Unlocking The Mysteries Of Your Inner Clock Transcript

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Introduction to Jet Lag and Shift Work

Welcome again to this Sleep Deep Summit. I'm your host, Dr. Audrey Wells. And my next guest is a sleep medicine physician. It's Dr. Raina Gupta. She is not only board certified in sleep medicine.

She's also a boarded neurologist and the founder of Sleep Biology Health and Wellness in Chicago, Illinois. Dr. Gupta is passionate about helping people optimize their sleep to enjoy better health and quality of life.

And today, we're going to be talking about jetlag disorder and shift work sleep disorder. Welcome, Dr. Gupta. Thanks so much for having me. It's a pleasure.

Well, let's dig right in. You know, this is something that affects a lot of people. People who travel experienced jet lag as they cross from one time zone to the next.

And then 20 to 30% of the working population is working an overnight shift, which necessitates an atypical sleep schedule. So we're going to dig into these topics today.

Let's start with jet lag. Can you describe what jet lag is and how it could affect one's life? Sure. And like you said, these are such common issues and we should all have a little bit of maybe better understanding of how it impacts us and how should we take control of it.

So to understand jet lag, let's first preface it by what is their circadian rhythm. Because jet lag is a circadian rhythm disorder or a circadian rhythm misalignment.

So the circadian rhythm is our internal clock.

Understanding Circadian Rhythm and Social Jet Lag

We all have one. They're all around 24 hours, give or take. And basically, this is the way the body responds to the light dark cycle, as well as timing of meals and regulates a lot of our internal functions, including eating habits, digestion, body temperature, timing and production of melatonin in the brain.

And how awake or how sleepy we are. The part of the brain that that the circadian rhythm is kept in or created in is the suprachiasmatic nucleus which is in the hypothalamus of the brain.

So this could be like the brain's clock or the body's clock. So what is jet lag and and when do people experience it? I think we've all probably experienced it at some time or another, either with travel or even not with travel, even in our everyday schedule of life, where we a lot of us have daytime work schedules or weekday work schedules that may not coincide with our natural internal clock or natural timings.

And so we can give ourselves jet lag very easily just in our everyday life. So when we talk about our circadian rhythm, we all have a tendency to be certain chronotype or morning type, night owl or somewhere in between.

When we have jet lag, it means that our circadian rhythm is misaligned, so it's not in sync with our internal clock, our natural internal clock. So something between our schedule and our internal clock kind of become off of sync.

So we've all experienced it. It can look like some fatigue, some drowsiness, some even mood changes. Irritability, jet lag can look different in different people.

So then the next question is when do we experience it and how to avoid it really, or how to understand it? So of course, if we are traveling, there are ways to prepare for travel if you want.

And it's also important to note some people are more sensitive to jet lag and some people are less sensitive. Probably you've seen friends that go on trips, they come back, they feel great the next day and some people that take like a week to recover.

So we need to know ourselves and better understand what those symptoms look like in us and how do we sort of improve it. So the circadian misalignment is jet lag.

There are more specific weight names of these disorders. So one is circadian rhythm delay and one is sort of an early circadian rhythm or phase, advance phase advance or phase delay.

Some of it depends on are we sleeping later or earlier than our normal times? So with jet lag, we often will travel to a new time zone and stay up later and then try to come back and have to try to go to sleep earlier.

And the natural tendency, if you want to look at our everyday life for people that have sort of 9 to 5 jobs, weekday jobs, they have a tendency a lot of people have a tendency to go to sleep early, wake up early for their for their work times, and then often sleep in on the weekends or go to sleep late and wake up late.

And so, of course, we all have experiences Sunday night effect where we woke up late, we slept in. It's really hard to fall asleep on Sunday night and then Monday morning is hard to wake up.

And so that's our own body's sort of signal of jet lag. The ways to impact it. So it's important to understand the factors around our sleep drive and around our timings, our internal clock.

There are a couple of factors. So one is temperature, body temperature. We all have an internal core temperature that fluctuates during the day and we can better understand how to use temperature if we want to adjust jet lag by knowing that our lowest body temperature is usually 2 hours before we wake up in the morning.

On our average sort of sleep timings. So temperature is one the day night cycle or light cycle is another. Now for people that are shift workers or work in some form of overnight shift or misaligned shift, this these tools can be very useful because if your fully converted, almost like your living in a different in a totally different time zone or in Asia or something opposite timezone meaning shift worker, then we can use things like light and dark and temperature as well as timing of meals to adjust our adjust our impact of jet lag or impact of shift work.

Now, I want to go back to something that you said about the difference between a person's chosen sleep timing on weekdays or workdays versus weekends.

I call this social jetlag and sort of highlighting the effects that this can have. Helps people to realize how much control they actually have over getting good sleep, but also feeling awake during the daytime.

So social jetlag means that on the weekends you're sleeping later and staying up later. Sometimes this is more in alignment with somebody's chronotype maybe being more of a night owl.

But what would you suggest for someone who says, Oh, I didn't know that. This is why Mondays were so, so hard for me. How would you suggest someone treat that or actually do something so that they didn't have such a big difference in their sleep?

Yeah, and I think we all have to consider this at some point, right? Depending on our shift times, our work times, there are a couple of things. The best and most reliable way to avoid this is to keep within an hour of your bedtime and wake time.

Keep your timings the same. All seven days. So instead of having, like an abrupt shift where we go to sleep after midnight on the weekends and wake up after 10 a.m.

Managing Shift Work Sleep Disorder

on the weekends, and then we shift it too much earlier on the weekdays. So there's quite a shift at the body. If we keep the timings more consistent within an hour of each other, maybe even closer, depending on how sensitive you are to it, to the social, social jetlag feeling, it will help because then your body won't be so out of sync.

And of course, there are times when that's not possible or that's not our choice, and that's okay. But understanding some of the things that can help us, so even keeping like an anchor wake time and potentially taking a nap later in the day, a short nap is an option so that your body's still somewhat in sync with your wake time.

Another thing could be timings of meals. So if you're going to wake up late and try to eat quickly so that your body's sync of meal times is also similar, sometimes even morning exercise to give that jolt of energy on the weekends could be useful as well as adjusting bright light.

So if you're able to get bright light on the weekends, even right when you wake up, it won't allow your body's clock to be shifted as strongly. And then sometimes Monday afternoon or early afternoon, lunchtime, a short, quick power nap can be helpful to kind of let the body reset so that we're not so sluggish or dragging all day Monday.

There are a couple of things you can definitely try them and see which things are most useful. But the social jetlag, I think we we sort of do it to ourselves.

The best way to avoid it is to keep our timings more consistent when we can. Yeah, you know, it's funny because to get buy in from people that I talk about this to, I kind of reference the springtime change.

You know, when we jump forward, we lose an hour and people notice an effect from that. You know, I think for me, it takes about a week to recover and to get my sleep shifted to a point where I'm falling asleep again when I want to, when I'm waking up again, when I want to and really, people are having that experience every week and an hour can make a big difference.

Yes. And this daylight savings time is such a controversial topic, and I'm sure everyone has followed it in the news here and there. It's an interesting concept.

Some people are proponents of it. Some people are not. And everybody's natural rhythm is different. And so is it helpful for you? It may be. It may not be.

There are lots of countries that don't do daylight savings time. I think the major industrial countries that don't are Japan, China, India. They just don't follow it.

Even Hawaii doesn't follow it. Even parts of Arizona don't follow it. So it doesn't help. Maybe. I think the the idea of it was great back in back in the 1700s when Ben Franklin thought of it and thought, can we conserve electricity or conserve energy and allow humans to have more access to sunlight?

And of course, it varies because the closer to the equator, a place is or someone is, there's less variability of the timings. But I think that understanding our circadian clock, understanding how sensitive you individually are to these time changes can really help help you to create better timings or better habits around the social jetlag.

Mm hmm. Yeah. Let's shift gears a little bit and talk about shift work now. You mentioned the idea of someone who converts their entire schedule to be consistent around their job requirements.

And I think that's kind of the ideal situation if your job requires working overnight. But I find that a lot of folks who do shift work, if they have families or other social engagements, they will kind of have a mishmash of sleeping overnight on their days off and then sleeping during the day on the days that they're working.

What would you advise somebody if they were trying to manage a schedule like that? There's a great question. I think it's so common for for people to be in some form of shift work.

I mean, in medicine, we all have to go through overnight call and now it's more overnight shifts. It takes a long time

for the body to adjust to a total switch of times.

And people that have had this experience, even if you have little kids that wake up or a baby's that wake up frequently, like we all feel the the switch.

Right. And some people, it's very dramatic. So if we have to do shift work or if that's the shift that works best for you or the schedule that works best for your job or your time in your life, the recommendation is to keep that shift consistent for at least two weeks or longer.

So if the if we have to switch back and forth night, night, awake and then sleep and then switch back to night sleep and day awake, it's very confusing for the body.

And if you can understand now that we've talked about internal clocks, it totally, totally disrupts our internal clock and our internal rhythm. So to keep a consistent shift and even when you're off to try to sleep during the day or mostly during the day can benefit your your body to switch over more easily.

I think that the people that do a few nights and then are awake for a few days and then go back to nights. There's really a level of fatigue that we may or may not recognize that is significant and that could be like fogginess, even concentration.

We know that when people change shifts or even when daylight savings time occurs, there are more incidences of motor vehicle crashes, a heart attack. So there is significant impact on health mood changes that can show up with shift work.

So if it makes sense for you or if it's something that is you have to do, try to keep the sleep times consistent for at least two weeks to let your body adjust.

So some people might do like a month of nights and then a month of days. But even on your days off, if you're able to keep consistent, it will help. Yes. And on for people who are not having that option to keep a consistent day night schedule, what sort of factors do you recommend that they control?

Light, Melatonin, and Sleep Medications

You mentioned light before, which is the primary sort of time giver for our brain. What other things might they regulate in order to be awake when they want to be awake?

Yeah. So we can use light or reduce light. So if you work an overnight shift when you're on the way home, try to wear sunglasses. If you try to sleep during the day, try to use an eye mask, try to block the light and then expose yourself to light or watch the sunset or watch some sunlight.

There are even artificial lights that give mimic the light of the sun. So like 10,000 lux light boxes. So use light to create more wakefulness when you're going to go to to your workplace so that that you're tricking your body into that's that your daytime.

So light is useful also. Of course, you want to try to sleep during the day to switch your timings over. That can be difficult, but sometimes earplugs or eye mask can help.

Just kind of trick your body into it. Some people use melatonin. Melatonin can be melatonin is what the brain secretes to allow us to become sleepy. And it's naturally secreted in the gland called the pineal gland in the brain.

And what it does is it creates sort of a drowsy effect. It takes a long time to secrete it. And we all have melatonin in our bodies. But if we want to take it from the outside, so take tablets and melatonin, too, to help create that internal clock shift we can.

So usually the idea would be to take it maybe an hour or two before intended bedtime. So if we're trying to shift our

clock, we can use it along with light.

Light is very strong. If you don't like to take outside things, you don't have to take melatonin, but it's just a tool to use to create more drowsiness and shift your times if you're having trouble with that.

Mm hmm. Yes. Yeah. A lot of people ask me about that because if they have a situation where they're anticipating a major schedule shift, then it comes up, you know, should I take melatonin or are there other medications that might be helpful?

And I want to touch on some of the newer prescription medications that we work with in sleep medicine, medications like Bell, Samara, Kubrick, Sunosi Wake kicks, new video provigil and there's generics out for those that's modafinil and Ahmed Finnell Lu MRI's.

What is your impression of all of these medications? So I think it's exciting that we have new options in sleep and in our field and there is technology coming in.

There's medications coming in. There's options for treatment. There's a lot of variability in what class or category of medications work for any individual.

And some of it is trial and error. Some of it is when we do more specific sleep testing, we can do more targeted therapy or treatment. I think there's a role of all of these treatments and medications, and definitely it expands our horizon of tools that we have.

Some of them the newer medications are a little bit more difficult to get approved by insurances. So frequently when medications come out, they become branded and a lot of insurances will require some authorizations or some hoops to jump through to allow it.

And it's something that you'll talk to your own provider about. Is it something that makes sense for you or not? And if even if it does, if we order it, can we even get it approved?

And so we definitely have some of those pitfalls with getting medications approved. I do with my own patients on a regular basis. I think the idea that there are different categories and different mechanisms of action is really helpful and that's that's a little bit of trial and error, but also something to talk to your provider about which class of medications can work best for me in terms of general insomnia, yeah, there's improvements in terms of weight promoting agents.

This is like the group of medications that we're discussing there and they're different sort of impacts. You mentioned are modafinil and modafinil. Those are now generic, so they're no longer branded, meaning easier to get and more available, more widely available for the general population.

There's a class of medications that's also very effective for disorders like narcolepsy and idiopathic hypersomnia. And that's one of the ones you mentioned.

There three nighttime medication ends in that part that are very interesting and definitely game changers for a lot of patients that struggle with these sleep disorders.

So Xyrem, Xywav and Luna Rise, they all have some minor differences, but definitely increase the potential for treating patients with these symptoms and can be very effective and in the right patient.

They all have their pros and cons and definitely require a full interaction with your provider to understand them. There's lots of information online on their websites, etc.

So these are sort of of interest to any given patient. I would say recommend to talk to your doctor about it. But I think it's interesting and exciting in our field that there are new options and there will continue to be as we as we move forward.

Yeah, it's it's a little bit exciting to look ahead at some things that are in the pipeline. But to your point, it's also been my experience that for a particular patient, the effectiveness of these types of medications is a wild card.

And, you know, when research studies are done, it's on groups of people. And within that population, there's significant inter individual variability.

So just like, you know, recommending different types of behaviors to improve sleep or wake or different actions, foods, whatever, it's all a little bit of a trial and error.

And I think this sort of underscores how complex our system is when it comes to sleep and wakefulness. And in a way, you're just trying to align as many vectors as you can to be asleep or awake.

I want to show you something that I'm trialing recently, and I'm a little bit excited about this because it's a way to increase your light exposure in the morning.

And we were talking beforehand, you know, I live in Minneapolis, Minnesota. And Dr. Gupta, you are in Chicago. These are high latitudes. So especially in the winter time, it's dark for a lot of the 24 hour period.

And I love to get bright light exposure artificially when I wake up in the morning.

Screens, Wind-Down Routines, and Closing Remarks

Do you do the same? I, I have a need. Those glasses are really cool, by the way. I don't have those. I usually try to be near a window, so my office and my desk, my home office is next to windows.

I try to put the window light on me. I try to go for a walk in the morning when I can to kind of soak up the sunshine. It's it's a good idea, too. And some people feel it like you can feel the energy from the sun and from even the artificial lights.

And I think these are used also for seasonal affective disorder. So yes. So when it's really dark and you don't get that feeling of energy like that, really just feeling with going out on a sunny day or we can't because it's still dark so late or it's dark so early, dark and cold.

Unfortunately, I think these are a great idea and a lot of people do benefit from them. So definitely worth trying. And you can buy some of these you know, these are some of them are specific, but a lot of these lights you can buy anywhere and can be used.

And some people will really feel that feeling of energy or impact on mood from using them in the morning. Mm hmm. What do you recommend to people when they shop for a light?

Either to feel more awake or to stave off the seasonal affective disorder? Yeah, I usually ask them to get a 10,000 lux light and I know they're sold all over.

Depending on where you like to shop. There's not a specific one that I think is better or worse, but usually I ask people to look online. I know they're sold at like I think Walmart, Costco, Amazon, anybody.

I know their versions of them, but basically to be exposed to it. So to be near it, almost like you're sitting next to the window in the morning for maybe 30 minutes or so or as much time as you can.

I ask people to put it on when they're getting ready or to eat breakfast next to it so that they can get basically is light hitting the retina. That is the signal to the body to be awake or to secrete weight promoting hormones.

So however we can soak that up early morning helps too. Also, when we're talking about jet lag and circadian rhythms, helps to set our circadian rhythm.

Whereas when people wake up, when it's dark, dark outside, it's harder to get that bright feeling of energy. And so I think these can be really useful.

But yeah, you can buy them anywhere. I think in the winter the sun feels so impotent, you know, it's it's blurred through the haze of the clouds and, you know, very sort of low to the horizon.

But, you know, there's kind of an effect that light has on the end of the day as well. And I don't know about you, but I spend a lot of time coaching patients about the effect that their electronic screens have on their sleep and their sleep quality.

What's your best advice. Though? I think now that we have so much technology around us, all the time, we need to set parameters on it for ourselves, for our kids, for anyone, because this is a lot of light in the eyes, especially people.

A lot of people like to bring their phone into bed and scroll and look at stuff and it's their relax time and I understand that or watch TV, but it's a lot of light.

And light is a wake promoting sort of mechanism, so we need to try to avoid it before sleep. I usually ask people to stop the technology or leave it in a different room for maybe an hour before their intended bedtime.

Some people like to do 2 hours on people 30 minutes, but just give your eyes a break from the bright light of any device and also ask people to turn off their overhead lights if they're able to about an hour before bedtime and use low light or dim light or lamplight.

People ask about blue light filters on their Kindle or on their phone or on their device. I think it's an option, but it's still light in your eyes. And when you think of the looks that you're getting, which is, you know, a measurement of light, it's still there.

It's still a lot. Regardless of what color it is or what type it is, I think it still impacts people and we don't necessarily understand how sensitive we are to it.

But a lot of people do benefit from leaving their phone off or leaving their device off for that half hour, hour before bedtime. And it can only help with our aligning our circadian rhythm.

Yeah, I think there's also an emotional component of looking at your electronic screen. You know, dopamine levels dip in the evening and it seems that people go into a reward seeking behavior as they're scrolling or shopping or, you know, socializing with their phone.

How do you advise people who don't really want to give that up? Yeah, then I like to do audio. I know the scrolling and the Facebook and the Instagram and whatever are interesting.

And I ask people to listen to something like music or listen to it. If there is a podcast they like that's sort of uplifting or inspiring and reduce the stressful content because like you're saying, yeah, there's an emotional feeling towards it.

So almost Black Friday, you know, people are people are shopping or holidays or whatever, looking at where people are going on vacation. And that can be stressful and that we want to reduce any stressful content before sleep.

So if we can reduce that, I think it's better. I like to listen to something positive. Listen to a podcast, do deep breathing, do meditations, those can all be audio.

You don't have to look at anything or light music just to create a sort of relaxing environment. So remove any stressful content from anything and create that reduction of heart rate.

Reduction of breathing rate. So that we can almost give ourselves biofeedback to tell, give the cue to the body this time to sleep. And for a lot of people, once we get into a routine and it can be 10 minutes, it doesn't have to be long.

That's the external cue. It's time to sleep. And that can also help with this circadian timing. I totally agree. And, you know, it's it's like a component of self-care to be so kind to yourself in the evening and have that wind down period, so that your sleep can be optimized oftentimes, I'll tell people to move their scrolling to the morning as a way to help get alert and awake transition from bed to starting their day, especially if they have trouble on the weekends maintaining that regular sleep schedule.

That's a great idea. Yeah. Do your do your social media or do your phone in the morning. Yeah. It's kind of an incentive to get up and get going for your day.

And that brings us full circle. So we have talked about jetlag. We talked about shift work, sleep disorder, the effect of light and social media in our electronic screens on sleep.

It's been a pleasure to speak with you today. If people want to learn more about you or work with you, how would they go about getting more information?

Thank you. So my practice is called SLEEPOLOGIE Health and Wellness, and I'm located in Chicago. Our website is SLEEPOLOGIE DOC So sleepologiedoc.com Or you can look my name up.

My name's Raina Gupta. We'd love to see you if you're local to the area and know anybody that is. And I hope this has been helpful. I think this is all really interesting.

And I think that once we get a better understanding of it, we can learn to improve our sleep pretty significantly with some small tweaks, natural tweaks.

And I'm hoping that that we can all learn a little bit more about sleeping. Sleeping better naturally. I think that is a message of empowerment. Thank you so much for speaking with me today.

Thank you.