DANNY LENNON: So with all that preamble done, let's get into today's conversation with Dr. Meeta Singh. Meeta, welcome back to the podcast. So great to be talking to you again.

MEETA SINGH: Thank you for having me.

DANNY LENNON: Yes. And we got some great reaction off the back of your previous appearance on the podcast and since then, obviously, a lot has changed, and a lot has been happening. And as part of some of the discussions we've had via email, and you've raised some particularly important points that may be useful for a lot of people out there at this current time, I'm very excited to, to ask you some thoughts on those.

And before we get into some of the specific topics we were thinking about, as a kind of general introduction around the importance of sleep, understanding what sleep actually does that makes it so crucial, because I think sometimes we jump past that and overestimate or underestimate that we already know that. So can you explain to people what is it about sleep that makes it so crucial, particularly in the context of what we may explore today?

MEETA SINGH: Sure. So Danny, you know, it's important to understand what sleep is. So sleep is a normal, reversible behavioral state in which there is disengagement from the environment, as well as unresponsiveness to the environment, Danny, we spend a third of our life sleeping. And if sleep wasn't really serving an absolutely essential function, then that that would be a colossal waste of time and a major mistake from the evolutionary point of view, especially since we know how vulnerable we are because we're asleep, we can't respond to any threats in the environment.

So at its most basic level, because sleep forces both the body and the mind to be inactive, rest and restoration occur. So, you know, broadly when we say what does sleep do, you know, one way to think about this is to think of sleep as being an active period in which important mental and physical restoration and reprocessing is occurring. So exactly what happens is still little mysterious, but we are learning more and more. And so starting from, you know, the very top of your body, you know it's essential. Sleep plays an essential role in memory, in learning, emotional balance. It's essential for cardiovascular health and weight management in diabetes, and as well as immunity.

DANNY LENNON: If we talk about immunity first, because obviously, this is a very topical issue right now and there's some a lot of implications for this. And there's also I think, a lot of maybe misinformation going around this topic, which we'll probably explore, but just to kind of set the stage for that when we talk about the having a healthy immune system or having proper immune function, what are some of the most important things that people should know from the get go just to kind of lay some foundation for this?

MEETA SINGH: As any of my immunological colleagues will describe it, firstly, let's just describe the immune system. So firstly, your skin and your mucosal surfaces, they act like a physical barrier. So that prevents any infection from entering the body. That is your first line of defense. But once any pathogen, you know think of a virus or bacteria or fungus or parasite enters your body, then there is an army of immune cells that get recruited into action and the actions are really of two kinds. So, the first is, you know, your innate immune cells, which basically this army of cells that fights any infection, and they have really, you know, they have functions like they will eat the pathogen, they will stick to the pathogen and therefore kill it or they'll release poison to kill the, the pathogen. But if this pathogen escapes that first line of innate immunity, then a second line of adaptive immunity gets recruited. And so this adaptive immunity has a more focused effect and this usually takes some days. And one of the things that happens is that immune cells, they learn about the pathogen; they learn how to mount a focused response. And this immune memory, it gets stored to be used in the future. So if you get infected again, then those smart immune cells know exactly what to do. So, so, you know, so that's, that's how that would be the basic description of your immune system.

DANNY LENNON: So if then we think about the concept of having a healthy immune function or let's say, normal immune function, at least, first of all, can you just describe that term? And then a second part to that question would be, how does that compare with what a lot of people are probably seeing in various media articles around the Internet, for example, or people online claiming that there are certain immune boosting protocols whether that's nutrition or otherwise, can you maybe contrast those couple of things for us?

MEETA SINGH: So the first part of the question is what is immune function? Right? The major function of this complex immune system we just described is to protect you from environmental agents, like, you know, any sort of microbes or chemical. And so they're protecting your body. And, you know, for that for an immune function to function well, your cells should be able to recognize the self, so, and differentiate that from a pathogen, which is a foreign, foreign sub, you know, material or microbes and be able to respond to it. And and you're absolutely right. I mean, you know, immune boosting, I mean, that's the million dollar question, right? We've seen people promote all sorts of stuff saying, it'll immune, it'll boost your immunity. So, firstly, to clarify, Danny, innate immunity can't be boosted.

So I was just actually this morning speaking to one of my immunology colleagues and he said, you know, and he said, you wouldn't want your immunity to be boosted. Because if your innate response, immune response is stimulated, then you're, you're going to constantly feel unwell and have a runny nose or a fever or lethargy or depression. So, that concept makes very little sense scientifically. You know, attempting to boost any kind of cells of one kind is actually may have serious side effects. So, you know, I'm sorry to be the bearer of bad news, but the best thing you could do to maintain your immune health is really to adopt healthy living strategies that so things like common sense things like eating a diet, rich in fruits and vegetables, exercising regularly, maintaining a healthy weight, quitting smoking, drinking alcohol only in moderation in today's time, for example, you know, regular hand washing, reducing stress and getting enough sleep. So that's where the role of sleep in maintaining normal immune function comes in.

DANNY LENNON: Brilliant. So I think that gives people immediately we can see this kind of red flag pop up if they're hearing these immune boosting protocols. And more technically, what we're trying to discuss when we recommend various lifestyle approaches is maintaining normal immune function or let's say, supporting the immune system. And so, first of all, what exactly is that role of sleep in maintaining normal immune function?

MEETA SINGH: The cool factor is that sleep really plays an integral role in maintaining your, your immune function. So firstly, if you don't get enough sleep, then that reduces the number of white blood cells, lymphocytes, monocytes, T cells, B cells, natural killer cells, you know, all the cell cytokines, neutrophils, basophils, eosinophils, these are all -- this is an army of immune cells that help your innate immune function that we need to attack, attack the pathogen. And, you know, just a night of partial sleep deprivation will reduce the way that natural killer cells, which, by the way, I think is a very cool name for any kind of cells. Yeah, it declines their efficacy by 75%. You know, and then another cell study looked at T cell activity. So T cells are immune cells. And what they do is they recognize a virally infected cell, and they, they activate integrins, which are a sticky part of a protein that allows them to attach and then kill infected cells. And so researchers, they

compare the T cells from these volunteers who were either sleep, who were either allowed to sleep or who stayed awake and they found that when participants slept well, they had low stress hormones, and so their T cells had more stickiness. And so they were able to function better. So in contrast, if you weren't sleeping, then your T cells were not sticky enough, and so they were not as effective. So overall, when it comes to innate immune function, we know that if you skip on sleep, the chances of catching an infection does get higher.

And you know, there's another study, really interesting study in which so there's an experimental study. So what they did is that they took the rhinovirus, which is the common cold virus, and they challenged these very brave people by exposing them to this and then they manipulated their sleep. And if you were sleeping less than six hours, the likelihood of developing a cold was increased four to five times after they were experimentally challenged. So that's, that's one part. But then remember, we talked about the adaptive immunity. So sleep helps with that, too. The way it does is it because it, it supports the memory consolidation function of the immune system. So, in memory processes in the brain, they're divided into three parts. So during the day while you're awake, information is taken and it's encoded. During sleep, this information is transferred from the initial site to a long term storage site and this process is called consolidation. And then, you know, when you need this information, this, this information is recalled. And all this remembered information can be retrieved. So similar to that, during the encoding phase, the immune system, these immune cells will take in information about the pathogen, and it's while we're asleep, and it's while we're asleep, specially during deep sleep, this information is consolidated and it's transferred now to other immune cells. So that when we get exposed to pathogens, again, these immune cells will retrieve this stored information and so that so now we have smart immune cells, so they know exactly what to do. And of course, you know, there have been studies in which, you know, after vaccinations, if you didn't get enough sleep, you didn't mount a adequate immune response.

DANNY LENNON: So with some of these detrimental impacts of restricted sleep, at what point do we see these negative impacts? Does that become immediately from let's say, one night restricted sleep? How does that compare with say, chronically restricted sleep, which we presume would be, would be worse, but where's the real danger in terms of missing sleep or poor sleep?

MEETA SINGH: That's a very good question. So in many of these experiments, you know, they did -- they would either sleep deprive them all the way leading up to -- so there was a study in which if you were sleep deprived seven days around the time that you got the hepatitis B vaccine, a month later, you did not have enough antigens that you had developed. So, you know, and then, and in other circumstances, once you were, you know, virally challenged, or once you had, you know, once you got the vaccine, if you was, if you were not allowed to sleep, you did not mount an immune response. So I think the simplest way to, to, for

everybody would be to try and get good sleep on a regular basis. You know, you want to sleep well. And in today's world that now that people are not, maybe because they're working from home, and because they, because we, they don't have to, you know, get into a car or train to go to get to work. Maybe, you know, this would, this is a great time to make sure that they're all well caught up with their sleep.

DANNY LENNON: Right. Yes. And we'll definitely get on to some different examples of people's schedules and how we can try and manage some of those issues. And so what we've gone through at this point is quite clear of this link between good quality sleep and immune function. And like we said at this particular time where there's so much uncertainty, we want to try and be as physically healthy as we can in the face of this. And having a normal functioning immune system is key there. Before we get into some of the practical strategies of how to do that with our sleep, I also wanted to look at another component that's on a lot of people's mind right now. And that's how sleep plays a role with psychological health because I think probably a lot of people are already facing some psychological health issues because of the current setup and restrictions in place. But beyond that, maybe the change in sleep is also affecting people in other ways. So how does the role of sleep play into some of those psychological issues?

MEETA SINGH: Well, I think it's important to point out that sleep and psychological health, you know, that relationship is bidirectional. So if you have disturbed sleep, that results in poor psychological well being. And if you have, you know, reduced psychological well-being, that's going to affect your sleep and vice versa if you, you know, if you have good sleep, if you're sleeping well, then that that's associated with positive psychological states. If, if people have pre-existing mental health disorders, then when you're stressed out, both sleep and the mental health issue is going to get aggravated. So at the most basic level, we know that, number one, if you don't sleep very well at night, so if you have problems, we know that the next day, you know, you do become, there is some impairment in executive functioning. There is reducibility to utilize the coping skills. Right? And there is also, it also reduces your ability to filter out negative thoughts. Very simply, if you sleep poorly at night, you're going to be tired and sleepy the next day and so, people are going to be less engaged in, in pleasurable activities, you know, and especially in social relationships, which at this time, really help us cope. Poor sleep, and the distress that is associated with it is itself a risk factor for, you know, developing or worsening mental health issues. And that is why it becomes really, really essential that we address poor sleep right now and nip it, nip things in the bud.

DANNY LENNON: One thing that you have previously pointed out to me and I think is incredibly important that people hear it as well, because especially when we're talking about the importance of sleep, but as you said, there's this bidirectional relationship between sleep and psychological health and psychological issues. And, of course, intertwined within that right now is stress and

anxiety and fear. And what we don't want to do on top of that, like you've said to me is have the stress of not getting proper sleep compound on top of that or being so preoccupied with sleep wasn't perfect that then itself becomes more of a stressor. Can you maybe talk a bit about that of how stress and anxiety, number one, make sleep more difficult, but then what would you say to people who are finding that they are causing some of that stress and anxiety because they're worrying about the lack of good sleep they're getting right now?

MEETA SINGH: So the thing about stress and anxiety and poor sleep is, you know, they, anxiety and stress and poor sleep some or insomnia which is difficulty initiating and maintaining sleep or non-refreshing sleep, they all have a shared pathway because of hyper arousal. So there's this one classical study in which, you know, caffeine was used to create hyper arousal in poor sleep and good sleepers, and they report a psychological distress and anxiety. So, so obviously, this is, this is a bidirectional pathway. So, I would tell people, I would say at this point, laying in bed wide awake, difficulty turning your mind off, getting anxious about, about sleep itself is, is not going to help. In fact, the first thing I would tell people is that, and I and I've, you know, I say that to people I work with on a regular basis, worrying about your sleep can make it worse. This actually will create a vicious cycle of poor sleep and worrying and, and worrying will disturb your sleep even if you're not an anxious person. So I would like people to understand that it's, that waking up in the middle of the night is completely normal. Everyone does it to a greater or lesser extent. Some people remember waking up may not worry about that. Others do not remember waking up at all. So do not think that I won't be able to function tomorrow unless I get back to, to sleep. Instead, you know, try the thought that I've been able to function with less sleep before and I'll get, I'll be okay again, and talking about, about what other tips we can give concept of worry time is important. Because we lead busy lives and even today, because we may have things that we're doing during the day that keep us going, it's only when we get into bed that we start worrying about things and nothing good ever came out of worrying about things when you weren't in bed because everything seems, you know just seems to be out of proportion and seems to be much worse. So there is a concept of designating a specific time earlier, maybe in the, in the late afternoon, early evening, in which you actually sit down maybe with a notebook or a laptop, or you know, in which you can, you let yourself be with your fears. It's a time when you can either write or think, or even talk to maybe a family member. And first of all, it gives you an outlet, you know, you're kind of honoring your feelings of being fearful. For some people, it may take the, it may be in the form of, of, you know, creating a list of what they can do the next day to-do list, and it just gives us more influence over a feeling so that when worrying keeps you up at night, then you know, that, you know, then you can at least tell yourself that you've already done that earlier in the, in the evening.

The second thing is I can't and I can't stress this enough, you know, right now is it good time to go on a social media or a news diet? Right? I mean, this is not the

right time to, to spend too much time, you know, looking, looking at the news, finding out, especially because it's, it is more difficult to differentiate between, you know, information and misinformation. So, and then, and then finally, I think that, you know, I would suggest to everybody in today's world to create a winding down schedule that might help you fall asleep earlier. So, you know, how we set an alarm in the morning, maybe, maybe time to set an alarm at night that tells you that now it's time to prepare for bed and hopefully you're now sleeping, you know, more, your bedtime is more aligned to your biological clock. So you get into, you know, so part of preparing for your bedtime would be, you know, it would take about 45 to, 30 to 45 minutes in which maybe have a hot bath, some stretching exercises, you know, meditation time for, you know, maybe this is a good time for prayers or any other spiritual practice, maybe read a book etc., so that it helps you relax. And the other thing I would suggest is not to spend time in bed if you're worrying, you know, so that you don't associate your bedroom with, with stressful thoughts. So the suggestion is that you get up and go to another room, you know, do something quiet and relaxing, again, not including, you know, not involving electronics before you come back.

DANNY LENNON: To ask you about some others that people may be go to themselves or, or at least quite commonly used when people feel like they need to relax a bit more or having trouble sleep. One quite common one is the use of alcohol whether that's a drink or a couple of drinks in the evening time that people either use as a wind down period or they say they find that if they have a few drinks that makes it a bit more sleepy and things like that. What we know about the use of alcohol and the impact on potential sleep, is that a good thing? Is it counterproductive or how should we view that relationship?

MEETA SINGH: Um, you know, when you, when you're trying to fall asleep initially, it, it actually may help you fall asleep. The problem though, with alcohol is that, that you can develop tolerance, which means that as time progresses, you're going to need more and more of the alcohol to help you for the same effect. In fact, even though initially you may feel it helps you fall asleep, you develop tolerance to that. Number two is that alcohol tends to fracture your sleep, which means it in the second half of the night, it tends to disrupt your dream, dream sleep or REM sleep and as a result of which, you know, you may overall have lighter amount of sleep. You may not go through all the stages of sleep that you need to. So it's counter, you know, so it actually counteract, it does exactly the opposite of what you were trying to achieve.

DANNY LENNON: Yeah. So the kind of takeaway there is, even if it does help you feel a bit sleepy at the start and get to sleep, your quality of sleep is probably going to be impacted even whether that person is aware of that or not.

MEETA SINGH: Right. Yes.

DANNY LENNON: Another one that is sometimes used will be kind of is what do we know about the potential role there is a similar issue to alcohol, is it a different conclusion? What do we currently know about that?

MEETA SINGH: Number one is that marijuana, you know, the effects are quite similar to alcohol. In fact, there was a study that was published two days ago, April 1st, University of Colorado, and it followed about more than 1800 twins who were, you know, they completed surveys about their marijuana use, their sleep habits and mental health. And that study found that about a third of the subjects who use marijuana regularly before the age of 18, they suffered insomnia as adults compared to less than 20% of those who did not use marijuana. So, so, you know, it appears that marijuana use actually is a risk factor for future sleep issues. And so, so the, the effect of marijuana is very similar to alcohol in that that it may initially you may sleep, fall asleep easily, but then it fractures your sleep, but then you also develop tolerance to the amount so you may need more amounts. And the other thing is that that if you, if you use marijuana for about two weeks or so, and then you stop using it, you develop withdrawals. And part of the withdrawals are insomnia, you know, anxiety, distress, and so which leads to people using marijuana again, and so, you know, when many times people say, well, I'm using marijuana to, to treat my insomnia or I'm treating it to, to, I'm using it to treat my anxiety. They're actually using it because they get withdrawals from using, you know, because they're, they're, they're actually treating the withdrawals they're getting from stopping marijuana use. It's similar to when people, when people, you know, say that they need to use opioids for stomachache. Well, the tummy ache was, was caused because you stopped using the opioids in the first place and developed withdrawals.

DANNY LENNON: For someone who maybe doesn't have any severe sleep issues and they maybe they're in a habit of using kind of a pre-sleep, if it's just part of their routine, it's the fact that it's in the routine that it's having the benefit, or that the at least anecdotal benefit they're reporting.

MEETA SINGH: See the problem, Danny, is that we, there is not enough data for me to give you an update in one way or the other. So, so far, you know, this is still an evolving field. Like I can tell you that most of the studies that are coming out, which talk about cannabis will say that, that sleep will be disrupted. Now I, there is, there are some studies that show that CBD oil, which does not have the active THC, a part of the cannabis, you know, has an improved effect on sleep. But again, you know, the research out there is not very, it's not very well done. So again, I, you know, I couldn't, I wouldn't be able to get to be able to comment on that.

DANNY LENNON: Perfect, and now that people have a different routine or they don't have to say get up for work or college or so on, that they now have more flexibility, at least a certain percentage of people to be able to be able to maybe get up later in the day if that's their preference as opposed to getting up a few hours

early before commute to work, and so on. So that I think is a really good example of this opportunity that a lot of people may be experiencing right now to get some better quality sleep. But I'm also interested to ask about the potential other side of that the fact that now people's routines are completely gone, a lot of people, maybe if they're not working right now feeling like I've no routine or schedule to stick to it, in addition to all the craziness that's going on, and this kind of chaos that's there and a loss of routine, what potential challenges could that present from a sleep perspective? And then what advice might you advise people off the back of that?

MEETA SINGH: So what you do during the day can definitely help you either sleep well at night or not sleep well at night. You know, it's important to establish a daily schedule that includes outdoor activity and daily exercise. It's, you know, that gives us some stability in life and it is essential. And this is very similar to the advice I would, I used to give, or I give in my in at work to people who retire, you know, you want to build a schedule, daily schedule. You want daily exposure to outdoor light, because that's essential. It strengthens our circadian systems.

Now, if you're if you're in a habit of taking naps, and now that you're at home, you want to make sure that the naps don't exceed 25 to 35 minutes of daytime sleepiness because sleep because otherwise that's going to take it take away from your nighttime sleep. And it's very important to keep up with your social contacts. So pick up the phone, you know, video chat, speak with others, because this is essential for us. And all the times we've complained about how technology made us lonely. It's, you know, it's time to utilize it to share, you know, to speak with and keep up with social contacts. And you know, share your concern with others who don't bottle it up. And you're absolutely right. So it's now is a, is the perfect opportunity to sleep aligned to your biological clock. So for just to give you some background, we have a circadian clocks. So circadian rhythms are intrinsic timekeeping systems that you have in your body and every day they're reset based on your exposure to day and night. Also your, your exposure to light or darkness. And one of the things that your biological clock decides, is, you know, whether you're a morning lock or you so you prefer it to be more active in the morning, or you're a night owl and you prefer to be more active at night and now because many of us are working from home, or we are at home so we have the ability to, to sleep not just, not just to get enough, you know, sleep in quantity and quality, but to also align the time that we get to sleep by sleeping in accordance to our circadian clock.

Now, I will say, Danny, that, you know, because if you're, if you're, if you have a family and if you have teenagers and young adults in that family, now young adults and teenagers are more likely to be night out, while older, older adults, you know, may not be as they may be more morning locks.

DANNY LENNON: Right. So the kind of implication for anyone, no matter if they're early or late is even at this time where we have almost a completely free schedule in certain cases and the temptation may be to have binge watch Netflix,

try and pick a sleep time and awake time that remains relatively consistent from day to day.

MEETA SINGH: Yeah, some, some control over our lives. It does feel like we're in freefall that everything that's solid around us seems to be, you know, not solid anymore. The one way to cope is to concentrate on the things we can control, creating a schedule every day, you know, trying to make exercise on a daily basis, making time for sleep, etc, gives us some sense of control. And that itself reduces that anxiety or stress that we may have of, you know, not having these boundaries that we were, that were externally put on us, you know, most of the time.

DANNY LENNON: You know, one topic that I think is really important to cover and I know is quite close to your heart as well is around our frontline health care workers. And obviously, this is incredibly challenging time for them. There's going to be some challenges with sleep first and foremost. And but there's also a lot of stuff off the back of that psychological and otherwise because of the scenarios they're facing, and that's also maybe intertwined with sleep. Can you maybe lead off by discussing some of the things you've mentioned to me previously about some of those challenges that are being faced by those frontline health care workers now and why they are such a big issue?

MEETA SINGH: Well, I mean, this is heartbreaking. And it is, it is close to my heart. You know, my husband, he's a, he's a healthcare worker and he has to round the hospital every day. I have lots of colleagues, family members, friends who are healthcare workers right now. And the challenges that they face are because of their work hours, there is, there's fear. And so, as you and I were discussing just again a couple of days ago, the RAND report was just published a report saying healthcare workers at the frontline are at a high risk for burnout, for depression, for anxiety, for PTSD, for substance use, abuse, even suicidal ideation and, and they said that it's important to promote psychological well-being now so that we can prevent long-term mental health issues.

Now, one of the suggestions which I found really important was that they, there was a quote in there that medical staff fighting the pandemic in China had stressed the need for an uninterrupted rest, even more than an access to a psychologist. So think about all the things we talked about, Danny, how sleep restores, you know, you in mental and physical ways? How it, how it helps with coping skills? How it helps you with, you know, the fact, the quick thinking that, you know, the good judgment that you need while you're working on a day-to-day basis in such, you know, horrid conditions. When, you know, the first advice I would give to health care workers would be that you want to sleep. It's similar to the advice I'd give to parents of newborns, which is that you want to sleep when you can. But, but then it behooves us. People have, they have to be provided with the facilities, and I know that they've done that in England. And I know in here at, you know, there are hotels that, that they're making sure that they have access to safe sleeping areas so that

they can get well rested. But the second thing also is that, despite the opportunity to rest, because of all the stress that they face, they may have, they may develop insomnia, acute insomnia and all the distress that's associated with that. And so then there is, there is this one single therapy. It's called a single shot, cognitive behavioral therapy for acute insomnia. And that's one of the things that we have, we developed a task force at the Henry Ford Sleep Disorder Center for the Henry Ford health system, and for all the local, you know health systems and people living in this local area, because it, this is a way to in one hour, you know, do this very focused therapy to help people with acute sleep problems, sleep problems that are resulting from this acute pandemic.

DANNY LENNON: Is that widely available for other healthcare professionals? Is there any way other people kind of avail of that? Where would they go? Or where would you direct their attention?

MEETA SINGH: So, first of all, a single shot cognitive behavioral therapy for acute insomnia has been around for a while. In fact, it is available. I think that the best thing at this point would be for everybody to reach out to their, their primary care doctors or other health care workers who, you know, other, other cognitive behavioral insomnia specialists who are trained in this therapy. Now, you know, you bring up a good point because there are not very many people who've been adequately trained. But they also are, Danny, there's a lot of, you know, you can also do digital CBTR. So there's therapy that's available and, and sometimes people prefer that because they're able to, you know, they can, they can then arrange for the digital therapy to occur at the time that they want to.

DANNY LENNON: One other thing, just while we're talking about this issue around healthcare workers, Meeta, is there's going to be a considerable number listening to this or at least people who are partners of healthcare workers or people who are family members. When they do get those opportunities to sleep or to relax or to destress. It's obviously a challenge in itself and very easier said than done. What things would you give it as a piece of advice or tips that you think may be useful both for those workers, as well as their loved ones who may want to facilitate the best environment they can for allowing enough recuperation, both physical and mental.

MEETA SINGH: You know, there are a few ways that you can make sure that you get good sleep and some of them are very, very simple. Number one is reduce the amount of caffeine you're drinking. It, I know, I know, it sounds like we've gone back to the basics, but the basics really matter. So caffeine, the way caffeine access that it goes and it attaches to that part of the brain that actually affects that makes you sleepy. And so it blocks the effect of the sleepiness chemical that is developing, that is accumulating in your brain. And people often don't realize that, you know, caffeine, it takes about 25 minutes to kick in, but its half life is about five to six hours, which means if you drink a cup of, you know, any, any sort of caffeine at

about seven or eight in the evening, that means, you know, when you go try to go to bed at 11 pm or midnight, that is it, half of it is still in your system. And so, you know, reducing the amount of caffeine, again, reducing the amount of alcohol because that also, you know, disrupts your sleep. Also, I would say reducing the amount of electronic use, you know, will help you because it'll reduce the amount of light. And, you know, there's nothing good on the news right now. You really don't need to look at the, read the news, or look at the news just before you're going to bed. The bedroom should be quiet. It should be dark. It should be cold. Creating a wind down activity is good. Reading a book, you know, that might help you fall asleep. My, you know, those are really, really simple suggestions. Now, if you're having problems with sleeping, initiating or maintaining sleep at this time because of acute stress, there is a role for short-term sleep medication. And that's best prescribed by your primary care doctor or a sleep doctor that you can get in touch with.

DANNY LENNON: Meeta, before I wrap this thing up, is there anything that we haven't covered that I haven't gotten around to, that you think you want to get into? Or is there any kind of final words you'd like to leave people with before we, we finish up?

MEETA SINGH: You know, this is a great time for people to get more sleep. I, and I think that one way that we can control anxiety and stress is to concentrate on the present. So if you're listening to this podcast, I would say at least we're okay right now. And, and we must you know, we must take strength from just that.

DANNY LENNON: Meeta, if people want to catch up with you on the Internet, they want to find you on social media or anywhere else that you'd like to send their attention, where are the best places for them to check out you and the work that you do?

MEETA SINGH: Okay. So my, I do have a website, it's meetasinghmd.com. I am on LinkedIn, and I'm on Twitter. On Twitter I'm on, I'm athletesleepmd1.

DANNY LENNON: And with that, Meeta, thank you so much for giving up your time today and for the great information. I'm sure it's gonna be very useful to a lot of people. I really appreciate it.

MEETA SINGH: Thank you, Danny.