David
Hey, Scott. How are you today?

Dr. Scott Sherr
It's good to be back with you, David. How are you?

David
I'm excellent. I'm excellent. Today we are going to talk about the immune system because it's the fall. People get colds, they get the flu, they get all kinds of stuff. My first question for you is, why do people get colds and the flu in this season? Yeah, it's.

Dr. Scott Sherr
A good question, right? I mean, like the classic sort of myth that we heard with, with some actual truth is like, don't go outside when it's cold without your coats. You're going to catch cold in quotes, right? We do know that many bugs live longer in colder temperatures because of hibernation. We know that. We know if we hibernate, everybody's going to slow down.

Dr. Scott Sherr
We can live a longer time. A lot of these bugs out there actually will live longer because of the colder temperatures. There is some truth to that on some level now. Just because you are exposed to a virus, for example, are exposed to any types of bugs, doesn't mean you're gonna get sick. Of course, as well. Right. And so, you know, one of the things that I always like to remind people is that we all breathe, right?

Dr. Scott Sherr
And when you breathe or when you swallow, you have the outside environment coming into you in full throttle at all times. Right? And so if you live in New York City, of course, or if you are a teacher and you live in an environment most of your day with lots of kids, you're going to have different environments, right?

Dr. Scott Sherr
But you know that over time, if a new teacher is coming to a school and they have little kids, like initially the first couple of years, they get really sick, you know, lots of colds and infections and things. But then after that they get better right there. Their immune system kind of optimizes. And then then, you know, the teachers have like the most powerful immune systems ever.

Dr. Scott Sherr
Right? So and they're being subject to that stuff still all the time. Right. It's not like it changes. It's just their immune system is getting optimized over time. And it's the same thing where anybody would live. Right. So this all has to do actually with with multiple different things. But in the end, our immune system is supposed to be trialed.

Dr. Scott Sherr
It's supposed to be, you know, getting this kind of exposure on a daily basis. And if we don't actually we have a higher propensity of getting sick as we get older. So one of the things I was really worried about, actually, in the beginning of the pandemic, I wasn't I was going to go here, but this is interesting, right?

Dr. Scott Sherr
So, you know, in the beginning, pandemic, right. What do we have to do? We had to stay home. Right? Nobody could go outside and nobody could leave. And and I was living in California at the time and I had we had some family friends and some, you know, kids that had friends. And next to us, after about a year in there, like, you know what?

Dr. Scott Sherr
Like it's been so hard to be home the whole year, but our kids haven't gotten sick and we're just so awesome. I'm like, no, that's exactly what they're supposed to do. Like, we need to get sick when we're younger. Of course, you know, sick to a

degree, right? We need to have these exposures to our immune system. This is with adults as well, but especially with kids, because if you don't have these exposures, your immune system is not going to be primed enough.

Dr. Scott Sherr
It's not going to be just like exercise. It's not going to be exercise enough to know what's an infection and what's not an infection, like what's human. And so the more that we get exposed to bugs, the less we have a propensity for having autoimmune conditions. So autoimmune conditions are when the body starts starts attacking itself. Right. That's why it's got autoimmune.

Dr. Scott Sherr
But an interesting you find in like areas around the world where there are more infections, whether it be virus, fungus, bacteria, protozoa, there's a much lower risk of autoimmune conditions in those particular countries compared to countries that have much more hygiene and less of those infections. And the correlation here is with how much of your immune system is being exercised on a regular basis.

Dr. Scott Sherr
So if you are exercising immune system all the time, you know you're going outside. You're you're going places. Well, I'll talk about how you have to have an optimized gut for this as well, because the gut is where you have 80% of your immune system and you go outside and you go on a subway in New York City, and everybody's coughing, right?

Dr. Scott Sherr
Versus somebody else in New York City that's going on. And then, you know, doesn't get good sleep. And they're they're staying inside all the time. Maybe they're still wearing masks. They're worried. And I get that. But you kind of understand what I mean. There's not being subject to a lot of stuff on a regular basis. Like they're going to be a much higher risk hypothetical to get that, you

know, cold that was going around the subway car, compared to somebody that was not so.

Dr. Scott Sherr
But in general, to go back to your question, is that kind of took a took a little bit of leeway there. Is that in the cold? There are a number of things that are going on. But the first that I wanted to point out is that bugs do last longer. But there are other things like light exposure, for example.

Dr. Scott Sherr
Right. We get we're often indoors more often, so we're not getting as much light. Light is very important to optimize our immune system, something called vitamin D, which of course, yeah, all of us know that vitamin D is a very important immune system hormone. It regulates inflammation. It's very, very important. And there's a lot of other things I can talk about here.

Dr. Scott Sherr
But let me just stop and see what questions you have before I keep rambling. Okay.

David
So we got longer living bugs. We got less light. Yeah. What are the things that we need to be doing outside of assuming we didn't grow up in a third world country and are continually exposed to protozoa? It was Westerners need to be doing in the fall to optimize our immune system.

Dr. Scott Sherr
Yeah. So there's lots of things we can do, right? I mean, I think that and when I was going down this sort of sunlight train, think about what happens in the winter for many of us who want, like, you know, our warm comfort foods. Right. And we have we tend to not eat as well. And to eat more in the winter time.

Dr. Scott Sherr
Although naturally, you know, we would have like back, you know, when Paleolithic times, we would have things that were, you know, warmer, like soups were very important at that point, you know, animal meat. But back then we didn't have, you know, as much food during the winter time. In fact, we know that when you go on fast, for example, like intermittent fasting, for example, like is actually a good way to regulate your immune system.

Dr. Scott Sherr
So when your body goes into like mild ketogenic states, so when that's your fat burning instead of carbohydrate burning, you're actually optimizing your immune system function. So it's good to do some intermittent fasting during the winter time. If you weren't doing in the summer, that's actually not as it's important. But if you're doing more fasting, I do recommend people do it more in the winter time for this reason.

Dr. Scott Sherr
Actually, because of this rebuilding and re re optimizing your view of your immune system when when you're doing this right, when you're taking this, these breaks from food, it doesn't have to mean like you're getting 24 hour fast every day or like one meal a day or even every week. It just, you know, maybe you just eat for 12 hours that day instead of for 16 or whatever it might be.

Dr. Scott Sherr
So even cutting it down a little bit can be very helpful. You also want to make sure you're eating like a very nutrient rich diet, right? You want to make sure you're getting, you know, good vitamins, minerals and nutrients. You want to stay away from foods that are going to be in high in inflammation in general. So generally, your fried foods, your seed oil, foods that are, you know, obviously fried in seed oil or is even worse and just making sure that you're getting good, a decent amount of protein as well is really important as well as because it's very important for a lot of the enzymatic reactions that are important to your immune system,

Dr. Scott Sherr
along with minerals. So getting good, you know, mineral, mineral supplementation or getting minerals in your diet. And of course, staying hydrated is really important with this as well. The more dehydrated you are, the more your system is going to be under stress. So you have to make sure that you're getting enough good hydration. There's there's some like these basic parameters that I use for my clients, like 2.8l a day for women and 3.2, I think for men.

Dr. Scott Sherr
Like, that's it, like baseline ish. But if you're very more if you're much more active, you might want to have more than that. If you are more active, you may want to be thinking you have like electrolytes or at least minerals in your water, if you can as well. What is it really important to flush our system?

Dr. Scott Sherr
Right. We need to flush our system. And you know, where do we let our toxins we flush our toxins in our kidneys. So, you know, when we filter out things from our blood, they come into our kidneys. And then our liver is really important for liver detoxification. So when we talk about liver detox, you know, we want to think about, you know, how are we making how we optimizing, you know, detoxification in general.

Dr. Scott Sherr
But liver function here don't include just, you know, being careful with the alcohol and it being anything that's going to be stressing your liver on a regular basis, but especially alcohol for most people. Right. So so decreasing the alcohol intake. Also exercising is really important. So many of us during the winter times will forget or they just don't have the capacity because again it's cold outside or or something that they don't get as much exercise as they did.

Dr. Scott Sherr

But exercise is really important for for circulation. It's really important for the immune system. It's really important overall for, you know, our body to kind of be more recalibrated from a like a sympathetic and parasympathetic balanced perspective. And what I mean for that, for those that are listening, is that sympathetic is a kind of like a fight or flight, like get shit done kind of thing.

Dr. Scott Sherr
And then our parasympathetic is like rest, recover, relax and also detoxify as well. So if you cannot get more parasympathetic, you're not going to be able to heal from an injury or from inflammation. And you're also going to get higher risk over time to depress your immune system function. Because that one stress hormone that can be good in the short term, but bad in the long term, is something called cortisol.

Dr. Scott Sherr
Cortisol really important is a stress hormone. But if it's if it's upregulated for a long period of time with chronic stress, you can see that the immune system does take a big hit from that. And that's actually very common. If I if I had to say one thing for people to do and actually in the winter time would be a balance, that's sympathetic comparison.

Dr. Scott Sherr
Pathetic nervous system actually. Like that's like the one main thing. But exercise helps you do that. Like it really does help balance your your by stressing the system. Actually with exercise, which is interesting, right? You can actually see a balance with your nervous systems better as a result of that. I think most people know that right after they work out, they can feel like they just feel more balanced.

Dr. Scott Sherr
They just feel more relaxed. Part of that's related to some of the hormones that are released when you exercise, but that's also hormone, hormone, ecosystem or milieu. I always like that word hope hormone ecosystem that, is more

balanced and more parasympathetic tilted. Actually, after you do exercise, it's also good for so many other reasons. Right? But obviously, you know, exercise is kind of a big deal.

Dr. Scott Sherr
So those are some of the main ones I'm that I could that we can get into some novel things like of course, you know like red light therapy and like, you know, going into cold exposure and like, you know, peptides. There's so many things you can do for your immune system. But I think in the end, David, I think what I want people to mostly focus on is like what they can do without it doesn't cost them anything.

Dr. Scott Sherr
So it doesn't cost anything to not eat. I always like to tell people that. So, you know, save you on your grocery bills a little bit. It does cost a little bit more to eat. Well, I do agree with that in the sense of unfortunately, we have commodity farming and you know, we have subsidized food, that makes all of our processed foods so inexpensive and our unprocessed foods more expensive.

Dr. Scott Sherr
But hopefully that'll change at some point. You know, if when you do eat, I try to eat clean as best as possible as well. Balancing that parasympathetic and sympathetic nervous system is really the key.

David
So I heard you say about 100oz of water. If I did my math right, it's a lot.

Dr. Scott Sherr
Yeah, yeah, it's a lot. Do you want to keep hydrated? Yeah. But again, I don't usually recommend water on its own the whole time. Like I would you recommend like some at least mineral water if you can find it. We're adding some like a little bit of electrolytes. Doesn't have to be a lot just because what actually

to get water to absorb you need to have some electrolytes in the water to be able to do that.

Dr. Scott Sherr
If you just have distilled water or even reversed. Yeah, yeah. Or even RL like Ro without minerals is a bad idea because like this is reverse osmosis. Like for example, like in my house we have an RF filter for the entire house. I think you have these two, right. At least probably not in New York City, because maybe an under the sink one there aro is great because it actually takes out all the toxins out.

Dr. Scott Sherr
But you have to realize that otherwise it's not going to be absorbed as well either.

David
Right? Right. The other thing that sort of comes to mind is sauna. As we're talking about this.

Dr. Scott Sherr
Yeah, sun is great. I think you have a sauna in your house too, right, David? I have I have an infrared sauna here. Back in 2016, when I found out my wife was surprisingly pregnant with our fourth kid, and we lived in an 1000 square foot house in California with three bedrooms and one bath. It was my first big purchase.

Dr. Scott Sherr
Like like I purchased an infrared sauna and it has been like one of the best purchases ever. I use it almost every night. And the nice thing about infrared, there's different types of science. So we can talk about that because I think that's important. So I use an infrared on a regular basis. I think it's fantastic. Heating up the body.

Dr. Scott Sherr
And then also sweating can be very, very helpful from a toxin detoxification perspective. So mostly we detox with our liver and our kidneys. But our skin also helps us detox as well. And some of you may have gone into saunas and had weird colored stuff come out of you at times, and that it so that you know that you can detox that way as well.

Dr. Scott Sherr
And our skin is actually our though the way that one of my colleagues, Doctor Ted actually he likes to describe it, is like our skin is like a reverse gut, like you can like to the skin is the outside environment like and where it's starting to everything on the outside environment all the time, and our gut is inside of us, but also doing the same thing.

Dr. Scott Sherr
So you want to think about your skin as like this organ that's helping you with many different things. So there's a barrier, but also as a detoxifying as well. So I like infrared sun a lot and also improves your immune system function. To finish the high heat. Saunas are also good. I tell my patients it's more like exercise.

Dr. Scott Sherr
I give that I heat on a getting 280 to 220°F for 15 to 20 degrees, 15 to 20 minutes is it's legitimately exercise without having to exercise. But that's good because as we talked about, exercise is really good for immune system. It also is it's been well studied obviously for for longevity. Some of my patients will use that high heat saunas at night, which I think is a little crazy.

Dr. Scott Sherr
But some people can tolerate, some people, can't I? But I love them as a way to sort of bring in, you know, exercise. It is not even an exercise in quotes. It is exercise in the winter time especially. So I would love one of those new ones. David. That's like a combination. Oh yeah.

David
I know those are great.

Dr. Scott Sherr
Have you haven't been in or they can use it easily to switch between them or how does that work.

David
There's sort of duals and it's an it's an odd experience. So the the sign itself isn't that hot compared to maybe like 145 degrees or something. Okay. But then you have the infrared component. So I wore an Apple Watch when I go in and I measure my heart rate. Yeah. Yeah. So I know when if my heart rate is over 100 just sitting there, I'm being affected by the heat.

David
Even though it doesn't feel the same as there's a sauna here in Park City at my gym. That's insane. I don't know, I took a meat thermometer in there to find out what it was, and it broke at 185 degrees. It's over.

Dr. Scott Sherr
That. Nope. It wasn't a mercury containing.

David
No, it was like one of those meat ones.

Dr. Scott Sherr
You know, ones. Yeah, exactly. I mean, I have a couple of those in my house. Yeah, yeah. So. So, yeah, I mean, you get up to 180 degrees, 220, your heart rate will go up to, I mean, depending on how old you are, you know, we go up

250, 170, like it'll it'll go high. Yeah. Yeah. I don't know if you were checking your heart rate in that sauna, but in the.

David
Infrared, like 110. Yeah. Yeah.

Dr. Scott Sherr
Interesting. So like, for it can, it can go that high for people. But the, the infrared doesn't typically do that. Typically it keeps the heart rate somewhere between, like, you know, for most people somewhere around like 85 to maybe 110 at the most for most people. So, if you stay in there for longer periods of time, it may continue to go up from there, but it's not as much.

Dr. Scott Sherr
I use a lot of infrared in a lot of my patients that are sicker as well, that have more inflammation. They're going with going through chronic infection, chronic inflammatory conditions. They tend to do better with the lower heat. And what's nice about infrared heat is that kind of hits you up from the inside. So like, whereas like if you like, your body is just sort of like heating up inside and then you just start sweating as opposed to like the 180 to 220 degrees.

Dr. Scott Sherr
It's like you're just being bludgeoned with heat, like your body's just like, oh my God, this is. Yeah, I went to a place a couple months ago with a friend of mine here, just out in Boulder, like this pop up, and I had done the high heat in a while, especially with somebody like we were talking the whole time, and then we went to cold afterwards and like, I, I was just done after a couple rounds.

Dr. Scott Sherr
I hadn't slept that well. Like I got like 2.5 hours of deep sleep, which I never get. Like I get like an hour and a half, which is good. But like, I was like, I woke up the

next day and I was I was just like, what was that? What just happened? So yeah, it's.

David
A much more an expert on this. But the way I explain it is the Finnish sauna is more of a sympathetic activator and the infrared is more parasympathetic. So if I have a very hard workout in the gym, I do not go into the high heat sauna because yes, it's just upping the sympathetic too much.

Dr. Scott Sherr
Yeah. Too much.

David
Yeah, really I need to down regulate at that point.

Dr. Scott Sherr
Yeah. Yeah. That's a really good way to think about it because how do we heal? How do we recover from a very heavy workout? Our goal really is to try to bring ourselves we're talking about the sympathetic parasympathetic earlier with the immune system. It's the same thing here. When you're exercising, you want to be in sympathetic dominance so you can make muscle, you know, grow.

Dr. Scott Sherr
You want to you want to tear around fibers, you want to, you know, get the motivation to do that. And and then you want to cause the automatic stress to be able to rebuild. But the rebuilding part doesn't happen if you maintain yourself in a stressful state. Right. So that's it's a really good way to think about it.

Dr. Scott Sherr
And so I talk about this a lot with with patients because like, I mean everybody has a very easy time for the most part. You know, being on. Right. Like the hustle

is real, right? In New York City when you're in there. I think that's I grew up on Long Island right. It's the hustle is real. Right. Everybody's on that, on that sort of sympathetic train.

Dr. Scott Sherr
But turning off is really, really hard, right? And relaxing and trying to wind down at night. So how people are doing that is like, it's really, really important. And, you know, of course people are drinking, you know, tons of caffeine as well. So and I can they have a hard time sleeping because of that. And then they're taking other stimulants and they can be helpful.

Dr. Scott Sherr
But how are you coming down? Like, how are you relaxing in at the infrared sauna? For me, every night is my routine, right? So I have my evening. I do my infrared sauna, I take a temperature shower. So there's your body. Also, what's nice about we talked a little bit about, I think I mentioned sleep and we talked about immune system optimization.

Dr. Scott Sherr
Maybe not, but again sleep's really important to optimize. And one way to do that is to decrease your body temperature a little bit before you go to bed. That's why they say to sleep in a cold environment. But you can do that using heat as well. Also, this is an important piece is that fevers right. So people get fevers all the time and fevers are way over treated over treated for in kids and adults.

Dr. Scott Sherr
We see a fever like I've worked in a hospital and like all of a sudden we're like just running for the talent. Like where is the Tylenol? Where the ibuprofen decreases that fever? No. Like as long as your fever is not crazy and you don't have other really, you know, concerning symptoms. Fevers are the body's natural response to trying to kill bugs and cancer cells.

Dr. Scott Sherr
Interesting. And other things as well. So if you're subject to something and you have a fever, please do not run for the Tylenol and the ibuprofen. Like let the fever run its course. Now it doesn't. You don't want to do anything you can use. Made me think about this. David. Is that song is a great way to decrease your body temperature, right?

Dr. Scott Sherr
So you can use heat to heat your body up a little bit when you have a fever, as long as it's safe to do that, which usually it is. And then your body temperature is going to drop afterwards. And that's going to help you feel like you're deaf or vast, like your fever goes down for a little while.

Dr. Scott Sherr
That's a much more natural way than using Tylenol or ibuprofen. And like I did, I did something on Instagram about this a little while ago is I try to remind people that, you know, Tylenol and ibuprofen are often they make you feel better in the short term, but in the long term, they may be having an effect on your immune system in a detrimental way.

Dr. Scott Sherr
So where you may actually have symptoms for longer as a result of taking your time on your ibuprofen. So and I know it's hard like I think you know, this David I have four kids. Right. And so it's hard when your baby or young child is crying. I get that your sleep sucks and their sleep sucks and they're not happy.

Dr. Scott Sherr
And so there is times to use these things. I'm not saying that, you know, you don't want to use them at any time, but I find that like 90% of the time, if somebody has a viral infection, they have a cold, they have congestion, they have like a mild fever, they have body aches like, etc.. Right? The Tylenol and the ibuprofen are not the way to go here.

Dr. Scott Sherr
So there's like natural remedies. But the reason I mention it here is we were talking about heat, but it's also an important thing for people to realize when we're talking about immune system function. Let your immune system do what it needs to do if you can. Fevers are evolutionarily created so that we can get rid of bugs. It is a really great book that was written in the 1990s.

Dr. Scott Sherr
You probably would like it. It's there's a guy named Randolph Nessie, and the book is called Why We Get Sick. And it's, it's a it's actually a very well written book. It's the sort of the germination from the book was a whole field of medicine called evolutionary medicine specifically. And the idea that there's many things that happen to us as a result of our body doing various things because of the evolutionary reason.

Dr. Scott Sherr
Right? So and fevers is like the primary example, another good example of this from a different perspective is actually like, oh, this is a little bit off topic, but like sickle cell anemia. So if you have sickle cell anemia you have red blood cells that don't carry oxygen as well. And they actually give you high risk for various things, but they do protect you from malaria as well.

Dr. Scott Sherr
So that's a common example that people know where, you know, we've evolved over, you know, hundreds of thousands of years, millions of years depending what you believe, of course. But for the most part, we think we've evolved over a long period of time. And as a result of that, like it's important to allow these natural aspects of our biology to let them manifest.

Dr. Scott Sherr
Right. And this is also when we go back to things like we were talking about sleep, when we're talking about fasting and talking about exercise, these are all

evolutionary things that we would do differently in the wintertime, for sure. So we'd have, a different sort of, you know, ecosystem going on there. But in the end, going back to fever, this is one of the most important ones for people to realize is that fevers are important and that we should not be just treating them, you know, willy nilly with these, these medications if we don't need to.

David
I want to move to the gut. And before we do that, I just want to sleep in temperature. So my my understanding is that it's the change. It's the delta in temperature that causes this onset of sleep. That's why if you're getting a hot tub or something and then you go to your bed, your body temperature is falling.

David
Same with the temperature in the room as it affects your body. It's falling. And it's that that causes you to sleep.

Dr. Scott Sherr
That is the delta is really important there. And everybody's had this experience, right. They get into like it's a cold room and they get on their cold covers and like they started warming up and it's like, oh, this is like so comfortable. Right. And so like that's a very common relaxation. And that delta kind of just throws you into, you know, getting your sleep onset to happen faster.

Dr. Scott Sherr
Yeah. Get up.

David
Let's go to the gut. Yeah. So my understanding is that shockingly the majority of our immune response, our immune cells are located in our gut. So we want a healthy gut for healthy immune response. Cold weather is coming on. We might get sick. What do we got to do for our gut?

Dr. Scott Sherr
Yeah. So about 70 to 80% of our immune system is in our gut, as we were alluding to earlier. The gut is basically outside world, right? Because it's basically what you're doing is you're breathing in also your lungs, but also you're swallowing all of your food and everything else and your saliva that's coming from the outside environment. And so your gut is the first place where we evolved an immune system, actually.

Dr. Scott Sherr
I mean, system evolved from having to figure out what could come into the system and what had to stay out of the system and be expelled. And so we have a huge amount of other things going on in our gut to help us understand what is selfish and not self. Right? So that's that's really what the immune system is trying to do in the end.

Dr. Scott Sherr
Is this something that should come in the system because it's something that we need, or is it something that should not come into the body because we don't need it, we don't need it, right. And so the self versus non-self aspect is what the immune system is always doing to try to figure out, okay, do I create a response against this or do we need this kind of thing.

Dr. Scott Sherr
Right. And so the immune system has tons of different types of immune system cells. And it's its real goal is to be able to do that. And so if your gut is not working well, if your gut is leaky, which is a very common thing where the gut lining itself, it's only one cell thick and intestines, it gets turned over very, very fast, but it's only one cell thick.

Dr. Scott Sherr
If that's not doing what it's supposed to do, some of the things that's supposed to be kept outside the body get it? Okay. And when that happens, there creates an

immune system response. Right. Because now the immune system, the body's like, oh, this is not supposed to be here. Right. And so then it creates an inflammatory response. So you have this, you know, gut microbiota brain connection as well.

Dr. Scott Sherr
So the microbiota what's going on in your gut. The organisms in there are also very important. And they are communicating with your gut. They're communicating with your cells in your gut. They're communicating with your brain as well and your immune system. We also know that there's something called inter kingdom crosstalk, where these other organisms that aren't us are actually talking to our cells in these little like, vesicle kinds of things and like talking to our mitochondria in our nucleus.

Dr. Scott Sherr
It's like it's all happening. And so if you're having a leaky gut, you really need to fix that. You know, there's a couple ways to kind of think about that. Your leaky gut used to be this sort of fringe concept, but now it's a very much thought of in conventional medicine as something to be, to be thought of.

Dr. Scott Sherr
In fact, interestingly enough, I learned about this from like, the pioneer in gut and celiac disease. Actually, his name is Alessio Fasano, who he was a teacher at my medical school. But now he's like this very prominent researcher like Harvard or something like that. But he's one of the first guys that, like, started to talk about, know what happens with celiac, which is a disease where you're, you know, you have this, you know, sort of immune reaction to gluten, right from, you know, bread and products is causing a leaky gut, is causing the gut to be allow other things inside.

Dr. Scott Sherr
That's increasing your propensity to have immune system dysregulation. And as a result of that, you know, you have high risk for infection, high risk for

inflammation, high risk for, for brain related diseases. We know that there's lots of things that are going on there, like if you have, you know, leaky gut, you have a high risk for Parkinson's and even Alzheimer's.

Dr. Scott Sherr
And also the types of bacteria in your gut really matter. So how do you address this is always the question. Right? So yeah, I always recommend working with a provider if possible because kind of knowing the data, in fact, before you and I were talking today, David, I will admit that I was doing a stool collection and that's why I was late to our podcast today.

Dr. Scott Sherr
But anyway, so you're getting your stool checked can be really, really helpful because you can do various types of tests to look at how well your gut is doing from a leaky gut perspective, how much immune system activation you might be having, like digesting your foods well, and then you can do various things, like you can start taking supplements you can like that might like probiotics and prebiotics and post biotics.

Dr. Scott Sherr
You can change your diet. They can optimize it. In the end, what I tell people, if they're really just trying to like, work on their gut relatively quickly is, you know, usually is trying an extreme diet. You can go carnivore, you can go for vegan, you can go for keto. In the beginning, it doesn't matter as much because you're taking out all the other shit.

Dr. Scott Sherr
Usually I've had people do really well as a result of doing any of those three diets in the beginning, just to kind of clean things up, but after that it's like, what are you gonna do afterwards? Right? So like so it's important, I think, work with somebody. But if you can fix your gut, if you can optimize your gut, that's 70 to 80% of your immune system, you know, right there, which is a big, big piece of everything.

Dr. Scott Sherr
Of course.

David
We mentioned the cordyceps mushroom before the call. So we have to tell the listeners of the story of the cordyceps how crazy the mushroom is.

Dr. Scott Sherr
We'll talk about supplements in general. Like if you want to talk about like that or where do you want to go? Yeah. Sorry.

David
Tell me because I don't know anything about that. Mushrooms and yeah, crazy story. But why would someone ingest Quadricep mushroom? What does it do for our immune system? Yeah. Do we want to take these?

Dr. Scott Sherr
Yeah. So what I love about it, there's there's so many different things that people can use to help with their immune system. I think the basics are really important, just like we talked about. But when it comes to like, what are some of the additional things that you can really do to kind of just give yourself an edge?

Dr. Scott Sherr
Right. Because most of us I know, David, I know myself like where on planes all the time, like we're subject to stuff that's not in our normal environment, even if we have the best sleep. If you're on a plane, yeah, sleep is not going to be an option as much, right? Unless you're maybe flying first class. But even then, right, you're in you're in 8000ft pressurization.

Dr. Scott Sherr
So like when you're on an airplane, you're more subject to infection. So what are the other things that you can do to kind of optimize your immune system. So this cordyceps mushroom is is a really cool one. And I was telling David about this story because cordyceps is a mushroom that's been around for about 10,000 years plus in Chinese medicine.

Dr. Scott Sherr
Okay. And the really interesting about this particular mushroom is that it is a zombified mushroom. So if anybody's heard of the show on HBO called The Last of Us or it's also a video game before that, although I don't play video games, but I know that's where it came from. The idea with this mushroom is that, listen, in a show, what happens is that people get infected by this mushroom and it takes over their nervous systems.

Dr. Scott Sherr
It makes them zombies and want to eat each other. And then eventually they actually grow into cordyceps mushrooms at some point, which is kind of great. It's a great storyline, very apocalyptic kind of thing, because there's an element of truth here, because the cordyceps mushroom, what it does is natural life cycle is to infect the nervous system of arthropods specifically like caterpillars and ants and animals like that, and take over their nervous system and make them into zombies.

Dr. Scott Sherr
And what I mean by that is that they take over their nervous system, and they make that animal, that arthropod, go to a particular area where the best sunlight and best moisture is so that they can make them into a mushroom factory. And so this animal, this insect, this ant or this, this caterpillar, for example, will turn in to a beautiful looking cordyceps mushroom.

Dr. Scott Sherr

And then this whole cycle starts again. So the Chinese, they were very interested in this mushroom. Like what is going on with this, you know, energetically to create this, you know, huge change in this, you know, insect and do this. And so for thousands of years it's been thought of as something that can improve immune system health, kidney health, respiratory health, and increase energy and stamina, especially the stamina in the sense of libido as well, interestingly enough.

Dr. Scott Sherr
So it was used a lot and still is in Chinese medicine for all these different aspects. And so when you're talking about energy and stamina, there's actually even been some really great recent studies, David, on things like increasing like your VO2 max, taking cordyceps mushrooms, increasing energy production and increasing lactic acid clearance overall, which is super interesting. But what really got my attention and my team's attention was that there was this one ingredient or one compound, the main active compound in the mushroom called cordyceps.

Dr. Scott Sherr
In and cordyceps in is only in a small amount. In the mushroom itself, it's only about 0.03% of the mushroom itself, but it is the most potent part of the mushroom. There's other things in there. There is. There is antioxidants, there's B vitamins, a little bit of Gaba in there is even and there's even something called lovastatin, which is a which is a statin drug.

Dr. Scott Sherr
So, you know, there's natural statins in the environment. Many people for red yeast rice for example, that is natural statins in it. So this has all of those things in there too. It also has, as I mentioned, B vitamins and and some carbohydrate things. But cordyceps in itself is the most active component, and it is about 100 times more active than the mushroom itself.

Dr. Scott Sherr

As an immune system optimizer and modulator. And it works in a number different ways. It works specifically through what it's called the adenosine system in the body. Do you drink caffeine? I love coffee, yeah. So most people love coffee. I love coffee as well, though I don't. I can't drink it as much. I got more sensitive to caffeine in my older age, sadly.

Dr. Scott Sherr
But caffeine? What it does to keep you wakeful is it? It blocks the adenosine receptors in your brain, and so adenosine has a lot of different functions. It actually helps you make energy. And we'll talk about that. But in the brain adenosine receptors when adenosine binds it makes you feel sleepy. So it gives you sleep pressure. And so if you have more sleep pressure you will fall asleep faster.

Dr. Scott Sherr
Right. So if anybody listening has children, they will know when their kids have tons of sleep pressure because they just get so emotionally dysregulated. Right? Because their body just like put me to bed, but back baby back and so but and they know I want to go to bed. But as soon as I hit the pillow they're like done.

Dr. Scott Sherr
And you know, and that's, that's the sleep pressure that's coming from adenosine. So if you drink caffeine, you're blocking those receptors. And so you are increasing your wakefulness overall. Right. And so one of the things that has happened does amongst the immune system activation aspects of things which we can talk about is that it increases your sleep pressure by being just like adenosine and binding to those receptors.

Dr. Scott Sherr
And so you'll find that you take something like quarter seven at night, you will have an increase in your deep sleep. And that's very important. Of course, we need more deep sleep for a lot of different reasons from emotional regulation

perspective, from a memory and consolidation perspective. But we also need to heal, right? Sleep is always been said and is one of our best medicines, right?

Dr. Scott Sherr
Sleep is the best medicine, and one of the reasons that's the case is that that's when our immune system can actually start cleaning things up, because it doesn't have to deal with all the other things that we're doing when we're waking up and when we're causing trouble. And so as a result, when you're sleeping, your immune system can kind of clean out your brain.

Dr. Scott Sherr
It can kind of clean out your lymphatic system, which is really important. And so deep sleep is very important for that because you're getting that deeper sleep to help clear all that stuff out. So so cordyceps in this active ingredient, the cordyceps mushroom does not make you a zombie. It actually does the opposite. It actually enhances your system, making you more zombie proof.

Dr. Scott Sherr
I would say. And then it also has all these aspects that that it's doing to the immune system. Actually, what's really interesting about it, there's so many things that I like about it, but cordyceps in itself is actually directly anti microbial as well. And it's also directly anti-cancer because what it does is that adenosine. So we talked about it as a neurotransmitter right.

Dr. Scott Sherr
But it also is one of your base pairs in your DNA. So adenosine is in your DNA. So in your genetic code you have adenosine. You have you have cytosine. And so you have adenosine in there. Right. And it's also what's transcribed to make new proteins and to make new bugs. So when your bugs here your bacteria get into the system and they start making you feel sick or your viruses as well, they are replicating themselves and they have to have these have to have adenosine to be able to do that.

Dr. Scott Sherr
But the cool thing about this happen is it's not exactly adenosine. It's a little bit different than that. So as a result of that it can get intercalated. It can get stuck into that replication process. And then when it does it blocks further replication. So you can't so you can't make any more virus. Right. Which you can't make any more cancer cells.

Dr. Scott Sherr
And so it's being studied now as an anti-cancer at higher doses because of this potential option. And so it's an anti-microbial directly as a result of that. But then in addition to being antimicrobial and potentially anti-cancer, it's it's also revving up the immune system, improving your ability for your various types of immune cells to work better, like like macrophages and neutrophils and and your B cells and your T cells and things like that.

Dr. Scott Sherr
These are all different types of white blood cells that are in your body that that are that are working in various ways depending on what kind of bugs that you're being subject to. And then this particular compound can help as a result of what it does in these various ways. Working on the adenosine system and for the most part, being doing all of these things, wrapping up things like you've heard of probably Ampk and then decreasing NF Kappa B and mTOR and all those kinds of fun things.

David
Okay, I have so many questions about this interesting mushroom because of the way it affects the adenosine system and how it impacts sleep. So if one were to take this product, would one take it in the evening? Right. Yeah, yeah. Morning is going to mess with your caffeine high.

Dr. Scott Sherr

Unless unless you take a low dose and you pair it with caffeine. Because what you can do here and you can try this is so adenosine the other aspect of what adenosine does, and we were alluding to this earlier, is that adenosine is an adenosine triphosphate, which is ATP. Right. This is our energy currency. And so you can create something called CTP or cordyceps triphosphate using cordyceps.

Dr. Scott Sherr
And as we've been describing it here and so if you block the adenosine receptors in the brain so that adenosine one bind there or quarter seven one bind there, and then in the end you can sort of divert it to your energy production system. You can take a low dose of cordyceps after you've taken your caffeine. So you block those receptors and it's on it's the low dose.

Dr. Scott Sherr
If you take too high of a dose of cordyceps, it will make you sleepy regardless, because you have too much adenosine. So for the most part, I have people taking cordyceps in at night before they go to bed because it increases deep sleep. It's going to help with the immune system. Everything we talked about but you can take a very low dose of it, along with caffeine to increase your capacity to make energy.

Dr. Scott Sherr
And if you look at the clock, increasing your VO2 max. Yeah. Yes. If you look at the stat studies on cordyceps, you can see those studies. They're actually showing that it does increase energy capacity. It increases VO2 max, it increases ATP production. And the reason why you can use the cordyceps mushroom in the morning is it has a much less cordyceps in it.

Dr. Scott Sherr
By weight it's only 0.03%. So it's a very small amount of cordyceps in there. So if you're looking at you know, from an energy production perspective, you may want to check out the cordyceps mushroom directly first just because it's

well-studied and have, you know, like a lot of my clients just use that for energy. And then for like immune system activation, for anti-microbial capacity and also anti-inflammatory capacity, the active ingredient is much more potent.

Dr. Scott Sherr
It's also been studied allergies like mast cell activation, even in gut issues too, and helping with gut inflammation. And this is actually one of the ways we were when I was testing it. We were looking at gut inflammation as one of the markers, because a colleague of mine who started the company Doctor Tackle I mentioned earlier, he does a lot of traveling to other countries.

Dr. Scott Sherr
And then if you travel in your 12 hours difference in time zones, your gut doesn't understand that your gut wants to be awake when you're supposed to be sleeping. And you know how this goes, David. And so but he was using the quarter seven at high doses. He would typically have to go up like like at least 1 or 2 pan sizes when he travels.

Dr. Scott Sherr
It's because of the bloating that he would get from inflammation. I didn't get it, didn't get it at all. And then we've sort of had some trials here in people with allergies, and I've been working with mast activation and and also in neurodivergent kids as well. Interestingly enough, because these kids have a hard time getting deep sleep, their immune system and their well, their brain is very highly, highly active.

Dr. Scott Sherr
And so it seems to be helping regulate that as well. So lots of really cool use cases overall.

David

Okay. So now we've talked about sort of two different wings of this product or molecule. So if I wanted to go and buy myself some cordyceps mushroom I have no idea. Like I'm not going to go chase down a beetle somewhere. Where do I get this thing?

Dr. Scott Sherr
Well, if you're gonna buy the cordyceps mushroom, you can get it. Really. It's really available almost anywhere at this point because they're so initially back 10,000 years ago, they would harvest it from the backs of caterpillars. And so this is in the Himalayan mountains. It was only for the very, very rich, the highest echelons of society, in Chinese society at the time.

Dr. Scott Sherr
But now it can be it can be cultivated. It's it's a different type of cordyceps, but it's a very similar, similar kind of profile. And so you can go to any store where you, where you trust, where you're getting your, your herbs from and you'll find cordyceps there from a quite a in perspective. So, so we have had at prescriptions my company we have something called true immune tro immune tro immune money and tro immune is a high potency extract of the, of the cordyceps mushroom.

Dr. Scott Sherr
And it's cordyceps in. So it's very difficult to find cordyceps in anywhere actually, other than in our product. We're the first company to concentrated to this high amount and put it in a commercial product. We have it in immune. We also have it we have two different strengths. We have a true immune 75 milligram strength and a triple plus immune, which is 150.

Dr. Scott Sherr
The triple plus immune is available to practitioners only in clinical practice. So if you have a clinician they can start selling it in their office. Or they can dropship it to you from our company. But the 75mg is kind of what I take on a regular basis, somewhere like 37.5 to 75mg on a regular basis when I take personally.

Dr. Scott Sherr
And I can tell you, David, that the last year, I mean, with all my travel, with all of my kids, it's been the best year I've had, you know, ever. Really. And, you know, it's hard for me to get immune system products, right, because you don't know if it's something that's working for you because you're not getting sick.

Dr. Scott Sherr
Right? But if it does increase your deep sleep, as it will for many people, you will see that benefit, you know, pretty straight out. And in fact, we have in our product the transcriptions, we have a lower dose of the quarter, seven at 40mg because of that deep sleep. The 40mg dose is kind of your cutoff for what you're going to see the deep sleep improvements using quarter seven itself.

Dr. Scott Sherr
But if you're going to go out and purchase cordyceps, cordyceps in like the active ingredient, right at 0.03% of the mushroom. So 75mg of cordyceps is like 75g of mushroom, which is a crap ton of mushrooms that I don't recommend anybody eat on a regular basis. So, you know, we've done what we always do here. Two prescriptions. As you know, David, is like trying to take and find these compounds and, you know, find their most active components and then create these products that can really be, you know, utilized on a regular basis to help us, in this case with our immune system.

David
So you sent me some of the product. And it comes in these little squares. And each square has four little squares. Yeah. So how many little squares is 75 I.

Dr. Scott Sherr
Mean I love the way we develop these things. The transcriptions, they're called Buckle Cherokee's. And that's because they're buckle. They go in your mouth. It is all between your upper cheek and gum. Take about 15 to 30 minutes. And as a

result of being in the mouth here, you bypass digestion, which can degrade things and make them less active.

Dr. Scott Sherr
And also you make it work faster. So if you really need like acute immune system activation. So if I'm on a plane, for example, I have a long haul like a six hour flight, I'm going to be job zooming in my mouth because that's gonna increase my capacity to maybe get some sleep on the plane. And it's also going to be protecting me.

Dr. Scott Sherr
I will also be using methylene blue in other other things as well, of course, but in general with true immune, I have people typically swallow it because if you typically if you swallow on an empty stomach before bed, that's totally fine too. You just don't have it. If like you're eating food or anything else, it's going to slow digestion down.

Dr. Scott Sherr
So like at night. So what I will typically do is take the 37.5, which is that one half of the full Cherokee or a full Cherokee, depending on what's going on far as if I'm traveling, if I'm not traveling, if something's going on in my house, somebody sick or somebody might be sick, then I might take more. If I'm acutely feeling like I'm getting ill, then I'll take 150mg, which is our higher strength version, which would be two Cherokees of the bromine that you have there, David.

Dr. Scott Sherr
And then I'll take that for 3 to 5 days. And seeing massive benefit when I travel, when I'm at conferences and I'm speaking and I'm at I'm exhibiting, I usually take 150 on a nightly basis, which was you find that's interesting. Is that so? If you dissolve in your mouth, you'll find that your deep sleep in the beginning of the night will get longer.

Dr. Scott Sherr
Okay. If you swallow it, you'll finally get an extra bump of deep sleep sometime earlier in the morning before you wake up. And so, like for my wife, for example, who probably gets like a ton of deep sleep, she doesn't take anything she doesn't need to. But like when I gave it to her when she was feeling ill or feeling like she's coming down with something, I gave her 150 for a 3 to 5 days maybe, I think three days.

Dr. Scott Sherr
And she woke up saying, wow, I never usually get that much sleep when I'm feeling sick, number one, which is great. And number two is that she was better in that about five days total, and she would typically get the cough that doesn't go away for 2 to 4 weeks after she gets her, you know, her viral cold kind of thing.

Dr. Scott Sherr
And I have to kick her out of bed, or she kicked me out of bed because I can't, I can't deal. So I was being selfish and trying to give her some trauma and but it worked. And now she doesn't listen to me for anything. She won't ever listen to this podcast. It doesn't matter when she does feel like she's getting sick, she will ask me for the trauma, which is a big thing.

Dr. Scott Sherr
I've been married a long time. I think everyone I know my wife for 20 years and like she listens to me very little at this point in my life. And that's okay. That's okay. She rocks it otherwise.

David
But okay, that's fantastic. I'm going to try that tonight.

Dr. Scott Sherr
There's two ways to to use trauma and I say and this is the high strength segment is you can use it prophylactically on a regular basis. Like just to kind of

keep your immune system a little bit more activated, a little more modulated. What I mean by activated, I mean just more available to help you if you need it.

Dr. Scott Sherr
Right. And I usually will have people take a lower dose if that's the case, 37.5 just to maybe 75mg, depending on the situation. If you are doing it a different way, you can say, okay, well, I'm going to use this when I'm under more stress. I could. So if I'm traveling, if somebody in the house is sick, if I'm feeling more stressed, and then you can use it then as well as more of like a targeted kind of way.

Dr. Scott Sherr
But I found like the sweet spot for me and also for the clients that I've been working on this with, is to use it on a regular basis at low doses, or if it's somebody has a chronic inflammatory condition or a neuro cognitive inflammatory thing especially, I would be tightening to a starting out lower, but then going higher as well to like the professional strength in those cases.

Dr. Scott Sherr
And sometimes using 75mg with dinner and then 75mg before they go to bed, or even 150mg twice in the evening for short periods of time for like severe allergies, autoimmune conditions and others. But that's usually more under under clinical supervision in those cases. But from day to day operations, low dose prophylactic or a slightly higher dose for more more targeted and then very low dose like even like like a quarter of the turkey that you have there with caffeine as an energy enhancer to give that a try.

Dr. Scott Sherr
It works really well. It's cool, it's cool.

David
I remember a lot of our previous podcast. It was a discussion about methylene blue plus low dose psilocybin to increase creativity and focus.

Dr. Scott Sherr
I think I was talking about LSD plus caffeine. Maybe that's another good combination if people can find it, you know, and that's like a little bit what other psilocybin plus work. I mean I get to do it like, you know and then definitely yeah, there's, there's there's ways to do it and maybe I'll just pick anything that's, that's one of our products.

Dr. Scott Sherr
But be careful. You know, again, I can't recommend any of these things are not legal to use. Lots of different combinations actually, one of the other combinations, David, just to say, is that I have people take Troma, commune plus Rosie at night together. So Rosie is a outside sleep formula. It has eight different ingredients in it, one of them being quite a certain, but it also it works on the Gaba system.

Dr. Scott Sherr
Serotonin. Melatonin is all the things going on and it's a fantastic formula. So I people often take like a half of that turkey along with a quarter to a half of the moon. That's a fantastic combination because it's gonna increase deep sleep. It's going to support all the stages of your sleep as well. Like a lot of our sleep aids, many people know this.

Dr. Scott Sherr
Like people love taking Benadryl before they go to bed as it knocks them out, but then it also messes up their deep sleep. THC also messes up your deep sleep. Although I can get people for bed, I get that, but it's not great over the long term. All your benzodiazepines, all your Ambien, they all screw up your sleep.

Dr. Scott Sherr
So trying to avoid those drowsy plus throw me in is a great combination for the evenings for a lot of people. So I'll have them do depending on their sleep issues.

If it's mostly deep sleep, then maybe it'll be higher on the on the moon and lower on the the true Z. Or if it's more of a kind of combination of everything, then maybe high in the Z a little bit on the quarter seven.

David
Wow. Okay, better living through modern chemistry there we go.

Dr. Scott Sherr
Well, we don't live in an ancient world. We don't live here anymore. We live in we live in little, creature habitats with bad lighting and bad air. And we can do things about these, of course, but we need things that are supernatural. That doesn't work. Yeah, they're they're not always. Not always, you know, directly from the earth to help us more.

David
I, I didn't mean that in a derogatory way. I know what I swallow with my smoothie in the morning. My wife is appalled. I don't know, it seems to work for me.

Dr. Scott Sherr
You're welcome. I know it gives.

David
Me some sense of, like agency and control, but at the same time, like, I mean, people, they look at me in that like, you're what age? And it's like, well, it may not work for you, but it's what works for me.

Dr. Scott Sherr
So exactly right. And to each their own. And then we're just here to do the best that we can and get it when we feel better. Everybody around us is going to feel better as well because we're not assholes. So that's good, right? As long as you're not an asshole, it's better, right? So that's what I said.

David
This is fantastic, Scott. Every time we do a podcast, I send it to all my medical friends.

Dr. Scott Sherr
Okay?

David
And it's like, hey, we should you should listen to this.

Dr. Scott Sherr
But I haven't gotten hate mail yet from them. So I guess that's a probably a good point.

David
I guess I find it super informative. You know, a lot of practitioners, they don't have the education, the time to like dive into a lot of these things. Like, you know, the sort of knowledge that you have.

Dr. Scott Sherr
So I appreciate the time and I appreciate the platform, David, to help people with their immune system, balancing their parasympathetic and sympathetic nervous systems. That's key. And yeah, I think your immune is a fantastic addition to the basics. Or when you don't have the capacity to do a lot of those basics. When we're in modern world doing modern things, too much of the time kind of thing.

Dr. Scott Sherr

So it's a fantastic addition. It's been great for my family, for me and for my patients. And then we have tons of practitioners and people all over the country using it.

David
Super. Thank you so much.

Dr. Scott Sherr
See you next time.