

WorkWell

A Deloitte podcast series to empower your well-being



How sleep fuels performance with Jeff Kahn

Jen Fisher (Fisher): Sometimes I get the question, “if I only focus on one thing for my well-being, what should it be?”. This may seem like a hard question, but for me it's not. I always have the same answer. It's sleep. I'm a passionate advocate for sleep because it's foundational to every part of your well-being. Despite its importance, our society and our workplace culture still favors busyness and sleep deprivation over quality, rest, and recovery.

This is the WorkWell Podcast series. Hi, I'm Jen Fisher, Chief Well-being Officer for Deloitte, and I'm so pleased to be here with you today to talk about all things well-being. I'm here with Jeff Kahn. He's the co-founder and CEO of Rise Science, a sleep technology company that uses science and data to improve sleep. Jeff, welcome to the show.

Jeff Kahn (Jeff): It is an absolute pleasure to be here and talk about a topic that I am in love with, so thanks for having me.

Fisher: You and me both. This is going to be a great conversation, but let's start with you and tell me how you fell in love with sleep.

Jeff: It started about 10 years ago back in engineering school. Up late at night pounding the books, up early in the morning and just exhausted like everyone else. It was like maybe my sleep has something to do with how I feel. Also, back in 2010, it just wasn't clear yet that this is, I mean the science was clear, but it wasn't clear yet in the mass market that this was a thing to focus on. I started doing sleep science research, reading the academic literature, trying to understand the review articles and I was trying to find what do I need to do with my sleep so that I feel better, like what is it? Do I need like more REM sleep? Do I need more deep sleep? Do I need to be tracking my sleep? Do I need a new mattress? Do I need to take supplements? Like just lay it on me, what do I need to do? I just wasn't very satisfied with how far I got there. I didn't have a lot of answers for myself and so I begged my school sleep science department to take me in as an apprentice. It was actually there that I published my first academic paper on taking consumer sleep tracking data and turning that into insights and feedback that regular people could use to change their behavior. That was really, really exciting and all perfectly academic until my school football team found out about it. I was at Northwestern, they were a Big 10 team and they're like, “Well, none of our players are sleeping. Can you come help us?”. We translated that academic work to work with the team and then one thing led to another, we started getting calls from Alabama and Clemson and the Patriots. Name a pro or elite level team, they

wanted to figure out how they could help their players get more sleep. That was really where this turned into a business and started to be practicing, not just as a sleep scientist, but as someone who's just trying to help people every day. After a number of years doing that, realizing how big of an opportunity could be to bring that experience that we had learned with these pro athletes to everyone with a mobile phone. That's really what we're doing today. Along the journey, we've had the chance to work with very top Fortune 500 companies on studies around sleep and cognitive performance, sleep and emotional performance, sleep and physiological performance, teams in the NBA and the NFL, and so just happy to be an open book. I think there's so much mythology around sleep these days. My commitment to you, Jen and to you, if you're listening to this, is everything that I say I will try and be good about letting you know whether it's based on scientific evidence, whether it's based on my opinion or something else. Hopefully, if there's one thing that you get out of today, you should just get the scientific evidence base, and I think it's important to have that.

Fisher: So let's dig in like right there. Let's talk about the science of sleep. So, tell us what the science says and why sleep is so important to human beings?

Jeff: The first thing, and I actually learned this from Mark Rosekind...Mark used to lead Sanford Sleep Research Center and went on to lead sleep research at NASA. President Obama pointed him to run NHTSA because of his expertise and background in fatigue. We've known each other for many, many years and has been a big mentor and coach of mine. What he shared with me always stuck, what he said was, "Jeff, sleep is like oxygen. If I were to choke you out (you're losing oxygen), every single biological system is going to start shutting down and going into survival mode". He said, "Sleep is the same way. If you start getting less sleep than you need, every single biological system suffers". There's a lot, I think, to learn from that, but I think that the basic principle that we can all take away is that sleep is essential to how we function. While there are many important things about how we do function every day and how we are as coworkers, how we are as partners, how we are as friends, how we are as parents, how long we live, the quality of the limited life that we have on this planet, sleep is likely the largest input into that. So, I think that part is actually starting to become more well-known because of the folks like Matt Walker and Arianna Huffington. We're talking about sleep now, but I think what's not known is how exactly do you actually get all of these lifegiving benefits of sleep? All the things that people already know. I think that's something that science has a lot to say on and we can definitely go in detail on what we've learned as a scientific community and what that actually means for working and living every day.

Fisher: Let's go there because I hear you, right? Sleep is like oxygen, but so many people struggle with it. We know it's important. I think it's Matthew Walker that actually said our modern society is basically set up to make sure that we fail at getting sleep. So, how does our society and culture shape this and what can we do about it?

Jeff: Matt Walker does such a good job talking about this, but if you look back over the last 100 years, which is sort of the first time we started doing any measurement about public health, sleep measures, but it really started in earnest, I believe in like the early 70s, where we started to survey it a lot more closely. What you see overtime is that the amount of sleep that we've gotten has decreased and the times at which we get sleep have dramatically changed. The reason why 100 years is interesting... I'll point out two interesting milestones, 100 years ago. One is that's when electric lighting became sort of mass market, that's when most people had electric lighting. If you were to study that trend overtime,

what you'd see is that not only has electric lighting got more pervasive and more strong, but the electric lights we use are now far more engaging and far closer to our vision systems. That is definitely changing our biology. Now you've got a screen that you're holding up 6 to 12 inches away from your face that is so well designed in terms of the apps that you use, the hardware that you're using, it even glows orange to try and reduce some of the blue light now. I mean that's what's going on. We've really changed, and Matt Walker deserves the credit for this term of what he calls "naturalistic sleep". The idea is that living things evolve for millions of years with sleep as a foundation, and it is highly evolved and highly complex. What we need to do as humans, instead of getting in the way with lighting, that your sleep will be much more naturalistic if you get out of the way. We can talk a lot more about what that means, but I think that's one big overarching trend that is important to pay attention to. We're going to bed and basically sleeping much later than we otherwise would be left to our own devices. Now, the second trend that I think is actually really fascinating that also gets overlooked, I think today the common thinking is that sleep is up there with nutrition and fitness and mindfulness. That they're all sort of pillars of wellness. I actually think this idea is well intentioned but wrong. When you look at what's actually affecting all of those areas, the way to think about sleep is it's actually this foundational element that you're building a house of wellness and high functioning on top of. The same cannot be said about any of those other areas, and we can talk more in detail on that. I think it's so important for everyone here listening that if you're going to invest in just one area, you got to start with sleep. We'll talk about what that means to invest in sleep and how to do that. One of the things that we've learned, and to go back to the 100 years point, the first sleep lab ever in the world opened back at the University of Chicago around 1925...so not exactly 100 years, but close. That was the first lab that started studying human sleep, and since then we've now seen an explosion of science done on sleep and we have more academic papers on sleep than we do physical activity or nutrition or any of those other areas like mindfulness. While sleep has been a trend, my opinion is that because the science is so incredibly strong relative to those other areas, because the effect is so large on how long you live and how well you live, we're just going to start seeing sleep become more and more of an important factor that's at the basis and foundation of how we run society. I'd say that's the second thing, so electric lighting and sleep labs opened 100 years ago.

Fisher: So, sleep should be simple, right? Or perhaps, it is simple and we're the ones that kind of get in the way, as you said. I also think that there is, like many things in our society, there's a lot of different information when it comes to understanding what good quality and good quantity of sleep looks like. I know you focus a lot on the concept of sleep debt. Let's simplify it for the visitors. I mean, you could track your REM, you could track your deep sleep, you have to get this percentage, you have to get that percentage, I mean, goodness (laughs). To your point, we've gotten in the way, we've complicated something that comes so natural to us or should come so natural to us as human beings. So, what are the basics? What do we need to do and what do we need to know to get good sleep?

Jeff: So, I'm actually going to do the opposite of simplify. I'm going to just give it to you straight as it is in the scientific literature base. Again, this is an opinion of mine, I think other sleep scientists would agree. I just want to copy that I am not a sleep scientist, I've published two papers at this point, but I know the science based well. I interfaced with the scientific community and a lot of the folks in it and so I consider myself sort of a budding amateur, but definitely I know the literature base reasonably well at this point. I think we all know how important sleep is; how important it is for our cognition, how important it is for

emotion, how it is important for physiology. Anything you can imagine there are studies showing that sleep affects it. Now what's not known, at least I think widely, is how do you get the benefits? This is the same question that I started with 10 years ago, like what do I need to do? Luckily for us, sleep researchers have actually figured out what it is. This is, in my opinion, the most central finding in all sleep science sort of like the laws of physics for sleep. It is something called the "two factor model of sleep and wake regulation". Basically, what this theory says, is that if you care about how awake and alert you are the next day, how performant you are, there are only two factors that drive that. So, that's why it's called the two factor model. The first factor is scientifically known as the sleep homeostat. What I think a better way to think about is something called "sleep debt", which is just a measure of how sleep deprived you are on any given day. We can talk about how it works. This is the single most important measure and number when it comes to your sleep and how you're going to function. We have a study that got accepted for publication about a month ago now that follows NFL athletes and follows high performing salespeople. What it shows is that and again, not surprising the scientific community, but it's actually sleep debt that is predicting NFL game performance, NBA game performance. How many three pointers you are able to make, how much sales you can make in a month is predicted by your sleep debt, not based on how much sleep you got last night, not based on how you felt when you woke up in the morning. So, that's really the most important score, number, or measure when it comes to sleep. The way sleep debt works is that we each have a genetic need for sleep. Just like eye color, it's all different based on your genetic makeup and so your sleep need is the same way. The average is slightly over 8 hours, around 8 hours and 15 minutes with a 35-minute standard deviation. Most of us need somewhere between, let's just call it seven and a half and nine. It doesn't mean that some nights need seven and a half and some nights you need nine, it means that you have an actual need you need to get and every night that you don't get that need you build up debt. All research shows you build up debt that affects you over the last 14 days, but there's laboratory research that shows you can build it up over 30 days. That's really what matters, and while last night is certainly the most important night, it's not the only night that matters. The last 14 nights will affect you, so that's at a high level how this works. I'd say there's two sort of very, very exciting things about this. One is that if you have a terrible night, and we all do, welcome to being human in 2021 (laughs), it's not last night that matters. Even for me, last night I was tossing and turning, I was up thinking about work, I ended up getting like maybe 7 hours and my need is actually 8 hours and 20 minutes. Even though last night was pretty fitful for me, I know that I'm going to do just fine today because my sleep debt is 2 1/2 hours. So, I've done such a good job over the last 14 days that one night isn't going to have a big effect. This was super important for the athletes we worked with because they would be worried that they're about to play in front of millions of people. They need to play well when they get in the game for one play. It's one play that makes the difference between winning or losing. So, they were thinking about it, it's almost this performance anxiety, it's like, now do I have to worry about my sleep? No. If you take care of business for the last two weeks, basically what happens the night before your performance event isn't going to affect you that much.

Fisher: So, can you make up sleep debt? Like if one night I get 6 hours and the next night I get 9? And what about napping? (laughs) I'm a big napper.

Jeff: Napping is a fantastic way to reduce your sleep debt. Mark Rosekind, who I mentioned earlier, led NASA's fatigue countermeasures group for astronauts and fighter pilots. That sounds really fancy, "fatigue countermeasures" but what they studied was napping, and the optimal ways to nap. Absolutely, napping is a very powerful tool, but there are some things

to be aware of that we can definitely spend some time on. I'd say you can make it up and this is a point that I will clarify. If anyone is listening to Matt Walker talk about this or any of the other podcasts, he will sometimes say that you can't make up sleep debt. I think he even talks about it in his book. I'm going to give him the benefit of the doubt and assume that what he meant is that we don't know as the scientific community, if you can make up a long-term sleep debt. Let's say for your entire 20s, you got five hours a night and you build up all the sleep debt you just powered through, you felt exhausted the whole time and then you know all of a sudden you make a change in your 30s. Can you make up those last 10 and 20 years? That question is actually unknown. What we do know, and what Matt Walker points out, is that again, if you cut your sleep short and you build up sleep debt, that's actually going to put your body into a fight or flight response mode. That, overtime, is basically linked to many of the major chronic diseases that lead to shorter lifespans. So, that I don't know and I think the scientific question on that is still out. What we do know is absolutely if you got six hours one night and then on the weekend you make it up or you take a nap, your short term emotional, cognitive and physiological performance immediately gets better. That, you can absolutely make up and it's really empowering. Even if you've been sleeping poorly for the last 20, 30, 40, 50 years, you can change it tonight and get the benefit.

Fisher: Love that. I'm sure that's going to make a lot of people listening feel a lot better (laughs).

Jeff: Sleep is just like anything else. I think what makes sleep debt sort of unique...there was another famous sleep scientist named Bill Dement, and he was famous for starting Stanford Sleep Research Center, really starting the field of sleep medicine as we know it. He used to teach a class at Stanford called Sleeping Dreams, one of the most popular undergraduate classes. The tagline for the class was "drowsiness is red alert". That might sort of be strange, like why is that the tagline for this class? It turns out that it is very difficult to be aware of how much sleep data render. Our brains basically trick us into thinking we're not that sleepy. The research actually shows that if you were to get four hours of sleep tonight, Jen, tomorrow your performance would degrade obviously, you would tell me that you're feeling a little bit more sleepy. If you do that again for day two, the same thing would happen, your performance would continue to degrade, you also subjectively say, "yeah, I feel more sleepy". Day three, the same thing would happen, your performance would degrade and day three be like, "yeah, I'm definitely more sleepy". Now, you would report to feeling only slightly sleepy and basically if you were to continue that regimen of getting four hours a night of sleep, from day three to day 14, you actually would not report to feeling subjectively any more sleepy for the next almost two weeks even though your objective performance, by the way, is just continuing to get worse; an objective performance, emotionally, cognitively, physiologically. It's very hard to be self-aware of how much sleep debt you're under. One of the ways that you can do this for free at a high level is to know if you are at all slightly sleepy during the day. If the answer is yes, you have significant sleep debt and what's exciting about that is you have significant headroom to improve how you're functioning. Relative to everything else that you could do in life, like getting more sleep, while it can be challenging, sometimes is also not that challenging. It's pretty simple and it's free. It's going to have a massive impact on how you function and feel, if you are at all slightly drowsy. That's one of the reasons that, within the Rise app, we just put so much attention on sleep debt because it's not some sleep score we made up. It's just a measure that we believe everyone on the planet should know to be able to inform the trade-off of how much do I need to sleep tonight? Should I prioritize my sleep

tonight? Should I prioritize getting more work done? Should I prioritize, hanging out with family? Should I prioritize staying up watching Netflix till 1:00 AM? What should you prioritize? Without understanding your own sleep debt, that prioritization game becomes almost impossible.

Fisher: I want to go back to something you said, the recommendation of 7.5 to 9 hours, other people say 7 to 9 hours. I have people tell me, "I get four to five hours of sleep per night. I've always gotten four to five hours of sleep per night, and I do just fine". What's your response to that or what is the science say around that? It sounds like we believe we have adapted, but what's going on kind of in our bodies and our brains is not adaptation at all.

Jeff: Absolutely. It's sort of adaptation in an evolutionary context. Basically, your brain is tricking you saying you need to feel okay because you need to survive. What happens is all of your fight or flight response starts to activate, so you have huge releases of cortisol, which is the stress hormone which releases a bunch of blood sugar into the bloodstream. If you need to escape some sort of perilous danger for 2-3 days, and you're trying to outrun that danger, well that's a great adaptation to have. Today, it's not so great because you're going to die early, you're going to have more likelihood of the chronic diseases, and you're going to have a much worse off daily experience of life, which is sort of all we have anyway. That's sort of high level. What I usually say to that person is very simple. After explaining sleep debt and they understand the importance of sleep, and then they're like "well, I only need four to five hours". That might actually be true, just as there are people that are 7 feet tall, the sleep needs, at least what we know now, are normally distributed. There are such people as short sleepers. If you are slightly sleepy during the day like at all any little bit of drowsiness, you have significant sleep deprivation. If someone is like, "oh, I only need 4 hours" I ask them, "how quickly you fall asleep at night?". They're usually like, "oh, I'm a great sleeper. I fall asleep immediately as soon as I put my head on the pillow". That's actually the clinical measure of being clinically sleep deprived. If you're able to fall asleep in under five minutes when you put your head on the pillow, that tells me that you have so much more room to improve, should you want to improve. Because of this sort of subjective adaptation that our brain just tries to tell us that it's okay, we end up telling ourselves that we're just fine. I think what's so encouraging is that, you might have thought that most of your life, you're lazy or you're not creative, or you're not a hard worker, or you don't have willpower or any of these things that you start to bring into your identity. I'm anxious, I get paranoid in meetings, you know, whatever that happens to be. If your sleep debt basically is low, the first place to start instead of worrying that you're not good enough is to get your sleep debt well and then see how you feel, then layer in all of these other areas. That's just sort of the foundation for how to build a much better life. It starts with, is my sleep debt reasonably in control?

Fisher: It's fascinating because I used to be that person that only slept four or five hours a night. Then I became that person that sleeps on average, 8.5 hours per night. First of all, it took me awhile to get there, for whatever reason I guess and maybe you can explain this. You can't just go from sleeping five hours per night to sleeping 8.5 hours. You have to work up to that, right? I will tell you now that I'm that person that sleeps 8.5 hours per night when I don't sleep well, everything else seems to kind of fall apart; my emotional state, my ability to stay present, my ability to be creative, my ability to control just like my emotions and the way that I process what's going on around me, just kind of everything...certainly exercise. It really is, like you said, truly the foundation. When I talk to people about sleep or

getting more sleep, I tend to talk to them about everything in the well-being space. We talk about micro habits or micro steps. If you can just start by getting 15 minutes more sleep per night, then add 30 minutes and then whatever it is...that is where you want to be. Is that an appropriate approach for anybody that's looking to improve their sleep?

Jeff: Yeah, I want to get back to that. The short answer is yes. Actually, the first paper that we published was actually taking a tiny habits approach from BJ Fogg and basically giving people sleep schedules that are known as optimally challenging. Basically, if you're getting five hours a night, it turns out that going to eight is actually very hard, behaviorally just sustained overtime. If you're getting five hours, instead of at 2:00 AM, you could probably get in bed at 1:45. By having an optimally challenging bedtime, what we found is people are actually sleeping, in many cases, almost up to two hours more night, overtime. That actually is the heart of behavior and definitely some fascinating insights we can share there, and some things we've learned. I can tie back to the initial question, which is what do we need to do and what do we need to know with sleep? The first lever is sleep debt. I think we've talked about that and how it works. The second lever is something called the circadian rhythm. When I first heard about it, I thought it was like some weird voodoo... "We have biological rhythms, are you kidding me? We have energy peaks of during the day, like what are you talking about?". It turns out we've been studying these circadian rhythms for even longer than we've been studying just sleep. I'll just break down the word... "circa" is Latin for around, "dian" is day. It's referring to these "around a day", around 24-hour biological rhythms that we have. There's actually a clock in your brain called the SCN that is sort of a master pacemaker that's basically controlling, even at a cellular level, how much energy is available to your cells. So, as a result of this, what you're going to feel and what that means for all of us is that we actually have a time in the morning when we're incredibly groggy. You're supposed to be groggy when you wake up. You don't need a better mattress to wake up with your arms raised and a smile on your face. It's pretty normal to feel groggy for about 90 minutes in the morning. You're then going to have a peak of energy in the morning, that's going to be followed by a dip. It's going to be followed by then a second big peak, which is actually when most athletic world records are broken and you're sort of at a peak of capacity in terms of all of your performance. That's going to then be followed by your "biological night", and something called a "melatonin window"; basically, when your brain, at night, is releasing a lot of natural melatonin. This is sort of the optimal time to be sleeping. When you go to sleep, when you wake up and when you get light, all of those times are shifting on a daily basis. They can change by as much as an hour per day and so being able to think about not just your sleep debt, but also thinking about your day, not just what are you doing, but when are you doing it? Are you doing it in the morning? Are you having your meditation session at the middle of your morning peak, when maybe you should be doing your most creative work? Are you taking care of administrative tasks during that second evening peak, when maybe you should be taking care of your most important personal relationships, after you're done with work? Are you working and working on an important work project way into your biological night when you are not productive and you're sort of working against the clock, so to speak? All of those things are very, very important. By being able to be smarter about when you do things, when you sleep, when you do your most important work, when you do your work that's not as high capacity, that's going to also have a massive impact on your day. Those two together, if you understand both of them, that's really how you get the...if you want to simplify sleep, that's it. Get your sleep debt down and work according to your circadian peaks and dips. If you do those things, you're basically getting 95, this is a way to think about it, you're getting most of the

benefit, you know 95% of the benefit. Everything else is sort of like small little rocks and small, tiny optimizations. So things like sleep quality, I'll just be a little bit pointy that doesn't really matter, things like REM and deep sleep don't really matter. Things like what mattress you're sleeping on doesn't really matter. Obviously that stuff does, and we could spend hours on each of those topics, but roughly speaking, don't worry about those things. Worry about your sleep debt and are you working at the right part of your circadian rhythm?

Fisher: This is fascinating. As we talk about sleep, the workplace and the workforce and the importance of well rested employees, obviously there's been a lot of work done with athletes. Matthew Walker talks in his book about certain school systems that have changed the start time of schools, particularly for teenagers, because I think there's some science that says their circadian rhythm actually shifts or change. Let's talk about this in the workplace. How does a leader and an organization help people design their day around when they're most creative or most productive? I get so excited about the opportunity to really maximize the work that we do and the well-being of our workforce by simply helping them understand their sleep debt and their circadian rhythm.

Jeff: I'll tell you a story. There's been a lot of work in athletes, a lot of work in the military, a lot of work in a lab setting and there is some work done on sleep in the workplace. I was at Northwestern; I was working with all of these professional teams. The head of the Kellogg Sales Institute, Northwestern's Business School, found out about this research that we were doing and said, "Jeff, sales would be such a great place to measure this with". Kellogg is one of the big well known business schools but they actually study sales as an academic discipline. He said, "Would you be willing to partner with me in one of my Fortune 200 sales teams that does 17 billion in revenue, has 4000 salespeople, their metrics are really buttoned up? We'll actually do a randomized controlled trial and let's look at the impact of sleep on revenue performance. How do you get to revenue performance? Well, it's the salesperson's performance. Well, what's that based on? We know that it's going to be based on, how they do in their calls. Are you doing a high enough quality and quantity of sales activities? What's that based on? As you go down the root cause path, what you find is that it's not better sales tooling. It's actually to make the salesperson better at being human and if you care about that then sleep is going to be the biggest lever and input into that. In this study, with this Fortune 200, what we found was that by reducing sleep debt, the sales team on average is able to increase their monthly revenue by 14% . On an individual basis, it didn't affect everyone 14%, some of the sellers that affected about 7% a month, but some it was as high as 30%. At an organization doing 16 billion in revenue or 17 billion in revenue, even just a 10% bump? Let's assume that we're wrong by a factor of 10. You know we're talking hundreds of millions of dollars in revenue increase. You can beat the Wall Street analysts' projections of the company by changing your people sleep habits. I think when you start to realize just how foundational sleep is for the work we do every day...that's not even talking about how that affects morale in the team, leadership in the team, retention and engagement..

Fisher: How we treat one another.

Jeff: Yeah, like we are just talking about revenue. I think when you then start to think about the second and third order impacts of a better well rested workforce, in my opinion, and obviously I'm biased, but there's nothing more important that you can do as a leader. I don't know if you've dug into any of the research on sleep and leadership that has been done, but just unbelievably fascinating in terms of the cascading effects sleep can have, sort

of a couple findings. One is if you get less sleep as a leader, that's going to predict less sleep for your direct reports. Not only that, but your charisma is going to be rated lower. The amount of abuse that happens in a position of management is increased under higher sleep debt. Your ability to problem solve, seek different perspectives, supporting others, this is something that Chris Barnes and his colleagues over at University of Washington, this is sort of all they do. I mean, it is just fascinating work to see how sleep is affecting literally every fiber of the organization. Again, it makes sense, your people are the organization. So, what affects your people? Then you start to make a list of those things. I think it's just literally, until recently that we've been measuring it and have the sophistication to be able to do it at scale. It's just fascinating to see the impacts it can have to business.

Fisher: As a team leader or an organizational leader, other than getting more sleep yourself, if that's what you need to do, how do we help others? Our team and our organizations, how do we get them to focus more on their sleep?

Jeff: Yeah, it's a great question. I'll just share what we've done, and I think obviously this is also study and organizational change management. At Rise, on the maturity scale, we are like as mature as you can get in terms of sleep. We literally have a tool in our slack where I can see everyone's energy schedule and how much sleep did they have. I don't see how much they sleep, I don't see what time they went to bed and woke up, but I know that our head of product...I might have some feedback for him that's maybe hard because of the way I felt after meeting. He's got a lot of sleep debt and he's in his energy dip so probably not the best time to slack him to talk about, giving him a really hard piece of feedback. Instead, engage him to get on the phone and say, "hey, how are you doing? I see that you have way more sleep debt than usually do, how have you been doing?". Just that simple opening and framework has allowed people to really share, get to be much more human, much more quickly. Then, we will talk about it, like "Oh, I had a terrible night last night. I was restless, and here's why I was restless. I was thinking about all of these things that are stressing me out". It allows you to be much more human at work and even to the point where if you're really high sleep debt, we expect you to go take a nap. I feel like you're letting the team down if you haven't taking care of your sleep debt. You're not working the right part of your circadian rhythm. I feel like I've let someone down if my sleep debt is way higher than it should because I know I'm not my best self. I think it just comes from hopefully being able to talk about this information, open it up and be open about the impacts. That as a leader, you are supportive of people taking care of their sleep primarily because of how important it is for how they show up, not just at work but equally at home. Again, it's this foundational cascading effect ... imagine your sleep debts really high and now works hard. Well, now it's much harder to mediate the work stress and now you're more stressed out from work, and now you're going back to home and having worse conversations there and more conflict. Now you're more stressed out at home and now it makes work harder to do. If you look at what predicts burnout, sleep debt is the main factor. It's no surprise why once you start thinking about it in this way.

Fisher: So, how do you overcome? Obviously, you're asleep company...sharing data on your sleep debt is core to who you are. What about other organizations? There has to be a culture of trust and psychological safety in order for me to want my leader to know what my sleep debt is. I mean, what if I have a high sleep debt and I don't want to be judged based on that. There's a fear that somehow it'll affect their view of my performance, and it's true, right? If we have a high sleep debt our performance probably isn't that great, but we don't want to judge on that. So, how do we overcome that?

Jeff: It's a great question. On the maturity scale, obviously we're on like the bleeding edge of maturity around the topic as a company. I would say the place to start that we've seen a lot of Fortune 500 companies doing, like the ones that we've worked with, is talking about it and making it part of how you do education. For example, Google would bring in Matt Walker or folks would have us come in to speak or start to normalize it and talk about it. I think that's where it starts and then I think it can come into one on ones pretty easily and seamlessly. Just say like, "hey, how are you doing? how are you sleeping? how are you eating? how are you the person doing?" before just jumping straight into business. What we find, which I think you'll find fascinating is the moment a leader brings us in to talk about sleep like everyone wants to talk about it. Everyone has some experience with sleep, and everyone wants to figure out what they can do. It becomes this sort of universal bonding moment for leadership and everyone in the company to say, "hey, we are prioritizing you as people". Not every organization has those values in place but when an organization does, what we find is that when you bring up this topic, it's just so well received. That's really where we think the world is going.

Fisher: I echo that, I mean it's kind of fun to watch in a way. People that know me well, know that I don't ask people how they're doing, I ask people how they're sleeping. For a period of time, actually my signature in my email my sign off was "sleep well", which was a little bit of a social experiment to see how many people commented on it or pointed it out.

Jeff: I'm curious to know, were people like what are you doing, Jen? I mean, what was the response like?

Fisher: It was actually funny because a lot of people like noticed it and made a comment back. Some of them were really funny. The one that that is most memorable was I sent the email at 10:00 AM and the person read it and got really confused. She was like, "Wait. It's 10:00 o'clock in the morning, why is she telling me to sleep well?" (laughs). It did get a lot of attention and generated some fun conversation. I feel like everyone these days is wearing some sort of wearable that tracks their sleep and I see so many people comparing. I think you're right and that it opens up a different conversation, a very human conversation. I think that there is a realization and recognition that we're all feeling sleep deprived, especially these days. I love that recommendation and that suggestion. I do find that when we as leaders and colleagues are willing to share, how we're doing, what's working and what's not working, then the fear of sharing that information is certainly lessened.

Jeff: Yeah, I agree. Where there's already distrust of leadership, I probably wouldn't go tackle sleep first. When leadership, management and everyone is on the same page, everyone's bought into the mission, vision and values, like everyone is working towards the same set of common goals. Bringing up this topic tends to have outsized impact and I believe should be a first up priority for every modern team today because of just how deeply it affects the work we all do and how we show up as people. This wasn't always the case. I think five years ago, it was a badge of honor to be exhausted, and that was the way you're supposed to do it. It meant you're a hard worker if you're getting four hours a night, you know that was a status symbol. Jenn, you certainly changed all of your behavior, but people today realize, well, that's just not how I want to live, like why do I want to live that way? It doesn't feel very good and it's not fulfilling. It's exciting now, that we are seeing a very strong change there.

Fisher: I have one final question for you. How do you personally manage sleep in your life? What does that look like?

Jeff: I will give maybe three practical, tactical tips that you can take on immediately after this. Obviously, sleep debt circadian rhythms are central. I use the Rise app to obviously measure these things, keep on track of it and integrate it into my calendar and all of sorts of stuff. Obviously use that as a tool, but you don't need to if you don't want to. You can start a trial for free and see if it's something you're interested in. For those of you that don't want any technology, you don't need it. I'll tell you what I do...One is awareness that sleep debt is driving how you feel. It's not something called sleep quality. It's not your deeper REM sleep, it doesn't have to do with that. It has to do with how much sleep did you have. The second is being mindful of your circadian rhythms. Now again, getting like a precise understanding of this now is changing every day. It is very hard without a lot of technology, but that's really what would help make it easier. Without that, you can still roughly know that the first 90 minutes you're going to be groggy, then at some point you're going to have a peak of energy. You know that morning period you're going to dip of energy, so you can start to be more aware of that. That's how we all work as humans, and then you can start to plan your day accordingly. Then, I'd say a couple things that I do just routine wise...we talked about this concept of naturalistic sleep, so I try and get out of the way. What is getting out of the way? Well, cool, dark, and quiet. You don't need to obsess about the temperature, but it should be roughly cool in your room. It should be dark enough that when the sun comes up, you can't tell and it should be quiet. I live near a freeway right now and can hear the cars running by. I sleep with earplugs every night because I know that higher level of noise is actually creating a non-natural sleep environment. It's going to change the sleep that I would normally get and we don't know exactly what that does, but we just know that it's non-natural sleep... so, cool, dark, and quiet. Once you've nailed cool, dark, and quiet, I would say one major thing to focus on that I've taken very seriously is my wind down routine. This tends to be a fuzzy concept for people, but there is significant science around this concept of putting yourself into a relaxing state before bed can have big impacts on falling asleep and staying asleep. For example, last night, no surprise I was up in middle of the night. I was working and I didn't do my wind down appropriately. That, for me, is usually predictive that I'm going to be up in the middle of the night. What my wind down looks like is about an hour and a half before bed. I'm putting on these orange glasses, they block out blue light. Blue light comes from every light source, not just your screen. Anytime your brain gets blue light, it will actually reduce the amount of melatonin that you produce. I put on these orange glasses an hour and a half before bed so I'm showering with them and I'm winding down with them. The way that I think about my wind down is you want to put your most stressful or unenjoyable tasks as early as possible. Let's say I thought to do the dishes...things I don't want to do, I would get that stuff done. Then, I reserve the back half for things that I just really love. Maybe it's a Netflix show that I'm really getting excited about or a book that I'm reading or a podcast I'm listening to. For me, it's a combination of something like that plus I will do either a hot shower or hot bath. There's actually some pretty decent science around being under hot water, not necessarily for cleaning purposes. Heating up your body before bed actually increases your core body temperature. When you get out of that hot water, your core body temperature decreases, which lets you fall asleep a little bit faster and have more efficient time in bed. The time that you're in bed, you're actually sleeping for a higher percentage of it. It's just something I find both scientifically interesting, but also just very, very relaxing personally. I do it almost every night. Everyone can design their own wind down, but I would just say roughly

think about an hour and a half, orange glasses are a must. Jenn, I can send you the link to the ones that we would recommend, they are like \$10 on Amazon and then cool, dark, and quiet. I think if you do those things, plus you understand sleep debt circadian rhythm, you're getting the main benefit that sleep has to offer in your life. You can start focusing, once you've mastered that, on all these other areas of well-being. That's how I think about it and how I try to practice it.

Fisher: I absolutely love that. I'm a big believer and practice of bedtime rituals. I tell people to pretend like they're six years old. The bedtime routine, right? Your parents tell you to go, take a bath and brush your teeth. When you're 6 years old, you don't like brushing your teeth or taking a bath necessarily, so those are the unenjoyable things perhaps. Then you get in bed and one of your parents read you a bedtime story, that's the enjoyable part. Just pretend like you're 6 (laughs).

Jeff: Exactly. Once you understand it, it's simple. Hopefully this stuff is clarifying. We've got a bunch of it up on our website, a sleep guide and everything I've just talked about. We try and link to the peer reviewed research. Our team does a great job just trying to get as much of this knowledge out there for consumption so that you really can invest your time, your money, your focus into the areas that are going to affect you the most.

Fisher: Yeah, for sure this has been great. Thank you so much. I mean just a wealth of information. I thoroughly enjoyed this conversation and I know that our listeners are going to take a lot away from it. So thank you again for being on the show.

Jeff: Yeah anytime.

Fisher: I'm so grateful Jeff could be with us today to talk about the vital role of sleep to our well-being. Also check out my forthcoming book, Work Better Together available now for preorder on Amazon. Thank you to our producers and our listeners. You can find the WorkWell podcast series on Deloitte.com or you can visit various podcatchers using the keyword WorkWell, all one word, to hear more. If you like the show, don't forget to subscribe so you get all of our future episodes. If you have a topic you would like to hear on the WorkWell podcast series or maybe a story you would like to share, please reach out to me on LinkedIn. My profile is under the name Jen Fisher, or on Twitter @jenfish23. We are always open to your recommendations and feedback. And of course, if you like what you hear, please share, post, and like this podcast. Thank you and be well.

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