Spiritual Dimensions of Sleep:

DM: Dr. Joseph Mercola, DO
RN: Rubin Naiman

DM: Welcome everyone, this is Dr. Mercola. Today, I'm pleased to have with us, Dr. Naiman, who is going to help bring up our level of understanding on the crucially important topic of sleep.

I'm absolutely committed to getting people healthy. In my experience, you can have the best diet in the world, have the best exercise program, be free from emotional stress but if you aren't sleeping for whatever reason, it is like virtually impossible to be healthy.

This is really one of the essential components of staying optimally healthy and taking control of your health. That's why I'm just delighted to have Dr. Naiman with us. Welcome Dr. Naiman.

RN: Thank you. I’m happy to be here.

DM: Can you describe to our listeners and viewers your training in sleep and how you gotten this expertise.

RN: I slid into the sleep arena through a side door, many, many years ago. I'm a clinical psychologist. My early interest, in fact, from the time I was an undergraduate and into graduate school, was in the area of dreams. I trained from a Jungian depth psychological perspective on dream work. This is still a very important interest of mine.

Most sleep doctors, by the way, have very little interest of dreaming. They have some interest in REM sleep which is the physiological parallel but they tend to believe that the dream itself, the subjective experience of the dream is unimportant and meaningless. I am not in agreement with that.

I spent the first 10 years of my career working primarily with cancer patients and their dreams. Subsequent to that, I ended up back in Arizona where I've gone to school and took a position at Canyon Ranch which is a healthy-living resort many people are familiar with. I started the first formal sleep laboratory outside of a hospital setting in a spa, as far as I’m aware of.

We were fortunate there. We had an alternative medicine at (indiscernible 4:46). Dr. Andrew Weil was on the staff at that time. This was back 1990. I was able to evolve a perspective on sleep that was outside of the ordinary conventional music box.

I now have (indiscernible 5:00) integrative sleep medicine. In fact, I’m editing the first Oxford University textbook on integrative sleep medicine at this time. It’s an
approach that combines the best alternative complimentary medicine with the best of conventional medicine. I've been focused in on sleep and dreams exclusively for the past 20 plus years.

DM: Excellent. Just a point of curiosity, a little side tangent is, do dreams occur during REM sleep or non-REM sleep?

RN: That's a very good question. Yes. Depending on how stringent you define a dream because like everything else, we try to put things in boxes and they often don't hold the concepts well. There is a kind of dream that results which is primarily associated with REM sleep.

There are other kinds of dreams. We might call dream meditation or dream experiences that actually fall outside of REM sleep. Generally speaking most of us agree that there is a (indiscernible 6:00) of dreaming that is associated with REM.

DM: I mean, obviously that's going to be a central point of our discussion I'm sure. What is the most important restorative component of sleep? Is it the non-REM or the REM?

RN: It's literally like asking are vitamins more important than other forms of nutrients, the minerals for example. They both have their place. For example, if you're looking at the memory formation which is one of the things that happens in sleep. There is a kind of memory that's consolidated during REM sleep that's very important. There is another kind of memory that's consolidated during deep sleep. I think they both have their place. They're both necessary in different ways.

DM: Enough of the tangents. Let's go into the meat of why you're here which is helping us develop an understanding exactly what sleep is. So if we can understand this process then many of the questions people have will sort of be answered. Really, that's crucial to an appreciation of what's going to be necessary to improve the sleep so you can really achieve levels of health that we all deserve.

RN: I think this is maybe the most important question we can begin with. Too often, we try to resolve sleep issues without knowing what it is. There is a parallel to the general topic of health. Most of us when we think about getting healthy we think about fighting disease. That's important in its own right but health is not simply the absence of illness.

Likewise, sleep is not simply the absence of waking. This is a very common misunderstanding around the world today. We define sleep negatively. We define it in terms of what it's not. In fact, even scientifically, when we talk about sleep, deep sleep, stage sleep, the real thing, it's most commonly referred to as non-REM sleep. We're not saying what it is it's not that.
So we know that sleep -- we believe that sleep is not waking. To define it in those simple terms which suggests that any kind of unconsciousness is a kind of sleep and that’s simply not true. There are certain qualities associated with sleep that most of us have become desensitized to.

So what is sleep? When you look at changes in EEG, in electrical brain activity, as we go from waking into deeper stages of sleep, those changes parallel the same changes we see when people go into truly deep restless states. More specifically, I’m talking about meditators.

Accomplished meditators have been shown to be able to access brainwave activity that looks very, very much like deep sleep. In a sense, we need to think of sleep as not the absence of waking but another kind of experience in its own right. It’s different from waking.

There is actually some data that suggests that you can learn to cultivate awareness during deep stages of sleep. The idea that being asleep means I’m not -- it’s very misinformed. We’ll talk about how that can create lots of problems.

The main point I want to make here is that when we reduce sleep to this idea that it’s not waking, we see sleep simply as a servant of waking life. It’s a little bit like, you know, a lot of people today who are informed about nutrition; eat to be healthy but they lose the joy of it. We’re not just eating to get our omega-3s and vitamin C and all that stuff. It’s important that we eat out of joy. It’s a part of life. There is a spiritual aspect to enjoying food.

Similar to sleep, we can look at sleep simply as a servant to the waking life. Most research looks at sleep and asks questions like how we use sleep to help us perform better. How it will help us improve our immunity. How it will help us be more alert. How it will help us increase our creativity. These are all very important questions but they all presume that sleep is simply in service of the waking. So that way we end up trying to circumvent it. There is a lot of research now going into waking pills. How can we get by without sleep?

We need to remember that sleep, in addition to providing all the service to waking life, is an event in it of itself. Sleep delivers something. It takes us to another place of consciousness. I deeply believe that sleep has spiritual benefit. It’s an event in it of itself. When we recognize that, we really shift our attitudes towards sleep as something we can actually enjoy not something we simply need to do to be healthier.

**DM:** Excellent. What are some of the ways that we can improve our sleep? What are some of the most common challenges that you see that people present to you and consult with you for to improve their sleep?
RN: The most common sleep disorder of course is insomnia -- people having trouble falling asleep or staying asleep or getting good quality sleep through the night. Some of the questions that we looked at here, many of them refer to a condition called cognitive popcorn.

Cognitive popcorn is something that occurs when you put your head down trying to go to sleep or trying to get back to sleep in the middle of the night and suddenly your mind starts to produce all of these thoughts. They’re unwanted thoughts, uncontrollable thoughts. It’s as if the mind has a mind of its own. That’s a very common complaint that keeps people awake.

It brings me to I think an essential concept of understanding why we can’t sleep. We sleep as an outcome of the (indiscernible 11:54) of two classes of variables. One of them is sleepiness. The other one I’m going to call noise. So sleepiness is obvious to people. If you are awake long enough through the day, if you’ve had a normal waking productive day, through the day.

There is a Bible account of the existence of this, your sleepiness is to increase through the day. It will reach peak levels just before you go to sleep at night. We want our sleepiness or technically our sleep (indiscernible 12:22) to be high at the beginning of the night.

There is also something else called noise. No matter how sleepy we are, if our noise (indiscernible 12:32) conceptually is greater than our sleepiness, we’re not going to fall asleep.

What is noise? It’s relative. If you’re listening to your favorite piece of music in the middle of the day, hey, that’s your favorite piece of music. If suddenly somebody pipes that music into your bedroom in the middle of the night, it becomes noise.

If you’re energized during the day, you’re feeling passionate. You want to move, be productive and so on, that’s great. If that experience occurs in the middle of the night, that becomes a kind of noise.

Noise is relative. Noise occurs in three zones. It occurs mind level, at a body level, and at an environmental level. So the mind noise, I just gave an example of them. The most common one would be this cognitive popcorn, unstoppable thoughts at night. Other forms of mind noise, a very common one would be anxiety for people who are nervous or other difficult to process emotions can result in mind noise.

Examples of body noise, common ones are pain and discomfort maybe arthritic pain, indigestion, GERD, the residual caffeine from the fourth cup of coffee you had after dinner, again, body noise. Side effects of many medications are body noise.

Environmental noise, I sometimes refer to that as bed noise but obvious thing like literally room noise. Your neighbor’s kids got a band going in the garage in the
middle of the night. Temperature is very critical. Maybe we'll talk about that, a really critical piece. If it's even slightly too warm it's hard to sleep; again, form an environmental or bed noise.

A very common one also is light. And then there is the little noises of your bed partner. This is a very, very common configuration in relationships I call the insomnia apnea couple where he has sleep apnea. He can't seem to stay awake at night and he's snoring. His snoring keeps her awake all night. They get up the next day and he's tired as all hell even though he seems to have slept. Even though she was up the whole night, she's got energy beyond what's imaginable.

Those are forms of noise. In normal sleep, at the beginning of the night, your sleepiness is high and noise is low. You want to keep the noise below those levels. You fall asleep and your sleepiness gradually paid off over eight hours. You're a lot less sleepy at midnight or 1 pm than you were at 10 or 11; even less at 3 or 4 and then you wake up in the morning. Eight hours later, you paid off that sleep debt.

Very commonly, we see people with sleep onset insomnia so they'll fall asleep at the beginning of the night. Even though their sleepiness is high their noise is higher. They're more noise than they are sleepy. They might toss and turn, maybe that noise will come down a little bit, maybe they'll get more sleepy. As soon as they are sleepier than they are noisy, they will fall asleep.

Incidentally, most people who can't sleep, who get up in the middle night, who can't fall sleep will say, I wasn't sleepy enough. It's a common assessment of why they can't sleep. The truth is if they look closely at it, they were plenty sleepy. Mostly, sleep don't occur because people are insufficiently sleepy. It occurs (indiscernible 15:57) excessively noisy.

Sleep maintenance insomnia, once again, sleepiness is usually pretty high at the beginning of the night. In sleep maintenance insomnia, noise is not eight hours away. It's kind of hovering under the waters. You fall asleep, you pay off some of that sleep debt, you're sleeping for two or three hours and you hit that (indiscernible 16:18) iceberg of noise and it wakes you up.

There is something we call non-restorative or unrefreshing sleep. It looks like this. I call it snorkeling. You're in the waters of the sleep, you're very close to the surface. You keep sort of bobbing up and down. It's a kind of sleep that's a non-refreshing sleep. Again, when people ask why can't I sleep. It's really important at the outset to consider all possible sources of noise to look at what's going on; mind noise, body noise, environmental bed noise.

Most of the time what I find that there isn't typically a single simple cause. On rare occasions there is. But usually people will find three, four, five, or six different factors that contribute to noise and it's accumulative or additive. This results in a lot of frustration.
So somebody will say, I cut out coffee and I still can't sleep. Well, (indiscernible 17:14) coffee but there is still too much light in your bedroom. There may be a host of other things. They may still be anxious on things. Then they'll start drinking coffee again and decide instead they're going to meditate. Well they're meditating but now they're drinking coffee and the bedroom is still too warm and all kinds of other things are going on. You need to do all things at the same time that there is a synergistic effect.

DM: So you mentioned the noise. In my experience and study of this topic, one of the more important contributions would be the exposure to light. Not necessarily from the perspective of impairing the ability to fall or stay asleep but from the issue of long term health effects.

The primary concern here is that, as you know, I would like your comment on it but they have too much light then it's going to be interfere with your body's ability to produce melatonin because there is this melatonin cycle where your exposure to bright sunlight in the day time in conjunction with really long periods of pitch darkness. That combination really optimizes the production of melatonin.

Melatonin, as we know, is this massively important antioxidant and (indiscernible 18:16) against cancer. I’m wondering if you can comment the melatonin connection and also are there other elements of light connecting to the sleep and what your recommendations are?

RN: I'm glad you bring this up. In my first book Healing Night, there is a chunk of that book that’s devoted to looking at this whole circadian process. You know, rhythms, rhythmic activities, the infrastructure of light, when we talk about energy in medicine we’re really talking about patterns of rhythms.

The tiny oscillations of atoms to what in Kabbalah they call Tzimtzum, the expansion and contraction of the universe. It’s all rhythmic. We are by nature tied into that. We (indiscernible 18:56). We connect with and operate in accordance or concordance with rhythms.

The fundamental rhythm of daily life is this rhythm of light and dark. In nature morning light energizes us. It suppresses melatonin that’s still lingering in our system. It increases serotonin. There is something about the morning lit up world.

Incidentally, I walk every morning. It’s something I’ve been doing for a few decades. It’s incredibly important to me. Not only health wise but as a spiritual practice. There is something watching the sun come up which we have the luxury to do here in southern Arizona.

Morning light invites us into the world. It lights up the world and it brings us (indiscernible 19:43) in lots of ways that I think we’re just beginning to understand.
We know we begin to look at different forms of phototherapy which is useful in treating depression, seasonal affective disorder and also sleep disorder. Morning light is extremely important.

The balancing factor to that is evening duskiness and evening darkness. I have written I think many of us have a darkness deficiency. We think of darkness in fact, the same way we think of sleep. We think of sleep as being not waking (indiscernible 20:12). We think of darkness as being not light. It’s an entity in it of itself which I think it is.

So there is something of value in darkness just as light draws us out, where darkness invites us back in. We become introverted in the dark. It’s a transition into kind of dreamy consciousness. If you think about it being on a camping trip.

In terms of melatonin, I agree with you, I think it’s an incredibly important nutrient or a hormone. I’ve been taking a small dose of melatonin for about 20 years now. I don’t typically have a sleep problem. Occasionally, I have to deal with jet lag. But I take it because based on my study of this, I think like most people, I’m deficient in it. Most of us are way overexposed to light at night.

Years ago, the average length of a day was over a period of a year was 12 hours, 12 hours of light, 12 hours of darkness. Today the average length of a day is 16 hours. We are exposed -- this is true for children as well -- to so much more light than we used to.

As one of my patients will refer to, it’s junk light. It’s poor quality light. It’s like the empty calories that we get in a lot of food today. In fact, during the day, most of us are underexposed to light. I have some full spectrum lights here in my office and I have a good glass here. I can see that you do which is good. Most of us get a poor quality light during the day and we get too much poor quality light at night. A little bit light can suppress melatonin production temporarily.

Anyhow, there are a number of ways of remedying this. One is to begin to tune back into the rhythm of light and dark. For most of us living in this culture, working in this culture, it’s really hard to disentrain from it. But thank God there are the new technologies around. There are new lighting technologies.

(indiscernible 22:10) I use blue blocking lenses, if you’re familiar with those that actually allow you to wear glasses. I actually have light bulbs in my bedroom that don’t give off blue light. The reason for that is the blue wavelength in the light spectrum is the light that specifically suppresses melatonin.

It makes sense that during the day, the sky is blue even behind if there are great clouds. There is a lot of blue light at daylight which basically tells the brain and the body that it’s daytime. It pushes you back to sleep.
Incidentally, I’ve come to believe that sleep is our default mode. That we will be asleep unless our sleepiness is suppressed by light. People look at it the other way around. That waking is the default mode and we have to jump into sleep. This has implications for how we get to sleep which we can talk about. One is that we can never go to sleep. You can’t go to sleep. Let me touch on this now for a minute.

Most of us will think and say things like, “Oh bedtime, I’m going to sleep.” There is an implication that it’s volition that this is a trick that I can do, you know, watch this, I’m going to go to sleep. The truth is I can go to bed. I can go to the bathroom. I can go to Milwaukee. There are lots of things I can go to. But any effort I direct at getting to sleep, any effort, will actually contribute to keeping me awake.

We don’t go to sleep, we let go of waking. We release waking. We surrender waking. When we let go of waking, sleep is already there. There is a part of the brain; I could say a part of the mind, a part of the psyche or the spirit that is always already asleep. I think we refer to as inner peace or satori or deep states of relaxation. I think it’s a state that already exists in us. I think it’s identical to deep sleep.

So the question is about our willingness to go waking. If I believe waking is all I am, if that’s my identity then this notion of letting go of my waking self actually becomes very frightening.

The Dalai Lama says that the process of falling asleep is very similar to the process of dying. I think this has disconcerted some people. It can be a beautiful experience, an experience of totally surrendering the waking self at the end of the day. I think with practice, with openness, once again, it becomes a great joy.

DM: You mentioned the light, my understanding with that also is that even a small amount of light; say, if you turn on the bathroom light to get up and go to the restroom which is a common thing that many people do, can be enough to suppress the melatonin production for that night.

I actually had a chance to listen to Dr. Russell Reiter who has done really massive amount of research in melatonin. Sort of the converse of avoiding the blue light is, well, what light can I use? I think it was about 720 nanometers or red light doesn’t really affect the production of melatonin. So you can actually see with red light but it won’t shut off the melatonin production. I’m wondering what was your experience with that.

RN: It’s that end of the spectrum. The lights that I have in my bedroom, they’re called low blue lights. These are light bulbs. They give up an amber kind of light. If you subtract blue, just the blue wavelength from the clear light spectrum, it will look amber-ish. Of course your eyes will adapt to that. You can get (indiscernible 25:38) if you need to be on a computer at night. TVs and computers by the way give off a lot of blue light. You’re zapping your melatonin.
You’re probably aware -- I’m familiar with Russell Reiter’s work too. David (indiscernible 25:53) has done a lot of research in light and its effect on cancer. There is strong evidence showing there is a dose dependent relationship between exposure to light at night and a significant increased risk for breast cancer.

There are more recent satellite studies that are fascinating. From satellites, they can measure light intensity in certain regions of the world, usually urban areas. Strong correlations between certain types of cancer and the intensity of that light. So you’re right. We believe the mechanism is that light suppresses melatonin. Melatonin is a potent anti-cancer.

In our center, we routinely use mega doses of melatonin as an adjunct to treating pretty much non-immune system cancers, metastatic non-immune system cancers. We’re talking 20, 30, 40, 60 mg, pretty hard doses.

On a related, many, many years ago Carl Jung, and his student Elida Evans, who wrote a book called The Psychology of Cancer, had a theory that cancer is associated with dream (indiscernible 26:53). One of the basis of the theory at the time was that there is a relatively low incidence of cancers among paranoid schizophrenics who we only (indiscernible 27:05) to be understood as people who have wild explosive dreams. Dreams that showed (indiscernible 27:12) hallucinations in the waking life. He believed that dreaming wasn’t cancerous, that the suppression of dreaming will promote cancer.

What’s interesting today is that we see the (indiscernible 27:23) as potent anti-cancer substance. Melatonin, incidentally, really strongly pushes dreaming. I mentioned earlier of my interest in dreaming. One of the things I’m deeply concerned about and have been for years is that even though there is a growing recognition that we’re sleep deprived in our world, at least (indiscernible 27:43) dream deprived maybe even more dream deprived than we are sleep deprived.

We do most of our REM sleep, most of our dreaming in the latter third of the night. Most of us with insomnia, particularly as we age, lose that part of sleep. They’re actually getting some sleep at the beginning of the night but they’re losing their dreams in the latter part of the night.

There is also a tremendous growing anti-cholinergic burden. So many medications today are anti-cholinergic particularly as people age. We need to see (indiscernible 28:15) to mediate dreaming. So there is that. A lot of sleeping pills suppress REM sleep. Virtually, every antidepressant on the market significantly suppresses REM sleep. I have a concern that both in a literal and in a metaphoric sense we are losing our dreams.

DM: Interesting. Now, many components to go on here but one of the issue is, what is the purpose of dreams? Obviously there are many. I’m sure you’re quite an expert in that. I viewed a lecture recently from a Stanford sleep expert. I forgot his name. It
was an interesting presentation. His present premise was that one of the central roles of sleep is actually to help restore memories and integrate memories and that a lot of that occurs with that.

Actually, it’s a really noble experiment. It’s about testing memory formation and getting to sleep and not getting it and how it really contributes to long term formation. His belief was I think sleep was integral to that. Unless you get that, your long term memory is going to be really impaired.

**RN:** It’s very true. The part of the brain that lights up in REM sleep is the hippocampus. Part of the limbic system is this horseshoe thing. When people get hippocampal damage they can no longer establish long term memory. They’ll remember everything up until the point when they had that brain injury or damage. They can’t establish long term memory. That long term memory appears to be consolidated during REM sleep.

There is probably some association with the kind of images, some metaphoric association with the images that occur in a dream and the kind of memory that’s being admitted. You might think of dreaming as a kind of digestion. It’s a digestion of human experience. So during the day, we’re exposed to billions of bits of information. We filter a lot of that out. We kind of hold on to what makes sense, what seems meaningful and is interesting. We sort of juggle it through the day in short term memory.

At night, that’s filtered particularly in the latter part of sleep. It’s as if we swallow something and then our digestive system decides what it’s going to keep and what it’s going to eliminate. At that point in dreaming, those images or those experiences are matched up to pass the experience. In the same way that food becomes part of us, it’s assimilated, that experience becomes part of us psychology when it’s admitted through the dream. When we dream less and less, and (indiscernible 30:49) we’re growing less. We’re not rebuilding, replenishing our psyche in that way.

**DM:** I think that’s an important concept that I just wanted to mention, which leads into my question because if you take it as the premise and supposition that one of the central roles and functions of sleep is to develop this long term memory through REM sleep then anything that causes you to lose consciousness and to ostensibly appear to be sleeping but not having these important parameters and functions of sleep, it’s not going to be that helpful.

As you alluded to earlier that when you use sleeping pills or other things that will essentially allow you to lose consciousness but not sleep well, that you’re really not getting the benefits and fooling yourself. I wonder if you can expand on that because I think that really is one of the most practical take home implications that many people have because -- I mean over-the-counter pills, sleeping aids that people use, diphenhydramine or Benadryl being of course the most common central
There are millions of people who use that. If you can comment on that I would appreciate it.

**RN:** Yeah, a very important point. Again, it's like empty calories. It's just like eating white bread or just a lot of white flour or processed sugars. You get something but there is very little nutrient value.

Sleeping pills are obviously a huge industry in our country. Most of us have been exposed to lots of direct to consumer ads that suggest that they provide sleep. They really don't. They provide, in my writing I refer to as counterfeit sleep. It looks like sleep but it's not. They may have some benefit in that people who think they have slept are less frustrated during the day.

**DM:** (indiscernible 32:33)

**RN:** Yeah, exactly. There is a really well done meta-analytic study by NIH (National Institutes of Health) on looking at all the sleeping pills about two to two and a half years ago. Here is what they found. They found basically that they don't work. If you look at polysomnography -- this is the objective measures of sleep on people -- all sleeping pills or non-sleeping pills, more often than not, their sleep is worse on a sleeping pill.

In this meta-analytic study, they found that on average, sleeping pills would help people fall asleep approximately 10 minutes after. If it's taking you an hour or two to get to sleep, 10 minutes is statistically significant but frankly, personally, biomedically, it's not significant at all.

On average, sleeping pills increase total sleep time maybe 15 to 20 minutes. Again, if you're looking at an eight-hour night -- really, really insignificant. But here is the catch. This was a really phenomenal find. They found that what most sleeping pills do is they create (indiscernible 33:39) for poor sleep. That people on sleeping pills actually wake up numerous times. They have fragmented sleep. They have lots of arousals. But they don’t remember them. The sleeping pill disrupts the memory formation.

So they wake up thinking they had a good night sleep but when you look at objective measures of their sleep, it's really very poor. So we're tricking ourselves. It's poor quality.

You mentioned over-the-counter sleeping pills and a lot of people particularly older people think these are better because they are non-prescription, they appear to be safer. They're not really. They're basically (indiscernible 34:11).

Most people don't realize that (indiscernible 34:15) has a half life of about 18 hours. It's huge. If you could (indiscernible 34:21) those at night, every night, you're
basically on that all the time. It's also associated with cognitive deficits in the morning.

Coming back to what you’re talking about a minute ago, it’s a potent anti-cholinergic, meaning it suppresses REM sleep, it suppresses dreaming. I don’t recommend these at all. I’m not fond of prescription sleeping pills. In fact, I think they are slightly better than over-the-counter. There are many alternatives to prescription sleeping pills as well.

Melatonin by the way, I don’t think of melatonin as a sleeping pill although it can help people sleep. It helps you restructure your circadian rhythm. That’s the structure within (indiscernible 35:02) sleeping, waking, good consciousness occurs. It’s a healthy rhythm of consciousness. It really (indiscernible 35:07) which I mentioned.

I will frequently use very (indiscernible 35:12) depending on how the individual presents. A very common way is (indiscernible 35:16). Sometimes I’ll use hops, sometimes skull cap, again, depending on the individual. I don’t recommend these on a long term basis at all. I think the use of (indiscernible 35:27) is to help correct the sleep cycle. They are very useful to help get people off of sleeping pills. (indiscernible 35:33) coming off of the beer.

But in the long run, I think what we wanted to (indiscernible 35:37) reconnect our innate capacity to sleep well. The body and the brain want to sleep. It’s not something we have to force on them. We simply have to remove the conditions that inhibit that.

**DM:** Thank you for expanding on that. I have a follow question with respect to a drug approach. As you mentioned earlier, one of the major limitations or factors that contributes to people sleeping well is the psychological noise. Maybe one of the most pervasive I think and one of the more important influences at least from my experience.

A common approach that many physicians use and certainly patients implement is an anxiolytic which are not technically sleeping pills and should have far shorter half-lives. With a short half life, I’m wondering since most of the benefits of sleeping, as you alluded to, seem to occur at the end of the sleep. If there is ever justification for using those to aid in minimizing the psychological noise so you can actually fall asleep.

**RN:** They are not my favorite medications. Honestly, if somebody has had a tragedy and lost a loved one in a car accident and they are freaked out, you know, whatever gets you through the night at that point I think is fine short term. Anxiolytics and benzodiazepines of course drugs like Valium and Klonopin, Xanax and so on. It’s funny that they do put people to sleep.
My theory is that so many people unfortunately use that anxiety as waking fuel. You know their waking lives are so fueled by anxiety. If you take the anxiety away, they’ll fall asleep. So that’s part of it. It’s partly tongue in cheek.

These are not ideal medications. The half lives vary. Some of them can be short. Clonazepam, Klonopin has a very long half life. These are all, as you know, technically addictive drugs and very difficult to come off of. Benzodiazepines are anxiolytics as a class increase light sleep. They suppress deep sleep and they suppress REM sleep. They’re also addictive so not the best thing to take for sleep.

**DM:** Would you agree that psychological noise is one of the major challenges that you see that people have?

**RN:** Yes, absolutely.

**DM:** I’m absolutely on board with everything you said. What is in your experience what have you found to be the most useful approach to addressing this psychological noise?

**RN:** The short answer to that is teaching people to listen to it before they get into bed. I often say to people, you know, you want to have your nightmares before you get into bed. Many of us, most of us are so busy throughout our waking lives. We’re so driven. We’re so accelerated. We don’t take the time to be with ourselves.

One of the reasons we have trouble falling asleep is for many people that moment that they get into bed, turn out the lamp on their bed stand, it’s the first time the whole day that they’ve been alone with themselves. Whatever emotional grooves or unfinished business, something lingering, has not been addressed during the day, it’s going to pop up right there. I call it an opportunistic emergence.

We need to be kinder to ourselves and take time with ourselves and with our loved ones to process the day. It’s a beautiful thing you can do if you got a partner or to feed your world at the end of the day. Many of us will shower at the end of the day. We sort of want to rinse off the day but we don’t shower psychologically. We don’t take care of that.

Looking at the anxiety is very, very important. When people do that, they’ll often discover that behind all of these popping thoughts there is feeling. They might find a bit of hurt, a bit of sadness, some unresolved grief. That can be attended to. We cannot sleep alongside of anxiety. It’s not a good bed partner. It kicks and screams at us.

We can and actually sleep really well alongside of sadness, alongside of some grief. It’s interesting because those emotions don’t really hype us up. We can embrace them. So we want to get pass the anxiety. Usually anxiety is concealing another emotion. So I work with people.
There is very, very good data on what we call CBT (Cognitive Behavior Therapy) for insomnia. We identify many different kinds of thoughts, feelings, some belief systems that people have. A very common belief is people think that a good sleeper is someone who falls asleep the second their head hits the pillow.

Consequently, and it’s widespread belief in our world, people go to bed, they turn out the light, they’re tired, two or three or four or five minutes later, they’re not asleep and they go, “Oh damn, something is wrong. Well, you know, nothing is wrong. But based on that belief, they think something is wrong. They become anxious and of course that starts to spin out and keeps them awake.

So that’s an example of belief but we address belief as we do personal feelings - we address anxiety. And again, once they are cleared away, there is nothing we have to do to sleep, we simply have to get waking out of the way.

If I can say one more piece about this, most of us unthinkably import waking consciousness into the night. We’ve forgotten that night has its own world. It’s an exquisite beautiful world.

The National Sleep Foundation, a couple of years ago, found that a small percentage but a significant number of Americans routinely sleep in their clothes. This is kind of an odd thing. It’s a simple (indiscernible 41:29) detective guy who looks like he slept in his clothes. So hundreds and thousands of Americans do this every night. Most of us react to that and say, that seems kind of silly or odd.

We know that we want to shift out of our physical waking goal but most of us unconsciously sleep then are psychological waking. We sleep in our psychological clothes, our day time clothes. We carry the waking (indiscernible 41:55) consciousness into the night. What defines that consciousness primarily is intention.

We move through the day with layers and layers, hierarchies of intention. They drive who we are and what we want. That’s absolutely normal. It’s about passion. But at night, we have to leave our intention at the door. Again, when people get into bed with the intention to fall asleep a lot of people work at going to sleep, you know, there are a thousand different shenanigans. You can’t produce sleep from the waking state of consciousness. We have to be willing to let go. The key here I think is to surrender. You have to be willing to surrender into night.

DM: Two of the recommendations I have used for many years with a fair amount of success and as a psychologist, I think you’re familiar with one of them which is emotional freedom technique which is just a subset of energy psychology. Obviously there are many other tools. I’m wondering your experience with that and then also, a highly effective exercise program as an anxiolytic. But not used before you go to bed because that can be counterproductive but on a regular basis, just having the body fit is enough to process that emotion to help you work through it.
RN: I think that’s a critically important point. In fact there are some data that just came out again within the last 10 days or so on exercise. We've known for years there is a strong correlation between regular cardiovascular exercise and deep sleep. I think of it rhythmically. I think during the day, we want to get as impassioned as we can. We want to ascend the peak of passion. The higher we get in that positive sense, the greater we will head down into deep sleep. That’s the metaphor.

DM: Almost like the exposure to light.

RN: It's like the exposure to light, more intense light. We want to get energized during the day, really well energized and then we go down the slope into sleep at night. You’re right about not doing it close to bed time because aerobic exercise because it increases body temperature which can interfere with sleep onset.

DM: I didn’t realize it until you just pointed it out graphically with your hands. It is actually the amplitude of that loop. The higher the amplitude, the deeper you’ll be able to go. There is a minimum amplitude or a very small amount, you're not going to be able to go down as deeply.

RN: Right. Most of us are flat lining. It’s not just that we’re not getting into (indiscernible 44:28) sleep at night, we’re not getting into the heights of waking. We’re just flat lining. I think of this as a sleep-awake variability cycle. We know like in heart rate we want good variability. We want good variability in our consciousness during the day.

DM: The heart rate variability is an important element. I started exercising in 1968 over 40 years ago and for the first 35 years or so of that maybe a little bit less, it was almost exclusively cardio or aerobic exercise. You may or may not be familiar but if you do that, it actually doesn’t improve your heart rate variability that much. It doesn’t give you the intensity typically.

What I’ve learned is that it’s this high intensity training where you’re really pushing it to the limits, sort of, (indiscernible 45:14) is more useful. That will not only improve the heart rate variability but also improve your growth hormone which tends to decrease quite dramatically after the age 35 or 40.

I haven’t seen any studies on it relating to sleep but my impression is based on your reasoning of increasing the amplitude is that it’s going to be far more effective than just going on a treadmill and slogging out miles at 4 miles an hour.

RN: Right. It makes sense. There is a rhythm to that too. We’ve got these larger rhythms. The circadian rhythm for example and then there are smaller rhythms, alternating rhythms which are less than a day long. It makes a lot of sense.
You mentioned emotional freedom technique and we’re referring to heart rate variability. There are dozens of approaches like this that can help people essentially rest. Rest has become a four-letter word in our culture. It’s often confused with getting high or watching a movie or (indiscernible 46:13) going bowling whatever. People confuse rest with recreation. They’re two very different things.

I think, in order to sleep well, we need to learn how to rest. The bridge, the transition into waking and sleep is rest. Many people are not comfortable with rest. They’re just not. So any technique that works and I think we adapt these to the individual is a good idea. I often recommend meditation. I use (indiscernible 46:43) heart rate variability.

In more recent times, I’ve been using electro-cranial stimulation for severe insomnia with some very good results. There are lots and lots of ways to re-teach the body and the mind to rest. I think they are also a very important part of bringing mind noise down.

When you mentioned temperature, I’m wondering if I can touch on a concept related to that. When I look at sleep disorders in general, we’ve been talking mostly about insomnia, sleep apnea and other sleep disorders. I think of them in terms of what I call night fever.

So (indiscernible 47:23) I was raised by parents who were from Eastern Europe. If I wasn’t feeling well, my mother would always ask me three questions, this was a sort of folk remedy diagnostic approach. She would ask me, “Did you eat?” Recognizing the importance of nutrition back in those days. Her second question was, “Did you poop?”

Metaphorically, if we’re looking at the questions (indiscernible 47:51), what am I eating and putting into my being during the day. Obviously, some of that is (indiscernible 47:57) nutrients. But we also emit light. We emit lots of information in our world. We emit all kinds of energies.

The first question about eating is, what am I admitting into my being? Our situation with life I think is a lot like our situation with food. We’re a nation that’s simultaneously overfed but undernourished. As I said earlier, we’re over exposed to light but its poor quality light.

Somebody recently wrote that in an average moment of life today, we are exposed to as much information as people were exposed to in a lifetime a hundred years ago. I doubt that that can be measured objectively but you know, intuitively, we know it’s true. We’re being bombarded with information.

I think a lot of people over consume information the way others over consume food. We’re essentially energy addicts. We overeat as a nation. We’re over exposed to light. We over consume information. We over consume light. You might be familiar if
you take (indiscernible 49:03) and say that we actually over consume oxygen. We
over breathe. It’s an interesting model that says that we’re taking in more than we
can handle.

The question my mother asked, did you eat, I think, metaphorically is what am I
consuming? The question, did you poop, is what am I able to go off. What am I able
to release. I think many of us, most of us, consume more in this broad sense than
we’re able to release at the end of the day. This isn’t (indiscernible 49:33) that I
think explains chronic inflammation which is we all know seems to be an under
(indiscernible 49:40) in virtually all major diseases.

By the way, they see chronic inflammatory processes underlying sleep apnea. We
see evidence of it in insomnia. We see evidence of it in depression alongside with
virtually everything else. Chronic inflammation, basically, it’s a kind of energy that
gets trapped in our systems. So, what are you consuming? Looking at what we’re
admitting during the day. What are we releasing?

I’ve been suggesting that the key to getting to sleep is this capacity to surrender.
Sometimes if you’ve been carrying a lot for a long time, it’s really hard to put it
down. It’s almost painful to let it go. So this is a process of letting go. My mother’s
third question incidentally was -- did you eat, did you poop -- did you sleep? Which
for me was just this sort of reflection of the natural sense that sleep is critical.

I think (indiscernible 50:37) sleep is anti-inflammatory. I think healthy sleep is anti-
inflammatory. There is a growing evidence for that. It seems to modulate the
immune response. You mentioned human growth hormone. Human growth
hormone, for most of us, occurs in deep sleep.

By the time the average male is 50 years old, he’s getting close to zero percent deep
sleep in our world. Females are not far behind that. I’m sure you’re aware of this, we
often mistake statistical norms for health norms just because almost everybody
(indiscernible 51:09) experience doesn’t mean that it’s (indiscernible 51:11) from a
health perspective because everybody is overexposed to all these energy during the
day.

**DM:** Thank you for those comments. I can certainly appreciate your being brought
up from Eastern Europeans. When I was practicing, I almost always loved when
Eastern Europeans came in because they would give me the least amount of
negative feedback or push when I asked them to implement these suggestions
because they knew it. They understood at the deepest level better than any other
culture that I’ve seen the basic of tenets of health. At least, that was my experience.

The other component I seem to have lost. It was an important one. It will come to
me. But anyway, one of the elements of implementing this of course is going to be
using -- well there are these aids, you had mentioned earlier that you use melatonin.
I’d like to talk a little bit about that with respect to dosing, any toxicity.
My understanding from Dr. Reiter is that it’s basically about as harmless as it can be. There is virtually no toxicity although there is probably an optimal dose. Personally, I don’t use melatonin but the only time I ever do is when I’m jetlagged. Since I don’t drink coffee or use caffeine, I use enough caffeine to keep me up and then -- my normal bedtime is I take the melatonin. I use it sublingually about half a milligram. It seems to work really well. As I said, I like to get the exposure to exercise, get this high sunlight and absolute darkness at night. I do it naturally (indiscernible 52:46).

RN: That’s ideal.

DM: I think it’s safe. I think you could justify using it just from an anticancer perspective. I’m wondering what your experience is because this is your full time position. You get this question all the time. You got a lot of clinical experience with it.

RN: Melatonin has a very good safety profile, a really good safety profile. We tend to not recommend it for children though there is growing data both anecdotal and some studies using it for autistic kids very effectively. We tend not to recommend it during pregnancy not because there is any data supporting that because we just don’t know.

I trust Russell Reiter’s work completely. The safety profile looks good. There are studies in which college students were given a thousand milligrams of melatonin by injection night after night for 30 days in a row. The only side effect they had was that they were a little bit groggy during the day. That was an extreme study. It looks very safe.

We don’t know what it’s going to do long term. Dosage questions is an interesting one. I think most people I encounter using melatonin are not well informed about it. One thing we have to keep in mind is that it has a very short half life, 45 minutes or so. It’s going to spike and then drop down. If you take enough of it, it’s going to decrease pretty slowly over time.

I think most people overdose on it. The standard tablet that you buy in a health food store or a pharmaceutical is usually about 3 mg. Nobody knows where that came from. It wasn’t based on anything. Somebody just decided and everybody followed suit. It’s probably as much as ten times more than we need. I don’t know that it would hurt. There is really no (indiscernible 54:40) and some down regulation. Meaning, if you take melatonin exogenously, it’s not going to decrease your body’s tendency to produce it.

DM: Just as a side point, it does happen with the hormones which is why you mentioned this.
**RN:** Right. That's happened with others. The best data that I have seen suggests that about half a milligram or even in 0.3 mg is ideal. The thing that I would add to it -- this is more based on anecdotal information than data -- I tend to recommend sublingual and sustained release along with a low dose. So the low dose, we have data on.

The sublingual, there are some data that shows that there is a huge difference in terms of what's filtered out through the first liver pass if you're swallowing a tablet. So you're going to get -- people think if they swallow something it gets into their system but we know that there are all of these gates that has to get passed.

So if you want to make sure you're getting what you're swallowing into your brain, better to let it dissolve under your tongue it goes right into the bloodstream there so sublingual under the tongue. I tend to recommend sustained release because a half life is so short.

Normally, the melatonin curve in nature looks like this. It actually comes up very slowly. It peaks out three, four, five AM. As we're approaching (indiscernible 56:03) it drops down. When we take a dose of melatonin, a regular release, it does the opposite. It climbs up very high and then gradually diminishes. So you're getting an (indiscernible 56:14) rhythm.

If you take a sustained release, you're going to get sort of a square coverage. It's going to come up, it will stay flat for awhile and then drop. I've talked to a number of supplement companies over the years and tried to convince them to use a biosynchronous melatonin. We have the technology.

We can produce a melatonin that's released in a way that parallels exactly what the brain does. I haven't found anybody interested in doing that yet. So the best we have is the sustained release, low dose, sublingual sustained release, 0.3 mg or 0.5 mg. I tend to recommend the spray because you can control that pretty easily.

**DM:** We actually have a spray too which is what I use whenever I need it. The other issue that I'd like you to comment on is one of the most important physiological impairments of sleep which is sleep apnea.

Sleep apnea like diabetes I think can be divided into two primary ones. Obstructive sleep apnea which is about like type 2 diabetes and a far more common one. Usually it's a result of people drinking, smoking, and primarily being overweight; two-thirds of our country is overweight. This is somewhat pervasive and then they use CPAP (Continuous Positive Airway Pressure).

The other one which is more complex but I think somewhat like type 1 diabetes because it's far less common is non-obstructive sleep apnea. I'm wondering if you can comment on both of those and what you found useful. Are there any problems
you see with CPAP? Obviously, you want to lose the weight but during the process of getting to lose the weight, what do we (indiscernible 57:46)?

**RN:** First of all, central sleep apnea is in its clinical form is relatively rare compared to obstructive sleep apnea. The best we can make out of it is it’s just some sort of glitch in the brain. The brain goes through this transition from consciously mediated breathing to unconsciously mediated breathing.

Incidentally, I’m sure you know, breathing is the only physiological function that it can be completely under conscious control and completely under unconscious control. When the control mechanism is passed sometimes it’s a shifting of gears. It can be a little choppy. Most people have a little bit of apnea here and there. Meaning, there is a moment or two and this is really not clinically significant.

Central apnea can be associated with all kinds of neurological conditions or it can just be something that is congenital. That’s treated sometimes with medication. Sometimes it’s not treated if it’s not significant. Sometimes it’s treated with CPAP which we can talk about.

**DM:** Before we go to obstructive and central, have you ever found any times that a digestive component or a stomach issue will contribute to the non-obstructive sleep apnea?

**RN:** Well, you know, GERD which is extremely common can mimic sleep apnea. People often present this, you know, waking up with choking sensations and it looks like apnea and it’s happened repeatedly at night but it’s regurgitation of course of stomach fluids. When that happens, when you get a regurgitation, it will temporarily stop your breathing. You can distinguish those pretty quickly. Sometimes they overlap.

Obstructive sleep apnea, one of the questions I’d looked at here, asked why so many people who are (indiscernible 59:37) getting apnea. The truth is actually people over 60, 65 don’t really suffer from apnea as much. They may have apnea but it doesn’t seem to (indiscernible 59:47) as much.

People with serious apnea which can begin in their 40s and 50s and into their early 60s, need to get treated (indiscernible 1:00:02) tremendous pressure on the cardiovascular system, increases dramatically high blood pressure, stroke, heart attack and so on. We see a lot of deaths out of secondary sleep apnea if it’s not treated.

Sleep apnea essentially is associated with chronic inflammation. It’s one of the big pieces. You referred to a problem with weight. Most people with apnea have weight gain. We’re not just gaining weight on the outside of the body, we gain it on the inside including (indiscernible 1:00:30). People with obstructive sleep apnea not
always but usually have a very large neck. They’re fatty deposits. All of these contribute to a constriction of the upper airway. It starts to close down.

There is another (indiscernible 1:00:43) that I find very interesting that often isn’t addressed. That is upper airway hypertension. Most people think of hypertension is related to blood pressure but we have muscles that surround the upper airway. Those muscles actually are extensively tense in sleep apnea patients during the day. This is associated with how we manage our voices.

When I was a kid, when we were kids, we used to play those games with (indiscernible 1:01:13) fists and we would hold it (indiscernible 1:01:17) you would hold the fist as long as you could because you hold it, and hold it, hold it, and at some point, involuntarily, it would just sort of prolapse. It would just open up.

We think the same thing happens. We think that a lot of people with apnea hold a lot of tension in their throat. The stereotype, sort of, poster child of sleep apnea would be the image of the Godfather who is really big (indiscernible 1:01:43). He’s got a lot of power and he talks like this. This is exaggerated but he’s got a lot of tension in his throat.

When this tension held in the throat during the day, when that tension is held continuously through the day, it actually over relaxes at night. Tissues becomes loose and contributes to snoring initially and then to sleep apnea.

I’m actually in the process of sketching an audio book on alternative to CPAP. It’s something that has interested me for a long time. CPAP -- positive airway pressure (indiscernible 1:02:22) is a device that senses the breathing process and will basically blow a current of air down into the (indiscernible 1:02:34) to keep it open.

It’s a little bit like -- your airway is like the stem of a balloon and if you cough into it you can make it taut. You can keep it open. So it does that. It opens that up. It can be lifesaver for some people, you know, people who have really high apnea scores.

Incidentally, apnea is measured in terms of what we call AHI (Apnea-Hypopnea Index). It measures the number of times on average per hour breathing stops or significantly slows. That’s what a hypopnea is. An apnea is breathing stops.

On average, normal people will have an apnea-hypopnea index of up to 5. Meaning, you know, three, four, five times an hour our breathing will be slow or even stop for a duration of 10 seconds or more or much longer than that. That’s considered normal. It becomes abnormal when it’s excessive or when it begins to dramatically influence blood oxygen levels and saturation. So we see that a lot.

Apnea, usually is treated anywhere from a score of 5 to 10 and upwards. So 5 or 10 would be borderline or mild. We see people who (indiscernible 1:03:53) scores
routinely that are 30, 40, 50, 60. That means their breathing is they compromise 30, 40, 50, 60 times per hour through the night.

I worked not long ago with an apnea patient who had an apnea score of 118. He is a 55-year-old man who already had a heart attack. He had put on a tremendous amount of weight. There was a lot of stress in his life. He was put on a CPAP and had a lot of trouble tolerating it. Many people who do it they'll tear out in the middle of the night.

And like most apnea patients, he was told, you're going to need to be on this the rest of your life. He was given no information, no encouragement about managing his diet, his nutrition, exercise, none of that. This is really, really common. In my opinion, it's borderline malpractice. It's like putting somebody on a crutch, who has a broken leg, putting the cast on them and telling them to live with it the rest of your life. That cast is important but it can be used as an initial step in healing not as a long term palliative care if you will.

Most sleep apnea patients if they address the underlying causes, you know, weight, stress and so on, over time, can reduce their weight. They can reduce their dependence on a CPAP.

There are also other approaches. One of the most promising ones now, very interesting kind of quirky and very exciting is using a didgeridoo. There is really good data now, growing data, for the last few years --

**DM:** It's like an exercise, isn't it?

**RN:** It’s an exercise. Basically, what it does is it re-tones the upper airway. Of course it’s this large Australian wood instrument. There is now a company that produces them specifically for apnea.

**DM:** They make it out of plastic too.

**RN:** They make them out of plastic, polyresins, yeah. You have to learn to circular breathe. I tried one of these when I was in Australia. It’s not easy but you can do it. You basically are inhaling, puffing your cheeks up with the air and letting the air up as you're inhaling. Somehow that circular breathing process tones the upper airway.

There is also anecdotal belief and I think there is some truth to it that singing can help some people. I worked as a consultant with the music business for some years around dreams and creativity. The story was you really never saw a singer, particularly an opera singer, with apnea. Some of these guys deserve apnea. I mean, they’re gigantic. But the truth is they exercise their voices.

I think we need to take a multi concomitant approach to dealing with apnea not just the mediation of CPAP when it’s necessary but also looking at nutrition, looking at
exercise, looking at psychological factors that affect how we express ourselves and energy medicine, we look at the throat chakra which is expressing fatigue.

**DM:** Thank you for the excellent advice.