once you try it,
you'll understand why this is such an essential part
of my life right now,
and will probably become an essential part of yours.
Huell's Daily Greens