

## How over stimulation causes sleep disturbance

**Guest: Dr Pedram Shojai**

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### **[00:00:10] Alex Howard**

Welcome, everyone, to this interview, where I'm super excited to be talking with Dr Pedram Shojai.

We're going to be exploring the importance of decelerating, of slowing down our system, to support quality sleep. We'll also talk about how damaging certain stimulants can be and why really getting to the root of what's going on, and not just treating the symptom of sleep, is so important.

To give you a bit of an introduction to Pedram, Dr Pedram Shojai is a man with many titles. He is the founder of [theurbanmonk.com](http://theurbanmonk.com), cofounder of Whole.TV, the New York Times bestselling author of *The Urban Monk*, *Rise And Shine*, *The Art Of Stopping Time*, and *Inner Alchemy*.

He is the producer and director of the movies *Vitality*, *Origins*, and *Prosperity*. He's also produced several documentary series like *Interconnected*, *Gateway to Health* and the upcoming *Exhausted* series.

In his spare time, he is a Daoist abbot, a doctor of Oriental medicine, a kung fu world traveler, a fierce global green warrior, an avid backpacker, and a devout alchemist, a Qigong Master, and an old school Jedi biohacker, working to preserve our inner world and wake us up to our full potential.

So welcome, Pedram. It's always fun to have some time together.

### **Dr Pedram Shojai**

Yeah. Good to be with you. It's great.

### **Alex Howard**

So let's start with a bit of a general frame here of why sleep is so important, because it's something that I think, for a lot of people, becomes an afterthought, not an afterthought because we all sleep, but that quality and that time of sleep becomes an afterthought until it becomes an issue.

### **Dr Pedram Shojai**

Yeah. I mean, at the risk of sounding trite or like Grandpa, what goes up must come down. And we live in a culture where the scoreboard is all on the side of doing. What did I do today? What did I accomplish? How did I get it done? What can I do better tomorrow? And how fast can I do it?

**[00:02:26]**

Sleep is kind of the opposite of that. You don't do sleep. Sleep happens. And so sleep is in this weird, mystical, really uncomfortable realm of something you can't do, and something that doesn't necessarily net results for you the same way clicking on a mouse does.

And so it's not valued in our culture, in our society on the front end, at least. On the back end, you don't know what you've got till it's gone. But on the front end, it doesn't have the same kind of intrinsic value. You don't monetize sleep unless you're in the red light district, I guess.

But there are a lot of conversations now that are swirling in the healthcare community around how sleep is the absolute pivot. You lose sleep, you lose health. You lose sleep, you lose sanity. You lose sleep, you lose everything. And so it's really come full circle.

But at the end of the day, the end user, the person who's got more things on their to-do list than time on their schedule, it's really easy to let sleep go. And it's really easy to fall into the get rich quick type of sleep advice out there, which is just take my pill, do my thing, and you'll sleep like a baby. And a lot of times that isn't the kind of sleep we're looking for as physicians.

### **Alex Howard**

Because of course, sleep is often a symptom of other things that are out of balance, right? And so if we're just medicating or targeting the symptom, we're not actually really addressing the problem.

### **Dr Pedram Shojai**

Yeah. And I mean, we're really good at that. I take an Advil after I drink tequila. Yes. It made the headache go away. But was that a wellness play? And so that's the culture we live in. And so I think one of the things that I think we should set the table with is deceleration rituals.

For millions of years we would live by daylight and when it would get dark, the predators would come out. Things were hard to see. We'd light fires, sit around them, do song and dance and huddle around safety and go to bed. And you'd have fire light, you'd have starlight and moonlight. That's kind of it for most of our evolutionary path.

And now we get all these blue lights and screens and TikToks and all this stuff. Living in a world where we have too much going on and having this culture of bang, bang, bang until it's sleep time. And so you're going 100 miles an hour and then suddenly you look at your clock and you're like, damn it, it's 10:30. I told myself I should get eight and a half hours because I read this somewhere.

You lie down in bed and you're wondering why you're not just falling asleep. Your brake pads aren't that good, and if they are, you're going to wear them out. So how do you decelerate into sleep? How do you start to avoid the blue lights and the stimulation and the to-do mentalities, something we call the ritual of the moon?

How do you start closing all those windows a couple hours, if not 3 hours, before it's time to actually fall asleep? Because a lot of people will just lay there wondering why it's not working. And that's not what meditation is designed for.

**[00:05:48]**

That's why you take pills, because I need a sledgehammer on the other side of my lifestyle to just knock me out. And if you look at the data, that's not giving you the deep stage four, stage three sleep that is actually restorative and doing the good stuff while you're down.

### **Alex Howard**

And I just want to amplify a point you made around the speed that things happen. Because I was just thinking, my eldest daughter, who's eleven, there's been a bit of an ongoing battle around TikTok over the last year. Is she old enough? Can she have it? How do we feel about that?

And one of the things about Tik Tok is how it really seems to change a kid's attention span because of how fast it's happening. And then the other night, she and our middle daughter, who's nine, were watching a YouTuber that I hadn't seen, and a bit like you being somewhat in the filmmaking media world I'm curious what they're watching, and I just couldn't believe how fast the cuts were between scenes.

It's like it was literally changing scene every 5 seconds. And I guess we normalized to, or people think they normalized to, that. But the impact of that constant change of speed is enormous.

### **Dr Pedram Shojai**

We have a crisis on our hands and it's a dopamine crisis. What we found is crack in a can can also become crack on a screen. And so the monetization of the attention economy, Facebook, YouTube, TikTok, they're all good at it, they're all getting better at it.

They've got whole departments starting in Stanford with BJ Fogg and going down from there, looking at the addictive circuitry that gets triggered by these fast cuts and the dopamine release that then keeps the kid needing to stay to see the next puppy or guy falling or whatever it is.

That's very carefully created to keep your eyeballs on that screen because your eyeballs on that screen equals advertiser revenue, pure and simple. It's the attention economy. It's evil and it's something that we have to talk about culturally. I think there's been some beachheads built in that dialogue.

But I think there's just so much money and we love money in our culture that it's really hard to get on anyone who's generating money because they're paying taxes and creating jobs. So it must be good. It's like creating warheads. It's creating jobs. So there's no fallout there.

And that attention economy, if you think about it, if we're going to think dualistically, you have sympathetic and parasympathetic, different pathways that happen in the human nervous system. A neurotransmitter dichotomy is really dopaminergic versus serotonergic.

So if you're pushing the dopaminergic circuitry in your brain with Tik Tok and value systems and point systems and all these things that are having reward systems that keep your brain engaged and going, what you're doing is you're really pushing the neurochemistry and the circuitry of your brain towards dopamine.

And if you look at how sleep happens and how happiness happens and how deceleration happens, those are much more serotonergic pathways. Serotonin, very specifically, converts to melatonin which

then chills you the hell out. We could talk about the dance between melatonin and insulin, but those things have a very specific function to shut down those windows and ease you into this thing called sleep.

**[00:09:27]**

Which is not doing, it's being. Sleep happens. You don't do sleep. Dopamine doesn't work that way. So the more we drive our nervous system and our neuroanatomy and our neurophysiology towards dopaminergic circuitry, the harder it is to go to sleep. And we're driving ourselves right down that hole.

### **Alex Howard**

To then come back to something that you started speaking about in terms of deceleration, in terms of this process of actively working to slow and calm the system. Say a bit more about why that's so important, I think you've already opened up a fair bit, and then some of the ways that we can do that.

### **Dr Pedram Shojai**

Yeah, if you are sensitive to caffeine, you should not have, because the half life of caffeine being 6 to 8 hours, you shouldn't have any caffeine after 02:00 P.M. Period. And if you're sensitive, noon. No coffee, no tea, no stimulants after noon.

Because what happens is, as that stays in your system, it's still cranking you up in a world that's already designed to crank you up while you're getting through your day. Basic, let's just set the table with sleep hygiene. No blue lights at night. Don't do your bills in bed, don't watch TV in bed.

Keep it cool. Somewhere between 66 and 72, I like 68 degrees, fahrenheit is where we like to recommend for patients to start and figure it out from there. But you want your body cool because that will help you fall into a deeper sleep.

And look, if you're in a city and you got noise pollution and light pollution, you gotta keep that stuff at bay, heavier curtains, stuff in your ears, or whatever you need to do to allow that cave to feel like a cave. That's how this animal sleeps for a long, long time genetically.

And so that's how we've adapted to sleep and that's how we allow ourselves to drop into a deeper restful place in the evening. You can't have bullets flying at you because part of your brain senses that and sends alerts and says, stay up, it's not safe. So how can you feel safe going to bed?

I put it to you that it probably does not include listening to the news about Russia and Ukraine and nuclear weapons and whatever. There's always something in the world that will make you feel unsafe when you turn on the news. Not to say that it isn't relevant, but I don't need to take that into my dreams. I don't need that.

Then from there, how do you create a ritual to start chilling out? We turn off all the bright lights at night. For someone who is incredibly sensitive, I tell them to go candlelight at night. Just go old school, monastery style, just candlelight. And allow the darkness to sedate you into the need for sleep.

If you're reading, don't read murder mysteries. Read things that are a little less exciting, if you will, to allow for the brain to, also settle into some information, but get your eyes off a blue screen.

**[00:12:39]**

Don't stimulate yourself too much and spend at least an hour between your meal and bedtime, really calming your mind and going into that sleep ritual. Now, how else can you calm your mind? There's this new thing that I read about that just came out. It's really cool. It's called meditation.

**Alex Howard**

I'm sure I heard of that somewhere as well.

**Dr Pedram Shojai**

Yes, they're all talking about it. Just download it from the App Store. And I'm kidding because I think the App Store based meditations are a distraction. You don't get meditation done to you through your iPhone. You learn how to meditate, so it becomes a skill that you've incorporated into your own consciousness in life.

So now you are sitting on the dial of that burn rate, if you will, and you could control it. It's not something outside of you. We're not trying to practice idolatry. A lot of the problems we have in our culture is everyone is waiting for the doctor to fix them, the guru to heal them, the police to protect them.

And part of that is bringing your agency back and learning how to find your own place of Zen and chill. Because if not, you're looking for a Quaalude. If not, you're looking for a chill pill. You're looking for something from outside to knock you out, because you don't have control of this mind of yours, which is a mark of the beast.

That's why we're having trouble. So let's put you back in the driver's seat. Let's understand how to decelerate in a way that allows you to sleep better. And let's understand that if you're in your 40s, 50s or 60s, doing that one night and going, damn, it didn't work, is really an unreasonable ask of your nervous system, which has all this momentum and needs at least 30 to 60 days to repattern and start to net the results.

I think we're all the proverbial story of digging for a well for three minutes, not finding water and going and starting so you have holes all over and not one deep well where you look for the water. If you start to really adjust your sleep hygiene and do the stuff that we're talking about here, it could take 30 to 60 days to undo 40, 50, 60 years of bad habits.

But if you stay the course, you'll get to the promised land. That's I think something that, again, in this get rich quick, give me three hacks that'll fix my sleep and make me taller in 30 minutes, that's all just news, headline, media garbage. You want to get better, start acting that way every day, and eventually your physiology, your neurology, your neurochemistry, starts to adapt and come around.

**Alex Howard**

I want to dig a little bit deeper on the point, Pedram, you made about meditation, because I think it's a really important one. I think that there is a tendency towards wanting to be very passive in meditation of listen to a visualization, be walked through something, and I think the point that you're making, which I wholeheartedly agree with, is that for me, what meditation ultimately has been, has been a

way of learning to train my mind that I can actively choose to shift my state and to change my attention and my focus.

**[00:15:53]**

And if I notice I'm becoming activated, I know how to settle my attention and to bring it back. But that's a skill. That's something we learn. It's not just drifting into a nice state, listening to someone walking you through something.

**Dr Pedram Shojai**

Yeah, and I think it was sold inappropriately. I think meditation got a mistranslation coming over from the 60s and 70s where people were also probably on too much acid, where it's like this super Kumbaya Zen, oh my God experience of ultimate bliss.

And yeah, that happens sometimes for 30 year meditators who are in this deep state of nirvana. That's not what you're going for on the day to day. You're going for the awareness of the noise and your reactivity and learning to disengage from the chaos and observe the chaos outside and know that that's not you, that's just noise.

And then you start to, then the gnosis comes, and then all these wonderful sidebar benefits come. But the real primary core skill that you need to learn in meditation before any of that cute stuff starts to really matter is to realize that you are not the noise and that you do not have to latch on and engage with it.

And then that really starts to create a different operating system where you don't go, oh my God, make it stop. Doctor, throw a pill at this. Somebody help me. Make it stop. And you see this in a lot of places. We have clinics that are doing ketamine assisted therapy and psychedelic medicine right now, and it's this thing where people are like, I don't like that. I'm not in control. Make it stop. Make it stop.

And that personality is not acquiescing to the truth of who you are, which is you're none of that noise. And if you just stop reacting to that, you can observe it, and then you become aware of the chaos. You become aware of, maybe it's the caffeine. Maybe I need to have this conversation with my wife.

Maybe it's the, oh my God, I'm spending too much money, and I'm stressed about money, but I won't stop spending money because I'm an American consumer. There's so many things that keep you up at night. The proverbial kind of thing is like, don't lose sleep over it. So what does that mean?

That means you have a lot on your mind. Some of it needs to just be thought through. Some of it needs to be behavior change. Some of it needs to be, when was my last meal? Where's my blood sugar? Or why did I have that cup of coffee at 03:00 because Janet wanted to talk?

There's so many things that you become self aware of as you're lying there in this state of relative quiet, and you are hyper aware of the delta between that serenity and the noise that's keeping you from falling asleep. And so to me, it becomes your teacher.

Sleep becomes a very powerful tool to diagnose how much content, how you're dealing with traumas and dramas and emotional content in your day, how you're dealing with lifestyle choices. And how you are either taking on more than you should or are in denial about the reality of your situation in life.

**[00:19:17]**

Sleep is when all that stuff gets loud. And so, of course, in America, I just want a doctor to throw something at it because I want to go back to my show. And I think that's also where sleep has become such a tough thing to treat because it actually makes us have to question our existence and how we're running our operating system.

And that's not a comfortable conversation. I'm a monk. Right. That's not a comfortable conversation with Western folks. I'm doing just fine. Look at my car. Look at my outside life. Don't look at the noise in my head because I'm terrified and I'm embarrassed about it.

### **Alex Howard**

One of the ways, of course, that we can start to bring more awareness to what's actually happening in our nervous system and the activation is looking at things like heart rate variability.

I'm curious as to how in your work, you find those tools, perhaps a helpful mirror or a helpful way for people to actually get a visual medicine in a sense of what's happening.

### **Dr Pedram Shojai**

Yeah. I think there's always a double edged sword with the tech. And so you have to be careful. I don't like the guided meditations that do it for you. Just listen and you'll be fine. I think that that's very disempowering. And robs the end user of their agency. I want to learn how to meditate. I want to learn how to get to the state without your subscription app. Thank you very much.

but I do think that there are tools that are proving to be very useful. The science and the data are supporting it. Heart rate variability being one. And heart rate variability is a pretty good marker of how well you're doing with stress and how well you can downshift into parasympathetic dominance, which is rest and digest versus fight or flight and stress.

And so look, I wear an Apple watch. I took my Oura ring off because I needed to charge it. So I use these things to help me trend and track. Now, I bet you my wife is probably better at predicting if my meditation is working than the apps. 20 years of marriage later, right, they know. The people around you know.

And I know if I find myself fidgety and pacey and just moving faster than my day allows, then what's going on? And that, to me, becomes a really good canary to say, sit down, breathe for a few minutes, you monkey. But again, I'm a monk with that training. I put in that time.

Now, do I believe in shortcuts? It's all deal with the devil. I think HRV is a really good modern tool to help someone get there, get in, and understand that they're either in that state or not in that state, but also one of the more powerful tools that, you know, because of the amount of raw data and chaos in our lives, we don't get to really draw correlations well.

Because it could have been the coffee. It could have been the subway sandwich that messed me up. Over time, as you start to map your life with your HRV data, it starts to become abundantly clear that when you are in the sweet spot of heart rate variability, you're also doing better in life. You're also probably burning fat better, you're also sleeping better, et cetera, et cetera, et cetera.

**[00:22:40]**

So then it starts to prove to you that, hey, listen, I'm just better just being maybe 20% calmer instead of running around like a lunatic all day. So once you learn that, then you realize that you don't redlight your engine all day. And that's just an adult thing that comes once you pay attention to your life a little more.

### **Alex Howard**

And, Pedram, for people that aren't familiar with HRV or heart rate variability, just say a few words about what it is and what it's looking at and why it's helpful.

### **Dr Pedram Shojai**

Yeah, it's the variability of the beats in your heart. So basically, you get a lub dub in your heart and it does a thing, and it pumps. So what we want to see is how quickly the heart relaxes as that data comes back. And so what that does is it becomes kind of a marker of overall stress in the system.

If this animal is wound up and super tight and waiting to get pounced on or looking for the next shoe to drop, then my arterial system, my muscle system, everything around is so tight that that feedback of this super soft, really elegant flow of how the heart and the plumbing, if you will, of the system's design starts to show signs of stress.

And so if I could relax that, that also has downstream effects, not just for my daytime operating system, which we could talk about, which is really important. The vagus nerve goes down. It's one of the cranial nerves that goes down, innervates all the viscera of the body. So if you can reduce the variability, you get to a place where you are more chill, and the vagus nerve stops sending alarm signals down to the viscera saying, hey, man, we don't have time for school books right now. There's a war.

Then what happens is the body systems start to heal, and what happens is cortisol levels and the adrenaline levels and all these things that then end up impacting you going into sleep, start to self regulate and come down. Then at night you can actually shut down, go into stage four sleep, allow growth hormone secretions to come, allow ghrelin and leptin levels to regulate, and allow the insulin levels to maybe even come up.

You can even eat more carbs at night if you need to so that the melatonin levels regulate. And all of a sudden you wake up and you're less tired, which means maybe two cups of coffee become one, and eventually you don't need coffee.

And eventually you're not doing this stimulant ride all day trying to just make it through your day because your body is giving you what it needs at night. Now, that doesn't happen, I mean I wouldn't say overnight, right? It doesn't happen over one night. It does happen overnight, but it doesn't happen over one night because it has intimately been connected with what you're doing during the day and how you're going into the night.

And so I don't want to offend anybody, but I'm good at it. There's just a lot of talk out there trying to sell sugar cereal to children. Everyone's talking about hacks and biohacking your way into sleeping like a zombie and getting up and having your best day ever.



**[00:26:10]**

And no one is looking at the pendulum swing of how you need to hold your heart rate variability and your economy, your burn rate throughout the day so that at night you could go down for a natural night's sleep, which crushes any melatonin supplement you'll ever take. Which crushes any muscle creatine thing you'll ever take. And so nobody wants to hear that because it involves doing stuff instead of taking stuff, which is not the American way.

**Alex Howard**

And of course, one of the challenges that happens is people get in these vicious circles where they're not sleeping properly, therefore they're more tired during the day, therefore they're looking for those stimulants, be it sugar, caffeine, whatever it may be, to give them the lift, but then it's further dysregulating their system.

**Dr Pedram Shojai**

Well, yeah, and you're robbing Peter to pay Paul. You're just stumbling through these days like, listen, I learned that the hard way. I was a monk, and I did all that cool stuff and then became a householder and had kids. There's nothing like that first week your baby comes home where you're just standing there feeling like you got pantsed by life.

You're like, oh, man, I actually had plans today. I wanted to do things. I needed my brain. I didn't even drink coffee until my son was born. And then I was like, damn it, I need something. And so listen, I'm not coming from some high and holy place of someone who's never been there. I've been there.

And it sucks because you're stumbling into your day because you didn't sleep the night before. Now, granted, there's a screaming child and something that was keeping us up, but that screaming child could be your work, it could be your impending divorce, and it could be the caffeine you had the day before.

There's always a screaming child. How do you deal with it? And so for me, you deal with the child, you make sure they're not colicky, you do all these things, and eventually you're sleeping again. Hallelujah.

But it's the same thing, you get up and you start deficit spending on energy that morning. I'm borrowing energy from tomorrow to get through today with some black coffee. And I might need to just, in an economic model, print more US dollars because we ran out.

**Alex Howard**

You're referring to quantitative easing, are you?

**Dr Pedram Shojai**

Yeah, that's it. We're all quantitative easing. It's how we run our lives now. Instead of having healthy, happy mitochondria that are sufficiently producing energy to get through our days with our highs and lows, as soon as we feel low during the day, we feel like a loser and we go get an espresso.

[00:28:42]

Because high all day is the way we operate. And then at nighttime, we wonder why we can't just fall asleep. So, again, not to sound redundant, but it's the way we live that makes sleep such an inconvenient truth, because we're not getting it.

### **Alex Howard**

And of course, one of the impacts of all of these stimulants and also the lack of the right nutrition is on blood sugar. I don't know if you want to speak a little bit about how that is impacted, but also how it's then resulting in poor quality sleep and often waking up in the night as well.

### **Dr Pedram Shojai**

Yeah, so if you look at the relationship between melatonin and insulin, and you start looking at insulin, basically it funnels glucose into the cells to be used for immediate energy. It's also a fat storage hormone. And so if you're consuming more energy than your body needs, it's like, okay, let's put this away for a rainy day.

So there's a lot of studies that have found a positive association between abnormal melatonin levels, poor sleep, and the development of type two diabetes. What's happening here is how we're managing our blood sugar is also driving insulin levels up and down like crazy, which is also affecting our melatonin levels, which is also keeping us from dropping into stage four deep sleep.

And so there is overwhelming evidence now to show that how we're eating and the amount of carbs we're consuming, and for some patients, the time we're consuming those carbs, makes a very big difference. Because, think about it, if I have run out of blood sugar, there's a couple of things that happen just on the adrenal side.

Is if I run out of blood sugar in the middle of the night and my body is not accustomed to just burning fat to go get it, my brain is the primary organ system, and it will sacrifice all other organ systems to say I have to stay alive. That's just physiology, neurology 101.

So it'll say, go get me some sugar. And the normal way that works is for the Adrenals to say, okay, this monkey ran too hard today. Needs more sugar for the brain. Let's release a little bit of Cortisol to pump and get some sugar out of glycogen reserves and let them keep sleeping and just get the brain when it needs.

That works until you've drained your adrenals and you don't have the ability to squeeze on Cortisol, it's like, what's the checking accounts that have the insurance on the back to say, oh, I have overdraft protection. So overdraft protection will work until it doesn't.

And then when it bounces, it says, hey, the Cortisol system isn't working anymore. Release some adrenaline, wake this animal up and tell it to go get me food. And that's when you pop out of bed with your heart racing and you're like, holy crap, what was that? That's usually when your adrenals are so taxed that you are unable to stay asleep and run the right night time operating system.

So how do you fix that? There's a lot of different areas with patients that I've dealt with on that. Someone who just needs to maintain better healthy blood sugar through the night, so you have 3oz of chicken with a bunch of olive oil, so you have some fat and protein for a slow burn so that you have something in your stomach at night that can work through while you're sleeping, slowly as you go.

**[00:32:23]**

For some patients, we'll actually recommend their biggest carb dose at night because then the insulin levels come up to match it, and then that starts to help drive melatonin levels to where they need to be. So there's a little bit of nuance. And again, I hate that on talk shows and radio shows and summits because everyone's like, what's the answer?

The answer is you're complicated. And so things might be a little different for each patient. And that's what a good functional medicine doctor will do, is they'll help you figure that out, because the answer is never take this pill. And that's what the market wants to do is say, oh, you know what? Listen, I've got the answer for sleep, and I ran my spreadsheets. It's a \$3 trillion market, and I'm going to get 8% of it, and I'm going to be rich.

That's how business works. The way the body works is a lot more nuanced than that. So let's decouple those and figure out what specifically works for you, listener, as an individual, and that's what a good functional medicine doctor does.

### **Alex Howard**

And then, Pedram, let's also just touch on the impact of toxicity and how that can be another variable. And also, of course, it can impact hormones, blood sugar, stress levels and so on as well.

### **Dr Pedram Shojai**

Yeah, it's the elephant in the room and no one wants to talk about it because no one wants to admit how much of a dumpster fire our environment is.

And so we have heavy metal toxicity, we have mold toxicity, we have livers that are getting more and more sluggish. Fatty liver disease is a thing that just is way too common now in a culture where that shouldn't be the case. These are not for nonalcoholic fatty livers, but even alcohol.

And so you're giving your body a toxic burden. The liver is working all night to try to process conjugate and get this crap out. Some of it, it can't. It has to store in brain tissue and bone tissue because it has to be bound by fat and has to get out of the circulation quickly.

What happens when you start putting mercury in your brain tissue? Does that sound like it's going to help you sleep, or the opposite? And so that's one side of it. The other side of it is, this is kind of classic Chinese medicine, when the liver is running hot, sleep doesn't happen.

And so a lot of us are trying to conjugate, we're trying to take out the trash all night, but we're not helping our systems. Our systems are overburdened by the toxic load, and we're not supporting our systems with enough movement, with enough leafy green vegetables, with enough sulforaphane.

There's a lot of strategies to help the liver conjugate and get stuff out. But the moral of the story is if you have a toxic burden, the liver is working hard. And there's actually almost like a physiological noise you can hear in your mind when your liver is cranking late at night where you're waking up between two and four in the morning and you're like, I don't know why I'm up.

**[00:35:26]**

That oftentimes is a really good clue for me to be like, hey, let's talk about your lifestyle. Let's talk about how much you're drinking. Let's talk about what you're exposing yourself to. And nine times out of ten, that patient has a toxic load that is a body burden that they cannot handle.

The poor body is trying as best it can at night to shovel this manure out. There's only a few ways to get it out. So you have to either urinate, feces or sweat. Most people are profoundly low in sweat, I mean who exercises an hour a day? Like let it out.

And then the rest of it is most people don't have enough of the phytonutrients, the leafy greens, sulforaphane, and some of the Cofactors needed to allow the detox pathways to do what they're doing because it's coming in faster than we could put it out. And we're introducing 70 million pounds of new chemicals into the environment every single day.

My body is pretty good at recognizing nature, and it has evolved around that for millions of years. Some guy in a chemical lab just last week came up with blue number 47, because somehow blue 42 wasn't good enough. And they introduced that to the ice cream or whatever the hell it is that I just ate.

My body goes, what is this, friend or foe? So if it sneaks in as a friend, then it goes and does whatever it does because we don't even know how this thing was synthesized and what it's doing in my body. And so the body can either conjugate it and let it out or say, we don't know what this is, let's wrap it in fat, or let's put it away in bone or brain tissue.

And that is a big reason why people are overweight, is because the body doesn't know how to detox this stuff. And fat becomes a really good way to encapsulate dangerous items in your body. That's one way. And the other way is to say, oh, no, this is foe, and it mounts an immune system response so that your immune system is constantly working and you're constantly at war.

So it contextualizes this with sleep. You're either fighting an immunological war with the blue 72 that you had in your ice cream because it looked like bubblegum ice cream, which is a good idea, or you're taking that chemical and storing it somewhere because your body doesn't know what to do with it. Because your body evolved around natural compounds and your body evolved over millions of years. And the chemistry labs are putting this crap out every week.

And so that is also happening at night. Again, in the differential diagnosis of why you're not sleeping, if you're waking up between two and four in the morning and it's very loud and you have some tinnitus and some pitched sound in your ears and your mind is racing at those times, that's also something that a good functional medicine doctor needs to look at.

### **Alex Howard**

So, Pedram, it's been a bit of a whistle stop tour of pieces. I'd love to summarize a little bit into a few practical starting points. For someone that's watching this, and I know that we can't ultimately reduce all this complexity down to a three step plan, but what are some good starting points?

### **Dr Pedram Shojai**

Yeah, I would say, listen, it starts with how you start your day. And so if you're starting your day needing caffeine because you're robbing Peter to pay Paul, then let's pull you slowly out of that deficit economy by teaching you how to maintain your heart rate variability.

**[00:38:54]**

Take a few breaks, chill out and learn how to bring down your cortisol throughout the day so you don't take that crap into bed at night. And really, absolute necessity here is to exercise and move your body that day because that'll help your body metabolize and conjugate and do all the things that it needs to do and sweat stuff out.

Number two, I would say, is deceleration. Go into your evenings as if it's a ritual for sleep. Honor your sleep, close those mental windows. Don't bring the bills into bed. Do the good sleep hygiene stuff, but also, do you really need to binge watch that new show at 09:00 to 10:00 P.M.?

Let's start prioritizing that deceleration because then that next morning you're going to need less coffee, which means you start to get into an upward spiral of daytime versus night time activity, and a cadence of high low that allows your body to fall into a rhythm that begets more health.

And then the third thing is dig. Are you psychologically overwhelmed because of taking on too many commitments? Are you spending too much money? Are you needing to have a conversation with your partner and your marriage? Are you in a position where you have too much caffeine on board?

Are you in a position where you have too many toxins and need to figure it out? Are you in a position where you're not eating the right kinds of food for you at night? And then really start to become aware of what's working and not working. Because sleep is the ultimate teacher, because it takes all the noise away from the world and reflects the noise in your own mind back upon you.

That's terrifying to some, but the answer is don't run for the hills. Turn around and learn from it. And you will become a much more well rounded and healthy human by listening to what you're learning from not sleeping. It'll help you correct a lot of problems and it's a really powerful way to come back to health and sanity quicker if you don't run from the problem and you turn around and you engage in it in a meaningful way.

### **Alex Howard**

I love that. I think it's so easy for someone to say it's just a problem to get rid of. And I love the fact that you're framing it, that actually it can be a portal. It can be a window into a different way of doing things.

Pedram for someone who wants to find out more about you and your work, where's the best place to go and tell us some of what they can find?

### **Dr Pedram Shojai**

Sure. The letter [bpossible.com](https://bpossible.com). Health and wellness streaming, we have hundreds of master classes and films and meditations and just a wonderful resource. There's a free tier where you just join and enjoy all of it for free.

And then from there, we have health coaches and telemedicine and all sorts of help that I've layered on to really solve this chronic disease problem in the West. And a lot of it has to do with a little bit more hand holding and better education. And a lot of it has to do with using biometric tools and all the devices that we have to help you understand what's working so that you keep going.

**[00:42:04]**

I think a lot of people try stuff and give up way too quickly. If you have a sustained approach to, say, fixing your sleep, it could take 30 to 60 days. But after that, all of a sudden, everything starts to look rosy. You just didn't wait long enough to see the results. So we use data and we use media. We use humans to really help other humans do better, and it works great. I'm very proud of what we're doing over there.

**Alex Howard**

That's awesome. Pedram, I always enjoy our time. Thank you so much.

**Dr Pedram Shojai**

Thank you.