

Expert Interviews

“How to Beat Insomnia Without Medications”

With renowned insomnia expert, Dr. Gregg Jacobs

Discover how you can:

- The 10 most effective ways to beat insomnia without medications
- The most common mistakes every insomnia sufferer makes and what you can do to avoid them
- Why most doctors are uninformed when it comes to insomnia and what you can do to get the best treatment possible
- Which sleeping pills, if any are safe and which you must absolutely avoid taking

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**DR. PARK'S EXPERT INTERVIEWS:
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Dr. Park:

Hi, I am Dr. Steven Park and welcome to another episode in my *Breath Better, Sleep Better, Live Better* Expert Interview Series. Tonight we are going to talk about an important topic for everyone which is insomnia. Not being able to get a good night's sleep is a major cause of distress for many people and also a loss in the quality of their lives. My main reason for bringing you this topic is that no matter what kind of medical problem you have, it's difficult for you to feel better unless you can fall asleep and stay asleep. Tonight we are going to find out what causes insomnia and what you can do to prevent it, why most doctors are uninformed when it comes to insomnia and what you can do to get the best treatment possible, when, if ever, is it safe to take a sleeping pill and how you can stop if you want to, the best and most effective way to beat insomnia without harmful medications.

To enlighten us on this important topic I am honored to have Dr. Gregg Jacobs here with us tonight. Dr. Jacobs is an insomnia specialist at the Sleep Disorder Center at the University of Massachusetts Medical School and a leading authority on the treatment of insomnia. Working as a senior scientist at Harvard's Mind And Body Medical Institute and as a professor of psychiatry at Harvard Medical School, he developed the first drug-free program for insomnia which has been found to be more effective than sleeping pills. His insomnia research was funded by the National Institute of Health and published in major journals. He has taught his insomnia program to over ten thousand patients, to major HMOs such as Kaiser Permanente and to major corporations such as Reebok, Fidelity and John Hancock. He is also the author of the book *Say Goodnight to Insomnia*. He has also been featured extensively in the media including the New York Times, Wall Street Journal, Washington Post, Good Morning America, The Today Show, Time Magazine, Forbes and also has been described by the Wall Street Journal as a pioneer in the use of cognitive behavioral therapy for insomnia. Welcome Dr. Jacobs – thanks for joining us tonight.

Dr. Jacobs: Good evening. It's nice to be here.

Dr. Park: Sure. Before we get started, can you tell us what got you interested in this topic and give us a little background about yourself?

Dr. Jacobs: Sure. I came to Harvard Medical School as a postdoctoral fellow twenty years ago and my specialty at the time was behavioral medicine which was the study of the application of psychology and behavioral principles to treat various health problems – hypertension, headaches, chronic pain and emerging at the time was insomnia. I was also doing a lot of research on how relaxation techniques affect the brain – doing computerized brain wave analysis and to

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make a long story short, found that relaxation techniques facilitate some of the earlier stages of sleep and that led to developing treatment programs for insomnia.

Dr. Park: Before we go over the ten tips for a better night's rest, Let's just try to define what insomnia is and the different types of insomnia so people have an understanding.

Dr. Jacobs: Sure, insomnia is generally either difficulty falling asleep at bedtime, which is called sleep onset insomnia, or it's waking during the night either frequently or maybe just once but for a long period of time and that's called sleep maintenance insomnia, you can't maintain sleep. The worst insomnia usually goes short sleep durations, six or fewer hours of sleep at night, usually it's less than six and more recently there has been some suggestion that people may fall into one of two categories – people who actually complain of impaired daytime performance, that's about twenty percent of the population, they don't perform well and they notice a significant deterioration in daytime functioning from insomnia. There's a second group that doesn't complain of impaired daytime functioning but they still don't sleep at night – it just doesn't seem to affect them as much. Probably a third of the population suffers from that kind of insomnia so between the two about half of adults will report insomnia based on National Sleep Foundation polls and within that context. Steve, there are three kinds. There's what we call transient, that's where insomnia occurs just for a couple of days in response to a stressful life event, then there is short term insomnia that lasts for three or four weeks, and then there is chronic insomnia and technically that's anything that lasts more than a month and I am sure most people on the call tonight, or that are listening, have chronic insomnia. They have not had it just for a couple days or a couple of weeks or a couple of months but in most cases years.

Dr. Park: What actually causes insomnia?

Dr. Jacobs: All kinds of causes. You can almost lump it into either more mental causes, things like depression, anxiety or stress or physiological causes – that would be a medical condition such as chronic pain, it could be the reaction to a medication taken for a medical condition, it can even be sleep apnea, which can wake people up at night and then once they are awake they can't get back to sleep. There are all kinds of causes. No matter what that cause though, chronic insomnia by definition is insomnia that continues to persist well beyond the initial precipitating event – so if you had a divorce or a medical problem years ago that might have triggered off the insomnia and you're still not sleeping, it's not the original cause that's now the main problem, it's learned thoughts and behaviors that maintain the chronic insomnia and that's where a technique

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called cognitive behavioral therapy comes in as the most effective treatment for insomnia and I'll be talking about that.

Dr. Park: Let's get started with the ten tips for a better night's rest. Just to let everyone know – we are going to attach this PDF as a download document for everyone who registered along with your recording of the call so when you get that email link you'll see this list as well. So do you want to start with the list?

Dr. Jacobs: Sure, and what this list is for all the listeners – it's a concise version of some of the more important techniques in cognitive behavioral therapy and I'll mention in advance that most of you probably don't have access to cognitive behavioral therapy – if you happen to live near a sleep clinic and you go to a sleep clinic, you're typically going to see a physician who doesn't know how to teach you cognitive behavioral therapy and that's not true just for folks listening tonight – that's true for about ninety five percent of the people in the United States. People who live in rural areas, who don't have health insurance, who may have health insurance but don't live near a sleep clinic or who go to a sleep clinic and they don't have a CBT specialist because there are fewer than two hundred of them in the United States – people have to learn cognitive behavioral therapy on their own. I've developed an online version of it, it's an interactive program I'll be describing as we go along –called the Conquering Insomnia Program – it's on my website www.cbtforsomnia.com and these ten techniques are going to be basically a sampling of some of the more important things that you learn in that online program – the value of the online program is that you get weekly feedback from me on how you're doing – by submitting a sleep diary you get feedback each week and you get individualized guidelines that make the application of cognitive behavioral therapy more effective.

One of the first things that's crucial for insomnia patients is to recognize that the belief that you must get eight hours of sleep is a myth. This has been promoted for years and I can tell you, convincingly, that that recommendation has now been shot down scientifically. There was another study today in the *Journal of Sleep* that hasn't been published yet – **it has been accepted for publication** – that shows the same thing that studies have been showing for about five or six years now, people who live the longest sleep seven hours a night, people who sleep eight hours a night die sooner than people who sleep seven and the study that came out today in the *Journal of Sleep* showed that people who sleep nine hours a night die sooner than people who sleep six hours a night. If you recognize that seven hours of sleep is actually considered the optimal amount in terms of morbidity and mortality, in other words sickness, diabetes, obesity and death rates – seven is really what people should be aiming for and many insomnia patients get six hours of sleep or close to it so you're

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not that far away from what you really need in terms of health outcomes. If you struggle hard to try to get eight hours of sleep, you end up perpetuating the problem by getting anxious when you don't get it and that compounds the insomnia. Recognizing that you don't need eight hours of sleep to stay healthy and the vast majority of people don't need eight hours of sleep to function effectively during the day.

Dr. Park: How does somebody figure out what that optimal time is for themselves?

Dr. Jacobs: That's the ten thousand dollar question in sleep medicine. Normally what a sleep physician or a sleep specialist will tell you is this, if you're not drowsy during the day – there is a test that measures this called the Epworth scale – if you don't get drowsy when you're driving and when you're in boring meetings or during lectures, sitting and watching TV – then you're getting enough sleep. The problem for insomnia patients is none of that applies to them because the hallmark of insomnia is not being able to feel drowsy even during the day when you're sleep deprived. For insomnia patients it really depends more on whether or not you feel rested during the day and whether you feel fatigued, but what insomnia patients often time don't recognize is sleep is not always a determinant of how rested or fatigued you feel during the day. A lot of it also has to do with how you react to your sleep loss. The more anxious you get and the more negative you get about not sleeping, that anxiety that's created from your cognitive appraisals can contribute to how fatigued you feel. Insomnia patients unfortunately can't easily determine "this is how much sleep I need." Generally, you can assume that if you're getting five hours of sleep and you can learn to get an extra hour of sleep a night – which over the course of the week is an extra seven hours of sleep – you're getting an entire extra day of sleep and that's usually going to have a major effect on improving how you feel during the day.

Dr. Park: That's a great point. I think your point on number two is to get out of bed within a half hour of the same time every day.

Dr. Jacobs: That's right, including weekends. Every day when I see patients – today I saw patients all day – and when I tell an insomnia patient that you need to start getting out of bed around the same time every day – because most of them don't do that – they look as if that's like being told they have to go to the dentist to get a cavity filled. That's because insomnia patients over the years have learned to cope with insomnia by saying to themselves "well, I can sleep in on the weekend, I can sleep in tomorrow, I can go late to work. That seems like a good coping strategy in the short term, it may be because you get a couple of extra hours of sleep in the morning but in the long term that perpetuates the insomnia because by sleeping later on some days than others –

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just by an hour – you're flying back and forth to Chicago different days during the week and you're maintaining a chronic jet lag, if you stay in bed two hours later on the weekends, you're flying back and forth to Denver every week, and if you go up to three hours later on weekends, you're flying back and forth to California all the time and you've a chronic jet lag because your sleep system is never synchronized. You synchronize your sleep rhythm and that's particularly important for people who have sleep onset insomnia – by getting out of bed around the same time every day, within a half an hour. It's a hard thing to do initially but once it's done, sleep starts to improve and it's easier and easier to follow that guideline.

Dr. Park: Now that you've mentioned it with this example of flying to different time zones, do you want to answer this question now or later about when people fly through different time zones – how to address time zone changes?

Dr. Jacobs: No, let's not get into that right now Steve because that's actually not insomnia – that's a Circadian rhythm disturbance and that's going to carry us way off track of what we want to talk about with cognitive behavioral therapy.

Dr. Park: Okay. Let's go on to number three. Reduce your time in bed so it more closely matches the amount you sleep each night.

Dr. Jacobs: That's right. Now this, of all the things that insomnia patients do and of all the things that cognitive behavioral therapy teaches, this is by far the most crucial concept. If insomnia patients adopted this strategy consistently, we can probably treat about half of insomnia patients effectively by doing nothing else but this. This is the idea and the logic behind this: insomnia patients as a group sleep about five and a half hours a night – we know that because we have collected sleep diaries on tens of thousands of insomnia patients and research studies – they not only sleep about five and a half hours a night but they spend about eight and a half hours in bed at night trying to get those five and a half hours of sleep. If you sleep five and a half hours a night but you're in bed for 8.5 hours – that ratio of 5.5 over 8.5 is called your sleep efficiency.

A good sleeper has a sleep efficiency of about 90 % or above – that means that they have learned that 90% of the time I am asleep in my bed and the bed becomes a very strong cue for sleep. So much so that many patients – good sleepers who get into bed and want to finish the last chapter of a book never finish it because the conditioning is so powerful that they fall asleep. Insomnia patients have developed negative conditioning. Their brain has learned that “my bed and night time is the place that I spend 1/3 of the night awake.” I routinely see patients – the last patient that I saw today sleeps four hours and is in bed for 8.5 She is awake more than she is asleep so her brain is very

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confused. The bed is as much of a cue for being awake as it is for being asleep. In order to change that and make the bed a stronger cue for sleep, insomnia patients should not increase their time in bed – which is what they do over the years to catch up on their sleep – if I need six hours I better spend eight or nine in bed to get it because it takes me several hours to fall asleep every night. What they should be doing is spending less time in bed – if you spend less time in bed you've been awake longer during the day.

The longer you're awake – from the time you get out of bed to the time that you go to bed at night, the stronger your sleep drive because you build up more of a chemical in your brain throughout that period of being awake that strengthens the sleep system. So, if you're spending eight hours in bed and you cut it down to six hours, you're awake out of bed two hours longer and you build up more sleep drive – you fall asleep faster and you're not awake as much – you will start sleeping six hours a night out of those six hours and now your bed becomes a cue for sleep almost one hundred percent of the time. That over time builds up very strong positive conditioning and to a large extent that's the crux and critical technique of cognitive behavioral therapy.

When patients come in to see me for treatment this is what they are tracking on a sleep diary and what we are changing week by week – how much time you should be in bed, even if you want to get out of bed at six o'clock in the morning then you don't go to bed before it's time at night. This is what my online program does – it allows people to send in a diary and get very structured, individualized guidelines every week on how much time they should be bed, when they should be getting out of bed and the earliest time that they should be going to bed and the consequence to those guidelines.

Dr. Park: Great advice. The next point is something that I am sure many of us are guilty of not doing and that's using the bedroom for sleep and sexual activity only.

Dr. Jacobs: Same idea here Steve. The more time you spend in your bed, and the more awake time you spend in your bed, the more your bed is a cue for wakefulness rather than sleep. It's very common – I saw a patient today who said "I go into the bedroom at eight o'clock and I like to read for at least an hour and sometimes it's two, but then when I turn the lights off it takes me another hour or two hours to fall asleep." She thinks that by reading for an hour or two she is going to fall asleep faster. She doesn't obviously, but she thinks if she doesn't do that she will be awake even longer, so before she ever falls asleep, she has been in her bed awake for two to three hours making the bed a stronger

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cue for wakefulness rather than sleep. The more time you can cut down on being awake in your bed, the more your bed becomes a cue for sleep.

Dr. Park: So the next tip is make sure you feel drowsy when you turn the lights out to go to sleep. If you don't fall asleep within twenty to thirty minutes, go to another room and engage in a quiet, relaxing activity until you feel drowsy.

Dr. Jacobs: Yes it's almost two parts – the first part make sure you feel drowsy – that's more important for people who feel sleep onset insomnia, who can't fall asleep when they get into bed at night. That's because people who have sleep onset insomnia go to bed not because they are drowsy, but because of external cues. "Gee it's ten o'clock; it's time to go to bed. Even if I don't feel drowsy, I better go to bed now because I've to get eight hours of sleep – which we now know is not true." "Gee, my spouse is going to bed now so I should go to bed now." When you get into bed and you're truly not drowsy, you start to lie awake and think and as you lie awake and think and you recognize you're not falling asleep easily, you struggle harder to fall asleep and it becomes a vicious cycle and you toss and turn and you are awake even more. Making sure that you're drowsy, which is facilitated by spending less time in bed so that it matches your actual sleep time is very, very important. That's partly why restriction of time in bed in the short term improves sleep because it also makes people drowsier at bedtime and builds up the association between the bed, the bedtime, and falling asleep quickly.

The other part of that is what I refer to in my program is the half hour rule. If you don't fall asleep within a half hour, either when you go to bed at night or when you wake up in the middle of the night and don't go back to sleep – do not allow yourself to lie awake in your bed, tossing and turning for more than twenty to thirty minutes maximum because again, the more time you are awake in your bed, the more your bed becomes a cue for wakefulness. In the middle of the night when you can't sleep and you're tossing and turning, what you end up doing is just allowing thoughts to run wild in a dark, quiet room where there are no distractions so the thoughts become much more magnified, they become pronounced. If you get out of the bed and do something else like read a book or some other quiet activity in another room, you're engaging in a distraction activity that actually quiets the mind down faster, you're getting away from the bed so that you're awake somewhere else so that your bed is a cue for sleep and paradoxically what you're doing is telling yourself "I'm not going to try to sleep right now." By not trying you relax faster than trying to sleep.

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Dr. Park: That's a good point. The next tip is something that I'm sure is a major, major issue for many of us – don't take sleeping pills regularly. They have side effects and inconsistent benefits, particularly in older adults.

Dr. Jacobs: That's right. There has been a lot of research on sleeping pills in the last couple of years. Unfortunately, most of the research is done by the drug companies. You've got to be very cautious about what you read and what you believe about the effects of sleeping pills because even the studies being published in scientific journals are typically funded by the drug companies and actually the drug company scientists and employees are right on the publications.

The research that has been done independently of drug companies is very consistent and it shows, for example, a major study two years ago in the British Medical Journal – the META analysis on adults on age sixty and up. Sleeping pills overall had almost no significant clinical benefits and they were outweighed by significant side effects. The New York Times did a review of sleeping pills a year ago and reported another META analysis that was done by the National Institute of Health that shows that overall sleeping pills only increase total sleeping time by about ten minutes a night – you'd think an hour, maybe two hours based on what the drug companies say, but ten minutes. That's because when you look at sleeping pills across a variety of age groups and you look at people who have been using them not just for a couple of days but for weeks or even years, they lose their effectiveness over time and even the best sleeping pills, which are Ambien, Sonata, Lunesta – the newer pills – don't fair much better. So if you rely on a sleeping pill long term, the effectiveness goes down, they don't work very well, and besides not working very well as many people know, they have significant side effects including disturbance of your sleep during the night, especially the older pills, and a hangover effect the next day – even the newer pills – that can outweigh the benefits of the pills and in some cases the side effects are worse than the effects of mild to moderate sleep loss.

There is a recognition now Steve that sleeping pills are not only not appropriate for treating chronic insomnia, but every organization that has reviewed this research – whether it's the American Psychological Association, reviews in the New England Journal of Medicine, Consumer Reports – all say the exact same thing, sleeping pills don't work as well as cognitive behavioral therapy. In head to head comparisons, cognitive behavioral therapy works better and so cognitive behavioral therapy should be the first line of treatment. In reality people don't have access to it. All they see is the advertisements on television for Lunesta and Ambien, so people are taking sleeping pills that don't work that

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well, that have side effects, when there is a lot more effective treatment out there called cognitive behavioral therapy.

Dr. Park: How do you address a person that says to you "I swear by sleeping pills, it's the only thing that can help me go to sleep" – how do you address that?

Dr. Jacobs: There are some people who do report that. Those tend to be people who haven't been taking the sleeping pill for years. There is a very small percentage of people who will come in and tell you "I've been taking Ambien for ten years and it works like a charm every night." That's just not the case. About a third of patients report sleeping pills work pretty well consistently and I'll come back to that group in a minute. About another third say that "sometimes they work and sometimes they don't and I still am not sleeping that well." And then there are people who, it's unbelievable – they will come in and say "I have taken every sleeping pill there is and none of them work." That's very consistent – much more consistent than someone who says it works every night that I take it.

The people who say that a sleeping pill works every night, who have been taking it for years, are very likely sleeping because of something that they don't recognize and that's the placebo effect – it's not the pill anymore, it's the conditioned response that they've developed to falling asleep when they take a pill because they think that pill is going to help them. That placebo response is very, very powerful in all medicines and it's particularly appropriate for someone who is taking sleeping pills long term and reporting that it works – it's likely a placebo and that's a positive thing because those patients need to recognize that it's really them and not the pill that's doing it and cognitive behavioral therapy helps enhance that sense of empowerment and control over sleep.

Dr. Park: If someone gets involved with a traditional cognitive therapy program or even your online course and they've been addicted to prescription sleeping pills, what is the time frame in which you would taper off the medication? How quickly can they usually come off these medications?

Dr. Jacobs: It depends on the medications Steve and it depends on the person but there has been a lot of research on this. I've published papers from my work at Beth Israel Deaconess Medical Center and Harvard Medical School showing that in people who went through a ten week cognitive behavioral therapy program, ninety percent of those patients reduced or eliminated their medications as a result of the program. Charles Morin who is one of the leading researchers in cognitive behavioral therapy showed that – and this is remarkable – in a group of older patients who had taken a benzodiazepine sleeping pill – one of the

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older ones like Dalmane – had taken it every night for twenty years and basically depended upon it – eighty five percent of those patients within ten to sixteen weeks eliminated their sleeping medication entirely. It depends on the person and it depends on the sleeping medications and how many medications they are taking. It's routine for me to see a patient who comes in for their first session of cognitive behavioral therapy, they go home for a week and I didn't even give them guidelines yet for tapering their medication because that's usually in the second or third week of the program, it's in the third session of the online program – they'll come back after one week and say “oh I started sleeping so well and I felt so much less anxious because I know I've a plan in place that's going to work , I already cut my medication in half,” very common. Most patients will be able to reduce their sleep medication by fifty percent within three weeks and most patients can eliminate medication if they have been taking it not for long periods of time, smaller doses, and not one of the habit forming medications like the benzodiazepine medications. Newer ones like Lunesta and Ambien are non-habit forming and if you've been taking a smaller dose of a newer medication, haven't been doing it for years, it's easier. If you've been taking a benzodiazepine, which are more addicting, and you've been taking higher doses – I saw a woman today and this is scary – she's taking 6 mg of Klonopin a day, I've never seen that. I've seen 5, I've seen 4. Typically it's 0.5 or 1 mg, if you're taking a couple of milligrams of Klonopin a day, you've been doing it for years, it's going to take a little bit longer. Unfortunately there are patients who are on multiple medications, it could take up to eight to ten weeks. Some patients can't eliminate the medication all together, they have co-existing anxiety for example, they may have post traumatic stress disorder or some other things that make it hard to eliminate it all together but those patients can usually cut the dose down minimum fifty percent and if I see a patient who can't cut their medication down by at least fifty percent it's very, very surprising. More typically it's fifty percent to a hundred percent.

Dr. Park: That's some important advice. So the next tip is practice relaxation techniques at bedtime including muscular relaxation, mental focusing, and breathing techniques.

Dr. Jacobs: Yes. This is the hallmark of insomnia-- it is the inability to quiet the mind and relax the body. Most of you who are listening know when you can't sleep your mind races, you feel tense, you're tossing and turning, you're adjusting your pillow. There's a lot of physical and mental tension that goes with insomnia. Is that what keeps people awake or do they start to feel tense and think a lot because they are awake and they can't sleep? I think it's a little bit of both. Relaxation techniques, if they are learned in a structured fashion, involving

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muscle relaxation, breathing, and visual imagery techniques, can be very, very helpful for the majority of people learning cognitive behavioral therapy.

That's one of the five sessions in this five-week program. The first session is learning basic information about sleep so you understand sleep, sleep stages, and sleep architecture. Week two is sleep scheduling and stimulus control techniques, which we talked about, reducing time in bed, making the bed a stronger cue for sleep. The third session is cognitive techniques, learning how to change the way you think about sleep so you don't worry about it so much, like the 8-hour sleep myth. In that session is also sleep medication tapering techniques. Week four are day-time relaxation techniques. You learn these techniques during the day for a couple of weeks until you're comfortable with them and then in week five you start applying them in bed at night. On my website patients can also access an MP3 version of the relaxation techniques that I've developed and tested in my research and have been using for twenty years now. Some people don't need them and they can do it on their own with a script or a guide and that's embedded in the online program but they can also access a guided audio MP3 file to help them learn those techniques.

Dr. Park: The next tip is to take an afternoon nap after a poor night's sleep.

Dr. Jacobs: Yes, if you can take a nap. I mentioned earlier how do you determine if you're getting enough sleep or not? The traditional answer is that if you don't feel drowsy you're getting enough sleep. I went on to say that insomnia patients, almost by definition, are people who can't feel drowsy even during the day when they haven't slept well. They can't take a nap and it's very frustrating. Some can. If you can take a nap, or even if you can't actually fall asleep – if you take a twenty minute brain rest in the afternoon, you may not fall asleep but you close your eyes and try to turn off external stimulation, you're satisfying the brain's intrinsic drive for a nap in the afternoon. We're all designed to take a nap in the afternoon. We don't it in this society because we mask it, we're too busy, we're being paid to work at that time, but we know from research on circadian rhythms that we're designed to sleep at night for a longer period and for a short period in the afternoon. If you can take a nap or take that rest period it seems to allow a recovery function so that if you haven't slept well you will feel more alert and more rested for the rest of the day and you will improve your mood.

Dr. Park: Great. Next one is increase your exposure to early morning sunlight as soon as you wake up to establish a more consistent sleep rhythm.

Dr. Jacobs: That's right. Probably more appropriate in terms of early morning light for sleep onset insomnia. If you have sleep maintenance insomnia get more late

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daylight. Let me explain why that is. People who have a hard time falling asleep at bed time have a body temperature that isn't dropping early enough at night, that's why can't fall asleep. In order to fall asleep, your body temperature has to be dropping. Patients with sleep onset insomnia show drops in body temperature too late at night. When you get up in the morning – if you expose yourself to bright light immediately – open up the shades, of course I get up right now at five thirty and it's pitch dark at five thirty – in the winter time it's a little tougher and in the summer time it's a little bit easier, but some people may have to use light boxes which are getting very cheap and very small. But, the earlier you get light in the morning, the sooner your body temperature rises, the sooner it falls at night, the earlier you will fall asleep.

I saw a patient this afternoon who goes to bed at midnight and can't fall asleep until two in the morning and then she sleeps until nine or ten in the morning. The good thing is that she is getting seven or eight hours of sleep – she has a delayed phase component to her insomnia – can't fall asleep until late. When she gets up, by the time she gets exposure to light at ten o'clock in the morning, it's dark five and a half hours later at three thirty where she lives. She is only getting five hours of sunlight during the day. That will contribute to disturbed sleep rhythms and also to depression. People who wake up too early in the morning – three or four o'clock in the morning – have the opposite problem. Their body temperature is rising too early and that's what's causing them to wake up.

There is all kinds of research showing that late day lights – the hour or two before bedtime – usually around eight o'clock at night – will trick the brain into thinking the day is longer and body temperature will stay down longer into the earlier morning hours so that you don't wake as early. Summer time it's easier to do – in the winter time the brain adjusts for changes in lighting levels throughout the year but still in the winter time because of the potential compound of seasonal affect disorder, it may be necessary to use the light box – either early or late in the day to get those desired effects and they are making light boxes now that are remarkable. They are as small as an alarm clock and they are down to about one hundred and twenty dollars – they are getting more and more affordable.

Dr. Park: Great. The last tip is exercise by taking a brisk walk three to six hours before bedtime. This will improve your sleep by causing a greater rise and fall in your body temperature.

Dr. Jacobs: Right – again, body temperature rises during the day and then as I just said it falls at night. Once it falls to a certain point, you get drowsy and fall asleep. Research on the body temperature rhythm of insomnia patients shows that it's

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flatter than it should be. It doesn't rise as much during the day and doesn't fall as much at night. If you exercise three to six hours before your bedtime, you drive your body temperature up higher than it would normally go and because you've driven it up more, it falls more rapidly during the latter part of the night and that greater rise and fall in body temperature tends to make it easier to fall asleep and also deepens sleep. Again, a harder thing to do in the winter time – it's colder out and gets dark sooner but when you're not sleeping well, it's a common response to say "I am just too tired to go out and do any exercise or even walk briskly" – that creates a vicious cycle – you're not sleeping well, you're not expending energy during the day through exercise, your body temperature rhythm gets flatter and you sleep more poorly, so reversing that cycle can involve something as simple as taking a brisk twenty minute walk on most days during the week.

Dr. Park: So I guess people who exercise close to bedtime are not doing themselves any favors right?

Dr. Jacobs: That's right. If it's too close to bedtime you may have problems falling asleep. What I've told patients over the years is this – if you have sleep maintenance insomnia, that's where you wake up during the middle of the night or the early morning, try to exercise up to about two hours before your bedtime because the closer to your bedtime the better off you're. Your body temperature will drop and it will drop longer during the night and it won't rise as soon – as long as it doesn't cause problems falling asleep. If you have sleep onset insomnia then you want to give yourself at least a three hour window. Anywhere from three to six hours before your bedtime would be a good time to exercise if you've sleep onset insomnia.

Dr. Park: Along the same lines – what about taking showers before bedtime and body temperature?

Dr. Jacobs: There is no real evidence that I've seen that shows that a shower will do the trick. There is very convincing evidence that a bath will do the trick – there is a big difference. In a bath you keep the water hot but you're submerging yourself in the water for up to twenty minutes. You're not really submerging yourself in a shower. Instead of thinking along the lines of a shower, there is good research showing that a hot bath two to three hours before bedtime for about twenty minutes where you have to keep the water hot, you've got to run it every five minutes to keep the temperature up there – may be an effective substitute for exercise.

Dr. Park: That's very interesting. That was some great, valuable information. I think just by using these techniques I am going to sleep a lot better as well. We have a

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whole bunch of questions that came in from people who registered, some of these questions overlap a lot, but I was thinking maybe we should just open up the lines for our callers – do you want to do that first and whatever time we have left over, we can answer the rest of these questions?

Dr. Jacobs: That's fine. We can just take phone questions now.

Dr. Park: Sure.

Caller: Hello, Dr. Jacobs?

Dr. Jacobs: Yes, hi.

Caller: This is Danny Heller and I have a question for you. My question has to do with locus of control or maybe I should say loss of control. I follow what I know about sleep hygiene – follow most of the tips that you gave, although you did have some new information for me, but my problem is awakenings during the night, arousals. It doesn't seem like there is anything that I can do to prevent them, so I feel as if I have a loss of control like someone who is a bed wetter – that person can't control it so I feel in a sense that it diminishes me and I feel like I should be able to control these awakenings but they are happening regardless. Can you give me some clues on how to cope with that?

Dr. Jacobs: Well, I can tell you that from the perspective of what we've talked about in terms of behavioral techniques – if I see a patient who comes in to me and says 'I am awaking a lot during the night' – I am thinking right away, first of all, are they waking a lot and they have short awakenings and they go back to sleep or are they awaking and then they are up for long stretches at a time – which is your case? Do you wake up a lot to go back to sleep or do you wake up a lot and then you're awake for long stretches of time?

Caller: First of all, there is full awakenings that I am conscious of and then there are the awakenings that I am not conscious of which came out in the sleep test. I am aware that I awaken maybe four or five times a night and for the most part I am able to go back to sleep. I usually get up and go to the bathroom, but I am usually able to go back to sleep, but it's still very disruptive.

Dr. Jacobs: Sure. The way that's approached in cognitive behavioral therapy is twofold. First of all you wouldn't be a candidate for relaxation training because you're not awake long enough. You're not a candidate for using that half hour/half hour rule, in other words, you're not going to get up and get out of bed for a half hour because you're not even awake for a half hour. You're going to be a candidate for two things – one is cognitive techniques – I had a patient today with the same kind of thing. She said "I just want to be able to sleep through

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the night for six hours and never wake up," and I asked "how many times do you wake up? She said "I wake up three or four times a night" and I said "how long are you awake?" She said "I am awake for three or four minutes – maybe five." I tried to convey to her the fact that the more you look at that as a problem, the more you're going to wake up because you're developing conditioned anxiety. The more you look at that as that's not far off from normal, the better off you're going to be. In fact, we know that the typical adult, if you look at a sleep study, wakes up at least half a dozen times during the night. It's so brief in most cases that people don't remember it. We don't consider somebody waking up twice a night for ten minutes to have a sleep problem unless you're awake during the night for a half hour or your awakenings typically are three or more times a night, you're really on the verge of what we consider to be normal.

Trying to reappraise the problem as not that far off from normal rather than "oh my god I've this problem that nobody else has" – that would help. Just learning to develop reasonable expectations about what normal sleep is and is not is one step. The more important technique for you Danny would be the restriction of time in bed. That's the only technique that can be used behaviorally to minimize those frequent number of awakenings. If you're sleeping five hours a night – the rule you follow is this – track your sleep for a week and look at how much sleep you're getting on average. Let's say that you're averaging five hours of sleep, add one hour on to that. That's the maximum amount of time you should be in bed at least for a couple of weeks. If you're sleeping five hours and you add an hour, that's six hours in bed. Decide what your arising time goal is. Let's say it's six in the morning, then back up those six hours and you don't turn your lights out until midnight. Most people have a hard time doing that for the first week because you're so tired you're going to bed before that – if you restrict your time in bed to six hours a night, you've been awake during the day for eighteen hours – you're going to strengthen your sleep drive significantly and the majority of patients who have a behavioral insomnia, meaning those arousals are due to learning factors, they are going to start to see a reduction in the number of awakenings – especially when you combine it with cognitive techniques.

If you don't see that, then I am automatically suspecting that the patient has an underlying sleep disorder, like sleep apnea, and these are arousals from sleep apnea and it sounds like you may have something like that. Some arousals can't be prevented with behavioral techniques because they are arousals due to the airway collapsing, they could be central sleep apneas – those have to be treated with CPAP for example, at least for your airway collapsing – so many arousals are due to other more physiological factors, but many of these arousals

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are conditions, they are learned and restricting time in bed for several weeks is the most effective way you can test whether or not you can learn to change that. Once people see that it's changing you start to develop that sense of self control. That can be reversed very quickly. That's what cognitive behavioral therapy does, it teaches people that they have greater control over their sleep, it increases their self efficacy, and we think in the long term that's probably the most fundamental reason why people do better with cognitive behavioral therapy. They learn very quickly, within a couple of weeks, "oh my God, after all these years of insomnia controlling me, I can implement techniques that actually influence my sleep system, I start to sleep better and the anxiety dissipates very quickly."

Caller: That sounds very good – thank you.

Dr. Park: I think you answered a number of the questions – there were about four or five very similar questions about waking up early in the night around three to four in the morning and not being able to go to sleep, so I think you covered most of that.

Dr. Jacobs: One more just general comment on that too Steve – a lot of patients wonder why does that happen? Sometimes, as Danny was pointing out, the sense of loss of control is often times due to not understanding what is going on and information is empowering and it reduces anxiety. You want to know this – when you go to sleep at night you go through different stages of sleep and I think everybody knows that – you go through stages of lighter sleep and then deeper sleep and dream sleep, but sleep stages are about an hour and a half long so you cycle through light sleep, deep sleep, and dream sleep in about ninety minutes. In the first part of the night, the biggest chunk of that ninety minute cycle is your deep sleep, if you're sleeping somewhat normal in terms of sleep architecture, meaning that you're less likely to wake up in the first couple hours of the night.

As you hit your second sleep cycle which is ninety minutes and then your third and your fourth in a six hour night of sleep – by the time you get to your fourth or fifth cycle you've used up all your deep sleep. It's happened in the first couple of cycles. The last couple of cycles become predominantly lighter and dream sleep and you're more susceptible to waking up at that time. One of the ways to deal with that cognitively, and that's part of cognitive restructuring, is to tell yourself "well at least I've gotten the most important stage of sleep already – I've gotten all of my deep sleep so if I don't fall back to sleep at this point what I am missing is mainly my light sleep and my dream sleep and that's not as critical" and it's not. That's why your brain gives you your deep sleep earlier in the night so that if your sleep gets truncated, especially in our

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evolutionary days when we had to rely on shorter sleep, you get your most important sleep first.

By telling yourself that you're more likely to fall back to sleep but also by understanding that "oh I am waking up because I've gotten most of my sleep now – I must be in lighter sleep or dream sleep," it reduces some of the anxiety about what is going on here. That's why awakenings during the night tend to occur in the middle or latter part of the night, not in the earlier first half of the night.

Dr. Park: Great, thanks. Does anyone else have a question for Dr. Jacobs?

Caller: Yes. Hi, this is Nancy, Dr. Jacobs.

Dr. Jacobs: Hi Nancy – go ahead.

Caller: I've a question. Would you consider – you were talking about the various sleep stages and how they benefit our body – what recommendation would you give a patient who for the last year has been getting two consecutive, with one arousal in between – only one and a quarter hour sleep with an awakening with another one and a quarter hour sleep and then up for the remainder of the day? Is that sufficient enough to get that important sleep that you talked about?

Dr. Jacobs: You're saying an hour and a quarter – sleeping two and a half hours a night total?

Caller: Yes.

Dr. Jacobs: No, that's not sufficient in terms of even getting deep sleep. Generally think of it this way and I've written about this in my book *Say Goodnight to Insomnia*, which is being republished in April 2009 as a tenth anniversary edition – I've written about this concept that other sleep researchers have and I think it's particularly relevant for insomnia patients – it's a concept called core sleep. Core sleep is the minimum amount of sleep that people need to function during the day – not to feel good but to function where they don't show significant decrements in their performance. This is particularly true for insomnia patients – it's somewhere around five hours a sleep. If you're getting two hours of sleep it's qualitatively different than getting five hours – why? Once you get to five hours, you've gotten all of your deep sleep plus you've gotten about half of your dream sleep and your light sleep.

If you just get three hours of sleep a night – I don't care who it is, even a short sleeper, you're not going to function effectively on three hours of sleep. That's just very difficult to do. That's also why, Nancy, when I see a patient

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who tells me "oh I've been sleeping two to three hours a night every night for years," I automatically assume in my mind that the patient is unaware of the fact that they are getting more sleep than they really are. They are getting more sleep than they report. That's because the brain will do everything it can to get at least the daily ration of slow wave sleep or deep sleep because it's so critical and the brain will do everything it can to get half of its dream sleep. Even if you try not to sleep you're going to get about five hours in most cases.

Interestingly, when you look at the amount of sleep, as I said earlier that insomnia patients report, based on diaries from tens of thousands of people – guess what – it's about five and a half hours of sleep. Getting two to three hours is not very likely and if somebody is doing that they are either under reporting their sleep or there is something that's really working against the sleep system and that could be a medication, it could be significant anxiety, it could be a highly stressful event that's occurred recently, but the likelihood that could go on week after week, month after month is very small and it's not enough sleep in terms of core sleep or even getting your deep sleep.

Caller: As a follow up to that, regarding your last statement, it could be a combination of anxiety, medications, and/or other factors?

Dr. Jacobs: That's probably a good way to introduce the concept of primary and secondary insomnia. Primary insomnia is insomnia that doesn't seem to be due to other factors like depression, anxiety, sleep apnea, or other underlying sleep disorders. It seems to exist by itself – those are the people that have a truly learned insomnia. They tend not to be people who are saying I am sleeping two hours a night and they are people who do the best with cognitive behavioral therapy. That's about half the patients who have insomnia. The other half have insomnia that's secondary to something else so the better terminology is comorbid with something else, it exists with something else. That something else could be depression, anxiety, it can be post traumatic stress disorder, it could be medications that they are taking – those individuals tend to have more difficulty using cognitive behavioral therapy because it's not just learned and those are people who are more likely to report – even though it's still rare – "I'm only sleeping two or three hours a night." Something else is going on besides just learned insomnia.

Caller: The one and a quarter hour sleep and then an arousal and another one and a quarter hour sleep, which has been documented, is not providing the deep important sleep that's needed to function properly throughout the day.

Dr. Jacobs: In two and a half hours of sleep Nancy you're getting deep sleep, but you're not getting all of the sleep that you need to function effectively during the day.

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You probably get most of your deep sleep at that point but that's all, you're not getting dream sleep, at least most of your dream sleep which is important and even the light sleep, which is what older adults spend half the night in light sleep, it's actually an important stage as well – it's just common sense – if you're only sleeping two and a half hours a night, you're not getting enough sleep, whether it's dream sleep, deep sleep or light sleep.

Dr. Park: Does anyone else have a question?

Caller: Hi Dr. Jacobs – this is Scott. I wanted to get more of your thoughts on phase delay or the whole concept of being a night person for example, I am an actor and when I am employed doing a show – and my whole life I've found I am pretty much a night person and I stay awake very easily at night – I can naturally fall asleep probably around one or two a.m. and then easily sleep for seven or eight hours and wake up very naturally, but when I'm not employed as an actor I do office work and at other times in my life when I've had to be sort of more of the normal functioning society and I've to be awake at 9 a.m. to be employed, I can never seem to get on a schedule or anything that makes sense where I go to bed at midnight to wake up at seven or eight – it's just almost painful to wake up so that's where a lot of my anxiety comes from.

Dr. Jacobs: Right, and what you're trying to do Scott is to change your circadian rhythm quickly and that's hard to do. That's why people who are on shift work have a very difficult time because for several days or weeks they may be on one shift and then they are asked to completely change the shift the next couple of weeks and the brain can't make the adjustment that quickly. Most people know they have a hard time shifting even by an hour when we change our clocks twice a year. Imagine if you're trying to shift by two or three hours and you're doing that every week or every other week – it becomes very, very difficult. What you would want to do in a situation like that – when you're staying up late and you're sleeping late and all of a sudden you're not acting and you're going to a daytime job – you want to start setting a half hour earlier arising time goal each week. Let's say you're going to bed at two and getting up at ten. Now you've to go back to work – if you know you're going back to work, as soon as you can before you go back, start getting up a half hour earlier at least every week – maybe every three or four days and what you can supplement that with, you can't force yourself to go to sleep earlier but you can make yourself feel drowsier earlier by getting up a half hour earlier and you have to do it gradually or otherwise you won't get out of bed. When you get out of bed, you have to immediately expose yourself to bright lights – not hard to do if it's nine o'clock in the morning – whether it's the winter time or the summer time. Get your shades open and sit near an eastern exposed window or get outside because the

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sooner you get light transducing through your eyes it tells the brain the day has begun. Your body temperature will go up at that point and it will drop about sixteen hours later so that you fall asleep sooner. You can plan that in a sense – as soon as you know you've a trip coming up or a new job - you've to get up earlier, you start arising in advance of that earlier and earlier every three or four days, certainly by a half hour every week. When you do that you supplement the earlier rising time with bright light, if you can't do that in the winter time than a bright light box would be a good substitute.

Caller: In your studies, as far as the whole phase delay concept, are there people who are just more naturally awake in the evening or is that just a myth?

Dr. Jacobs: No, I don't do those studies because that's more circadian rhythm research but the studies are very clear – you can divide most people into two subtypes – owls or larks. Some people's functioning is much better at night, some people function much better earlier. I am a lark – I've learned for a variety of reasons to be up earlier and I feel most alert in the morning. There are other people who feel they are best at ten o'clock at night and that's a trait like difference and we don't know what that's due to but you can generally classify the majority of people as one or the other. There is something physiological to it; trait like to it, almost personality differences but it can be modified to some extent.

Caller: Interesting. Thank you so much.

Dr. Jacobs: Sure.

Dr. Park: Anyone else?

Caller: My name is _____. You've provided answers to most of my questions during the discussion, but I have one more question. I am seventy five years old. I sleep approximately five hours. I have a three or four times – during the day I am fresh and I don't feel drowsy but I meditate two times a day – in the morning when I get up for about thirty or forty five minutes and also in the afternoon. I am not sure to what extent these two meditations a day has the effect that I don't feel tired but I have the concern that my sleeping pattern is not the best. What would you suggest because I don't want to drop the meditation because I feel well and it helps me. On the other hand, I am not sure that the feeling good from meditation make some harm because I don't have necessary amount of sleep.

Dr. Jacobs: How much sleep do you get again sir?

Caller: About five hours.

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Dr. Jacobs: About five hours – so if you really go back to the things we have talked about before – there are questions you ask yourself. How do you feel during the day? If you're a five hour sleeper but you feel alert and rested during the day and alert and energetic – guess what – you don't have insomnia. You're a short sleeper. There are people who sleep five hours a night who are short sleepers – not a lot but there are – who function effectively during the day, particularly if you're in a sense supplementing your sleep with what sounds like almost another hour and a half of an almost sleep state. I realize you're not asleep, but you're not fully awake – it's a hypo metabolic state – that may really translate into the fact that you're getting closer to six hours of sleep. You're conserving energy at that time and it's more akin to sleep than it is wakefulness – it's not a lot of energy expenditure. You have to ask yourself how do you feel during the day? If the answer to that's the other side of the coin, which is I am getting five hours and meditating an hour and a half but I just feel tired and I don't feel energetic then I would try cognitive behavioral therapy first. Try this online program because if you go through that program you're likely to learn to sleep better – if you don't then it may mean that in fact between the five hours of sleep and hour and a half of meditation during the day is enough for you and you might try a second step at that point is to cut back on your meditation time a little bit because there is some anecdotal evidence that meditators don't sleep as much during a twenty four hour period because they do spend so much time meditating and it's a state similar to sleep or napping and that may cut down on the need for sleep – in part because you're not expending as much energy and if you don't expend as much energy during the day your sleep drive is not as strong.

Caller: I understand – thank you very much.

Dr. Park: We have time for one more question.

Caller: Hi Dr. Park. It's Danny Hiller again – I just want to ask a brief question because you touched on the issue of owls and larks and my question is, Dr. Jacob, how do you know whether you should sleep from 11 p.m. to 5 a.m. or whether you should sleep from 1 a.m. to 7 a.m.?

Dr. Jacobs: Some of that Danny is dependent upon lifestyle factors and when a person has to get out of bed to get to work. Some people don't have that option – they have to be out of bed by a certain time, their kids wake them up at a certain time, whatever it happens to be. There is some external demands in terms of lifestyles that determine that. If you're free running – let's say you're retired and you don't have to be up at a certain time, generally your brain is going to dictate to you whether you're a lark or an owl, you're either going to be waking earlier or waking later, and you want to work off that time. If you look over the

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course of the week on your sleep diary and you see that the typical time that you're awake is between six and seven o'clock, that's probably – at least for this time period in your life – where your sleep rhythm is at in terms of awakening. You use that as your arising time goal and you're going to work off of that to determine your earliest bedtime goal.

Once you've done that it becomes very difficult for most people to modify their arising times and bedtimes by more than a couple of hours. You're going to fall into a certain range naturally and if you try to modify it by more than a couple of hours, it becomes very difficult to treat it with just light therapy and behavioral techniques. In fact, for Scott who was talking about having delayed phase disorder – if somebody is falling asleep too late at night, let's say three o'clock in the morning and they sleep until ten or eleven, it becomes very difficult to back up four hours in your rising time. It's actually easier to do chromotherapy where you go forward three hours every night and you go right around the clock. That's how difficult it can be. Overall people will find that they fall into a certain rhythm of when they wake up and it's better to focus on that than when you're falling asleep. Sleep apnea patients will fall asleep at six o'clock at night in front of the television. That's not when you should be going to bed. It's typically when you're waking that the brain has developed a rhythm that light is coming in, melatonin stops being secreted, I start to develop adenosine which is a sleep promoting agent and that's really what you want to anchor things around is that tendency to wake within a certain hour or two of the same time every day.

Caller: Okay, thank you.

Dr. Park: Thanks a lot. That was a great response. So Greg, how can people find out more information about your program? Where can they go?

Dr. Jacobs: They can go to my website. It's www.cbtforinsomnia.com and there is information on my website about the effectiveness of cognitive behavioral therapy overall, about insomnia, about sleep medications, so it's an informational site as well but most of the site is really devoted to giving people access to a research based highly effective cognitive behavioral therapy program online that's interactive – it's a five week program for very little cost.

Dr. Park: I want to put things in perspective. Many years ago when I heard about cognitive behavioral therapy, I was really excited to give it a try but the problem was that I couldn't find anyone in New York City that knew anything about it, which was kind of odd being in New York City.

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- Dr. Jacobs: It's changing a little bit. There are certainly some people in New York City now that offer cognitive behavioral therapy.
- Dr. Park: That involves how many sessions? One hour sessions, five times, once a week?
- Dr. Jacobs: Yes, if I see a patient in the sleep clinic they are coming in an average of four to five visits. That's why the online program is set up the same way – it's five treatment sessions over five weeks – you really have to give yourself five weeks to learn the five different modules of cognitive behavioral therapy but that's a very short period of time for people who have had insomnia for five years or ten years or however long they have had it. It's not something that works overnight but for many people they are sleeping better within a week.
- Dr. Park: How much does it cost?
- Dr. Jacobs: It's \$24.95. For most people, that's the cost of a co-pay at a sleep clinic, that's the cost of a supply of sleep medications for a week.
- Dr. Park: Much less expensive than going to the sessions four or ...
- Dr. Jacobs: That's right. That's exactly right and in the long run, we actually have data right now that suggests that long term online interactive cognitive behavior therapy including this program and some other programs that have been presented and tested at the sleep meetings this summer actually produced greater improvement outcomes than cognitive behavioral therapy with a clinician and there is a lot of good reasons for that but we will talk about that another time.
- Dr. Park: Great I think we are about out of time now. Greg, I want to thank you again for sharing some valuable information with us tonight.
- Dr. Jacobs: Thanks everybody for joining.
- Dr. Park: For information about this series, or to find out about my new book *Sleep Interrupted* or just to find out a schedule of future topics please visit www.drstevenpark.com. Thank you.