

Pat Byrne - Episode 762

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SPEAKERS

James Geering, Pat Byrne



James Geering 00:00

This episode is sponsored by a company I've used for well over a decade and that is 511. I wore their uniforms back in Anaheim, California and have used their products ever since. From their incredibly strong yet light footwear to their cut uniforms for both male and female responders, I found them hands down the best work were in all the departments that I've worked for. Outside of the fire service. I use their luggage for everything and I travel a lot and they are also now sponsoring the 7x team. As we embark around the world on the human performance project. We have Murph coming up in May, and again, I bought their plate carrier, I ended up buying real ballistic plates rather than the fake weight plates. And that has been my ride or die through Murph the last few years as well. But one area I want to talk about that I haven't in previous sponsorship spots is their brick and mortar element. They were predominantly an online company up till more recently, but now they are approaching 100 stores all over the US. My local store is here in Gainesville, Florida, and I've been multiple times. And the discounts you see online are applied also in the stores. So as I mentioned, 511 is offering you 15% of every purchase that you make. But I do want to say more often than not they have an even deeper discount, especially around holiday times. In fact, if you're listening to this in the months of April or May 511 days is coming up between May 9 and may 16, you will get 20% of all gear and apparel. And that applies both online and in store. But if you use the code shield 15 That's S H I E L D one five, you will get 15% off your order or in the stores every time you make a purchase. And if you want to hear more about 511, who they stand for and who works with them. Listen to Episode 580 of behind the shield podcast with 511 Regional Director will airs Welcome to the behind the shield podcast. As always, my name is James Geering. And this week, it is my absolute honor to welcome on the show sleep expert Pat Byrne. Now, Pat began his career journey working in the world of health and safety. And it was a tragic accident that killed his young nephew that led him into researching the negative impacts of sleep deprivation in the workplace. So we discuss a host of topics from some of the asbestos related death cases that he worked on sleep deprivation in the first responder community, his work with high level athletes, including the NHL, optimizing sleep, the pros and cons of wearables, sleep meds, the incredible potential for AI in the medical community and so much more. Now, before we get to this incredible conversation, as I say, every week, please just take a moment, go to whichever app you listen to this on, subscribe to the show, leave feedback and leave a rating. Every single five star rating truly does elevate this podcast, therefore making it easier for others to find. And

this is a free library of well over 750 episodes now. So all I ask in return is that you help share these incredible men and women's stories. So I can get them to every single person on planet earth who needs to hear them. So with that being said, I introduce to you pat Byrne enjoy Well, Pat, I want to start by saying thank you so much for taking the time and coming on the behind the shield podcast today. My pleasure. So where on planet earth we find you this morning?

P

Pat Byrne 04:01

I'm in Vancouver, British Columbia.

J

James Geering 04:04


I said this morning, I just glanced at my cam Maya my clock because I realize it's my afternoon now but it's your morning still. So it is so good. All right. Well, I would love to start at the very beginning of your timeline. You have an incredible journey. It's obviously very pertinent to a lot of people are listening. But let's start at the very beginning. So tell me where you were born. And tell me a little bit about your family dynamic. what your parents did and how many siblings?


P

Pat Byrne 04:28

Oh, wow. Well, I was actually born in a little farm community outside of Vancouver called Langley. And my father is a building contractor. He's a carpenter. So we moved all over. We moved to another town up north about four hour drive away called Kamloops. I lived there for a few years. Then my parents moved to a town called Fort Nelson, which is in very northern British Columbia. It's about 1000 miles north of Vancouver town of about 1500 people so I grew up There, never saw television and one radio station or you know, literally a three rooms school, elementary school with no running water, we had an outdoor toilet, those, those kinds of things that was how I grew up. And then eventually my parents moved back to Langley work for my parents business. And so I have a younger brother, an older sister and two younger sisters. So there are five of us spread all over the world these days. And then I so I, after I graduated from high school, I worked in construction for a few years, fell off a roof, hurt my back and broke my hand, decided construction probably wasn't for me, went to university and studied chemistry and biology, and got undergraduate degrees in both of those from Western Washington University, and then did a master's in biochem. And so I moved back to that was in Washington State and I moved back to Canada to British Columbia looking for work and ended up at the what's called the workers comp board, which is sort of a combination of OSHA and workers compensation under one roof in British Columbia. And so I started there actually started as a file clerk. But within a couple months, I was employed as a as an inspector. So I worked a lot in sort of pocket was called Occupational Hygiene, which is chemical safety. And I spent probably eight years traveling all over the province inspecting everything from hospitals, to pulp mills, to oral refineries to factories, looking for chemical exposures, and enforcing the regulations. Then I got involved with invited to be involved by our head general counsel to help run what's called asbestos litigation. So we were suing asbestos manufacturers for all the injuries that they had caused workers and polluting deaths and asbestosis, and lung cancers. So I worked on that project for four years all over North America, a lot of a lot of the work was done in South Carolina, and in Texas. And then, when that project was over, we got settlement

mechanisms with the asbestos companies. I was appointed to what's called the appeal division, which is it sort of in American terms is really said administrative law court. So as the, you know, the senior appeal division of the administrative law courts, largely because they had a lot of occupational disease cases. And looking at causation factors, they had a factory, for example, that had 35 bladder cancer cases out of one factory. And so they needed somebody there to look at causation and what you know, which ones are work related, and which ones are not work related. So they needed somebody with a science background. Then I went to, they sent me to law school, I didn't graduate, but I took nice go classes and you know, enough to, to be able to talk to lawyers and my job and, and I sat there on the bench for nine years hearing all of these occupational disease cases. Then I decided I'd been there 21 years decided to retire from that and got involved in Occupational Health Consulting, but part of that just had before I had left the appeal division, i The young nephew, who was a local basketball star. In fact, his his job or his his challenge in high school was that he had to guard Steve Nash,

 James Geering 08:45
no big deal.

 08:48
As far as Steven off University and the great NBA career, and my nephew went off and studied forestry. And within a few months after starting work, he was working very long hours, 1214 hour shifts, driving home, when that Friday night, fell asleep, drove his car off a cliff and died. And that sort of really changed my emphasis around health and safety. I mean, at that time, I was the Canadian director on what's called the International Board. So was NGO, the World Health Organization. And I talked to my colleagues around the world and literally no one was dealing with fatigue is a health and safety issue. And so I just started that journey. I started looking around realizing nobody was actually doing it and I started contacting universities and military made some contacts to the US military and particularly with a guy named Steve Hirsch, at that time was a pentagon, Pentagon medical officer who had done a lot of research in this area. And John Caldwell, who is the Air Force, head of the US Air Force, sleep and fatigue countermeasures program And so what I learned it's and what I learned in Occupational Hygiene is that if you want to measure asbestos, if you want to measure noise, or you want to mitigate the risk from those, you have to be able to measure it. And so there was no easy way to measure sleep and fatigue in the workplace. But what I did figure out was that you could take these old sleep watches that we're using and research and you can take the software that we're using in the Air Force in the army, to to measure fatigue and the and the pilots and in the army personnel, and marry the two together and create a technology where a wristwatch where you can actually measure fatigue. And so I started a company called fatigue science, we developed the very first FDA approved sleeping fatigue, watch way before Fitbit way before all of these things and still used, it's used mostly in military, it's very robust, you can run a tank over them almost and they run. But there weren't there weren't a consumer model in there. You're expensive to do that. I retired from there probably six years ago. And a lot of my work now is involved with sports. First responders, I do a lot of education work around, trying to help organizations both structurally to deal with health and safety issues, or health and safety and fatigue and sleep issues. But certainly individuals as well work with a lot of individual, professional sports athletes, of both, you know, the NBA Major League Baseball, right across the spectrum. The challenge for professional athletes is they don't they don't want their team


to know they have sleep issues. Because they don't get played. I work with a major debate baseball player who was a first round draft pick. And a team sent him over to me because they had sleep issues. And we put him through a bunch of tests and figured out he had sleep apnea. They traded him the next day. So I just, that was a lesson to me. So I'm not going to deal with teams where they're going to mistreat people who have sleep disorders. So anyways, that's, that's, that's where I'm at now. So I a few years ago, I wrote a book called inconvenient sleep, how teams win and lose. So it's not a battery?

 James Geering 12:24

No. Well, firstly, thank you for walking us through, I want to go way way back and then walk through because there's so many areas that are so pertinent to you know, what I've seen in my career in the fire service. And what I'm seeing from the outside looking in now speaking to experts, especially in the sleep medicine world, like yourself. Very first question going all the way back, I'm one to five, I grew up on a farm. So I wouldn't say I was having to use the bathroom outside, like I heard you talking to Michael Gervais about. But with that being your baseline, what did that do? As far as the perspective that you had on the world, as you move back to, you know, one would would argue more modern technologies again,

 13:04

I think. I mean, again, that was in the 60s. So there was tons of new technology for certain and television, television, and you haven't, I think a different perspective of how it's used. And you don't grow up, it's not part of your DNA, you look at it as sort of an inanimate object. My view of the world really was, particularly if you go in northern Canada and the wintertime, it's dark, except for maybe four hours of a little bit of brightness. But what you see are literally billions and billions and billions of stars. And you see how huge the universe really is. And so that was my view of the world is that we were a really small part of this huge, huge universe. And so I tried to take a bigger view of technology, rather than getting into going down the rabbit hole and getting into the details of how it's used and worrying about those things. It was like how does this fit into the bigger scheme of life?

 James Geering 14:05

I feel like we've done a polar opposite of your upbringing now where we don't even look up from our phones anymore to even see them maybe the few stars that are, you know, seen through the light pollution that we have in most of our suburban and urban areas.

 14:19

Oh, yeah, absolutely. And it's interesting to talk about light pollution. I did some work at Stanford a few years ago with Dr. Murray's Ohioan, who's created some incredible AI technology for diagnosing mental health and sleep disorders and, and things but he did a study looking at Lumination from satellites, showing you know that in areas where they had high highlights in the cities, it was like they had poor sleep.

J James Geering 14:49

Yeah, and they may it makes perfect sense. And that's the thing, I think of six and a half years of talking to experts. You can reverse engineer if we lived as our great grandparents do. Did you would probably solve 80 to 90% of our mental and physical health problems?

 15:04

Oh, absolutely. You know, we've evolved certain in the last 100 years from being largely not largely agrarian, but largely a daylight society to a 24 hour society. And you know, and I think that's, and what happens is we end up fighting our biology. So we are what, what scientists like to call diurnal animals. So we're biologically programmed in our DNA, to be awakened to daytime and to sleep at night. Right? We're not like owls and raccoons that are diurnal, or nocturnal animals. And so people tend to forget, you know, that they're really fighting their biology when they're staying awake at night. And so what's happened with, particularly with first responders, and now it's really grown into a whole lot of other professions as well, is that their employer forces them to fight their biology. Right? I did a lot of work in Western Australia in the Outback and iron ore mines. And they work 712 hour days, followed by 712 hour nights. And then they get a week off. And the week off is they have to fly in fly out. So there's two days of that are flying in flying out and five days of home with their family trying to actually get some sleep. So obviously, there are a lot of issues around that. But when we talked to the mind management, we said, what we understand that there are certain certain occupations within the mind, it's a has to be run 24/7, you can't shut it down. But you do really need everybody in the entire mind to work 24/7 Or to be to work night shift, you have engineers who are designing things at the mind, they don't need to work at night. Like, why would you do that? And their answer was, we want to be fair to everybody. So we don't want to have some people that it gets sleep at night, and some people have to work at night. And I said, you know, that's kind of I said, from my health and safety background, that's kind of, don't be offended by that that's a stupid approach. It's like, it's like saying some workers within our factory have to get exposed to asbestos. So let's just expose everybody to asbestos, so that it'll be fair.

J James Geering 17:18

Well, that's what happens in our fire stations. And this was maddening because my last place actually secured budget to redo their toning system. So the alert system, and I had seen a great device where you have these these kind of cubicles where we all sleep, but this one was a little box, and it had a speaker and an LED strip. And it would just wake you up. And so if you slept kind of roughly in the dorm where your vehicle was, so you know, the two guys on the ambulance here, the four people on the, the engine, then after a few weeks, you got used to it, you would wake up the next morning and be like, ah, we had a great sleep. And then people next to you were like, Well, I'm glad you did, we were up four times. But that was the point is that you don't wake everyone up. And they went in to the polar opposite, still alerted everyone, and then put LED strips in the bunk that would illuminate the whole bunk saying this is where this one person's call is. So it was exactly what you're talking about. And I was pulling my hair out because the previous dispatch chief had agreed. That's a phenomenal idea. He ends up getting fired. And then you know, I don't know if it was despite him or what it was. But this is

this is the thing that we face in the fire service, you're not that important to, you know, like the chiefs to monitor the Raiders, you don't need to be Awake, awake to the big boys and girls that you've employed to do this job that needs to go and that everyone else sleep.



18:38

You know, you're absolutely right. And and I think the foundational issue really is is ignorance. And I see that across professional sports, I see it across industry I see an in with first responders is that the senior people who are making decisions, and this goes right down to, you know, to the guys with the boots on the ground. They don't are not given foundational sleep and fatigue training. And so I mean, I've dealt with, you know, some ownership and very senior people in professional sports that are just completely ignorant about the effects of, of, of sleep on, on on performance. And one of the things I did so I ended up working in the National Hockey League with the Vancouver Canucks, they brought me and I worked there for seven seasons. And the very first thing that we did was we had the ownership, all of the front office, all of the coaches, all of the training staff and all of the players in one room at the same time. And I gave them an hour and a half lecture on sleep and fatigue and what we were going to do for the team so that everybody got the same training, everybody could understand what's going on, and it ran really smoothly. And I've taken that approach to industry as Well, I won't go into an industry and train guys with boots on the ground about sleep and fatigue unless their bosses or their or their bosses get separate training so that they understand the issues. And the problem is ignore the issue is that sleep in fatigue is fairly new with respect to science, sleep science is new. And so people, even with medical doctors, most of the medical, dental practitioners get maybe three or four hours of sleep training in a four year program. It's just evolved. And so you have a lot of ignorant people making ignorant decisions, because they don't have basic training. And it's like trying to run an army without putting people through basic training, you know, ain't nothing good is gonna come with that. Right. And so that's my emphasis now, and certainly in my career is to try to educate organizations and try to educate workers and people like yourself so that everybody really understands you don't have to go on Google and look Hall and try to figure out what's real, what's not real. And that's one of the reasons I wrote I wrote my book was LOL, it's more sports emphasized is to show how much fake stuff there is out there. Right. And, and, and how to be discerning about what's what research is real and what's not real. And so, but so I think that's sort of the fundamental issue, as as we learned about sleep and fatigue, I mean, everything we now know about sports and sleep we've learned in the last decade,



James Geering 21:35

when you talked about you know, it may not be the same because it's sports. Well, this is the problem with the fire service, we have no research in sleep. So the very, I would say arguably the the most overworked under slept profession on the planet refuses to do research on the one thing that's the amplifier for the mental health problems for their cancer, their obesity, their I mean, you name it, the things that we all die from. And there's they just refused, they'll they'll they'll do research on this nozzle, or, you know, this kind of fan, but the Astro things that are behind so many of our funerals, there isn't so we have to turn to the military in the sporting community to make parallels, because I get told this all the time. Well, where's the research?

Well, firstly, it's common sense. The secondly, if you really need to prove that being awake every third day for 1020 or 30 years is not good for you. Here's the Navy, the Air Force, you know, etc, etc. So that's why these conversations are so important.



22:28

Yeah, so a couple of points there. So one of the things I learned when I was with the, in the asbestos litigation, is, particularly with the asbestos companies, they would say, oh, yeah, we know, asbestos causes cancer in minors, but we don't know whether it causes cancer in carpenters, or in welders, because there's no research done on that. Right. And then the research gets done and say, Yeah, well, we know now that the carpenters are at risk from asbestos. Yeah. But you haven't really shown that affects office workers with asbestos in it. And so that's really, quite frankly, again, a stupid argument. Because the fact is, asbestos is a risk, and it causes cancer, much like smoking or anything else. And so it doesn't matter if the profession is irrelevant. It's the risk that you're looking at. And there's tons and tons and tons of research around risks to anybody who fights their biology when you're awake at night. One of the great researchers in this area is from Washington State University, Brian Vila, who's since now retired, he's books. He's written a number of books, one of the early ones was called tired cop. So he's an ex police officer, a PhD, who's done a lot a lot of research around the effects of sleep on on police officers and decision making. And he's in what he's shown is that when police officers are tired, coming off 12 hour shifts, at the end of those shifts, that they make very poor decisions. They, you know, literally they should babies, they just you know, it's or they freeze and and get get themselves shot. And so the decision making around around sweet for police officers is very, very well studied. And and, and they're humans, there's there's no the only difference between police officers and other first responders is a uniform they put on if if if a firefighter put on a pilot's outfit and work the same shift, the planes would crash.



James Geering 24:36

The other thing is the firefighters work a lot more sleepless days and a police officer does because usually a police officers week is still going to be 40 hours. It's 12 which is a horrendous but average firefighter in the US has a 56 hour we you add the mandatories because there's so understaffed a lot of them, you know, not every single week, a lot of weeks or work now 80 hours. So this is the thing we've studied. We've studied professionals that work less than us. But we still won't even apply that even though we work sometimes double what some of these professions were.



25:07

Right. So my whole argument around that is is, is it's not to sort of be isolated in the sense of, you know, treat firefighters, first responders, it's just humans. Right? These are humans who are who are up against this risk. I mean, it doesn't matter. You know, if you fall off a 40 storey building, it doesn't matter what uniform you're going to wear. Oh, yeah. Look, the carpenters are dying. Yeah. But the firefighters, we don't know about the firefighters yet. Let's push them off and see what happens. It's the risk you need to deal with. It's not the uniform?



J James Geering 25:40

Absolutely. Well, I want to get to some of the the litigation side and then walk you through your journey from from that tragedy through to your exposure to the sleep world. One of the epiphanies that I had recently was, and it was there was a guest on Joe Rogan's podcast called Sadhguru. And I forget what a comment was made. But it was something like what Joe had said, Well, you know, most people are good. And they think he said, you know, something like, oh, the drug companies or whatever, which there's an element of truth in some of the things that they produce and the impact they've had on our country. But he said, well, there, he said, they're hurting, too, or something like that, or they need kindness, too. And I realized that when we look at mental ill health, we look at school shooters, we look at the addiction process, and you know, prostitution and some of these areas that have led a preschool giggling child to some of these wayward paths. But what we don't think about is some of these corrupt politicians, some of these heads of these tobacco companies, asbestos companies, how do we kind of how do they sleep at night? And I my, my hypothesis is, well, maybe that's the mental ill health being projected in that greed. So with your exposure to some of these companies were clearly there was no argument, their products, were killing a lot of people, and they were making a lot of money from it. Did you have any kind of experiences to the kind of people? And was there almost like a mental ill health component to some of those individuals to? Or am I way off?

 27:08


That's a great question. I mean, I don't know the answer to that. I mean, we, when we sued these companies, we sued them as corporations. And of course, we had all their internal emails and things that went on, and they were just making decisions to make money. So it didn't, it didn't matter, right. They knew, for example, you know, it turns out, they knew in the 20s and 30s, that asbestos was causing huge amounts of injuries. And they just, they just chose to ignore it, hoping it would go away. And so it was about it was about solely business decisions to make money and and to preserve their their company. I mean, if you think about it, if you're an asbestos company, and all you do is make asbestos products, and all sudden, people know that it causes lung cancer and asbestosis and other things your business has gone. Right. And so, you know, as a board of directors, they should, they're there to preserve the company. And so they're not there to look after the workers. That's the union's job.

J James Geering 28:14

So what about the, when you look into reverse engineer, the creation of somebody was there. And I'll give you an example. I just had a rub a lot on probably about a year ago now. And he's the real lawyer from the film that was, so it was the DuPont chemicals that were poisoning the village, the same chemicals are actually in our firefighter gear and our firefighter foams. But, you know, it seems like a lot of times there is knowledge early on, even almost in the research process, that these are harmful, and yet they still release them. So you're not even talking about protecting a well established business by that point. You know, oxy oxycontin is another perfect example. So what were you seeing is that, um, was there was there acknowledging acknowledgement of these issues early early on in the timeline that a lot of these companies?

 29:01

Oh, absolutely. And, and part of it is how the government wants, the government sort of found out and regulators are always wait way behind the curve is and what they did with asbestos was to say, well, you know, let's just limit the exposure to people. It's not like, let's get rid of this product. It's like, let's let people get exposed, but let's just tell them that a little bit won't hurt them. Right. And asbestos went along. I mean, you could you can follow the the regulatory schemes across North America about how they regulated asbestos, you know, and then it was like, well, you can get exposed to, you know, 5 million particles per sport per square foot or whatever, right? And then went down and down and down and down and down. And now they realize, well, really no exposure is is is healthy. But it's it's this combination of industry, trying to preserve their products and And the government playing along a little bit because the research isn't there and saying, Okay, well, you can still use these dangerous things. But will there's a limit how much people can get exposed to it?

 James Geering 30:09

Yeah, I know my last place. They did a big asbestos mitigation if I got my story, right, and I don't want to say where it was because I want to make sure my facts are right. But there was a massive s asbestos mitigation from this large theme park that was put into this area, I think that ended up catching fire. And this is way before I worked for them. And from what I understand, because one of my firefighter partners who retired, you know, when I was there, so that was the difference in our, our time in that department. He'd been hired on, and I think all of his classmates were on that fire. And I think there was only like, two or three of them left from that class to survive. And this was not a department that usually for fire, this was within a so well, sprinkler and so safe, that it was just a medical cause going on, which is why I think the sleep deprivation is another huge contributor because they weren't exposed to carcinogens normally, but that one asbestos fire. They always talked historically about how they thought that was the root of so many of the cancers that killed their friends.

 31:09

Right now, it's very interesting, because when I worked in the appeal division, where we saw these cases, so you would often have widows with coming, who finally filed appeals have been in the system for a few years saying, I think my husband's or my, my wife, or my partner's cancer was caused from their work. And so the, the insurance companies have found different ways, whether they're, like in Canada, their government regulated, so it's basically the workers comp systems, they deal with it in different ways. And so part of what they, how we dealt with it in British Columbia was we said, if you have you get mesothelioma, which is a particular kind of cancer and the lungs, and you've had any exposure to asbestos in your career, then it's caused from your work. But what's happened is where you have to litigate it go to court, and it's a whole different set of standards, and it forced enforces widows and unions to try to prove that their exposure was costumer it's very difficult, very difficult proposition. And so they end up doing and what they did in the States was, and I work with Ron Motley, and huge firm out of South Carolina that really started all the asbestos litigation. And they had these they looked at not just one individual, but they looked at 1000s and 1000s, and 1000s and 1000s of workers and filed lawsuits with 1000s of plaintiffs. So that the picture, you could see the clear picture that out of all of these 1000s of people look at all the disease, that's there's not just one guy fighting the companies, it's 1000s and 1000s and 1000s of workers fighting together. And they were very successful in in, in doing that.

 James Geering 32:57

Well, I think this is the problem is firstly, the American fire service is so fragmented, and if you've been discovered that in your your time down here or there, but certainly down here, it's it's very fragmented, you know, counties and cities and talk to each other sometimes. And it's ridiculous. But then you have the states as well. So some states will have a cancer presumption, but even for only certain things, like I just had a guest on who had breast cancer career female firefighter, but because it was diagnosed when she hit 40, they were like, well, it doesn't fit the criteria now, wish she hadn't slept every third day for you know, whatever, she'd been exposed to all these things. And then I hear these horror stories. And it's so nauseating of respondents that actually, you know, are in a state that has presented presumption, and the insurance companies will just fight it. And it's been it's been said from people within circles that they've heard people say, Oh, no, we just keep fighting it because they'll die before they'll ever get a penny. Which is nauseating?

 33:53

Yeah, yeah, happens all the time. Then, ya know, it's, it's, it's sad. And I mean, part of it is this sort of acceleration of, of, we're talking about sleep and fatigue and those kinds of things is, is more and more people are working longer and longer hours. And there's less and less research actually going on being funded to look at those kinds of issues. And there with probably the biggest sleep and fatigue research lab and in the world is in is a Washington State University. And they've got all these simulation labs, they do, quite frankly, really amazing work around there. But there is one small group the US military does a lot of research and it's hard to get, you know, the research out of that and a lot of research around sleep and fatigue is scattered everywhere. You find it in ergonomics journals, you find it in all kinds of things all over the world. And so it's really hard to kind of pull a lot of those pieces together. But you know, it's it's one of the things that you bothers me a little bit about all the discussion around sleep and fatigue is that people tend to treat poor sleep as a disease. And poor sleep is not a disease. Poor sleep is a symptom. And it's a symptom of many different things. It's a symptom of mental health issues is a symptom of work scheduling, it's a symptom of other biological diseases. And so, lifestyle issues. And so what's happened is, they don't really, it's very difficult when somebody has a sleep issue, to be able to figure out what the cause of that is. Right? Is it? Is it mental health? Or is it a combination of all of these things? I've worked with minors in Australia, who are obese, who have sleep apnea, who were terrible, terrible work schedules have terrible diets on soy, and they're not sleeping, and they're at high risk of having a heart attack. And so what's the cause of that? Well, everything?

 James Geering 36:03

Yeah, well, it's a vicious circle, isn't it? Because once you start doing, your hormones start getting disrupted. Now you're creating a less healthy human, and we're terrible. Just sleep on your days off? Well, as you just pointed out, when I was 21, I probably could. But now I'm 35. And I've been on shifts for 15 years. And my like you said, I've gained weight. And now I need a CPAP, my sleep quality is going to be so much worse because of the breakdown from my sleep deprivation.



36:31

Right. And I think the missing component of all of this is education. really educating early on a firefighters, first responders about sleep and fatigue, so they understand how their own body even works. When I deal with professional athletes that on on teams, I said that the people you need to educate are the junior players in the junior teams, because they need to be educated before they get here. You know, for me tried to change the sleep habits of a guy that's making \$10 million a year and got there doing what he was doing isn't gonna change very much. Not gonna listen to me, right. But it's the young guys and young women who are coming up who really need to be taught that it's not taught in schools, they teach her trician in school, they teach visual education in school, they teach cooking in schools, they don't teach anything about sleep. And so that's I think that that's a there's a huge gap in our society around that issue.



James Geering 37:28

No, absolutely. I want to get into that. Because I think the front door is really where we, you know, force change. But you talked about the tragedy that really opened your eyes to sleep deprivation element. I have had so many guests from the US military when it comes to the sleep research site, because that is a wealth of information that I can draw on. Because my own industry that refuses to really put any money in that whatsoever. And Alison brager is from the US Army. She told me that they were I think it was at Fort Bragg as one of the forts anyway, where they were doing some of the I believe it was a special forces selection. So obviously, the candidates are staying up all night. Therefore, a lot of the CADRE are up in these weird hours. And it was up in somewhere that was saying it was North Carolina, so somewhat mountainous, and they were literally having people drive off the side of the mountain, the instructors, because they were so fatigued. So talk to me about, you know, the impact that losing your nephew had and then let's walk through your journey into really even the front door of sleep research where it was when you entered, and then where we are today.



38:32

Sure. And just to back up a little bit. It's interesting. You mentioned Fort Bragg, I actually did a fair bit of teaching there around sleep and fatigue issues. And also at Fort Dietrich, with the US Army Medical Medical Corps there. And one of the things that they changed and was what in special forces they had this notion that you can actually sleep hard on people so you can teach people to be awake long hours and survive. They finally realize you can't right and so they actually gave up on that that whole concept and are now actually basically teaching people how to get good sleep when they can't right it's a completely different mindset. But the old mindset will harden these people will teach them how to stay awake doesn't work. Right? So you certainly in my in my journey with my my nephew and he was like 22 years old. And he didn't even drink coffee what didn't drink alcohol didn't drink coffee, just enough the good kid good basketball player that he had. When Steve Nash was playing in us. My nephew was he created a basketball programs in his community for little kids. And they actually named a sports court for him which is still active today basketball court for little kid which is first time they ever do it for 22 year old kid was Have he had a you know, he had a was great kid had a had a lot of involvement in the community as well. But and so I mean, I always says not only is

his uncle but his always his godfather as well. And so it hasn't been inside of you have this emotional feeling. Obviously when somebody dies, you close in shock with somebody young, you're not expected, then you sit back. And so why was he awake for so long, like, and one of the things that I learned after a while is that falling asleep is actually fairly unusual, around around sleep issues. Because there's this huge period of time before you fall asleep, where your faculties are, are, are, aren't up to par, right, it's not sleeping on an on off switch, you're not awake, you're asleep, there's a huge period of time. And then even when you wake up and get sleep inertia. So we learned around those kinds of things. And one of the other sort of analogies I've learned around this is, is we probably all played this little game as a kid sit around and all hold our breath. See, we could hold their breath the longest. And finally, everybody starts breathing. What's happening there is your brain allows you to control your sleep, or your, your your breath, which is actually a good thing in sports and other things you can control. But your brain will only allow you to control it consciously for a period of time. And when you get to a point where there's not enough oxygen in your brain, your brain just takes over and say sorry, you're being stupid, you need to breathe, and it'll force you to breathe. And sleep is exactly the same way. You know, your brain will allow you to stay awake. And some of that may be you know, sort of a survival thing to allow you to stay awake for even long periods of time. But you'll reach a point where your brain goes sorry, I need to shut down we need some repair work here. And it'll put you to sleep no matter what you're doing. Whether you're watching television or flying a plane, or whatever you're doing, it'll put you to sleep. And so we can control certain aspects of our of our sleep. But you pay a price for it. Once you start fighting, that you pay a health price for it, you pay a safety price for it, you pay a performance price for it. And all those kinds of prices depend on what uniform you're wearing. Right? If you're super sleep deprived, and you're watching television, you fall asleep, there's probably not too much harm. But if you're having to make decisions about people's lives, or you're flying a plane or driving a train, there's big consequences. And so we tend to see the kind of things you see on the news are the big accidents, you don't see all the small accidents. You don't you know, and so because it doesn't involve a lot of people. And that's been a real challenge for accident investigation, X investigators to look at how much whether what what component of an accident was actually associated with sleep. We had an accident here, literally, I can walk, I can walk down five minutes from my house where a small plane crashed, trying to land at the airport. It had taken off, it had flown out and it had was losing oil and tried to circle back and couldn't quite make it to the airport and crashed. So they had this big investigation all of it was about firefighting actually on the on the plane and fire suppression and the materials. The real cause of the accident, if you read the report was that the maintenance guy who changed the oil on the plane on night shift had cross threaded the oil cap. And his supervisor didn't even pick it up, who's supposed to check on those things. And it went off and of course, oil leak thought. So what they should have been looking at was the sleep history of the guy who made the who made the poor decision, the mechanic who made the party, and they didn't do it didn't even look at it, they ignored it. And that's very true. I've seen that with police officers and car accidents and others is unless you fall asleep, they don't want to know about it.

J

James Geering 44:13

Which is just to go ahead. I'm sorry, just jumping because I want to ask you that. So we have what's called line of duty deaths. And a lot of times, you know, someone will fall from the aerial 110 foot ladder or there'll be very commonly an intersection crash, you know, someone will go through. And more recently when I'm asking some of these sleep medicine experts, they talk about micro sleeps so every time this has been investigated or they made a mistake, they should have stopped or you know, they just failed or they just got lost in the fire. The more I

learn about this side, the more I QUESTION And the same would be attached to the gray area officer involved shootings. We have the ones where we completely screw up. That's you know, that's not even in contention. We have the ones where it's a justified shoot also not in contention. But the kid that reaches for his driver's license and he thinks He's going for a gun. You know, the all these ones that we mistakes? How often have we brought in sleep deprivation into this conversation?



45:08

Rarely, right. And that's one of the things I like the research done that Brian Vale has done. I said, I watched his two universities vada got some great books, some great research in that area. And it's still being continued, even though he's, he's, he's retired, and they don't because it's too hard. One of the things that I've used in accident investigations is is the US Air Force and US Army technology software, where it's called a couple different things. One's called SAFte, which is our fastest fatigue avoidance scheduling tool. So what it is, is you put in a sleep history of someone for previous at least 72 hours, and it will tell you pretty accurately, the range of that person's reaction time. And it's used now by virtually every airline in North America is built into their scheduling systems to try to make sure that the pilots are getting the sleep that they need. And if the schedules are, are too fatiguing, it'll, it'll, it'll kick them out. But I've used that technology a lot. So I can tell you, for example, if there's that kind of incident, for example, you're talking about when somebody gets shot, you go back and look at this 72 hour or longer sleep history of that person. And I can tell you pretty accurately what range how much change in the reaction time was there. So I can tell what you know, if they've lost 50% of their reaction time, or 25% of their reaction time. And there's a Federal Railroad Administration has done some really, really good research showing with that software, showing, at what point are our accidents, which, which at what point can you now attribute that to an accident. So the technology is there, it's just not widely used.



James Geering 47:04

So we have one of the shifts I think we talked about on the phone a while ago. So one of the things maddening to me is the 56 hour work week, they'll play around with it. So rather than do 2448, which is you know, we have three platoons three shifts a, b, and c. So that means that I'm on, then B is on and C is on, then I come back again. And so now there'll be like, Oh, well, actually, it's 248 96. So now I work 48 hours without sleep. But then I get four days off spinning the Rubik's Cube. But the Rubik's Cube is never smaller. And this is the problem is that there's no no conversation at all. Like, why are we working our responders, the amount of hours per week? Why are we not giving them more time off in between shifts, to allow them to get as close to normal again, as we can talk to me about you know, I know, I know, we're kind of, you know, just spitballing a little bit. But when we hear about sleep deprivation, I hear the same statistic. 24 hours without sleep is like blood alcohol point one, which is a great stat. But I'm assuming those people in those studies had slept well prior to that. Now they're talking about men and women that haven't slept for 2030 years, what cognitively would be the decline if you happen to kind of punch in the numbers, if someone had been on a 48 hour shift. A lot of our emergent calls happen that night, whether it's bad car crashes, fires, etc. So let's say 40 hours, 42 hours into a 48 hour shift with no sleep, what would be the the increase in likelihood for mistakes in the meds that we push or?



48:39

Yeah, huge, I'd have to put it through the software to give you an exact number, but the technology exists. And, and so what you do is you put in the Sleepcast. And it's not just the sleep duration, but sleep quality. And sleep, often sleep quality is more important than sleep duration. And so and that's so one of the things we did with that sleep watch that I that I invented created, was to import that software into the sleep. So you could wear a watch much like a Fitbit or anything, but it also puts it to that software. And it'll give you a real time fatigue score. And it'll tell you, you can look at the why they're available commercially available today. You can look at it and it'll tell you not only what your fatigue score is, but if you don't get any more sleep, it'll tell you where you hit the point where you're going to you're at a serious accident risk. The problem with industry using that technology is is particularly your area, what do you do with somebody who's mid shift? And they're saying, you know, when two hours, you're just way too tired? To be doing anything, you're gonna you're at a high risk of an accident. So I just had a lot of discussion with Brian Gallo, who this seminar is to travel literally all over the world. We lecture together in Malaysia and all over North America. It is law is insurance liability. Employers don't want to know even though the technology exists to measure this in real time, and to help people they don't want to know. Because if they know, they have to take action, and they're short staffed, and they don't want to take action, and there's one more thing on your plate, so they'd rather be like the monkeys with that hands over the eyes, and the ears, and the mouth and do nothing, and download all of the responsibility to the individuals. And that's one of the discussions we had around police officers, particularly in LA, that Brian worked with, is they saying, we don't mind if you use these watches, but it's your responsibility, we don't want to know what the results are.



James Geering 50:42

So I want to put something to you, a person, especially a person who spends certain days of the week in a religious building, and then comes out with goodness in their heart, you would assume that they would be deeply invested in the well being of their people. Let's say hypothetically, that isn't enough in the world, it is for me, but a lot of people that I've met that run these organizations, that doesn't seem to be enough, which blows my mind. But anyway, that aside, because firefight funerals is what made me start this podcast. That's how horrendous I think it is to lose someone. So the other side is, I keep hearing people, well, you got to show the financial savings, you have such a unique perspective in all these litigations, the shortcuts that were made at the expense of the health and even the lives of the employees. Talk to me about is that a false economy? And if so, is it actually better to invest in your people properly? Would that actually save the business a lot of money longitudinally as well?



51:48

Oh, great question. I think you hit the nail on the head here, which is, it actually does save money. And it saves lives. And in fact, the origin of that software I talked to you about that Steve Hirsch created when he was with the Pentagon, was designed initially as a economic tool to show the military that they can actually save money by reducing fatigue levels, it didn't come up back, it didn't come out, it wasn't invented initially, as a risk mitigation tool. It was invented as an economic tool to show that they could sit, they could save money. And so yeah,

it that that's the whole, that's the whole purpose of it. And but a lot of it is just, quite frankly, flat out ignorance on the part of people who get to make these decisions, because, particularly in competitive industries, they look around, or I don't want to do anything, because my competitors aren't going to do it and, and I'm just gonna cost me money. And so I'm gonna, I'm gonna lose out, I see that in the trucking industry all the time, a trucking industry across North America works on very small margins, in one trucking company is not going to do very much around sleep and fatigue, because cost them money. And they have to compete with the guys that aren't doing it. Right. And so you get regulators in there who are trying to regulate it. And quite frankly, they're doing a very poor job of it. As as a regulator, myself in the past, you try to make things easy for yourself. And so you create these hard, our boundaries, safety across, it's like speed limit to cross this boundary, you broke the law. And that just doesn't work very well for sleep and fatigue issues, because a lot of it involves training a lot involves medic, personal medical issues for people, you know, have you do sleep screenings, you know, mental health screening? You know, how do you help? How do you help these people, you know, doesn't matter what schedules you put in, if somebody's got sleep apnea, even if they do work, and they ship, they're at high risk. And so, you know, it really starts with dealing with individuals as human beings and saying, you know, we're going to put you through these stresses of working night shift, which is fighting against your biology. But let's get you in the best shape we can to do that, and let's minimize the risk as we go along. So let's do sleep screening. Let's give you education. Let's do mental health screening. Let's do some monitoring with you has put some resources in there to help you. They just don't do that they're not there yet.

 James Geering 54:17

Yeah, I think with the resources is just simply manpower, you know, or personal power, whatever the term is

 54:22

these days. But it's but it's money. Yeah,

 James Geering 54:26

right. Yeah. But that's the thing. So when you again, when I love that phrase, and I always butcher the term, but something like plant the seed of a tree under which the shade you will never know. And the problem is what I see in the fire service. That's all I know, as far as you know intimately is that person, whether in the city or county council, whether they're in the chief position, they want to look good in that budget year, they want their Christmas bonus or whatever they're getting that no one else sees. And so they're not investing long term. Whereas if you simply just invested in your people up front 10 years from now Other people will be talking about you with with folklore, like, oh, you know, Jennifer or Steve, they revolutionized our department. And it was a brave choice. And actually, they were lauded for it at the time. But now, everyone's loving it. Because not only are our people so much healthier, and the mental health crisis come down, and we've got to fit a workforce. But now we've got extra budgets to reopen fire stations and buy more engines.



55:26

Yeah, and I think some of that is sort of one size doesn't fit all. So every my experience fire stations are, are sort of like almost like different little companies. So in British Columbia, and this is built into the law, and as it was called the Fire Services Act, the employers can employ firefighters by working them to 10 hour days, followed by to 14 hour nights, which is always been the schedule here. The other alternative is they're allowed to work 24 hour shifts. And now they're starting to go to 24 hour shifts, which is being pushed by a lot of the firefighters. And in some fire halls, it's a great idea. And in some it's a terrible idea. Right. And so the one the An example is I've done some work here, at our airport here, the Wi Fi our airport here and they have their own firefighting groups, they virtually get don't get called out at night. Like there's virtually no calls at night. So working 24 hour shifts is great for them, because they've got beds, they just sleep at night. Right? It's like working day shift, but you're sleeping there. And so it's a great idea, rather than jerking them around with their circadian rhythms, you know, working 10 hour days here and 14 hour nights, it is a way better system. But for other fire halls, where they get called out a lot, because a lot of them are first responders in downtown. It's a terrible idea. These guys are awake 24 hours and not sleeping, right and driving home. And we know that there are high risk for accidents. In fact, in New Jersey, and if you know this is a criminal offence to be awake. 24 hours and drive.



James Geering 57:07

Oh, really? Yeah. So how the hell?



57:11

Yeah, good question. It's called Maggie's law. No, absolutely. And, and it's because they know, then if you're awake for 24 hours, you'd likely have the reaction time with somebody that's point one alcohol.



James Geering 57:20

So so just to bring a solution, because this is the one thing that the sleep medicine world seems to agree with is, we have beds in the station, as you said, the quality of sleep very poor, because as I always give the analogy, imagine someone holding those those orchestra symbols above your head and unsaid, I'm going to smash them in your ear, or I might not who knows, you're not going to get that deep quality. But if you had an extra 24 hours in between your shifts, so the 24 hour, one day on two days off, which is very poorly labeled 2448, it would be 2472. So my whole observation is, you're not bouncing around from day to night, day to night, which clearly seems to be horrendous, because you can see the physical, you know, of our cops and nurses and doctors. But you give these responders one more day, which brings it down to a 42 hour workweek. And that's what blows me away is the people in the offices making these decisions, go home at 40 hours, but the people that they're telling to stay in the station, as we said 4856 and beyond



58:22

all economic decisions. Yeah. So again, investing in your people. Yeah, no, absolutely. And understanding that, you know, it's like saying, I don't want to spend any money to take the asbestos out of this building. I'll just let these guys work here. You don't want to deal you don't understand the risk. And if you do, you don't want to do anything about it.

 James Geering 58:45

So I want to flip it around completely. We've talked about kind of the deficits from sleep deprivation, you work in the sports world as well, like you said, a lot of the main arenas that everyone's familiar with in all these different sports. Talk to me about what you bring to those athletes, and what are you seeing as far as the correlation between sleep, and then performance? And also injury mitigation as well?

 59:10

Yeah. It's very interesting. So the leagues are all different. So in the National Football League, they play now 17 games, not at night, once a week. So they, but in the teams that I've worked with, I say work for the Seahawks and work with some East Coast teams as well, is, again, it's education. So let's just sit down the management and the players and the coaches and say, Okay, here's how sleep is affecting your reaction time. When you get back after Monday Night Football, you fly back to Seattle or wherever you fly back to LA. Why are you getting them up at six in the morning for meetings? Oh, we've always done it that way. But don't do it that way. Like, you have options. So some of those things are easier. In the NBA and in National Hockey League they play 82 games 41 The road 41 at home. And they play a lot of back to back games. And so we know the players are going to lose sleep goes back to back games. So there are things that the team can do. And the players can do to mitigate that one of the things we did, we went through the schedule with the Canucks, for example, every year, and we'd figured out which which of those back to back games where they had, we're not going to get much sleep, because they had to finish one game at 10:11 o'clock at night, you have to load up, pack up all your stuff, get on a plane, fly to the next city, get to the hotel, get to sleep, get up and play a game the next day. So one of the things that we did was we worked with the entire team, we worked with the the PR people we worked with up because the players have to get press interviews after the game, we worked with the players, we worked with the equipment, guys, which is the slow part, having to gather up all this equipment and get on a plane, get on a bus, get it to the plane and get it out. So coordinating all of those kinds of activities in the past that would be after the game is over, it's often three hours before they're in the air, we got it down to an hour. So it gave the players two extra hours of sleep during during the enemy huge difference. Huge difference in their performance, you can see that in the even the management that just gave us five extra wins a year to do that. So their NBA is a bit different. A lot of the schedules are the same. The NBA tends to play the same 5678 players again, right? So that's on physically. It's just a different game. But they have a lot of the same issues. These guys don't get into sleep till two or three o'clock in the morning, having to get up and play. The research around. Injuries is kind of interesting. There really isn't. I think intuitively people think that injury that if you're sleep deprived as an NBA player, whatever, there's going to be increased injuries. The problem is, we know that's true in industry. But we're not sure about sports yet. There's very little research because of they just don't do that kind of research in professional sports. And so we don't really know people say, Yeah, we think there is but we certainly know an injury in industry, higher fatigue, result results in higher, higher accident risks. There's great studies the done by the railroad industry, airline industry, military to show

that that's the case, just not sure how that translates into, into sports tech is just certainly different activities. But yeah, so But what the biggest selling point, I think, in professional sports is changing your reaction time. So we can tell, you know, if you're not sleeping well, you know, poor reaction time. And we know, and my experience in professional sports is that, that the players that don't sleep well, don't have very long careers. You know, and, and so and we we see that a lot. And we also know that they don't perform very well. I've got, I studied all 23 players for seven years on, some players obviously rotated out following their sleep, looked at their reaction time fatigue, I can tell you that 30% were sleepers on the team with a 30% Worse players on the team.

J

James Geering 1:03:30

See, and I think that's so important. Firstly, I think the the injury, what I've seen in our professionals is that chronic sleep deprivation because when you are not only do the cognition side and making the mistakes as far as proprioception and where you're literally putting your limbs, but also you grow you repair when you sleep. So you've got this chronic breakdown. So that makes perfect sense that you don't see as much in the sporting world. But one thing that again, there's a kind of resistance to accepting is that we are tactical athletes, we're not sporting athletes, we're not doing a certain group of movements to an extremely high level. But especially in the fire service with Jack of all trades, master of none, but with the law enforcement and you talk about reaction times, that could literally be you know, shooting the right person shooting the wrong person getting your shot off before someone tries to kill you. So these are, you know, these are parameters I think are extremely important to be discussed in the first responder professionals.

U

1:04:28

Absolutely. So I encourage people that read Brian Miller's research, it's really, really great stuff around around around that. But there's a big difference too, between professional athletes and first responders and firefighters is recovery. If you're a professional athlete, I've worked I work with one guy makes \$17 million dollars a year. He he doesn't have to do the things around the house that we do, we should come home. He has helped and he and he gets the summers off and he gets you know lots of days off To read to recover, even though I know they do a lot of travel, they live a life of luxury, right, and they have lots of time to, to recover, where you're a firefighter and looking after a family. And I've looked worked with firefighters who are single moms or single dads, and having to not only trying to get to sleep or any profession, but you know, juggling their kids back and forth between their ex, and those kinds of things. So there's a lot, a lot of differences between the stresses put on by firefighters, and then then there is on professional athletes.

J

James Geering 1:05:32

Yeah, you are literally preaching to the choir, because when I first went through my divorce, I was going through paramedic school as well. So I was doing a 24 hour shift, getting off shift going to sit in the classroom for eight hours, you know, again, getting my son getting him off to school again, then go on to do a clinical and a hospital or ride with the local fire department as

a paramedic, rinse and repeat. So I mean, the chances of recovery while still trying to be a good parent, with the emotional trauma of a, you know, a divorce, I would say was probably a little different than, you know, a sporting superstar.

 1:06:07

Right. And that's, I mean, one of the things I when I talk about when we educate whether it's firefighters or athletes or whoever, is to understand that poor sleep is not a disease, right? It's a symptom. And it's could be a symptom of a lot of different things. In your case, there's, you know, stresses, and you know, those things lead to mental health issues, there's sleep disorders, over 100 different sleep disorders, and people don't even screen for them. So the biggest challenge, I think around all of this is saying, you know, as an individual, what are the stressors? What is it if I'm not sleeping? Well, what's causing it?

 James Geering 1:06:39

Well, I want to get, yeah, I'm sorry, I didn't mean to jump. I want to get to what you're actually bringing to my community. But But one thing I want to hit on because Michael Gervais brought it up. And it was a great question. And it's something I've observed in myself. And I've been out the fire service now for four and a half years. And I just went on a round the world kind of research slash fundraising thing with a bunch of special operations people, and got to recreate what would be the emotional physical stress, and then the sleep deprivation, circadian rhythm changes that are exposed to a lot of our men and women in uniform. And it put me way back, and it really was very haunting as I was like, Oh, my God, that was such a great way of me seeing how much more acute that felt from a well rested state. Now I go to sleep every night to what I perceived I was then So Michael asked you about baseline? And can the brain trick you into thinking you're okay, when you're actually way below par? And so I want to revisit that question, because that's pertinent to so many people listening?

 1:07:44

That's actually a great question. And the short answer is, yes. There's a wonderful research out of again, Washington State University by Hans van Daan, again, and others, and there's some similar work done by Blinky and others is, is to show that so with basically what they did was put large groups of people into a sleep lab so they can monitor their sleep with with polysomnography. So brainwave technology, and you know exactly what's going on with these people. And every few hours, they had to take what's called reaction test simple reaction tests. So it's called a PBTS, psychomotor vigilance task. So a little light shows up and you hit a button. So it's rare. You can fake being bad, but you can't fake being good. It's a reaction. So they knew how long people slept, and how well they slept. And they knew exactly what their reaction time was while they're awake. And so they did a couple of things. One is they just changed how many hours they were allowed to sleep. And they could show them exactly, that the difference between four, six and eight hours of sleep made a huge difference in their reaction time. But what they did as well is when they took the reaction time, it was a black box in the sense that the person who took the test didn't know what their score was. So they would ask them subjectively, how do you feel? And, and so for the first couple of days, particularly when they when they lowered the number of sleep hours again, the first couple of days, the subjects

would say, you know, yeah, I'm feeling a little bit under the weather little bit tired. But after a couple of days, at that level, they said, You know, I feel okay. I feel normal. Right. And this That term has been referred to is re norming so your brain read norms and for six hours sleep feels normal. And I get that all the time professional athletes, but I feel good said take a reaction test, you know, you're not you're there's a difference between how you feel and how you can perform. And so you know, you're you're absolutely right is your brain can trick you into thinking and we hear that I say to all time people with sleep apnea, so we know they're getting probably less than four hours sleep a night and and their brains foggy. They don't even know what and then They get a CPAP machine and almost overnight, they're getting eight hours of sleep or seven or eight hours of sleep. And it's like this fog clears out of the brain the way they describe it. So it makes a huge difference in their lives.

J James Geering 1:10:12

Kurt Parsley is a Navy SEAL term physician was talking about. The sleep deprivation itself can cause almost like a lack of muscularity in the larynx that can then lead to sleep apnea. And so when well I've seen in the fire services, and I joke about this a lot, a lot of our dorms now that like the bar and Star Wars, there's so many hoses and masks around everywhere, which is great. But I still see that as a band aid not getting to the root of the problem. So what are you seeing as far as becoming CPAP? So obviously huge now and Americans is is that something that someone is doomed to have the rest of their life? Or can that improves sleep along with weight loss actually get to where they don't need that anymore?

o 1:10:59

Right. So first of all, I'm one of the things I like to say is that nothing good comes from poor sleep. And sleep apnea is one of about 100 different sleep disorders. A but it's kind of the poster child for it. And the reason it is is because somebody invented a CPAP machine and they get to sell them like crazy. Sometimes they over prescribed them because quite frankly, I talked about this in my book they get kickbacks isn't the right word, but they get a they get a benefit from for prescribing it. And so sometimes that's over prescribed, they don't often follow the people. And so there are different causes of sleep apnea. And we're talking about some of them are just jaw structure, talk to the head of our sleep researcher on at the University of British Columbia. And he told me that a lot of his patients now are actually middle aged Asian women, because of their jaw structure and as their jaw structure as they age that's causing sleep apnea versus which we see in the National Football League as well obesity, which again, it closes off, you throw those things can be dealt with and there are a laser treatments that can be done. So. So there are many causes of sleep apnea. And some of them are more curable than others and they don't all need CPAP machines.

J James Geering 1:12:23

But with so with that kind of vicious circles the wrong way but but getting to the nucleus of an issue. What I'm seeing is kind of like the hypertension drugs while you're going to be on this forever Your psychiatric meds, well, you know, you're stuck with Wellbutrin. Now it is what it is. To me. If you are able to address someone's poor sleep, whatever the the CPAP happens to work, I would hope there'll be a conversation just like with prescription medication, the goal is

to get you off this in X amount of months, a year, whatever it is. So, you know, talk to me about the actual application, what are some of the things that people can do once they start sleeping better to improve the chances of not needing to be strapped to a machine when they go to bed anymore?



1:13:06

Right? So that's having a clear understanding of why you're wearing it to begin with. Right and what what was causing your sleep apnea. And so you can go from there, certainly, you know, weight loss, you know, anything that you can do to improve your health, proper diet, proper exercise. But But I think you're right, once people set get on a regime, whether it's a CPAP machine, or whatever it is, they tend not to move from it. And part of it is at least in Canada, as well as we have very few sleep physicians, sleep specialists, very difficult to get to see them. And so once you're on a regime, you're basically left alone. Most general practitioners across North America have very little sleep experience or education. And so what they do is they give you a little pill to take right or prescribe to sleep CPAP machine or send you over to get a polysomnography done, right get some PSG to see what's causing that. And I've seen tons and tons of those reports and a lot of these. So when I talked about this in my book, so and sleep became a thing in the 60s and 70s. Right, people say so you sleep clinics popped up all over North America, and they weren't regulated. And so the pulmonologist got jumped in there and a lot of basically what they're prescribed to CPAP machines. All we're doing is looking for sleep apnea, when there's like 90 Other things, including mental health stuff. So it's very difficult to find physicians that are able to look more holistically in what's going on with your sleep. So you're right once you get on a regime they go, Oh, you got sleep apnea here out it's a machine you see in 30 years. Right? And so there really isn't that kind of follow up that you do sometimes see with drugs,



James Geering 1:14:58

when it's I've just been We were talking and you were saying exactly that what kept resonate in my mind is I haven't met a single person that came back from a sleep study that said anything other than, Oh, they said, I stopped breathing 2500 times. That was the problem. And you're looking at and going, Well, Brian, you're also 70 pounds overweight, and you drink Mountain Dew 17 times a day. And you know, you've got all these other things going on. I don't think that is the thing. You know, if that was even truly what you were saying, because some of these APNIC periods, I mean, did you breathe at all? Just you have one breath the whole hour, because these numbers are giving me a pretty, pretty crazy. So that's why I question as you said, some of the science is it, you know, are they being given the holistic picture, and I heard you talk about my with this with Michael. And this is something I've observed with with wellness in general, when I studied, you know, to be a paramedic, when I was doing my exercise physiology in college, we broke down the body into the renal system, respiratory, cardiac, etc. And that's, I think how we've devolved in medicine, we forget that we are part of this beautiful interactive physiology, and nothing is a standaloned.





1:16:06

And you and I are going to talk about this in my book is that what's happened in the evolution of medicine, in the western world is become specialized. So their eye doctors and ear doctors

and heart doctors, and, you know, feet, doctors and hands. But we're not humans are not a bunch of jigsaw puzzles all taped together, we're an integrated system in one part affects the other. So one of the reasons I'm a huge fan is one of the reasons I spent few years working with Dr. Murray, so high and at Stanford, he runs the Stanford sleep epidemiology Research Center. And he has artificial intelligence systems that he had this out, you know, 10 years before AI was even a thing. And it's used in it's very, I absolutely in love with the program, you can talk to talk to this computer for half an hour, 45 minutes, and you can diagnose sleep disorders, mental health issues, organic diseases, all based on symptomology. So what he told me was, when you go see your doctor, they basically doing the same thing. So they're trying to figure out what your symptoms are, they pretty much know what's going on, they send you for tests to try to confirm it. This, this computer program is highly, highly accurate. And it's amazing because it dies, it says, you know, in which I went through it, so I have what's called positional sleep apnea. So which means I can't sleep on my back. If I do, and I've become I wake up with with sleep apnea, my slap to sleep on my side. So there's those kinds of different forms and also diagnose depression, ADHD, whatever you have any mental health, it gives you a picture of what's going on, totally within within your system. And he's used it for epidemiological studies all over the world. And he's a longtime professor at Stanford University. This guy is a medical doctor. He's a psychiatrist, neurologist. And he has PhDs in biology, mathematics and computer science.

 James Geering 1:18:10
So he struggled in school. Yeah, he's a

 1:18:13
slow learner. But putting these things together, and but again, you know, and I, I've talked to him, I said, Why can't Why can't individuals and he has allowed me to access this for athletes, individual athletes, which has been a great lifesaver for them, because we can tell right away, like, what's going on with with some high level athletes is, is the medical professional is scared to death of him because of that system, because it takes away essentially can get on the computer in and get diagnosed, and you don't need to jump and see 10 different specialists. And so the technology is evolving in our society will change. But once you my view of this is that a lot of these things, including the medical profession, are engaged in their business, right, and so they have huge economic interests and not changing very much. So you have these sleep labs that prescribe CPAP machines, they're not going to change, right, you can get died, this system will diagnose your sleep apnea and 20 minutes talking to the computer, which is more accurate than the current systems are using for a few \$100 instead of a few \$1,000. But But again, the it's it's all economics, and unfortunately in the medical profession is really gotten entrenched into older technology.

 James Geering 1:19:45
That's amazing. Because I mean, that's what we are really as we were trying to critically think we're regurgitating things that we've learned. But as rather than being threatened by that, what did you what an incredible tool that we could use alongside the human diagnose assist and actually allow us to free up, for example, the physicians to actually spend the time with the

patient. Because this is the problem I see. I mean, we we demonize medicine a little bit. And obviously, there's elements of medicine that is incredibly successful. And then trauma surgery and, you know, pre hospital medicine. And there's drugs that have worked phenomenally well to save lives every single day. But our doctors get this minute window with these people. So they end up being this kind of prescription pad. So imagine if we could combine the kind of the factual, critical thinking element through AI, with the human bedside manner element of the doctors of yesteryear, again, we could maybe kind of revolutionize medicine rather than be threatened by it.



1:20:42

Yeah, absolutely. So what happens when you go to see your GP, they have to not only figure out what's going on with you, diagnose you, and then prescribe some treatment. But one of the things we experimented with a bit at Stanford was where doctors would ask their patients to go online, given some weekend, some codes, they could go on, and go through that system. So when they showed up at the doctor, the doctor already knew what was wrong with the guy or woman, right, they already knew the diagnosis, and see what asked a few questions to confirm it, but then they could spend their time on treatment.



James Geering 1:21:14

Love it. Yeah, I've just been exposed to I've been told literally James, if you don't get into AI right now, a year from now, you're going to be left in the dust. So I just bought a program to do to help with this side, you know, but that is the future. And obviously, when we hear of AI, we see creepy robots and all that kind of stuff. But there's so many applications where it can collate all the wisdom, hopefully ancient wisdom as well, and be an adjunct to the human side, not a replacement for it.



1:21:42

Right. And part of it is breaking down those longtime barriers, particularly in the medical professional about who can do what, right. And so we're starting to see because, you know, in certainly in Canada, we have, we don't have enough physicians. And so they're getting nurses to do some of the work that doctors used to do, where they're doing, we're getting pharmacist to do some of the work that doctors used to do. So they're slowly starting to break down some of these, these artificial barriers or everybody you know, in their within their profession, they can only do certain things. So now we throw in certainly in British Columbia, pharmacists can prescribe certain drugs, by themselves, you don't have to go see a doctor because you can't find a doctor. And you're around. So it's, it's, it's coming. It's it's slow. And part of it is and one of the fear in the medical profession. And I have a little bit of this fear as well with people who self diagnose without getting a you know, sort of an outside opinion. And that's one of the things that I think folks at Stanford were worried about, too. You don't want to go through the system and have a computer tells you you're bipolar. You need me need some counseling, I need some some guidance. And you know, so if you have sort of self diagnosis without treatment, it's can be a disaster.



J James Geering 1:23:00

What we see that as paramedics, it's called WebMD. Yeah, people tell us that the gardener's whatever, yeah, yeah, yeah. All right, well, then you talked about, you know, the presentation and the knowledge that you bring to the first responder professionals to talk to me about what people can find in the book, inconvenient sleep. And then what are some of the pillars that you discuss to the men and women in uniform?

i 1:23:26

What the The book itself was really written out of my frustration, and I co wrote it with my daughter, who's a sports lawyer, and former athlete is is really out of frustration, trying to give some baseline data and some understanding to coaches and to athletes. You know, we see people quoting all kinds of research, and they have no idea that the research is just complete crap. Right? You know, it was better, we should use these cold water baths. Well, you know, that was done on, you know, five rugby players in Brazil 20 years ago. Yeah. It's that kind of thing that that sleep research has exploded, and it's not all of it is good. So we try to give them some guidelines around how to interpret research and how to, you know, and what works, what and what hasn't worked, you know, in our experience, and again, education, in education by itself, and one of the analysis that were analogies that were used with professional athletes is you can go in, I can go in and talk to you about sleep, but that's like me going in and talk to you about getting into shape. And then walking away. So here's all the great things you need to get out. That doesn't work with athletes, right? You need to provide equipment you need to provide hands on training, you need to provide some goals. You need to help them monitor it right. If you want to get into shape, you can do that. But with sleep, basically walk in and say yeah, you need to get more sleep. Here's how you do it and you'll walk away. So I tried to say you need to start treating sleep like your tree Physical Education. Right getting into shape. And, and you know, that goes to the same thing about habits. So if you're a professional athlete, you work out for the most part you're around. And we see we see then don't get, we see that they don't always get into the same kind of good sleep lifestyle habits year round. So he tried to say, you know, you want to make yourself a good athlete. And a sustainable career is you need to treat your sleep habits exactly like you treat your physical conditioning habits. So that part of it, I'm sorry, I've forgotten the second part of your question around the pillars around around risk first responders in the military. And it really comes down to exactly the same thing. Right, it's treating sleep not as an adjunct thing, but as a as a as a primary component of our our health and mental health, safety and mental health. And to get into the kinds of habits I call it, sleep resilience. I have this argument all the time with other people who do what I do in the profession, and they call what's called Sleep banking. So they say to professional athletes and Olympic athletes, you need to before a big event, you need to bank sleep, well, you can't bank sleep,

J James Geering 1:26:21

right? You clear off right and on a deficit anyway. So we went back in anything, we're still trying to catch up.

i 1:26:26

I know, but that's something right. So they start with the premise that you can't bank sleep

I know, but that's exactly right. So they start with the premise that you don't get enough sleep, and they saying we're going to accept that we're not going to try to encourage you to constantly get good sleep, we're just going to accept your lifestyle or whatever it's going on. And so you need to just really focus in on trying to get up catching up on your sleep a week before an event. My argument is, you're tackling the problem the wrong way, you need to start treating sleep, if you want sleep resilience, so that, you know, even if you're anxious a night before a game, or you miss some sleep, it's not going to overly affect your performance. It's much like if you're a professional athlete, and you have to fly to a game and you miss it, you miss a workout, luck and intellect kind of hurt your career that much. Right. And so we need to treat start treating sleep as exactly the same way is a really important component of our of our health, you know, health, safety and well being. And it's just not getting there yet. There's all of these barriers, whether they're economic barriers, or historical barriers, I mean, all of the schedule, particularly for firefighters and police officers, all of that grew up way before sleep research came up. So it's, it's for me, it's about education, getting people on the same page and getting him to understand the issues.

J

James Geering 1:27:44

So speaking of that, the term sleep hygiene obviously comes up a lot. Talk to me about light, sound and temperature and other any other areas that an individual can control, as well as hopefully being part of the fight to improve their work week, which is the other side. So you've got the environment they can't control at the moment, what can they control in their fire station and when they get home? Right?

i

1:28:07

So you can google sleep hygiene, there's a million things that tells you to do most of them I think are a little questionable or not certainly not based on science or based on theory. One thing that is based on science is controlling noise and controlling light and comfort here comfortable bed for me. My experience is and it's called Dr. Caldwell from the US Air Force the same thing. It's about darkness. Because if you're trying to sleep any anywhere, because we're diurnal animals, we're supposed to be sleeping well it's dark out. And so managing darkness is probably the most important thing you can do. So if you wake up in the night, it's dark and go back to sleep, you know, getting focused in on other light issues. And so I said to him, What do you mean by dark? Like how dark should dark be? He says if you can hold your hand a foot away from your face, and you can still see your hand it's not dark enough. So I've been for me it has made a huge difference. Getting blackout blinds into my bedroom is huge. So for me sleep hygiene is managing your lifestyle so you give yourself the opportunity to get the sleep you need. It's like scheduling anything in your life whether it's holidays, schedule your sleep, and have a have a comfortable environment and a very dark and quiet environment.

J

James Geering 1:29:29

So when I was listening to you talk about this with Michael again, the first thought is well what about stars and moon etc. So talk to me about the different types of light because when we reverse engineer to us 100 Few 100 years ago, there probably would have been light coming in but it's a different kind of light, I'm assuming



1:29:47

Yeah, I'm not sure I don't think they even know I mean as humans got into caves and shelters pretty early. Asleep out onto the stars but it is Definitely artificial light now is, is different. And certainly, we know now in different spectrum of light that it's actually the blue light. That's, that's so and the reason you want to avoid light part of it is not just to that it wakes your brain up is that has to do with the production of melatonin. So when it's dark out your your brain produces melatonin that helps you fall asleep and stay asleep. And when it's laid out, it reduces the amount of melatonin it's being produced. So there's, you know, there's the kind of a awareness of, you know, if you wake up and it's late, and you're kind of trying to wake up and see what's going on kind of thing, but it's also the hormonal thing with with melatonin.



James Geering 1:30:45

So he talks about sound, he talks about light, and I've got like tape over my fire, smoke detector on the roof. And actually, I'm going to buy blackout blinds, but I want to get the ones there's actually a curtain rail that you can automate, because I want to wake up with a natural light. So I don't want to be, you know, oversleeping, and groggy as hell. But the one other thing that I hear a lot is a temperature and you know, they say about 67 each side, which observationally, I feel is also a factor for me personally, because if it's any warmer than that I start to feel warm in my bed and not sleep as well.



1:31:19

Yeah, I think you hit the nail on the head there as well is, is that sleep is very personalized. And so you know, all of these sort of temperature and comfort ranges and things around sleep. And it's very, very personalized. And you know, some people sleep on a soft bed, some people need a hard bed, some people need this temperature. So it's about, you know, body awareness, really understanding what you need for your body.



James Geering 1:31:45

Now, you touched on melatonin, I just want to dip into the subject and then go to some closing questions. But Kurt PASI, who I talked about before, he's got an excellent sleep remedy that he used to get a lot of his seals off Ambien at the time this was, I think he was, he was in pre 911. So I think he was probably doing this post 911. But he realized how many were on. I'm using air quotes, sleep medicines. And so I was able to use this. But this is a cocktail of different things, a very small amount of melatonin and tryptophan, vitamin D, magnesium. And it works incredibly well. I'm I'm really truly amazed how well this works. Now somebody I want to take all the time. But if for example, I come off a shift, and it's been a rough shift, and I've kind of want to reset, it's a great, great supplement to aid my sleep. I see a lot of melatonin supplements with a huge amount of melatonin out there. And I also see a big misunderstanding of sleep aids and that actually they make you unconscious, you're not getting a deep call in a quality of sleep from those. So what have you seen through your eyes in the world of sleep aids?



1:32:48

Oh, yeah. You know, people want to get it. In our society, everybody wants a quick fix, give me a pill, make it better wave a magic wand. So there are different kinds of sleep aids, I can obviously send you a link there. My friends in Australia have a great blog around that. But generally, there are two kinds of sleeping pills, ones that put you to sleep, like Zamp lecan and Ambien, but then you have to sleep on your own. And then there's others that actually put you to sleep and keep you unconscious for longer periods of time. And those ones are make you groggy and you know they can become addictive. Melatonin is interesting. So melatonin is a natural hormone that your body produces. And so somebody came up with the idea, well, let's just keep adding more heart more melatonin, and that'll that'll be better. And there are about 3000 papers written on melatonin and the jury's still out about whether it works or doesn't work. And so it's it's it's the only hormone that's unregulated in North America. So to get melatonin in Europe, in the EU, you are going to be talking about this in my book, you you have to get to see a doctor get a prescription. And so the drop the melatonin is regulated there so they know exactly how much melatonin you're getting and how much is in each pill. North America, it's a supplement food supplements. And so it's completely unregulated. And so people just buy them off the shelf. And there's a great research paper where they went and collected all the melatonin supplements, and actually tested them. And some of them had no melatonin, some had way more than they said. And I've printed the exact number but I think like 70% of the ones did not have the amount that they said it had. And some of them even had some more dangerous chemicals in them. So it's a completely unregulated industry. And again, I talked about that in my book, which in quoting research and that is so I'm always reluctant to, to recommend those kinds of things to people. My view is, if it works for you, even if it's a placebo works for you do it. So but I, I, you know, because we're in a society where if you think you can pop a pill pill make you better. People tend to gravitate to those kinds of things. But again, because sleep is so individual, if it works for you to do it.



James Geering 1:35:20

I think it was Benadryl if I'm not mistaken I bar PM, dark was talking about when they put the side by side comparison between shift workers that are chronically sleep deprived, and people that used Benadryl as a sleep aid, the actual lifespan was the same, because there was this misunderstanding that you were sleeping well, you weren't actually getting sleep. And so I think that's a really important kind of observation. You talked about the wearable that you ended up creating, I just want to hit this topic quickly as well. I see a lot of claims. And people really believing Oh, I had this much REM sleep. I had this much. And I had for example, professional Russian Professor Russell Foster. who's one of the again? Yeah,



1:36:02

so I caught a caught up caught on and no, black is good.



James Geering 1:36:05

Oh, okay. Beautiful. Yeah. I mean, amazing, amazing, man. And so you hear about, you know, even the, the, what we think of as the layman as the gold standard, like an EEG or something, and then you're like, No, actually, it's really not great science. And that's, that's things stuck to

your head. So now you're wearing a ring or a watch and saying that you've got this diverse, you know, rich information about your sleep. So if you wouldn't mind educate us on, you know, the landscape that is a reliable, wearable, and what can it actually tell someone?



1:36:37

Sure. A great question. So to begin with sleep is a process that goes on in your brain. Okay, doesn't go on in your wrist. And so the question is, so how do you how does it know whether you're sleeping or not, because it's a process that goes on in your brain, not on your wrist. And so it's based on motion. And so most, virtually all of these have accelerometers in them much like your iPhone, your twisted, it'll twirl around, and it measures motion in your wrist. And so in, I think it was in the late 70s called crypkey, to researcher in California created this algorithm, where they were able to show that based on risk motion, we can tell whether you're awake or likely awake or likely asleep. So that's an it's open source stuff. It's called the cold crypkey algorithm. And I know Daniel KRUPKE, I interviewed him for my books are really great retired guy, University of California, San Diego, and I asked him about the sleep watches, he goes, basically center in a polite way. So they're crap. So what's happened in the sleep industry is what what these things can actually measure is a pretty good rally, like 90% pretty good at telling you whether you're awake or whether you're asleep. But that's all I can really tell you. So I liken them to a bathroom scale. Right, you stand on the bathroom scale says you weigh 180 pounds. So what is that good? Is it bad? Is it just a number, right? It doesn't tell you, you know, to lose weight doesn't tell you to gain weight, it doesn't doesn't tell you anything, it just tells you a number, you have to individualize it. But what's happened in the sleep watch industry is once you sold a watch to somebody and they were in bathroom scale, they measure themselves aren't going to buy any more from you. You only need one. And so they started to create more and more bling to make it more interesting. And so what they said no, we can tell what sleep stage you're at. And they're guessing. And it's not very accurate. But what I say to people, even if it's accurate, what are you going to do with the information? You're going to go to bed at night and go Yeah, I think I'm going to get more REM sleep tonight. Doesn't work that way. So useless information. And so I athletes come to me all the time with this information. What do I do? I said, take your watch off. To begin with, like, or don't even look at it for a week. It's not the day to day thing. It's week to week, month to month, look at the patterns. And what you really can only focus on is bathroom scale information. How much do I wait, you're not going to jump on the bathroom scale every day, and worry about how much weight you're losing maybe every week or every couple of weeks, if that's what you're trying to do. And it's the same with sleep watches. All it does is create anxiety, that they're good at measuring whether you're awake or whether you're asleep. Great stuff. But everything else is just blinking trying to get you to buy stuff.



James Geering 1:39:41

Well, I think for my community is that we say especially when there's that loss of perception of how tired you really are the HRV which obviously now you're talking about taking a pulse. So that would be an accurate measurement. I totally understand that. So if you understand what HRV is and the application and should you train hard today, should you have a light day I totally get that. But like you said, people become obsessed. And I hope people, you know, I was

supposed to have got this, but I feel like shit. Well, there we go. The ultimate metric still, from what I understand the sleep medicine world is, do you feel tired? If that's really your true, you know, metric and you do not need wearables for that specific thing?



1:40:17

Yeah, the wearable technology just hasn't evolved. Again, much like melatonin. It's an unregulated industry. These are also as gadgets, crackerjack toys. They're fancy, but they're not sold as medical devices, because of their soldiers, medical devices, they have to go through FDA, they have to actually do testing to show that it will do what it says it does.



James Geering 1:40:44

But even then, how many how much litigation has happened after they've been approved? to So




1:40:48

No, no, no, I know, I agree with you. And so I mean, I tell athletes, I don't pay attention to the details on this. You know, why are you wearing this? You know, what is it that you want to know? Right? You want to know, week to week, month to month, how well you're sleeping, you know, you don't need to measure this every day. Right? Get into a schedule, right? Organize your sleep in a way that Okay, okay? Schedule, you know, I need to get sleep, I need to get seven hours or whatever, eight hours asleep, let's go, I need to be in bed by 10 o'clock, I'm asleep by 11, I get up at six or seven o'clock in the morning, then don't worry about it. You know, the rest is just just fluff. As far as I'm concerned. I don't think in fact, for some professional athletes, that actually causes way, way more anxiety than they need, they need to go they need to go through. So yeah, I don't I don't recommend that. But one of the things we did in the watch that I created was we only looked at when you sleep when you're awake when you're asleep. So you only get that as a metric, we can tell how many times you will come in tonight and for how long, that's pretty normal, you can do that. But what we did was we now did that technology with the Air Force technology that can predict your reaction time. So and you can get some of that with HRV. If you really know what you're doing. But it's really basically the same thing. You can you can tell you can say. And we know from a lot of the research in done by the US government from the FRA and others, as we can tell where those limits are, we can tell and you can tell yourself, I'm about to hit the wall here. Right, and I'm at a high risk of an accident. So that's the technology that we that we built. And that's how it's being used today. But the rest of the stuff about REM sleep and deep sleep is just is just a marketing.



James Geering 1:42:44

So one more area that I should have asked you earlier, I'll make sure I squeeze it in the impact of caffeine on sleep and the impact of alcohol because I think it is probably the most widely used decompressor even though ultimately biologically having the reverse effect. But so many of us unwind with alcohol. And then I've you know, I've become more and more aware of the detrimental element on my sleep personally if I drink the night before,

 1:43:09

right? So both have good and bad things. Right? I mean, alcohol relaxes you, right. And so there's some good good sides to it. The problem is, if you rely on it to fall asleep, you the quality of your sleep, you know this from polyphonic polysomnography is your sleep architecture and messes up your sleep architecture. So you don't actually get the restful sleep you need to get so that's the good and the bad of alcohol. The same with caffeine. Caffeine is is great keeps you awake keeps you alert. But again, if you take it too close to when you need to go to sleep, you're not gonna fall asleep. Same with napping. Napping is good napping asleep. But if you nap too close to when you're, you're meant to fall asleep. You're not gonna fall asleep. So it really screws your schedule. So you need to look at whether it's alcohol or napping or caffeine. Look at it strategically.

 James Geering 1:44:06

Yeah, I think that's the thing. Yeah, we know that we're not sleeping at work. But um, you know, you might even try and kind of own some other areas and be aware of it. But having those couple of glasses of wine or you know, whatever it is understanding that that's just sabotage your opportunity for getting the best quality seat now it's a really hard seesaw that you're on because you know, you're exhausted, you know, so then you drink coffee, and then you're kind of wired so then you drink some alcohol to wind yourself down and then now boom, you're back on shift again. And you know, so it's, it's a vicious circle exactly that I saw myself. So it's an important observation. All right, well, then your book is called inconvenient sleep. Firstly, before we get to the closing questions, where can people find your book

 1:44:50

on Amazon anywhere anywhere? online books are sold.

 James Geering 1:44:54

Brilliant. Yeah. All right. So the first of the closing questions. Are there any other books that you love to recommend? It can be related to our discussion today or completely unrelated.

 1:45:06

Be honest, we're dealing with sleep and fatigue issues. I spend most of my time actually reading research papers rather than rather than books. I actually haven't found any really, that's one of the reasons we wrote a book. I was found any really good books around that. I think podcasts like yours and blogs, there are a few really good people around. I mean, yours. I mean, Michael at Shivay has a broader kind of view of things and stuff. In Dunagan, out of Australia, he's got a great, great podcast. Firstly, all about sleep, sleep and fatigue. I've worked with him pretty extensively. brilliant guy, very funny. Irishman. moved to Australia, so you can

understand what he's saying. But yeah, brilliant. So I would recommend trickling because things happen so fast and is so new in our society tiny gets tiny gets into a book. It's outdated. Almost.

 James Geering 1:46:03

Yeah, that makes perfect sense. Thank you. Well, the next question, what about a film and or a documentary that you love?

 1:46:12

Oh, boy, films. Think about that. Watch that many movies anymore. I think I probably date myself, because it's really kind of older. Older ones I like I like movies that do follow people's lives. Right. And there's just so many of them. Oh, boy. I'll probably pass on that. Because my my brains mush at this point. But I actually don't watch that very many movies. I'm a sports and I watch a lot of blogs. I love. I love watching cooking shows. Okay, there we go. Yeah, I like the Jamie Oliver stuff. There's a bunch of other ones around. I like to cook. I'm a chemist by training. So it's like chemistry experiment. And so I find that relaxing, learning, learning all these different techniques to cook.

 James Geering 1:47:02

Jamie is someone I still want to get on. I got to figure out how to you know, connect the dots and get to him. But what he did in the UK, what he tried to do in the US with the food in our schools is a story I think that needs to be heard, you know, and it was it was told a few years ago, but it needs to be reheard specially after COVID.

 1:47:19

Right. And I think that's one of the things I like, I like his style. I like the diversity of the cooking, but I like that he has a sort of educational aspect to what he's doing and he wants to help move society forward in terms of nutrition, right and what works and what doesn't work and how easy it is to actually cook good nutritional food. You know, I'm a big fan of people in Ian's one of these and others big fan of doing the same with sleep. Right? And people like you. Alright, let's let's, you know, let's educate society and let's educate people. If you have an educated group, they make smarter decisions.

 James Geering 1:47:59

Yeah, absolutely. 100% Well, speaking of an educated group, that was a good segue. Is there a person or other people that you recommend that come on this podcast as a guest to speak to the first responders, military and associated professionals of the world?

 1:48:12

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Absolutely. I I talked to John Caldwell he's sort of semi retired he's on. He's in Florida, actually, last I heard and also in Dominican is great. He's done he's a mazing character. I would try to get him you know, if you can get anybody from Washington State University. I'll get the names for you. Then the guy sort of taken over particularly the police research I think it's really really good stuff there. So let me I'll I can I'll email that to you. And you can pass it on to your, your your audience if you'd like but, ya know, there's folks at Washington State University that do the research for first responders is pretty amazing.

J James Geering 1:48:53

Brilliant. I'd appreciate that. Thank you so much. And I guess I need to connect with Brian Villa as well. Yeah,

1:48:59

ya know, Brian's retired it's hard to get hold of any sorry it's had a few health issues and so he's, he's retired but he's the the these are the people that have worked with him and continuing to research but Brian's books are brilliant in his research is brilliant. So

J James Geering 1:49:12

Okay, fantastic. All right. Well, then the very last question for you make sure people know where to find you specifically. What do you do to decompress?

1:49:24

Good question. I walk a lot. I mean, I'm older I'm 70 years old.

J James Geering 1:49:30

By the way for everyone that can't see you right now if you'd like about

1:49:37

I walk a lot I try to work out ride a bike. I fish. I have a little little boat and I go out and I catch crabs and prawns and pops around in the ocean and, you know, try to be part of the instead of kind of be sort of focused in on my new details around my life or my work. You know, I tried to get up Nature makes a huge difference.

J James Geering 1:50:02

Do you find yourself going full circle back to the farm life that you grew up as a kid?



1:50:08

Yeah, just growing up up north in, you know, being out in nature and looking up at the sky and seeing, seeing how huge the universe is, you know, and what a wonderful life we have here.



James Geering 1:50:18

I couldn't agree more has so much kind of myopic focus on things that really, I mean, they mean things to certain people. But I mean, as a species, there's so many other things, we can be more passionate about the move the needle forward, and physical and mental health. So before we let you go, where can people find you if they want to reach out or follow you online?



1:50:38

I have a LinkedIn. And I have Twitter. I don't pay a whole lot of tissue, but I have I have Twitter. I have email. I have cell phone number. So I'll pass that you have that and you're welcome to pass it on to anybody who wants to contact me. I'm happy to chat with



James Geering 1:50:58

you before. Well, I want to say thank you so much. We've gone all over the place you know from from litigation and asbestos to sleep and first responders but it's been an amazing conversation. I want to thank you so much for being so generous with your time today.



1:51:11

My pleasure, anytime