## Introduction and Speaker Background

Welcome again to the Sleep Deep Summit. New Approaches To Beating Sleep Apnea And Insomnia. I'm your host, Dr. Audrey Wells, and I'm thrilled to introduce our next speaker, Dr.

Anne Germain. Dr. Germain is an internationally renowned expert in clinical sleep research and behavioral sleep medicine. She obtained her Ph. D. in clinical psychology from the University of Montreal and then went on to complete her postdoctoral training in sleep neuroscience at the University of Pittsburgh, where she is currently on faculty.

She's published over 200 peer reviewed papers and written book chapters. She's really well known in the sleep field, especially when it comes to first line treatment of insomnia, cognitive behavioral therapy.

She served on various research review committees for the Department of Defense, the National Institutes of Health, the Canadian Institutes of Health, and the Department of Veterans Affairs.

In 2019, Dr. Germain founded Noctem which has the mission to accelerate the translation of best practices in sleep medicine into science driven, user centered digital solutions in order to upskill and multiply the capacities in behavioral sleep medicine for a broad array array of health care providers.

Dr. Germain, it's a pleasure to see you here today and thanks for talking to me. Now the pleasure is mine. Thank you, Audrey. Just a quick clarification.

I'm no longer on faculty at the University of Pittsburgh. I left my position for good in 2021 to focus 100% of my efforts in the new work that we're doing in digital behavioral sleep medicine.

Wow. That's fantastic. And it shows a lot of dedication on your part for jumping into this project with Noctem I want to sort of start with the basics when it comes to insomnia.

Can you sort of highlight the clinical definition of insomnia and what that diagnosis means? Absolutely. Insomnia is defined as difficulties falling asleep, staying in sleep, not feeling refreshed in the morning.

And these difficulties happens on most nights, three nights or more per week and last for over three months, although we know we can intervene after one month earlier on in the process.

So it's this fragmentation of sleep or these manifestations of fragmentations of sleep, of problems falling asleep or staying asleep. And insomnia is not just the sleep part of our 24 hour life that is affected.

The other criteria for the diagnosis of insomnia require that there's an impact on daytime functioning, and it can be in terms of changes in mood, becoming more irritable, having less motivation to do certain things, having difficulties at work or with schoolwork, different kinds of body aches and pains that can be affected or really associated with the sleep difficulties.

Insomnia. Even though we think of it as a sleep disorder, it's really a disorder that affects a 24 hour of functioning of people who are affected. I think that's so important to recognize that when you're sleeping, you're in a state of unconsciousness, but you sort of experience the effects of your sleep or your wake in your wake period and to your point, insomnia is a situation where you're suffering because of that lack of sleep.

Absolutely. The restorative aspect of sleep cannot be fully expressed when there's there are these interruptions throughout the night because of insomnia.

## Defining Insomnia and Its Daytime Impact

And since sleep cannot do its job fully when it's interrupted, the consequences are going to be felt in different forms during the day. And unfortunately, the daytime consequences will feed back into the nighttime sleep difficulties.

And it perpetuates this via a vicious cycle, if you want, of sleep disturbances, of not functioning or at best optimally during the day and that impacting our sleep quality again.

Most definitely I can speak to that from a personal level when I have a period of insomnia, it has a tendency to be a self-perpetuating cycle. I'm wondering, what would you say is most important when a person is considering seeking out medical attention for their insomnia.

To be very forthcoming? Oftentimes, people don't necessarily know how to talk about their sleep. They'll say their sleep is good or bad. But when it comes to seeking professional medical attention about their sleep, a lot of people with insomnia, for example, think that it's just a sleep problem without considering the impact it has on the daytime consequences.

And the way they'll describe their their problems is oftentimes, I find almost attenuated. People don't describe the kind of the level of difficulties that they experience because of insomnia to the actual and actual reflection in of how difficult it is when you don't sleep well for multiple nights, multiple months, sometimes several years at a time.

But then being very clear about that, just like what happens at night, whether it's difficult falling asleep or staying asleep, how many times you wake up, how long you're awake, the reasons why you wake up, if there are some reasons, but also like noticing, how does it impact daytime functioning?

We know for women, for example, when they report that they're not sleeping well, the way they'll report it will oftentimes give the impression that it's more of a mood disorder, that they're depressed because they'll describe it as not having the energy to do all the tasks and all the responses, fulfill all the responsibilities that they have during the day, which is actually considered a symptoms of depression.

So they might end up receiving a treatment that is more for the consequence of insomnia rather than insomnia per say, the actual cause of these daytime consequences.

And it's such a shame because then the the root problem doesn't get addressed. Absolutely. And that's such an important point to make. For years we thought that in the medical for a field that, you know, insomnia is just a single symptom of another condition, whether it's a physical disease or a behavioral health, mental health issues.

And the idea that if we treat these primary cause, insomnia will go away, whereas we know very well now and the NIH has actually established that over a decade ago now that that insomnia is even though it's true that it's oftentimes co-morbid with another condition, it has a life of its own and it requires a treatment of its own as well.

So it's true that oftentimes insomnia comes with another condition, other types of difficulties, but treating the other difficulties is oftentimes not sufficient and to not just alleviate but actually get rid of insomnia.

So recognizing that insomnia is there and treating it in parallel with other conditions that may be aggravating it. Yes, absolutely. It deserves its own clinical attention and not just as hoping that it will go away as other symptoms or other conditions are managed or getting better.

Mm hmm. I know that for people who struggle with insomnia, especially if they have periods of not sleeping, come and go throughout their lives, there can be a psychological aspect to it.

As they enter a period of not sleeping, they almost can start feeling hopeless. What words of wisdom can you offer someone who feels like they're on the edge of going into a period struggling with insomnia?

It's past time. It's overdue to seek the right treatment. It's time to seek treatment. When people develop late, to your

point, when they feel hopeless about their sleep or when they feel very anxious about their sleep and the consequences of poor sleep, whether or not they're going to be able to fulfill their different responsibilities during the day.

I would say as soon as people see this pattern of sleeplessness, of difficulty falling asleep, staying asleep, that persists over time, that it is acute to seek treatment as soon as this becomes like almost the norm rather than the exception.

For sure. And you've brought up treatment a couple of times. I want to really highlight and underscore and emphasize what is the primary treatment for insomnia based on research and scientific evidence?

The best and the safest treatment that exists for insomnia is called cognitive behavioral therapy for insomnia or CBTI for short. And CBTI is basically a collection of behavior modification actions that are designed to boost, if you want, the physiology of sleep.

So through behaviors we can influence the hardwired sleep mechanisms that drive not just our ability to fall asleep, but to stay asleep throughout the night and to be optimally alert, awake, and have all the energy that we need during the day.

So the best treatment for insomnia is CBTI We know that it is the best because it's been evaluated in different trials over decades.

## When to Seek Help for Insomnia

Now, I believe five or six decades now, since the original studies has consistently been shown to be the most effective, the safest, with fewer side effects compared to medications, for example, and the most durable treatment.

Where and what that means is that once people complete a course of CBTI and they sleep better, the sleep improvements persist over. I think the longest periods period we have for follow up is three years.

So so that's a treatment that is highly effective between 70 and 80% of people who receive or complete a course of CBTI I show significant improvements in their insomnia, meaning they fall asleep faster, they stay asleep throughout the night, they wake up refreshed in the morning, and those improvements continue over time.

And for some people, they'll actually remit meaning that insomnia will disappear within 4 to 6 weeks of a CBTI course of treatment. This is one of the fastest and the fastest treatment that exists in terms of behavioral therapy and one of the most effective one as well.

Dr. Germain, I'm wondering if you can maybe suppose why people don't know more about cognitive behavioral therapy for insomnia? Well, I think there's a number of factors that contribute to it.

One is that it's actually a treatment that requires a very specific format if you want. So and the number of medical professionals, either in medicine or psychology, who are actually much as able to deliver that within their typical clinical workflows, but who are able to to deliver it to their patients is actually very limited.

There's actually a resource, an amazing resource from UPenn that lists all professionals who offer behavioral sleep, CBT and CBT across the entire world.

And the last I looked a couple of weeks ago, I believe there were fewer than 550 CBT specialists in the entire world. So I think there's an issue of having very few specialists who offer and can deliver CBT to patients.

So so there's one factor where we're the bottleneck basically, and there's only so many patients that one specialist can see. And the truth is, two, is that the if you look at the locations of these specialists, they tend to be in major cities and in academic centers, which means that there are entire regions of the world where it's basically a CBT desert.

There's no services available. The I think the other aspect to it of it is that what people are exposed to, you know, there are a lot of advertisements and information about different types of medications, certainly different kinds of solutions that have very little, if any, evidence for efficacy that are available online on TV or any kind of media that that people consume.

And it's not CBT is not necessarily the the sexiest if you want the treatment to advertise. And so so there's there's little kind of public or advocacy, I would say for first CBT.

It's mostly it's still unfortunately mostly in the medical area. And the truth is, is that even though non-specialists in primary care and behavioral health and specialty care actually know more and more about CBT, but are not necessarily in a position where they're able to deliver 4 to 8 therapy sessions at 45 minutes a week for four consecutive weeks, which makes it really difficult for both clinicians and patients to to complete the course of treatment.

But there are different efforts that are targeting, trying to augment, if you want, the scalability of CBT and the accessibility for both patients and for providers.

Yes. And in my experience, when people engage in a CBT program, they experience the benefit and then they become an advertisement in and of themselves.

Yeah, exactly. I look at it like like learning the skill of sleep. It's literally a training that you engage in so that you have more confidence in your ability to handle periods of time when you have trouble sleeping.

It can increase your stress resilience. It can increase your self-awareness. And so I think there are spinoffs of benefits that come from CDI as well.

Absolutely. Absolutely. We see people that will you know, we used to ask people like, how will you know you're sleeping better? And oftentimes what they will start doing or what they will do again, that they had stopped doing like gatherings with families or even activities with their children, certain hobbies that they gave up because they didn't feel like they had the energy.

They felt fatigue. They thought maybe it was that they just couldn't do it because of it, because of the insomnia. And when they start sleeping better, it's amazing the number of things that people at either start doing again or start a new and different type of activities that they missed because they couldn't sleep.

Well. I can tell by the expression on your face how meaningful it is to witness that.

## CBT-I as the Gold Standard Treatment

And I totally agree. It's really remarkable when people get their sleep back in line again because it's part of health, it's part of being a human being.

And I think it it bears to say that sleep is an innate ability within us that needs to be uncovered from time to time. But cognitive behavioral therapy is certainly a way to help with that.

Absolutely. And to your point, you know, when we're born, newborns know how to sleep. You know, it's hardwired in our brain where we are designed to sleep.

We need sleep to be able to function. What newborns learn is when to sleep is using the cues in the environment from their parents, from activities around to consolidate, sleep eventually into one single episode every 24 hours.

That happens a little bit later after three months. But that ability to relearn to sleep or to train or sleep, I like this sleep training analogy in the skills.

It is exactly what it is when that's what CBT is, is basically designing if you want behavior experiment. So taking on

new behaviors or actually modifying behaviors that people already have to have a direct influence on the brain mechanisms that control sleep and retraining our brain, retraining our body to be able to fall asleep quickly, stay asleep using the cues in the environment, leveraging what we do during the day or when we do certain activities during the day.

The most important one being waking up, opening our eyes, being exposed to light that our brain can can be retrained to really use these cues, both the internal cues from our behaviors, the external cues from our environment, to boost the sleep signal at night so we can stay asleep and boost the alertness and signal during the day so that we can stay active throughout the day, except during this post-lunch dip.

But that doesn't last long. It's totally normal and then have a much more predictable sleep cycle with knowing when sleep is going to occur, when it's going to end, knowing when during the day we're going to have these little slump of energy and knowing how to overcome this.

And to your point, when so when there are episodes or nights where we can't fall asleep or we wake up for some reason, it's no reason to be there's no reason to be alarmed because we understand that this is part of the normal process and it's not necessarily setting the tone for all the nights that come.

As long as our daytime and nighttime behaviors are predictable, that they are regular, we can really achieve both optimal sleep and optimal alertness.

I think it's maybe worthwhile to even delve into a specific example of a cognitive behavioral therapy technique to crystallize it for people who may be wondering what's different from sleep hygiene, for example, or how is CBT going to translate into value for me?

So thank you for bringing sleep hygiene. People who know me know that it's my pet peeve, that I don't like the word hygiene and I think sleep is dirty, you know?

But but yes, I mean, sleep hygiene is what we should all practice, whether or not we have a sleep problem. Those are just healthy sleep practices. The same way we are mindful of how much sugar, how much salt we eat, how much exercise we get.

We should be mindful of certain activities that we do in the evening, that we do at night that can influence our sleep. That's the basic for everyone.

And it's not sufficient to treat insomnia when the techniques that we have that are part of a CBT package, if you want, I'll give you two. Actually, the two most potent one one used to be called what is called sleep restriction.

But I think it's a misnomer because really what we do is we restrict wakefulness in sleep. And what that means is basically allowing us to be in bed for an amount of time that is actually closer to our sleep need or the amount of time that we're currently sleeping.

Plus 30 minutes to allow for a little bit of the natural time it takes to fall asleep and the natural wakefulness that we can expect at night. So what we're with wake restriction, what we are restricted restricting is the amount of time that we allow ourselves to be awake in bed.

And the way to do it is to see how many hours a night we sleep. We add 30 minutes of normal wakefulness, and that's our total time that is allowed to spend in bed.

So if I sleep six and a half hours and it's not sufficient for me, I would add 30 minutes to it and allow myself only 7 hours in bed, but not at any time of day.

You are not like with a very regular wake time anchoring it to the wake time waking up at the same time every day of the week, no matter how many hours of sleep you've got, as long as you got your 7 hours in bed, that's it.

After that, you get up and there's a reason why it works, and I can explain that a little bit later. The other technique is actually called stimulus control, and what that means is leveraging the cues that we have in the evening and at night to retrain our brain and our body to associate darkness or bed or a bedroom with the cues of feeling sleepy and sleeping and using the daytime cues of social interactions.

Most importantly, light exposure to really boost the signal that it's time to be alert and awake. And stimulus control is basically simply to not be in bed unless you're sleepy or sleeping.

And it's not to monitor how much time. So people shouldn't watch the clock. There should be no clock in your bedroom. And what I tell people is if you've tried to reposition yourself twice, you know, fluff the pillow, the covers, you've repositioned yourself and you did that twice and you still don't feel like sleep is coming.

It's time to get out of bed, to stay in the dim light or dark room to do activities that are as boring as possible. To get your brain to understand that it's time to sleep and to feel sleepy and allow yourself to go back to sleep when you feel sleepy again and go back to sleep or try to go back to sleep.

I don't like to see trying to go back to sleep because we can't force ourselves to sleep. But when we feel sleepy, the cue to this should be in your bed, in your bedroom.

So stimulus control is really associated routines, cues that we associated with sleep or bedtime routines.

## Why CBT-I Is Hard to Access

The pajama, the bed, the bedroom, all the things that signal that sleep is coming to really boost these signals. And in the morning, when we wake up, boost the signals that allow us to to become alert faster and to really optimize switching from this sleep mode of your brain if you want to the wakefulness mode of the brain.

Yes, that's a great explanation and really actionable steps in there. So someone could even start some of this without having a CBT appointment, is that right?

Absolutely. Absolutely. I've told people all the time the best. But that's the I don't know if it's a see, it's not a secret. But the first thing to do is to to achieve optimal sleep is to allow for waking up at the same time every day of the week, no matter how many hours of sleep you've got.

And the reason for this is that people with insomnia actually tend to have kind of cyclical sleep where they have several nights of very disrupted sleep, and then they're tired.

Their brains, their body need to sleep and they will crash and then they'll fall asleep for they'll sleep seven, eight, eight and a half, sometimes 9 hours.

And then the cycle of short nights of fragmented sleep recurs until they crash again. And this this pattern keeps repeating itself. The key here is to have regular, predictable, sufficient and restorative sleep.

That's really how we define optimal sleep. So having an anchor point to this is when the days start, when you wake up at the same time every day of the week, weekends included days, days of the week, it's it's one anchor to make the rest of the 24 hour cycle more predictable taking on and what it does is that throughout the day, you know, our brain basically accumulates the drive to sleep.

That's what we call it, the sleep drive throughout the way, throughout the days. And it's basically the longer we're awake, the sleep year we get. And that's exactly why people with insomnia that have several bad nights and the night where they crash is this sleep drive.

This debt has accumulated up to a certain threshold where they can't stay awake and they need to recover some of that sleep that they have lost. So but that happens every day.

As soon as we wake up with building our sleep drive and then it will wake up and it will build up, if you want, at the same rate throughout the day. And then that makes bedtime and the time when people are feeling sleepy and able to fall asleep within 30 minutes to be much more predictable as well.

So so the key is to wake up every day and to keep a solid sleep, predictable, sufficient period dedicated to sleep just for sleep, not for doing other things in bed, in the bedroom, just for sleep.

Having a regular period that starts at the same time every day that allows us to build a sleep drive. That's a sleep drive that is going to help us fall asleep.

And then it's really our biological clock that is going to help state help us stay asleep throughout the night or in the second half of the night where we have much less of that sleep drive that is left because we're paying back that debt as of as we're sleeping.

And our brain are really working hard to keep us asleep for the second half of the night. And ideally when we wake up is right about the time where a biological clock is switching from a sleep mode to the wake mode.

And we can, if you want, catch that wave to feel energetic and alert, just start our day. Well said. And the wave analogy is something that I use also kind of thinking of your sleep as a symphony and you want all of the instruments to come in at the right say yes, yes.

Because what we're talking about here is really our relationship with sleep and to rebuild our trust in that relationship by showing up consistently, i.e.

waking up at the same time every day to help reprogram or rehabilitate that broken mechanism, but only temporarily broken. That is really something that can be totally fixed.

I wonder if you can say more about your experiences treating insomnia with cognitive behavioral therapy? How successful do you think that is in your hands?

We see the same kind of or saw the same kind of results of that, you know, in published papers and articles that are available, about 80% of people respond very well, meaning that they fall asleep quickly.

They stay asleep throughout the night within four weeks. And then I have to say the traditional CBT protocol would be an eight week, 6 to 8 week protocol.

Some of my research and other people's research as well have looked at a shorter protocol to try to make it more accessible and more doable in different clinical settings.

My preference is to go for a brief behavioral treatment to start with, and the data is there to when people respond to CBT, Russian say when CBT works for people, we see the improvements within four weeks.

If after four weeks people don't notice any type of improvements in how long it takes them to fall asleep or a longer awake at night. Something else is at play and it's time to to reevaluate.

And there is a segment or there's a group of people for whom it's almost like their sleep mechanism is a little bit dampened, like it's not as strong.

And for, for this group of people, that's when hypnotics or sleep medications can be helpful to boost that signal. But it's at medications work at their best when they're combined with behaviors that promote sleep as well.

So we've seen the same kind of results.

## Sleep Restriction and Stimulus Control

We prefer the shorter period of time where within four weeks we can really tailor the techniques, the two techniques that I mentioned earlier, weak restriction and stimulus control to every single person because everyone is different.

So we can personalize these techniques, see how people are going to implement this. I think the art is really in how do we make the techniques work for people in their real life?

And I think that's one of the challenge. A lot of people will, you know, can find the information. They'll read about these two techniques or recommendations that are consistent with these two techniques.

What they're missing sometimes is very concrete actions on how do you implement it. It's easy to tell someone, get up at 6:00 every day of the week. It's hard to get out of bed at 6:00.

So so spending time in thinking like what is going to motivate you to get out of bed at 6:00? What are you going to do with this extra time that you're awake if you're bored out of your mind?

Things are not necessarily going to do it. So, so. But within four weeks, within brief sessions, actually, we can really tailor the recommendations to a person's sleep pattern to their to their through their habits, to their life schedules and see improvements very rapidly.

Can you talk about how CBT compares to the hypnotic medications that are prescribed and even to over-the-counter medications that people sometimes resort to when they're having problems?

So CBT is behavioral changes, so it's always harder than taking medication. However, there are as I said, the improvements with CBT. Most people will notice changes in their sleep in 2 to 4 weeks of adopting new behaviors, which is much faster than the diet, if you think about that, really, he wrote in terms of behavioral changes.

So the improvements are relatively fast with medications, depending on the medication, depending on how people respond to medication sometimes. Also, I see the impact as soon as I take that medication, it makes me groggy, but it's important to remember that hypnotics and you know, they don't knock you out.

It's not anesthesia, right? It's designed to try to boost that sleep signal in your brain. But it's also working with the rest of the environment, the rest of the behavior that the person comes with, and they can be they can be efficacious.

There is data showing that sleep medication is efficacious. The downside is that, well, for some people are a side effects, like the morning grogginess or the residual inertia.

So waking up but not feeling awake if especially if people don't allow themselves enough time in bed, that is an issue can be an issue with with medications.

And the truth is, is that when we look at studies like large population studies of people who have been on different kinds of medications, at prescribed medications over time, a signal for a significant portion of people, the medication doesn't work after two or three years, or maybe the medication works, but the insomnia recurs.

They start having symptoms of insomnia again. And then people don't want to leave the medication because they're thinking, if I have insomnia, taking the medication, if I don't take the medication is going to make my insomnia worse.

And then they get into the cycle of it's really so it's a really hard thing to do for the so, so are effective medications again it's always a question of weighing that the pros and cons of the potential side effects and the durability of that as well.

And as I said, these medications work best when they're taken, if you want, in combination with healthy sleep habits. That's where people get the most benefit from from it.

For the over-the-counter things or products, it's much harder to sell. There's really research. We have way less data that is available to see what is available.

What is the true, effective fitness? What are the potential side effects? What are the risks? More is cheerful when people say they take different things that are over the counter, especially if they take prescribed medications.

Sometimes there are interactions and again there's very little guidance that we have in sleep medicine to be able to give patients very accurate information because we haven't studies, we haven't studied the most of these products.

It's true that some of them will make people feel sleepy or take the edge off. That's oftentimes what patients will say, Oh, it takes the edge off, cups are up, will take the edge off, and then it helps me to fall asleep.

There are other non over-the-counter ways or non medication ways that people can use to take the edge off and to to facilitate sleep onset. And that's the other part with it too.

With CBT, you're targeting both the ability to fall asleep and then to stay asleep. Most medications and over the product counter will target one of these two types of difficulties.

Either they may take the edge off and they make it easier to fall asleep, but then the second half of the night is still going to be fragmented or is the opposite?

Doesn't help much force falling asleep necessarily and is designed more to have a longer effect to try to keep people asleep. And the magnitude of improvement really depends on that individual level.

I always the I'm a clinical psychologist by training. I don't prescribe medications. I have colleagues and friends who are physicians. And I've always said it's it's there's the science of prescribing sleep medication, but it's really an art as well to understand what kind of, if you want, characteristic of a given patients, make them more or less likely to respond to one medication over the other or a combination of medication.

It's always fascinated me, fascinated me. How physicians develop this very sophisticated or these very sophisticated algorithms that is like all the conditions in deciding what kind of sleep medications might be able for may be helpful for patients, although most of them are also very well aware of CBT, and they'll recommend CBT as the first course of treatment and keep medication as, as I said, as the booster.

If needed. And it is needed in there's a group of patients that just have almost like a, as I said, like an attenuated sleep system that needs a little bit of that boost to benefit fully from healthy sleep practices.

Most definitely.

## How CBT-I Compares With Medications

And I love it that you had some space for a role of sleep medicine, particularly prescription medications, but truly the first line treatment, the most evidence based treatment for insomnia is the cognitive behavioral therapy.

Absolutely. As as we wrap up here, Dr. Germain, I wonder if you can describe your solution to the problem of not having enough CBT providers available to help with folks who have insomnia, which is the most common sleep disorder in the world.

And being that there are only a few hundred CBT providers and I happen to know that there's 7000 sleep medicine docs in the United States. So there's a dearth of folks who are able to implement this.

What has your response been? I believe that specialists and sleep medicine docs as well are, you know, the the last line of of sleep care, if you want, for patients who come with complex and complicated co-morbidities and complex sleep and oftentimes sleep disorders go hand in hand, sleep apnea and insomnia are oftentimes out there that the and, you know, there's a lot of demand for for sleep care.

I think we can go upstream of the of the health care continuum if you want. And offerings. And the solution that we have designed is to be able to bring the capabilities to offer CBT and other behavioral sleep medicine treatments as well in the clinical settings where patients are first reporting having insomnia.

We know from studies that on average it takes 14 years for patients to get to a sleep center or CBTI And the reason for this is that they're seeking care where they're usually seek care in primary care and behavioral health.

And CBTI is actually it is very procedural. It's there's there are manuals. So it's really kind of a stepped approach that is very concrete. We've designed a solution that allows any health care providers anywhere to be able to offer the first line CBTI treatments and leveraging the technology to help them not only like interpret sleep data that is collected from their patients, but guides them through step by step on how to personalize the techniques that we have for CBTI to the given patients in a way that is standardized and adheres directly with our practice parameters.

From the American Academy of Sleep Medicine, the American College of Physicians, and the other professional societies that have determined that CBTI is the first line treatment.

So it's basically it is a software, but it's a platform that allows all health care providers to deliver CBTI at the point of care. And it's in the way we conceptualize it is that, you know, there's a majority of patients that can do well with the supervision of their treating physician or treating clinician.

And for those who require a higher level of care or a higher level of expertize that these people would be can be served in a sleep clinic when they haven't responded to the first line treatment or escalated to the specialty care as needed.

Or when there's another sleep disorders that is in the air, that is in the midst, in the mix. But I think we can reach like in there if you look in the the prevalence estimate that we have for insomnia, which right now would be that 1.5 billion people in the entire world suffer from insomnia.

We'll have to train. We have more sleep doctors, psychologists and social workers to be able to meet the demand. And I think that there is power in numbers and equipping a larger array of health care providers with the tools that they need to be able to deliver CBTI to their patients at the point of care, not only like increases their capacity, but really accelerate patients access to the best and the safest treatment we have for insomnia.

Got it. Yeah, I and I totally agree. I mean, this is an enormous problem. Lots of consequences for anyone who's interested in treating their insomnia with a home start.

What would you recommend as the very next step. To talk to their doctors about or.

## Expanding Access Through Digital Sleep Care

And there are different resources that are available online, not all of the same quality. If I can, I can direct people to our website where we have links to trusted resources like the Academy, the American Academy of Sleep Medicine, like the, the, the registry of therapies that I've mentioned before that are available to, to people.

So if I can get the in the website address, it's www.noctemhealth.com (www.noctemhealth.com) And in the resource page you have a list of links to those trustworthy resources that provide accurate information about sleep disorders and the treatments for sleep disorders.

Evidence based treatments for sleep disorders. That's fantastic. I think it's really helpful to give that resource to people who want more information, want to take that next step and really start prioritizing their sleep and rehabilitating their relationship with sleep. Yes.

As we close, Dr. Germain, I wonder if you have any parting words for the viewers today on ways that they can really prioritize their sleep and why it's important.

Sleep. Sleep is one of the three pillars of health, nutrition, exercise. That's when we were asleep in their wake and then sleep. That's the other third of our life, although I know very few adults who sleep 8 hours.

But there's those three pillars of health and we spend a lot of time and energy and resources on choosing what we eat and trying to be active. We should spend at least the same amount of time considering how we optimize our sleep, how we prioritize our sleep, and how we utilize our beds and our bedrooms for that should be just for sleep and other activities done outside of the of the bedroom.

But I think like any other behavior that we want to prioritize is setting boundaries. And the good thing about sleep is that the boundaries are kind of set up with your bed, your bedroom, and that that can be the boundaries for sleep, of making it a comfortable, cool environment that is actually relaxing up and conducive to optimal sleep, but prioritizing it like we prioritize other health behaviors.

And actually that's one that is really easy as opposed exercising or choosing certain foods or other over others. Sleep is always rewarding immediately, so there's an immediate reward with sleep that tends to be a little bit more delayed if you want, with with exercise and nutrition.

Although I know people who would disagree with that. I think that's a fantastic thing to close with. Eat. Move, sleep everybody. Exactly. So thank you so much for time today.

And it's really been a treat to hear all of your wisdom, wisdom and expertize. Well, thank you. It's been a pleasure.