The Science of Better Sleep: A Guide to Restorative Rest Transcript

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Introduction to Sleep and the Show

Sleep is not passive. It's an active coordinated biological process involving the brain, hormones, immune system, metabolism, and even the cardiovascular system.

When your sleep is optimized, what's going to happen is your tissues will repair more effectively. Your emotions will stabilize. your memory strengthens, your metabolism balances, and your immunity improves and brain waste is cleared with cognitive function and memory.

Welcome to Health Breakthroughs with Dr. Stengler. I'm Dr Mark Stegler and each episode we cut through the noise to bring you practical, science-backed insights for more energy, better health and a life that feels like yours again.

Hey everybody, I'm Dr. Mark Stengler. I've been practicing integrative medicine for over 30 years. In this video, i'm going to go over the major sleep problem that America has and give you a comprehensive guide to understanding sleep, insomnia and natural supportive techniques that work.

But let's talk about sleep. What's going on metabolically when you're sleeping? Well, it's not simply just a time when the body shuts down. It's actually an active, highly coordinated biological process that supports physical repair, emotional balance, memory formation, metabolic stability, and immune strength.

Now modern lifestyles like artificial light exposure, stress, irregular schedules, and screen use can disrupt the body's natural sleep system and contribute to insomnia.

So understanding how sleep works allows us to remove these barriers and support the bodies built-in healing mechanisms. You've done everything you were told to do and something still feels off.

How Sleep Works and the Four Stages

Health Breakthroughs with Dr. Stengler, we go beyond symptom management to explore integrative, science-backed approaches to the issues that medicine too often overlooks.

Chronic fatigue, brain fog, gut dysfunction, inflammation, hormone imbalance, and healthy aging. If you're ready for real answers and practical tools to support your health naturally, follow Health breakthroughs of Dr Stegler on Doctor Talks or wherever you listen to podcasts.

Now in this video, I'm going to explain how sleep is organized, why it's essential for health, what happens when it is disrupted, and then give you practical strategies to restore healthy sleep patterns.

First, let me talk to you about the four stages of sleep, because sleep occurs in four organized stages that cycle throughout the night. And sometimes you'll see articles on it.

So let's just give a little bit of a background on what these stages mean. Now stage one is known as non-rapid eye movement or non ramp sleep. Now, this is the transition from wakefulness to sleep.

The body begins to relax, brain waves slow down, and eye movements decrease. Then there's stage two. This is known as light non-ramp sleep, where sleep deepens, your body temperature drops, breathing slows, eye movement stops.

Stage three, this is deep non-REM sleep or slow wave sleep. This is your restorative sleep, very, important. Brain waves slow even more, and this stage is essential for physical healing and regeneration.

And then there's the last stage, stage four. So for about 90 minutes after falling asleep, REM sleep begins. The eyes move rapidly from side to side, brain activity increases and most dreaming occurs during this stage.

Now these stages repeat in cycles throughout the night. Did you know that your body has an internal sleep clock? Yeah, the body operates on a 24-hour timing system called the circadian rhythm.

This rhythm responds to light and darkness. At the center of the system is the suprachiasmic nucleus, kind of a fancy name, but it's basically a center located in the brain and it acts as a master clock that regulates sleep timing.

So now when light enters the eyes and reaches the retina, signals are sent to the suprachiasmic nucleus, and then it communicates with the pineal gland, also in the brain.

Now when you're in light, melatonin production by the Pineal Gland is suppressed, but in darkness, Melatonins production increases. And of course melotonin helps to initiate that non REM sleep.

It also modulates REM Sleep by acting on specific regions in Now, in addition to the circadian rhythm, the body has monitoring systems that increase sleep pressure when someone has been awake too long.

Well, this is important because for whatever reason, you're up longer than normal and you have to be involved in activities. You can override the other circadian rhythm of the.

And you can stay up for a certain degree of time. So what actually happens during deep sleep? Because we hear this term deep asleep and how important it is to regeneration.

Circadian Rhythm and Sleep Pressure

While deep sleep, again, when the slow waves occur, is when major physical restoration occurs. During this stage, you have growth hormone, which is released by your pituitary gland, the front of your puttuatory gland.

And growth hormones involved in tissue repair and muscle recovery. Also during this time, your immune function strengthens, brain detoxification increases, heart rate and blood pressure decrease to support cardiovascular recovery, so this state is essential for physical healing.

So what happens during REM sleep? Well, REM Sleep plays a key role in emotional and cognitive health. Because during REN sleep, a few things happen. First, noradrenaline, which is a stimulatory type of stress hormone, is absent.

Emotional memories are processed in the brain. Also, brain regions involved in emotion regulation become active. Dreaming contributes to emotional balancing.

That's why dreaming is so important. Also, creativity and problem solving abilities improve. Yes, this actually happens while you're asleep. So REM sleep helps to integrate emotional experiences in a healthier way.

Let's talk about sleep and memory. Throughout the night, the brain processes and consolidates memories. This strengthens long-term memory and improves learning capacity.

REM sleep has also been shown to enhance creativity and insight. Again, this is why this REM Sleep is so important. Sleep also important for metabolic health.

sleep creates a coordinated hormonal environment that promotes repair and metabolic balance. So during sleep, growth hormone mobilizes fat for fuel. It also uses amino acids to direct them into muscle tissue for repair.

Also, insulin levels decrease, helping maintain stable glucose and reduced fat storage. Hey everybody, I want to take just a quick moment and invite you to my website, DrStengler.com.

Here we have the supplements that we've been using with our patients for many, many years.

Deep Sleep, REM, and Memory

High quality and high potency supplements, very pure. So, if you're looking for high quality supplements where you can notice a difference, both in how you feel on your lab tests, Go to our website at drstengler.com.

The hormone leptin rises which suppresses appetite. Ground falls which reduces hunger signals. Cortisol, the stress hormone, is lowest near midnight and rises toward the morning to prepare the body for being awake.

These changes stabilize blood sugar, regulate appetite, and synchronize metabolism with the circadian clock of the brain. So let's talk about immune support during sleep.

What's happening to the immune system? Well, deep sleep enhances immune function because we know during this time research shows that cytokines, these chemical messengers, are released and the body improves its ability to fight infection.

Also, inflammation is better regulated during this time, so sleep strengthens immune resilience. Let's talk about the brain's detoxification system at night.

The glymphatic system becomes active during sleep, and this is a system where the cerebral spinal fluid circulates throughout the body and it removes metabolic waste and debris.

By doing this, the glyphotic system improves brain cell health, improves memory, improve cognitive performance. If you have reduced glymphatic activity because of sleep problems, then this has been associated with degenerative neurological conditions.

So it's very important that you achieve proper sleep. Now there are many different types of sleeping problems. Let's talk about the most common one, insomnia.

Insomnia refers to difficulty falling asleep, waking during the night, poor sleep quality, And short-term insomnia lasts days to weeks, while chronic insomniac occurs three or more nights per week over three months.

So there are some differences between acute and chronic Insomnia. Now let's look at the statistics. Approximately 10% of adults have chronic Insomnia.

33% experience acute Insomnia, 30 to 50% report Insomnia symptoms, 70% teens and 35% adults do not get the recommended amount of sleep. Adults are generally advised to obtain at least 7 hours of sleep per night, and sleep quality is equally important.

In teenagers and young children, that amount of sleeping demand is even higher. So let's talk about how the body is engineered for sleep to help healing.

You see, the sleep system is highly organized and biologically coordinated.

Metabolism, Immunity, and Brain Cleanup

So as darkness falls, that component of the brain in the hypothalamus called the suprachiasmic nucleus signals the pineal gland, then melatonin increases, your core body temperature drops, sympathetic activity decreases, parasympathetic activity rises, which has a calming effect, and then this body shifts from energy expenditure to restoration.

So again we know that during deep sleep you have all this tissue repair that's occurring and your cells are actually detoxifying including your brain cells.

Let's talk about sleep medications which are so commonly used in America. Common sedating medications for sleep include the benzodiazepines say like Xanax or Valium.

People use antihistamines like Benadryl and there's a variety of other medications that people can use such as the hypnotic medications like Ambien, Lunesta, Sonata, You have rosarim.

All these can be habit forming. They can cause side effects such as dizziness, confusion, drowsiness and balance problems. Rosarum is a little bit different because it mimics the melatonin acting on the brain to promote sleep onset.

So really these medications, if they're used, they should be used short term. Really you should focus on changing your diet and lifestyle and using some of the natural approaches I'm going to talk about here in a minute.

Now, to help insomnia, let's start with the sleep hygiene essentials. Healthy habits improve sleep quality in several ways. First, make sure you go to bed and wake up at the same time daily.

This helps to reestablish a normal circadian rhythm. Second, keep the bedroom cool, quiet and relaxing. You don't want to be too hot. As I've shown, a lower temperature in the room helps with sleep.

Make sure to turn off electronics at least 30 minutes before bedtime. Up to two hours would be optimal. Avoid large meals and alcohol before sleep. Large meals pool blood in the digestive system, taking blood flow away from the brain, disrupting metabolism.

Alcohol does not give you a proper deep sleep, also be careful with caffeine, especially in afternoon or evening. make sure you exercise regularly, avoid long naps, and also use comfortable bedding.

All these are parts of sleep hygiene which can help treat more of the core of why a lot of people have sleep problems.

Insomnia Basics and Sleep Medications

There's also cognitive behavioral therapy which is a non-medication therapy usually given over six to eight sessions and this is used by people trained in this field and it includes sleep restriction therapy, Getting to bed at the same time every night, even if you're tired, waiting a period of time to knock on the bed too early.

Stimulus control therapy, they give you sleep hygiene education. And also they address thought patterns that contribute to insomnia. If your mind is always racing, if your anxious when you go to bad, this can cause problems with stress hormone imbalance, which keeps the brain alert at night.

Also, some people require hormone support to help with their sleep problems, especially for the perimenopausal, menoposal and postmenopasal women. So for some women, hormone replacement therapy can help women improve their sleeping, specially if they're experiencing hot flashes and night sweats.

We know that transdermal estrogen combined with oral micronized progesterone has been shown to be effective in menaposals women in helping with your sleep.

Both estrogen and progesterone, more so progeterones, is very calming to the brain. Now let's talk about some of the more well-studied dietary supplements for sleep support.

I use these with patients all the time because insomnia is such a common problem. Of course, we've all heard of melatonin. Melatonins reduces the times needed to fall asleep and may improve sleep quality.

You should take it about 40 minutes before bedtime. And there's a wide range of dosing that can help people. If you look at the studies, anywhere from just 0.1 milligrams to 10 milligrams can be helpful for insomnia for a lot of people, but for most people I recommend starting with one to three milligrams.

You can use sublingual forms or time release forms if you can fall asleep but you wake up. In studies have shown that malatone is very, very safe. Doses up to a hundred milligrams have not shown toxicity.

If using long-term doses of very high levels then you should be monitored by a doctor. If you take too much melatonin for your system then typically you'll feel groggy the next day.

They call it the melotonin hangover. So simply just cut back on the dose that allows you to sleep and not feel groggy. The next morning another well-researched supplement is L-theanine.

This is an amino acid That improves sleep quality based on studies.

Sleep Hygiene and CBT for Insomnia

And what theanine does, when you look at the mechanisms, it reduces cortisol, lowers your heart rate, increases those alpha brain waves, improves relaxation support, and it influences serotonin and GABA levels in the brain.

Typically, I recommend about 150 to 500 milligrams one hour before bedtime. And this has a calming effect on the brain. It helps with the sleep cycle.

Now, ashwagandha is a great supplement for people with chronic insomnia because it has been shown in studies to improve sleep quality and also reduces stress and stress hormones like cortisol.

And of course, for a lot of people, their insomniac is tied into their stress. So the benefits of Ashwagandha show in studies that it improves overall sleep, people have better alertness upon awakening, it reduces anxiety, and it lowers cortisol.

In some studies, It reduces blood cortisol levels by about 25% after 30 days. So typical doses with ashwagandha extracts are 250 to 600 milligrams or more daily for at least eight weeks.

So again, you can't just be on for a few days. It has a cumulative effect. You need to be off for several weeks, I'd say atleast four weeks The other natural remedy I want to talk to you about is passionflower.

Now passion flower is a plant extract which has long history of use.

Hormone Support and Natural Supplements

And we look at the studies, it can shorten sleep onset time, so the amount of time it takes to fall asleep. It has been shown to increase your total sleep duration.

It reduces nighttime awakenings and a typical dose is about 600 milligrams of an extract before bedtime or in some cases we'll use lower doses maybe like 300 milligrams used in a combination sleep formula.

The safety profile of passionflower is excellent. So in closing, I want you to consider that sleep is not passive. It's an active, coordinated, biological process involving the brain, hormones, immune system, metabolism, and even the cardiovascular system.

When your sleep has optimized, what's going to happen is your tissues will repair more effectively, your emotions will stabilize, Your memory strengthens, you metabolism balances, your immunity improves, and brain waste is cleared, which improves cognitive function and memory the next day.

So the key to resolving insomnia is identifying the barriers and supporting the body's natural sleep system with proper habits, therapies, and when needed, using the correct nutritional supplements and as last resort, medications.

Conclusion and Key Takeaways

Well I hope you found this video helpful. Hit the like button and if you haven't subscribed to the channel, feel free to subscribe. And look for other videos I have on stress, on sleep and a wide variety of other health conditions.

Thanks for listening to Health Breakthroughs with Dr. Stengler. If today's episode resonated with you, please follow the show, share with someone who needs it, and leave a review.

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