

# Sleep/Wake Disorders Video Q&A Transcript



## Introduction (0:12)

**DR. PAUL DOGHARAMJI:** Hello. I'm Dr. Paul Doghramji. I'm a family physician in Collegeville, Pennsylvania, at Collegeville Family Practice.

**DR. KARL DOGHARAMJI:** Hello. I'm Dr. Karl Doghramji. I'm a sleep medicine specialist in Philadelphia, Pennsylvania.

## 1. Which sleep agents would you recommend for insomnia in shift work disorder? (2:22)

**DR. KARL DOGHARAMJI:** Well, Paul, as you know, there are no medications specifically indicated for the insomnia of shift work disorder. But the medications that are available can be used for any type of insomnia, including shift work disorder. And really, the type of medication used depends on two or three factors. Number one, is the patient waking up throughout the course of the night or having difficulty just falling asleep? If it's primarily difficulty in falling asleep, then some of the short-acting agents, like ramelteon or possibly Sonata, might be helpful.

If it's a problem of waking up during the course of the night, then in that case some of the long-acting agents, like Lunesta or Ambien CR, may be appropriate. But it should also be noted that none of these agents actually improve the circadian rhythm abnormality of shift work disorder.

**DR. PAUL DOGHARAMJI:** They just help you sleep better.

**DR. KARL DOGHARAMJI:** Right.

**DR. PAUL DOGHARAMJI:** So it's important to make sure that the amount of time that the medication is effective is for only the duration of the sleep desired.

**DR. KARL DOGHARAMJI:** Precisely. And it doesn't cause daytime hangover. But in the primary care setting, how important is it, Paul, for these medications to be scheduled or not scheduled?

**DR. PAUL DOGHARAMJI:** That's a very important subject, and that's why I think that this question comes up: Which one would you recommend? If there are issues with unscheduled substances—we now have two of them that are unscheduled, we have ramelteon and we have Silenor—

**DR. KARL DOGHARAMJI:** Correct, which is low-dose doxepin.

**DR. PAUL DOGHARAMJI:** Right. It may not be a bad idea there, either. There are some medications that we use that are not indicated for insomnia, as well, but then there is also medication or chemicals that are not prescription medicines, like melatonin. Would you recommend something like that?

**DR. KARL DOGHARAMJI:** Unfortunately, Paul, some of the meta-analyses don't seem to be very favorable toward melatonin. Even though it's very available, it doesn't seem to be that helpful toward run-of-the-mill insomnias. Of them, possibly, some of the circadian rhythm disturbances, like delayed sleep phase syndrome.

**DR. PAUL DOGHARAMJI:** So to summarize, there are many medications for insomnia. Just make sure that you pick one that is in duration the amount of sleep time that is desired, but also take into consideration scheduled, unscheduled, and nonprescription medications.

## 2. What is the effective dose of caffeine to maintain alertness during shift work? (2:00)

**DR. KARL DOGHARAMJI:** Well, Paul, the optimal dose of caffeine has not been determined, but the studies that have been done have used roughly one cup of coffee every three hours.

**DR. PAUL DOGHRAMJI:** Okay.

**DR. KARL DOGHRAMJI:** Roughly. It seems to be effective in keeping people awake and performance-improved. Well, one caveat is, don't drink your caffeine too close to bedtime if you're a shift worker.

**DR. PAUL DOGHRAMJI:** Right. Well, so that would be about a third of a cup per hour, and one would want to start that about an hour before the start of the shift?

**DR. KARL DOGHRAMJI:** And during the course of the shift.

**DR. PAUL DOGHRAMJI:** Right. A couple of things, though, that come up—When you say a cup of coffee, what kind of coffee are we talking about? The average garden-variety brew, or is it going to be some of the higher-test coffees?

**DR. KARL DOGHRAMJI:** Good question. As you know, they can differ. But in the studies that have been done, they used approximately 50 or 60 mg of caffeine per cup. What's your sense, in a primary care setting—How much variation is there in the type of caffeine people consume?

**DR. PAUL DOGHRAMJI:** Well, patients ask us all the time. They come in saying, "I like my espresso. I like my cappuccino. I like my frappe mocha latte. Which one do I drink?" I usually tell them to get just an ordinary garden-variety coffee, plain coffee at any one of the coffee centers they can buy from—except Starbucks, I guess, can be a little bit in the higher caffeine content, so just be aware of that.

And then what I tell my patients is, tone it according to how you behave with it. If a quarter of a cup seems to be enough, then that's it. If a third of a cup—just go to how things go. But again, I think the suggestion that you made, Karl, is stop it a little bit before the end of your shift to make sure that it doesn't spill over into your sleep time.

**DR. KARL DOGHRAMJI:** Besides sleeplessness, we have to remember some of the side effects of caffeine—jitteriness, headache, as well as tachycardia and GI abnormalities. So don't overdo the caffeine.

**DR. PAUL DOGHRAMJI:** It's a little bit of a diuretic, so you've got to be close to a bathroom. And finally, Karl, another thing about caffeine is that tolerance can develop very quickly, so we have to be aware of that. We tell our patients that if you're going to be drinking caffeine during your shift, do so only then—and on days that you don't need caffeine, try not to drink it.

**DR. KARL DOGHRAMJI:** Good point.

### **3. Should you recommend napping to a patient with shift work disorder who has insomnia? (1:42)**

**DR. KARL DOGHRAMJI:** Paul, napping is something that we don't generally recommend to every insomniac, but we **do** recommend napping for shift workers and narcoleptics. It's been shown that a brief nap 20 minutes to 40 minutes in length does improve alertness levels and improves performance after the nap.

One caveat: Don't do your maximum and most important sensitive task right after the nap termination because something called sleep inertia sets in, where you're a little bit more on the groggy side for five or ten minutes after the nap. So nap, and then ten minutes later start doing what you need to be doing. But napping does help.

**DR. PAUL DOGHRAMJI:** Timing is very important for naps, isn't it, Karl, as to exactly when you take the nap? For a shift worker, we want them to take that nap, certainly, as you said, before the start of their shift, but it should be about the same time every day, shouldn't it?

**DR. KARL DOGHRAMJI:** Absolutely. For shift workers in particular, roughly the midpoint before coming into the shift, and roughly at the midpoint of their shift.

Let me ask you another question, How convenient and how reasonable and how realistic is it to recommend napping in shift workers in a primary care setting?

**DR. PAUL DOGHRAMJI:** You know, Karl, it's funny. We recommend so many things to our patients when they come

in—changing their diet, starting exercise, all these different things, and for us to suggest to them something about sleep is one of the easiest things for patients to do. All we're saying is, take a nap. So I think it's one of the best ways of giving advice in the sense that patients are very likely to take us up on that suggestion. What I tell my patients is, try it for about a week or two and see how you feel, because the effects of napping—and, for that matter, any kind of sleep advice—can be relatively quick, don't you think?

**DR. KARL DOGHRAMJI:** Good point.

#### 4. Does cognitive behavioral therapy work in shift work disorder? (1:27)

**DR. KARL DOGHRAMJI:** To the best of my knowledge, cognitive behavioral therapy, or CBT, has not been specifically tried in shift workers. But the studies show that it's as effective as hypnotics or sleeping pills with insomniacs, number one. Number two, the effects are longer lasting than are the effects of sleeping pills with insomniacs in general. So definitely a good idea to practice it and use it in many patients. But again, the question is, how practical is it?

**DR. PAUL DOGHRAMJI:** Well, exactly, Karl. I mean, when you come to CBT of any sort, we usually want to have a psychologist get involved. Sometimes it's difficult to access a psychologist for CBT in general for even psychiatric and psychological concentrations, let alone for a sleep problem. So I don't know how practical CBT is in general to refer patients to.

**DR. KARL DOGHRAMJI:** There are two sources of light on the horizon. Number one, CBT is now being provided online by certain companies, and that method seems to actually work as well as regular CBT.

**DR. PAUL DOGHRAMJI:** Really? Okay.

**DR. KARL DOGHRAMJI:** Number two, we know that in certain cases CBT professionals can be trained who are not necessarily physicians, but nurse practitioners or physician extenders. Number three, it can be given in group settings. So there's some light at the end of the tunnel.

**DR. PAUL DOGHRAMJI:** You know, Karl, that's a very good point because now we have in our offices dietitians and other kinds of advisors that take care of certain parts of lifestyle changes, so why not CBT at some point?

#### 5. Is snoring always an indication of obstructive sleep apnea? (2:01)

**DR. KARL DOGHRAMJI:** Good question, Paul. You know, snoring is one of the most prominent symptoms of sleep apnea syndrome. Fortunately, not all snorers have sleep apnea. Well, the exact proportion of snorers who have apnea has never been actually determined, but there have to be some other symptoms in addition to snoring to put someone at risk for apnea, and those are things like daytime sleepiness; body mass index that's pretty high, above 35, 30 or 35; gags or gasps in breathing during sleep; and also, as you well know, a thick neck and a few other symptoms. So snoring by itself isn't necessarily a definitive indication of apnea, but it has to be combined with other symptoms for that risk of apnea to increase.

Now, having said that, there was recently a study where they looked at snorers alone—people who did not have apnea—and compared them to non-snorers. Even in snorers alone, there was a higher risk of atherosclerosis, and animal models have shown that creating snoring types of changes can actually be disruptive in terms of cardiovascular function. But that's a research issue, and I think at this point from a clinical standpoint we have to say that snoring alone should not necessarily indicate apnea unless accompanied by some of these other symptoms.

**DR. PAUL DOGHRAMJI:** But Karl, patients when they come in, they say they're snoring, just like many other symptoms they come in with—"I have a headache. I have abdominal pain. I have indigestion. I have leg pain." It is a clue. We need to search for it further. We can't say that, "Well, it's not that big of a deal." We have to ask more questions. And what you said earlier is to gather more information to see if we can make a case for the possibility of obstructive sleep apnea, and if there's sufficient evidence, then send for testing.

**DR. KARL DOGHRAMJI:** Well said.

## 6. What kinds of tests does a sleep center provide? (2:36)

**DR. PAUL DOGHRAMJI:** What kinds of tests does a sleep center provide, and when should I refer to a sleep center? Let's address the first question first, Karl. A lot of primary care providers don't really know what a sleep center involves. They do know that patients go in to sleep there, generally at night, sometimes during the day, and they have some wires connected to them. Can you give us a general overview, then, of what happens in a sleep center?

**DR. KARL DOGHRAMJI:** Paul, sleep centers provide basically two types of services. They provide medical health care professionals—doctors who are certified in sleep medicine—who can evaluate patients even without the need for sleep testing...complex insomnias, for example, very sleepy patients, and so on and so forth.

But they also have access to sleep laboratory testing so that they can also test patients who are at risk for certain conditions, and those conditions are, of course, sleep apnea syndrome, narcolepsy, unusual body movements during sleep, or individuals who have thrashing or dangerous types of movements during their sleep, and a few other conditions as well.

If the patient requires sleep testing, then there's a very uniform procedure that most sleep lab tests go through, where patients come in in the evening, they're hooked up to various wires that are placed only on their skin—these are noninvasive tests—and they sleep in a fairly comfortable setting while they're being monitored with these wires along with a video camera, and they wake up in the morning and they simply go home. So the test is a very simple test.

In addition to testing, sleep laboratories can provide therapeutic measures, such as CPAP, or continuous positive airway pressure, titration to determine the right pressure to treat sleep apnea syndrome. They can also determine whether or not other therapies have worked, for example, surgery, whether surgeries work. That requires a postoperative polysomnogram. So these are some of the services they provide.

Finally, I'd like to point out that because CPAP, or continuous pressure, usage is such a prominent part of treating sleep apnea, most sleep laboratories have what we call CPAP clinics, or clinics where therapists specialized in CPAP therapy reside and work for eight to ten hours per day seeing patients who have difficulties with CPAP, and typically this is done free of charge.

**DR. PAUL DOGHRAMJI:** And Karl, I think that our viewers should know that the rooms that are in a sleep laboratory are very inviting, very comfortable, and very sleep-friendly. Sometimes they get the opinion that, or the impression that, it's maybe a cot that they're thrown into or something—but it's made very sleep-friendly, so we can tell our patients that when you go there, it's not going to be prohibitive. It is actually made so that sleep is much more likely to occur.

## 7. When should I refer to a sleep center? (1:40)

**DR. PAUL DOGHRAMJI:** I think that the first thing that we need to know in primary care is sleep is such an important phase of our lives, and when sleep is broken, we **really** need to fix it. And when there are instances that a sleep laboratory is needed, we have to be convinced of it and we have to pass on that conviction to our patients as well.

In an instance where a patient may have obstructive sleep apnea, we need to tell them, "This can kill you. This can really shorten your life, or certainly it can make you feel terribly unwell in the months and years ahead, as you've seen already. You need to go get sleep testing done." When we have the conviction of it, these patients are much more likely to get through anything that we want to have them go through.

**DR. KARL DOGHRAMJI:** Right.

**DR. PAUL DOGHRAMJI:** And as far as when we should refer to a sleep center, my suggestion has always been: Any sleep situation that you can't fix, send to a sleep specialist, especially if there's obstructive sleep apnea. Any drowsiness you can't fix, send him or her for sleep testing. And I think that the drowsiness part is such a critical thing because it not only can decrease the quality of life, but it also can be quite unsafe to a patient.

**DR. KARL DOGHRAMJI:** Well said. Paul, one of the areas that I encounter from primary care colleagues such as yourself is the notion that patients sometimes resist going to a sleep laboratory because the end product, which is a CPAP mask, is something that they're not very keen on using. And I think it's worth mentioning that there are many, many treatments besides CPAP for sleep apnea—including dental appliances, weight-loss strategies, body positioning devices, and in some cases even medication.

**DR. PAUL DOGHARAMJI:** Absolutely.

**DR. KARL DOGHARAMJI:** So we should recognize that the treatment panacea has increased significantly, and maybe that's another way to get patients to be able to buy into the idea of getting evaluated.

**DR. PAUL DOGHARAMJI:** Excellent.

## 8. Does tiredness necessarily indicate a significant medical problem? (2:06)

**DR. PAUL DOGHARAMJI:** Many people feel tired on a daily basis. Does tiredness necessarily indicate a significant medical problem, and how do you distinguish between tiredness and depression?

A very good question, Karl, because the word "tiredness" can imply so many things, just like dizziness. It's a general term that can mean many different things to many different people. My take has been that tiredness may mean both fatigue, which is a physical fatigue or physical lassitude or a lack of stamina, but it may also mean drowsiness or a feeling that one needs sleep. But as well, it may mean to patients that they just don't feel like doing anything. I've found that to be the case. What kind of tiredness do you actually see in the sleep center? Do you see all three different types?

**DR. KARL DOGHARAMJI:** We see all three. As you well pointed out, Paul, this is an unexplored area and not a well-defined area. But as far as we're concerned in sleep medicine, the major type of tiredness, so to speak, that is definable is sleepiness, the tendency to fall asleep in an exaggerated fashion—falling asleep during the day when working, when driving, when doing things of everyday life.

So the exaggerated tendency to fall asleep usually is something we can do something about at sleep centers. And those things are narcolepsy, of course, sleep deprivation, sleep apnea syndrome, and a few others.

Now fatigue, which is not necessarily the tendency to fall asleep, but simply to feel run-down, energy-less by itself, has a much greater differential diagnosis and is a bit harder to define. It includes things like, of course, multiple sclerosis, connective tissue diseases of various kinds, even depression. And so on and so forth. So the better a job we can do of sort of sifting apart those two areas—fatigue and sleepiness—I think the better our differential diagnosis becomes.

**DR. PAUL DOGHARAMJI:** It is a bit of a difficult thing, but I think that if we can simply ask our patients, "Do you feel more like you're sleepy, more that you have not as much energy as you should? Or do you feel sad and unmotivated?", sometimes it gets clearer. But certainly, when patients say they feel tired, we have to investigate more clearly what's going on.

## 9. Is medication effective for restless legs syndrome (RLS)? (1:21)

**DR. KARL DOGHARAMJI:** There are many dopaminergic agents, of course, as you know, such as pramipexole and ropinirole. And recently there was an introduction of a new form of gabapentin, a new salt of gabapentin, which is also indicated for RLS. So there's a lot we can do about it. How often do you see this in your family-medicine practice?

**DR. PAUL DOGHARAMJI:** Often enough, Karl, that I find it relatively easy to diagnose simply by asking the questions. When patients come in saying they're tired all the time and I see that they're having difficulty falling asleep, one of the questions that I'll always ask them is, "Do you have any kind of discomfort, especially in your legs, that prevents you from falling asleep?"

Patients don't have a tendency to volunteer that information, so we have to specifically ask that question. So if I get an answer to the question of "I have trouble falling asleep," from "I'm tired all the time" to "I have discomfort in my legs, and, yes, it feels better when I move my legs around in the bed," that's pretty much RLS.

And then the next thing that I'll do is, since there are some secondary causes, I'll do a brief workup, including some blood studies, including a ferritin profile. Pregnancy is also another one, of course, in women that we have to look for, and renal insufficiency. And if we've made sure there are no secondary causes, then medication can be very helpful. People do very well with medication, Karl.

## 10. Why do some shift workers have shift work disorder while others have no problem? (1:09)

**DR. PAUL DOGHRAMJI:** That's very interesting, Karl—there are some people who do the night shift who seem to do okay. Isn't that right?

**DR. KARL DOGHRAMJI:** That is correct. And we just don't really understand the answer to this question. But some recent research has indicated, Paul, that there are some genetic variants in some of the clock genes that control our circadian rhythms. These are genes that are expressed in the suprachiasmatic nucleus, which is the clock of our brains. And certain people who have a certain genetic variant are less able to withstand shift work than others. So there may be a way in the future we might be able to predict those who are and who are not vulnerable to the effects of shift work.

But of course, many factors—the comorbid existence of depression and other medical psychiatric conditions predicts poor response to shift work. Co-use of substances, of course, as well as the coexistence of various sleep disorders, most prominently sleep apnea, can make it very difficult to tolerate the effects of shift work.

**DR. PAUL DOGHRAMJI:** And the older we get, the more probability there is that we will be more prone to shift work disorder.

**DR. KARL DOGHRAMJI:** Unfortunately.

## 11. Why do some patients treated for insomnia still have excessive sleepiness? (1:58)

**DR. PAUL DOGHRAMJI:** Why do some patients being treated successfully for insomnia still have excessive sleepiness when they are awake, and what do you recommend in these instances? Karl, this is a great question. Patients come to us all the time saying, "I can't sleep," either as their primary complaint, or they have a major issue going on, like depression or anxiety, et cetera, and a major symptom of that is trouble getting to sleep or staying asleep. And we try to remedy it—reluctantly, because there's a tendency for these medications to backfire on us. So why is it that even when we do treat them, they still have some sleepiness the next day, some tiredness? What can happen?

**DR. KARL DOGHRAMJI:** Well, this, I think, brings up the point that simply getting rid of the insomnia itself may not be sufficient to address the underlying difficulty. So as an example, the patient may have sleep apnea, which is, of course, a concentration where mild awakenings or frequent arousals are important to terminate the apnea. A sleeping pill may prevent those awakenings—in essence, also worsening the apnea—but sleepiness does not go away because the nighttime hypoxemia continues unabated.

Another possible example is gastroesophageal reflux disease (GERD). GERD necessitates an arousal to terminate acid exposure in the esophagus. When we eliminate that arousal through giving somebody a sleeping pill, the acid exposure continues unabated, and that person really is not getting a good night's sleep.

So I think the idea there would be to make sure that we do a good workup before we treat somebody with a sleeping pill and make sure that we're treating the underlying condition first as opposed to symptomatic management.

**DR. PAUL DOGHRAMJI:** Well, Karl, 90%, I think, is the statistic of patients with insomnia who have a comorbid condition. So when somebody has problems sleeping, we really do need to address what else is going on because that may be part and parcel of not just treating the insomnia, but also it may further improve daytime alertness.

**DR. KARL DOGHRAMJI:** Exactly.

## 12. What do you suggest when patients with obstructive sleep apnea do not regularly use their CPAP? (3:07)

**DR. PAUL DOGHRAMJI:** Karl, this happens all too often. And do you know how we find out? We find out when you say, "By the way, I see here on your problem list that you have sleep apnea. How are you doing with that CPAP?" "Ah, Doc, I put it away a couple months ago." They don't actually come in saying to you, "You know, Doc, that sleep apnea thing that you gave me, I'm not able to use it." They actually stop using it, and they don't tell you about it.

**DR. KARL DOGHRAMJI:** Right.

**DR. PAUL DOGHRAMJI:** So maybe I can make this into two questions. First of all, how often should we be asking about CPAP and why don't patients use it, and what can we do about it?

**DR. KARL DOGHRAMJI:** These are excellent questions, and I'd be interested in getting your primary care perspective on this as well at some point. But first of all, unfortunately, with apnea and CPAP, if you don't use the CPAP, the apnea is there. And we know that the consequences of apnea persist unabated—the mortality, the cardiovascular issues, stroke, diabetes—all of those continue unabated if people do not use their CPAP.

Now why don't they use the CPAP? Well, it can be uncomfortable. It can produce leakage from the nose. It can produce dryness in the nose, or claustrophobia. The mask may be the incorrect size. There are many, many reasons. And what data show is that most often, people who do not use the CPAP are those who have not successfully adapted in the first couple of weeks to those issues.

So the answer to the question, in a nutshell, is to send that patient back to the sleep center, to the CPAP clinic, and have them either change the mask, provide humidification, or do something to improve their comfort because that's a very, very strong premonitory risk, or rather a positive statement, that that patient will continue to use it. So send the patient back to your sleep medicine colleagues—

**DR. PAUL DOGHRAMJI:** Absolutely.

**DR. KARL DOGHRAMJI:**—so that they can do something about it. Now, another point I'd like to make is that we no longer have to rely simply on patients' reports.

**DR. PAUL DOGHRAMJI:** Right.

**DR. KARL DOGHRAMJI:** The machines have small cards, SIM cards or smart cards, which monitor compliance, and which actually monitor apnea levels. So even in a patient who's compliant with CPAP, you can actually monitor whether or not that is working in terms of getting rid of their apnea. If not, refer them back to the sleep lab for some sort of therapeutic regimen.

**DR. PAUL DOGHRAMJI:** But they have to take that card to the sleep laboratory in order for them to monitor. So sleep labs do have to also be in communication with patients to help them do that.

**DR. KARL DOGHRAMJI:** When we do, yes.

**DR. PAUL DOGHRAMJI:** And some of my patients have been getting modems with their CPAP machines so that they can communicate without the smart card. But Karl, I think that it's really important, then, for our primary care audience to know that they need to ask their patients how they are doing with that CPAP machine. Are they still using it? And secondly, to also ask whether they still have any kind of tiredness throughout the day. Some very important points. And also, if they're not doing well with CPAP, just alert them that there are other methods of treating obstructive sleep apnea, as we said in a previous question.

**DR. KARL DOGHRAMJI:** Absolutely. And in terms of that persistent tiredness, it occurs in maybe a small percentage of patients who are using CPAP or are very adherent to it, and whose apnea has been eliminated. And of course, there are certain medications that can be helpful to treat that, as well.

### **13. How can I get patients OFF sleep medications who have been on them for years? (2:57)**

**DR. PAUL DOGHRAMJI:** Karl, here's a very good question about chronic sleep medication use. The clinician asks, patients come to me having been on sleep medication for years. Sometimes **they** want to go off the medication, but more often **I** want to push them to stop the medication. How can I get them off these sleep medications? They're usually zolpidem, eszopiclone, lorazepam, or even alprazolam. What can I do to get them off these medications?

**DR. KARL DOGHRAMJI:** Right. Well, I guess the real question is, what is the condition that you're treating? Insomnia can be a chronic condition that, unfortunately, in some cases may require long-term management with either medication or cognitive behavioral therapy (CBT). Now if you think that the insomnia is a short-term problem and you really want to get somebody off a sleeping pill, there are two strategies. Number one, very slow down-titration, half the dose for a week, and then half of that for a week and so on. And number two, combining that strategy with CBT.

Data show that if you actually do therapy with a patient, you're much more likely to discontinue a sleeping pill than to continue that sleeping pill forever. So those are the two most important strategies. Paul, what do you think?

**DR. PAUL DOGHARAMJI:** Well, Karl, you know, I think that the first point you bring up is the most important. Why do we want to get patients off their sleep medication? If they have a chronic insomnia condition that needs chronic medication, just like hypertension, hypercholesterolemia, then I tell them, "Keep taking the sleep medication. It's fine. I don't see a problem. You've been on this for five, ten, whatever years that it is? I don't see a problem."

But to get them off it, Karl, what do you think about using a sedating antidepressant at the same time, like either Sinequan or trazodone, when you're trying to get them off the sleep medication?

**DR. KARL DOGHARAMJI:** That's an idea. The problem is, those medications don't have cross-tolerance with the hypnotics because the hypnotics are benzodiazepine receptor agonists mainly, and the low-dosage antidepressants don't have a benzodiazepine agonist property. So they're not as useful as possibly switching to another benzodiazepine. But secondly, sure, I mean, these agents, which are not indicated for insomnia, may be able to treat the underlying insomnia condition rather than the benzodiazepine agent that the patient's on.

But again, the question is, where is the cost and benefit? For example, if you have somebody on zolpidem, a generic zolpidem, is it better or worse to put that person on generic low-dose trazodone—which has the better outcome in terms of insomnia? Well, clearly, zolpidem has shown better results. Which has the worse side effects? And you have to determine for yourself whether or not the low-dose trazodone may be more or less likely to cause daytime sedation. As a matter of fact, it's **more** likely to cause daytime sedation.

So these are some of the issues to consider as to what's the best medication for that patient, and ultimately, whom are you treating—the patient or yourself?

**DR. PAUL DOGHARAMJI:** Well said.

## 14. What advice can you give me for the best medicine for all my patients with insomnia? (2:14)

**DR. PAUL DOGHARAMJI:** There are so many sleep medications out there, and I've had varied success with them all, but not one of them seems the best for everyone. What advice can you give me to help pick the best medicine for all my patients with insomnia?

**DR. KARL DOGHARAMJI:** Choosing a sleep medication for a particular patient can be a bit of a complex task, but there are really two or three major factors. Number one, what's the duration of action of that sleeping pill? Things that are short in duration, like zolpidem or like—

**DR. PAUL DOGHARAMJI:** Zaleplon.

**DR. KARL DOGHARAMJI:** —zaleplon, thank you, tends to work for the beginning portion of the night and put somebody to sleep, but not for the end of the night. Things like zolpidem CR, extended-release, or Lunesta—

**DR. PAUL DOGHARAMJI:** Eszopiclone.

**DR. KARL DOGHARAMJI:** —eszopiclone, tend to be better suited for people who have all-night difficulties. That's one factor.

A second factor is, does the patient have a history of drug abuse or not? There are new agents now, such as low-dose doxepin and ramelteon, which are not scheduled, which may be better suited for those types of patients.

A third consideration is, what's worked and not worked in the past? If one agent does not work, you may want to switch to another category of agents for that patient. So these are some factors.

**DR. PAUL DOGHARAMJI:** But Karl, those are all medications that are indicated for insomnia. Clearly, a quarter of the prescription medications that primary care and other providers use in this country are not indicated for insomnia. Any comment on those medications?



**DR. KARL DOGHRAMJI:** Do you find them effective?

**DR. PAUL DOGHRAMJI:** Well, I personally don't like to go off label, but in certain instances, especially with anxiety, certain patients say, "I can't shut my mind off at night," and having a benzodiazepine—not the benzodiazepine sleep medicine, but a pure benzodiazepine—sometimes has been helpful in these patients.

**DR. KARL DOGHRAMJI:** Right.

**DR. PAUL DOGHRAMJI:** At least temporarily to get them to stop their mind from racing, to help them get to sleep.

**DR. KARL DOGHRAMJI:** Right. And then, you know, these benzodiazepines not indicated for insomnia, but indicated for anxiety, may actually be helpful for sleep because maybe they're addressing the underlying cause for the insomnia, which in this case might be an anxiety disorder. So I think it's very appropriate to try to address the underlying condition first. And in your case, then you may actually be doing a better job because you're addressing the anxiety disorder, which is the main cause of the insomnia.

**DR. PAUL DOGHRAMJI:** Okay.

## 15. Is the STOP-BANG screening method too sensitive a tool for obstructive sleep apnea? (2:17)

**DR. PAUL DOGHRAMJI:** I recently heard about the STOP-BANG method of screening for sleep apnea, where any three or more positives out of those eight should be considered strong suspects for obstructive sleep apnea. It seems to me that that way, we would be getting about half of our patients that are screened and sending them for sleep apnea testing. Aren't we making too much of obstructive sleep apnea? Isn't this screening tool too sensitive?

**DR. KARL DOGHRAMJI:** Those of you who are not familiar with the STOP-BANG method may want to look it up. It's a mnemonic with four items: of course, snoring, tiredness, observed breathing pauses—hypertension, blood pressure difficulties, and then—

**DR. PAUL DOGHRAMJI:** The BANG.

**DR. KARL DOGHRAMJI:** —a body mass index of greater than 35.

**DR. PAUL DOGHRAMJI:** Age.

**DR. KARL DOGHRAMJI:** Neck circumference greater than 16 inches, age being greater than 50, and male gender. These are main ones. And admittedly—this was, by the way, an inventory established by the anesthesiologists for identification of patients who are preoperatively at high risk for apnea, to be able to have a high index of suspicion for treating these people in a somewhat different way after the operation or after admission.

Now we don't know what percentage of apnea patients this picks up, but certainly the yield may be fairly high. And what we may want to do with clinical practice is to combine that with other indicators of apnea that may increase the suspicion of the disease or the index of severity. For example, does the patient have underlying cardiac disease?

**DR. PAUL DOGHRAMJI:** Right.

**DR. KARL DOGHRAMJI:** Or uncontrolled hypertension or severe daytime sleepiness, enough to interfere with daytime function? If we identify apnea, potentially, in any of these cases, I think we should definitely have a consultation.

**DR. PAUL DOGHRAMJI:** But Karl, I think this also speaks to the fact that the obstructive sleep apnea is underdiagnosed. If we take into consideration that when you look at sleep studies and they show that one out of ten women has a significant obstructive sleep apnea when it comes to testing, or one out of four men does, we're missing a lot of patients with obstructive sleep apnea now, aren't we?

**DR. KARL DOGHRAMJI:** Potentially so, and it's a common condition, and we're challenged by the fact that we do not have the resources to be able to address every single patient.

## 16. What is the normal amount of sleep for an individual? (2:23)

**DR. PAUL DOGHRAMJI:** Karl, here's a very good, very important question that a primary care clinician needs to know as well as lay people, and it comes up almost all the time, which is: What is the normal amount of sleep for an individual? And the corollary to it is: Does this change depending on age? So how much sleep should we get?

**DR. KARL DOGHRAMJI:** Paul, good question. The average amount of sleep that Americans do get, in fact, is roughly eight hours, seven-and-a-half to eight hours. Now, admittedly, some people need more than that and some people can get away with less. We know that some people need as much as 12, and some people can get away with as little as six hours of sleep or even less.

I think the best measure of how much sleep a person needs is this: If that person feels refreshed, alert, and can function productively during the course of the entire day without falling asleep on a consistent, prolonged basis, then that amount of sleep is sufficient for them. And we find that the average or the mean for American adults, as I said, is roughly seven-and-a-half to eight hours.

Now, younger individuals have a higher need for sleep. Obviously, children, adolescents—they can get 12, even 14 to 16 hours of sleep. In adolescence, we think that normal sleep is eight hours. Actually, it's not. Adolescents need as much as ten, even 12 hours of sleep.

**DR. PAUL DOGHRAMJI:** Which is very odd, Karl, because we try to do everything we can to get them to not sleep as much. They do sports, they do studying, we get them up early. So we're really doing a disservice to our young adults, aren't we?

**DR. KARL DOGHRAMJI:** Point well-taken. In addition, we think often that the elderly need less sleep. I think we've seen this being talked about.

Well, as we age, we in fact do sleep less, but we find that we also become sleepier during the course of the day. So sleep becomes less productive and more interrupted—i.e., we probably need as much sleep but can't get as much sleep during the course of the day at night as we age.

**DR. PAUL DOGHRAMJI:** So we tell our patients, then, to get as much sleep as they need to feel perfectly fine, and that can be very varied. Let's aim for around eight hours or so. On a consistent, regular basis, though, Karl, isn't that right?

**DR. KARL DOGHRAMJI:** I agree.

**DR. PAUL DOGHRAMJI:** It's not like eight hours some days and fewer hours other days.

**DR. KARL DOGHRAMJI:** I agree, Paul. It's a big problem in our society. I mean, how many of your patients are not getting eight hours of sleep, do you think, because of busy life schedules?

**DR. PAUL DOGHRAMJI:** I do have a practice that has a lot of young adults and new moms and dads. There's a tendency for them to shave off sleep, and they come in tired and with comorbidities, which we have discussed with other answers.

## 17. What kind of scales or tools do you use to assess tiredness or sleepiness? (03:06)

**DR. PAUL DOGHRAMJI:** Karl, we've talked about the whole issue of tiredness and sleepiness in previous conversations. But just to recap, tiredness or sleepiness—the specific term that we're talking about here is drowsiness, a propensity for somebody to actually want to get some sleep, as opposed to fatigue, which may be a propensity for just resting, which is, again, a weariness kind of a feeling. So what are the scales that we need to use or that we can potentially use for somebody who's drowsy? What can we use?

**DR. KARL DOGHRAMJI:** Well, I think also, Paul, one other question is, why should we use scales? Why can't we simply ask somebody, "Do you feel sleepy?" And the obvious answer there is that many people are extraordinarily sleepy physiologically but simply don't feel that sleepiness—i.e., they have a tendency to fall asleep in potentially dangerous situations but simply don't feel sleepy. So a scale is important.

One of the most commonly used ones, as you know, is the Epworth Sleepiness Scale—Epworth, developed by

Dr. Johns. And the Epworth assesses how likely someone is to fall asleep inadvertently or unintentionally during everyday life situations such as while watching television or sitting quietly in a car. And a score of 10 or more is abnormal in that particular scale. Paul, I think you've used this in your practice. I'm not sure if you've found it useful.

**DR. PAUL DOGHRAMJI:** Well, sometimes we do. And actually, Karl, in our medical records—we have electronic records—we actually have an Epworth Sleepiness Scale that we can do and add up. And again, just to recap, folks, it is a scale of eight normal things that one does in life, and each one has a number of 0 to 3, and the numerical value of 10 or more is considered abnormal drowsiness, and my electronic records will add that up.

But you know, Karl, what I do is—I've committed it to memory in a sense, and the specific questions. But the gist of it I've also committed to memory, which is, what does a person feel like in a passive situation? Virtually all of the situations in the Epworth Sleepiness Scale are, "What would you do in this passive situation, as a passenger in a car, while stopped in—or as a driver of—a car, while stopped in traffic, while resting in the afternoon, lying down, while reading, while sitting in a public place?" These are all passive situations, and we want to know what somebody is like and how likely they are to fall asleep or to be drowsy in those situations.

**DR. KARL DOGHRAMJI:** And many of us think that just because the person is passive, falling asleep is normal. It's really not.

**DR. PAUL DOGHRAMJI:** It's not.

**DR. KARL DOGHRAMJI:** And we find that in physiologic tests, falling asleep is unlikely in a passive situation if that person is not already sleepy.

I must also say that there are many sophisticated ways to assess sleepiness as well. In a sleep laboratory situation, we use the Multiple Sleep Latency Test, which is an EEG test, basically, to see if someone has an increased tendency to fall asleep. And that test is also used to diagnose narcolepsy.

**DR. PAUL DOGHRAMJI:** So the Epworth Sleepiness Scale may not be a bad idea to use to assess the level of tiredness, but also to determine whether somebody has a degree of sleepiness that is pathologic.

## 18. What other factors can cause restless legs syndrome besides iron deficiency? (02:31)

**DR. PAUL DOGHRAMJI:** We've talked in previous questions about RLS, and we've already discussed the fact that it can be primary or it can be secondary, and that the great majority of patients with RLS have primary RLS. But about 25% have secondary RLS, and the great majority of those patients have iron deficiency. So the question, then, is: What are the things that can secondarily be a cause of RLS?

**DR. KARL DOGHRAMJI:** So besides iron deficiency assessed with ferritin levels, usually, what else can cause it? Well, there are a number of conditions associated with RLS. The most common of them are pregnancy, kidney disease, uremia, kidney failure; hepatic insufficiency of any sort, of any kind. We also know that restless legs is fairly common in various neuropathic neuropathies and—

**DR. PAUL DOGHRAMJI:** Diabetic peripheral neuropathy. And maybe even some sciatica, Karl, where patients have back problems that are causing some nerve root irritation, they can potentially have RLS.

**DR. KARL DOGHRAMJI:** Good point. And there it is, of course, sometimes difficult to distinguish between neuropathic pain and RLS.

**DR. PAUL DOGHRAMJI:** And folks, you know, there is a way—four questions that you can ask a person that indicate they may have RLS. We've discussed it in a previous situation, but suffice it to know that when somebody has RLS, you want to determine whether it's primary or secondary, and if it's not iron deficiency, there are other factors that can cause RLS.

**DR. KARL DOGHRAMJI:** Paul, may I also add medications? Medications are not an uncommon cause of restless legs. We may have discussed this before, but things like psychotropic agents, the antipsychotic agents, antidepressants in particular.

**DR. PAUL DOGHRAMJI:** So Karl, if somebody does have RLS and they are on a psychotropic medication, like an SSRI,

do you then withdraw the medication and use another antidepressant?

**DR. KARL DOGHRAMJI:** That's a very good question. It's really where clinical judgment comes in. If, certainly, the patient is benefitting from the antidepressant for their depression, I would be a little bit hesitant to withdraw the antidepressant. My particular bent there might be to add another agent, possibly, to diminish the RLS symptoms, or possibly even to change the timing of the antidepressant to the morning as opposed to the evening to diminish its impact upon sleep and wakefulness. But it's a very important clinical question. Certainly, in cases where no other methods work, sometimes we have to resort to changing the medication.

## 19. How important are sleep/wake logs in assessing sleep problems? (01:43)

**DR. PAUL DOGHRAMJI:** How often should we in primary care be using logs? I mean, we use logs for diet, we use them for migraines, we use them for patients who are trying to get pregnant, and their periods. How often and how good are sleep logs in helping our patients to assess their sleep problems?

**DR. KARL DOGHRAMJI:** Well, I must say that in the vast majority of insomnia cases, a sleep log is probably not going to be necessary. It's a bit impractical in the primary care arena, especially, to assess long-term sleep/wake habits in patients who need immediate help.

On the other hand, in patients who are suspected of having circadian rhythm abnormalities such as delayed sleep phase or shift work and so on, a sleep log can be very helpful in terms of charting the course or the pattern of sleep and wakefulness over time. Patients often forget what they did yesterday, the day before, or last week, and this pattern of a delayed sleep or an advanced sleep or irregular pattern is much more likely to show up with a sleep log.

Typically, patients will fill in the time that they go to bed, fall asleep, wake up in the morning, and nap-taking behavior during a 24-hour period, and do that every day for two weeks.

**DR. PAUL DOGHRAMJI:** And Karl, you know, sometimes a patient is a poor historian. They come in, you ask them—you try to get a good sleep history, and they're hemming and hawing. They're not really giving a good answer or maybe just don't have enough time. I find that those are also instances where a sleep log may be beneficial.

**DR. KARL DOGHRAMJI:** In patients who can't fill out sleep logs for some reason—either they just don't have the ability or desire—sometimes, as you know, actigraphy can be helpful. Actigraphy is a simple wristwatch-type device that monitors motion and can give us a very rough measure of when patients are asleep or awake.

## 20. What are some nonpharmacologic methods to improve sleep? (03:14)

**DR. KARL DOGHRAMJI:** Well, I'll start with some I know, and maybe you can discuss some that you know. Certainly the mainstay of nonpharmacologic therapy is sleep hygiene education.

What are some of the behaviors and habits that we can improve upon that may improve sleep? Things like not having caffeinated beverages after lunch, things like making sure that the bedroom is quiet and conducive to sleep, and a bit on the cool side. Maintaining regularity in bedtimes—bed at 11 PM, out of bed at 7 AM, weekends, holidays, weekdays, and so on, and also making sure that there's a minimum of napping. You probably want to add a few of your own.

**DR. PAUL DOGHRAMJI:** Well, Karl, one of the things I like to tell my patients who are concerned about their sleep is to keep the several hours prior to going to bed relatively sacred. I tell them that those are times when they are trying to unwind and prepare themselves for sleep, similarly to the times that you may spend stretching for exercise.

So there are some things that you need to do. Prepare yourself for sleep. To simply turn off the computer one second before you go off into bed, or to turn off the TV, is not the way to do things. Prepare yourself for bedtime. Do things that are passive. Do things that have to do with relaxation versus things that are too activating.

**DR. KARL DOGHRAMJI:** Good points, Paul. A couple of other points: Minimize light, especially within an hour or two of bedtime. Light can actually disrupt circadian rhythms. I recommend to many of my patients that they wear sunglasses, believe it or not, while watching television about an hour or two before bedtime to ensure that the light from the TV does not alter the rhythms of sleep.

And one other point on my end—avoid alcoholic beverages. Don't rely on them for sleep induction. They tend to actually disrupt sleep after sleep onset.

**DR. PAUL DOGHRAMJI:** Karl, you'd be surprised how many of my patients actually come to me and say, "I'm having trouble with sleep, and alcohol didn't work." Some of them actually tried alcohol. Folks, not a good idea. It may help you get to sleep, but it's not the right sleep, and it certainly doesn't keep you asleep.

**DR. KARL DOGHRAMJI:** Paul, let's say a couple of things about other nonpharmacologic methods. As you know, something called cognitive behavioral therapy—which is a professionally performed therapy, performed usually by trained psychologists and so on—can be very helpful. In fact, data have shown that CBT is as effective as pharmacotherapy and has a greater resilience of effect. That is, its effects last longer than pharmacotherapy.

These therapies include things like sleep-restriction therapies or stimulus-control therapy. And certainly, it's beyond the scope of our discussion today to go into too much detail on these, but I must say that some of them are available not only with trained therapists, but even on certain websites.

**DR. PAUL DOGHRAMJI:** Karl, does that kind of CBT work for primary insomnia as well as comorbid insomnia?

**DR. KARL DOGHRAMJI:** It seems so. There is a plethora of information now suggesting that these are effective not only for primary but also for comorbid insomnia.

**DR. PAUL DOGHRAMJI:** So, folks, if you have a patient who has insomnia and they don't want to be on any medication, you can send them to the sleep lab or a local sleep clinic, where they may have a cognitive behavioral therapist who can help them in ways that medications may not be necessarily very effective or desirable.

## 21. Are there any effective herbal supplements for sleep problems? (01:39)

**DR. KARL DOGHRAMJI:** Well, you know, the data on herbal supplements unfortunately have not been all that conclusive. Meta-analyses of many of these different herbal compounds have really been disappointing. Things like chamomile, skullcap, ginseng . . . The only one medication—

**DR. PAUL DOGHRAMJI:** Valerian root is the one that's been somewhat effective?

**DR. KARL DOGHRAMJI:** That's unfortunately also not been shown to be very effective in meta-analyses.

The one medication, or the one over-the-counter medication, or I guess the one naturally occurring herbal medication has been melatonin. Meta-analyses have shown that it may be effective in delayed sleep-phase syndrome or circadian rhythm abnormalities, but not in run-of-the-mill insomnias.

**DR. PAUL DOGHRAMJI:** So not in insomnia. But if you have jet lag, if you have delayed sleep phase, advanced sleep phase, if you want to retrain your sleep clock, you may be able to use melatonin to shift things around. But not for the person, let's say, who's very anxious and upset and having trouble getting to sleep; their mind is racing. Melatonin just isn't going to cut it for those patients, is it?

**DR. KARL DOGHRAMJI:** It's not going to cut it. Also, the other problem, of course, is we don't know what the real side effects are of these various compounds. Nobody has taken the trouble to study these systemically. What percentage, Paul, do you think of your patients who come to see you for insomnia have actually tried these medications?

**DR. PAUL DOGHRAMJI:** A lot of them have. They've tried teas, they've tried some—folks, you know that they've tried all these different things. Some of them have even tried melatonin. But of course, we have that other group of patients who won't try anything without talking to us first. Anyway, bottom line is, when they **do** try it and they **do** fail and they come to us, I think what we can tell them is what we just said: There are very few data that they are going to be of any benefit.

**DR. KARL DOGHRAMJI:** Unfortunately.

**DR. PAUL DOGHRAMJI:** Not yet.

## 22. How does controlling light improve sleep or wakefulness? (02:07)

**DR. PAUL DOGHRAMJI:** Karl, light therapy? How can we use that to our advantage? We know how we can use it to our disadvantage. If we're trying to get some sleep and there's light, it's going to interfere. How can we use it to our advantage?

**DR. KARL DOGHRAMJI:** That's an excellent point. The question is astute in this regard. As you all know, light—in the morning, especially—is an important stimulus in terms of resetting our circadian rhythms. We need that bolus of light to ensure that our body clock behaves in a 24-hour fashion. Lacking that bolus of light, our body may behave in a different fashion, maybe have a 24.2- or 24.3-hour day, therefore disrupting circadian rhythmicity. So bright light in the morning seems to be helpful. The corollary—

**DR. PAUL DOGHRAMJI:** Hold on one second, Karl. How bright? I mean, are we talking sunlight, getting outside and letting the light hit our eyes, or just simply light from a room? Is that enough?

**DR. KARL DOGHRAMJI:** Good point. The light in the room doesn't seem to be enough for most people. What we need is something much brighter, something around the order of 10,000 lux.

**DR. PAUL DOGHRAMJI:** Well, that's like sunlight.

**DR. KARL DOGHRAMJI:** Which is basically sunlight, exactly. And there are some artificial lights that can do this, artificial lamps that provide 10,000 lux. Now, if you're going to use a lamp of this nature, be careful, because you want to make sure that the lamp does not have the ultraviolet portion of the spectrum within.

Bright-light therapy in the morning can be helpful—something called phototherapy—but people who use this should be aware that the bright light should avoid the ultraviolet spectrum, because that could be damaging to the eyes, of course. And then some recent data have shown that full-spectrum light seems to work best, full-spectrum meaning the entire spectrum of the sun. So full-spectrum light, lack of UV, 10,000 lux at about two feet are the best specifications, seemingly, for light.

Now, the corollary is also true. In the evening, we should ensure that patients have a dark room or a semi-dark room. We have to simulate the dusk environment. So lots of light in the morning, maybe for an hour or so, but minimal light in the afternoon and evening hours.

**DR. PAUL DOGHRAMJI:** For optimal alertness during the day, and also optimal sleep.

## 23. What factors affect circadian rhythms in shift work disorder? (01:19)

**DR. PAUL DOGHRAMJI:** Karl, what are the kinds of things we want to tell our patients who are shift workers?

**DR. KARL DOGHRAMJI:** I think in terms of controlling rhythms, the data have shown that light is really the best way, timed light. When shift workers go to work at night, ensuring that the workplace is as bright as possible, and of course that the workplace also has the kind of lighting during the entire time of work that can induce proper circadian rhythmicity. In addition, when shift workers come home—in the morning, typically—they need to make sure the bedroom is dark. That's something that is lacking in a lot of bedrooms. Blinds, **dark** blinds, ensuring that the bedroom is noise-free—all can help ensure that circadian rhythms are back to normal.

Now, having said all of this, we also know that melatonin in shift workers can also be somewhat helpful—although the data there are not that great. But melatonin can be helpful, possibly, in re-syncing some circadian rhythms. Be careful. The timing of melatonin is critical. In a night worker who comes home in the morning and tries to get some sleep, obviously, melatonin should be given sometime in the morning prior to bedtime as opposed to the evening, before going to work.

## 24. Can restless legs syndrome be diagnosed in primary care, or does it require a sleep study? (01:28)

**DR. PAUL DOGHRAMJI:** Karl, restless legs syndrome. Can RLS be diagnosed in primary care?

**DR. KARL DOGHRAMJI:** Absolutely, Paul. RLS is a symptomatic diagnosis, and it's best diagnosed without testing, without polysomnography. In some cases where there are other disorders that may mimic RLS, or if we want to diagnose movement disorders during sleep, sleep studies may be appropriate. But there is an easy way to remember the four factors that constitute RLS. Paul, did you want to remind them of that?

**DR. PAUL DOGHRAMJI:** Absolutely. So, background history: Patient comes in, trouble getting to sleep, tired during the day. You simply want to ask, "Do you have a sensation in your legs that you don't like that's uncomfortable at night?" Yes. Number two, "Do these sensations typically crop up in the evening and get worse and worse as the evening goes on?" Yes. Number three, "Does moving your legs cause it to feel a little bit better?" And the answer to that is yes. And number four—What's the fourth one, Karl?

**DR. KARL DOGHRAMJI:** There's a circadian variation. That is, these movements typically are worse in the evening or afternoon and not as profound in the morning and during the course of the day. Of course, they are induced by rest, relieved by movement, which you mentioned already.

**DR. PAUL DOGHRAMJI:** So again, folks, as far as RLS goes, you need to diagnose that, and you don't have to do any kinds of tests. You may want to, of course, figure out whether it's primary or secondary, but other than that, it's a primary care diagnosable condition.

## 25. What is the Mallampati Scale? How helpful is it in diagnosing obstructive sleep apnea? (02:03)

**DR. PAUL DOGHRAMJI:** First of all, what's a Mallampati Scale? Who made it, and what's it all about?

**DR. KARL DOGHRAMJI:** It was developed really by the anesthesia folks as a way of assessing the level of encroachment in the back of the throat or the oropharyngeal level. The Mallampati Scale really rates the pharynx, the back of the pharynx, on a scale of 1 to 4, 4 being the most obstructed. A Mallampati score of 4 indicates that the back of the pharynx, the retropharyngeal area, is not visible. All that you can see is hard palate.

**DR. PAUL DOGHRAMJI:** You see the tongue touching the roof of the mouth, but that's it.

**DR. KARL DOGHRAMJI:** And of course the patient has to be protruding the tongue, but not phonating. So simply open the mouth, stick out the tongue. If you can only see hard palate, that's a Mallampati 4. And that's highly linked to sleep apnea. There's almost a 70% chance that somebody with that Mallampati finding can have sleep apnea syndrome.

**DR. PAUL DOGHRAMJI:** Karl, that's very significant. That means that you're looking at somebody's mouth and you can tell them that they have a 70% chance of having sleep apnea? That's very significant.

**DR. KARL DOGHRAMJI:** I agree, quite significant.

**DR. PAUL DOGHRAMJI:** So, again, from a scale of 1 to 4—Mallampati 1, 2, 3, 4—every advancement of stage 1 to 2 doubles their chance of obstructive sleep apnea. So if you figure that out, a Mallampati 4, which is the type that you were describing, has an eight-times-higher probability of obstructive sleep apnea.

**DR. KARL DOGHRAMJI:** Absolutely, and it's a very easy test to do. Most of us in primary care ask the patient, "Open up your mouth," and take a look inside the mouth. It's a very easy way to grade the potential for sleep apnea.

**DR. PAUL DOGHRAMJI:** You know, Karl, patients come into my office all the time—they have colds, they have sinus infections, I ask to look at their mouth. Today a patient came to see me and he actually had a sore throat. I looked in his mouth and it was a Mallampati 3. I asked him about his neck size because it was large, and he had an 18-and-a-half neck size. And he also complained of palpitations. He was drinking an awful lot of caffeine, a lot of coffee. Why? Because he was drowsy. So he had a very small throat, a large neck, he was drowsy, and he was having palpitations. Obstructive sleep apnea until proven otherwise.

**DR. KARL DOGHRAMJI:** Absolutely.

## 26. How do you determine if narcolepsy is causing a patient's excessive sleepiness? (02:39)

**DR. PAUL DOGHRAMJI:** When do we suspect narcolepsy, Karl? How often do we have to suspect it?

**DR. KARL DOGHRAMJI:** Narcolepsy is not a very common disorder, Paul. It probably exists in about 500 or so thousand Americans. It's a relatively rare condition. On the other hand, it's also easily missed, because narcolepsy can mimic many other causes of daytime sleepiness.

Many of us used to think that narcolepsy was a disorder when people fall asleep uncontrollably. Although that phenomenon, which is called sleep attacks, may be common in patients with narcolepsy, most narcoleptic patients do not have that. They simply complain of daytime sleepiness, unrelenting daytime sleepiness, but with a few other symptoms that go along. Number two, they often have what's called hypnagogic hallucinations, where they lie in bed while semi-awake, visually seeing or hearing in an auditory fashion very vivid things going on around them, almost quasi-dreamlike states.

Number three, they experience sleep paralysis or the tendency to lie in bed—again, while sleeping—unable to move their body from a paralyzed state. Number four, almost pathognomonic of narcolepsy is a symptom called cataplexy, or the sudden inability, or the sudden collapse or inability, to sustain muscle tone, usually in reaction to a stressful experience—anger or laughter.

People who have any of these symptoms or combinations thereof should be suspected of narcolepsy and referred for sleep testing, and narcolepsy, of course, is caused, we think, by a neurologic abnormality in the hypothalamic area of the brain in a very, very small area that contains receptors to neurons of the orexin type. It's a deficiency of these orexin receptors that, in animals at least, causes narcolepsy.

**DR. PAUL DOGHRAMJI:** Karl, you said it's uncommon, but please, folks, keep this in mind: It's a disease that starts in relatively younger-aged teens and those in their early 20s, especially with college students. So if you have a person who comes in who's tired, obviously very drowsy, can't keep their eyes open in class—and I've had this happen with my patients who have come in, and they're getting plenty of sleep, they're not sleeping at erratic times, and there's no possibility of, let's say, obstructive sleep apnea, et cetera—ask them about hypnagogic and hypnopompic hallucinations, maybe cataplexy. And if there's a possibility of them having narcolepsy, send them to a sleep lab. And Karl, a lot of times we clinicians don't ask for this, but they should have a nighttime study as well as a daytime study. They need to have both studies, isn't that right?

**DR. KARL DOGHRAMJI:** In combination. The daytime study, of course, assesses daytime levels of sleepiness, and the presence of rapid eye movement (REM) sleep during two of the daytime naps or more is very, very highly suggestive of narcolepsy.

## 27. What do you recommend for jet lag in patients who must travel frequently across several time zones? (02:30)

**DR. KARL DOGHRAMJI:** Unfortunately, jet lag is not a well-studied area, Paul. This is an area we need more and more information on. Jet lag is very much like shift work in that it involves a self-induced disruption of one's circadian sleep-wake habits because of sudden changes in sleep times and wake times. People who have jet lag complain of abdominal pain, myalgias, arthralgias. Many of these people fall asleep involuntarily during meetings and, of course, when they try to go to sleep at night they can't fall asleep.

Jet lag is a very difficult condition to control, and obviously, the best treatment for jet lag is not to fly. But many people do not have that luxury. So some of the suggestions and recommendations are those of simply proper sleep hygiene.

Many people who travel by jet will drink alcohol. That should be avoided. Many of them drink caffeinated beverages just prior to bedtime. That should be avoided as well. People also do a lot of traveling, and jet travel should maintain a very comfortable environment on the plane—loose clothing and ensuring that they walk around every once in a while to get the blood flowing and the circulation going.

**DR. PAUL DOGHRAMJI:** What about melatonin, though?

**DR. KARL DOGHRAMJI:** Well, unfortunately, melatonin has not been well-tested in jet lag.



**DR. PAUL DOGHARAMJI:** But people use it.

**DR. KARL DOGHARAMJI:** It's something that should be considered. My suggestion would be to consider using melatonin prior to bedtime after arriving at the destination one is going to.

**DR. PAUL DOGHARAMJI:** How many milligrams do you suggest, Karl—3 mg? 5 mg?

**DR. KARL DOGHARAMJI:** Probably more like 1 to 3.

**DR. PAUL DOGHARAMJI:** 1 to 3?

**DR. KARL DOGHARAMJI:** The lower doses seem to be appropriate in delayed sleep-phase syndrome and, extrapolating, may also be useful in jet lag.

**DR. PAUL DOGHARAMJI:** Prescription medicines like zaleplon, zolpidem, eszopiclone?

**DR. KARL DOGHARAMJI:** Certainly helpful for any kind of insomnia. I'm sure you've had experience with these as well. Those are not limited to one type of insomnia. So a person who's having insomnia from jet lag after arriving at the destination can possibly take a medication to ensure they sleep well. And of course, lots of light, lots of exercise during the day, and after arriving at the destination to make sure those circadian rhythms re-sync rapidly.

**DR. PAUL DOGHARAMJI:** What about taking a sleep medication on the airplane itself?

**DR. KARL DOGHARAMJI:** Well, certainly, on long-term flights, a short-acting sleeping pill may be helpful. Why not—

**DR. PAUL DOGHARAMJI:** Short-acting, right?

**DR. KARL DOGHARAMJI:** To make sure that you're not sleeping for eight hours, or your sleeping pill is active for eight hours when you have to get out of the airplane four hours later and ambulate. So a short-acting sleeping pill.

**DR. PAUL DOGHARAMJI:** Very good.

## **28. What do you recommend for patients with sleep problems and drowsy driving? (02:03)**

**DR. PAUL DOGHARAMJI:** If we have a patient who is drowsy, what do we need to do about this person? What do we need to do to get them better? What do we need to do to help them be safe?

**DR. KARL DOGHARAMJI:** Well, I think the issue of safety in driving is an important one, and the questioner really brings up the importance of asking about this in our routine intake evaluations and when following up with patients. How rare it is for physicians to ask their patients who are drowsy, at least, "What's driving like?"

Now, if patients complain or tell you that they're falling asleep when they drive or that they think that they may have swerved, or you get the sense for other reasons that they're impaired while driving, then you have a legal obligation to do something about this. Each state has a different legal recommendation or a legal guideline. In, at least, Pennsylvania, there's a reporting requirement to the Pennsylvania Department of Vehicles, and that has to be taken very seriously.

People who have that sort of urgent issue or emergency issue should be treated as rapidly as possible, obviously. That constitutes in many ways a sleep emergency. They should be either referred to a sleep center with a rapid evaluation, rapid management, or if you know what the problem is, you should treat that right away. And of course, counsel the patient on safety in driving. If they end up driving, if they are to be driving, if you feel they're safe to drive, then you should at least tell them, "If you feel sleepy, pull over and take a nap." Remember, the best way to mitigate sleepiness for people who are driving is not to walk around, is not to turn on the radio, is not to pull down the window—but to stop and take a nap.

**DR. PAUL DOGHARAMJI:** Karl, drowsiness while driving can be as bad as alcohol intoxication, can't it? So we have to keep that in mind, folks. If you have a drowsy driver, absolutely make sure that you take care of that person, make sure that they're safe. And if they are really drowsy, then you've got to get them off the road.