Melatonin: The Good, the Bad, and the Science Transcript

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Introduction to Melatonin

Melatonin reduces COVID deaths by 93%, by the way. It reduces cancer. it reduces retrovirus infection, things like HIV and other retroviruses that are very hard to treat. It reduces chronic pain.it treats viral infections.

Uh, it treats fungal infections actually, and it stimulates immune function. Hi and welcome to The Balancing Point. I'm Dr. John Neters and I am here to make traditional Chinese medicine.

functional medicine and integrative health simple, practical and fun so you can restore balance, boost vitality and enjoy a healthier life every single day.

Hi, this is Dr. John. I'm here to do another educational session. And I want to thank you for joining me on this journey to health and happiness. Today we're going to look into the supplement melatonin.

Lots of people think very badly about it, lots of love it. So I am going through the science. The thing about science is when people say follow the science.

Well, I think that's good, but you need to understand what science is. It means using the scientific method. So nothing is ever completely settled. There's always new information.

I'm going to give you some of the scientists studies that have been completed over the last decade or so looking at melatonin, good and bad. The great debate to supplement melotonin or not to supplement melatonin.

So some problems that came up in the research and also reports from my patients. Some grogginess in AM for some people. Vivid dreams for people, that's me.

If I take melotonin, I have the wildest dreams ever and they're in full color. but that's fairly rare. It can interact with some pharmaceuticals, so always check with your practitioner if you are taking pharmaceutical.

Forms of Melatonin Supplementation

If you're not, you should be fine. And then we all have different needs and ability to utilize melatonin, So dosing is a little unpredictable. So I'm gonna give you some ranges that have been used, which are huge ranges, by the way.

One study used 1800 milligrams transdermally. But anyway, a lot of variation. The benefits, and I am gonna show you research studies for each of these.

It reduces inflammation. Melatonin reduces COVID deaths by 93%, by they way, it reduces cancer, It reduce retrovirus infection, things like HIV and other retroviruses that are very hard to treat, it reduces chronic pain.

It helps insomnia, obviously, we are pretty clear about that. It reduces neurocognitive decline, so think dementia. it treats viral infections, it treat fungal infections actually, and it stimulates immune function.

So, I'm going to get into the studies now. Its very, very amazing and impressive. First, the punch line. Usually I do this at the end, but for those of you that aren't going to listen all the way through, I'm going give it to you now.

So three primary methods of supplementation. The one that most people do is oral, and there's a regular release, just straight melatonin that goes into your system pretty quickly.

there are time or extended release forms of melatonin. So that would be good if you can fall asleep okay, but then you wake up during the night. And so the extended form of Melatonins can often get you through those wakeups.

This form mimics pineal gland release. That's where about a small percentage actually of mellotonin is formed, that's the form that helps us sleep. Second form is a suppository, and this is used for higher dosages.

And I put 50 to 200 milligrams. We've had suppositories of 200 mg. This has powerful anti-inflammatory effects, very powerful actually, but it's less effective for sleep than the oral form.

Usually people, it helps their sleep for a few days, But that's all, but it does continue to have powerful anti-inflammatory effects. And this mimics gut release at midday.

So it's been known for quite a while that the release of melatonin from the pineal gland helps regulate our circadian rhythms, our daily rhythms and helps us fall asleep.

But recently, last decade or so, they found that melatonin is actually released in the gut at about 40 times the level that is released by the pineal gland.

Foods and Nutrients That Support Melatonin

It's released around midday, and it's a release for its anti-inflammatory effects. Now, the third form is a cream. There are patients I know that are using it, and some of the studies used it.

But it's a little harder to accurately dose because everybody's absorption is little different, but it can still be effective. Now let's take a look at foods that high in melatonin or stimulate melotonin release.

Tart cherries, number one by far, tart cherry are also great to lower interleukin 6 levels and to prevent gout attacks. But tart cherry naturally contain melatonin and other plant polyphenol compounds.

And so the poly phenols are one of the big groups of antioxidants that we find in foods. Second one is kiwi. Kiwi is not a major source of melatonin, but some small studies suggest eating it before bed may help some people fall asleep faster and sleep better.

And one of the things that I'm delighted with is the increased use of aura rings so that people can actually track their sleep now. It's very hard to know how you sleep if you don't track it.

I'm not a big fan of watches, and I may get into why at some point, but the aura ring seems to work just fine. Then there's our old favorite, oats and milk.

Many cultures have used some combination of milk, there is milk and turmeric, milk in oats, a variety of things. And these foods provide nutrients involved in sleep regulation.

Milk's often associated with sleep. You know, warm milk and honey kind of has been used for, I don't know how long, centuries. But it often is associated sleep because it contains tryptophan.

And trypophane is an amino acid that's used to make serotonin and ultimately melatonin. Some supplements that create or support melatonin, I'm not as wild about these, but they do work.

L-tryptophan, and again, that's the amino acid used to make serotonin and melotonins. Evidence for insomnia is limited and it can interact dangerously with some medications, so always check with your medical provider if you are taking any medications.

5-HTP or 5 hydroxy tryptophan, that's a precursor to serotonin, which then can be converted to melatonin. Again, limited sleep evidence, but there is some, and there are potential interactions with antidepressants and other seratonins affecting drugs, so always check with your medical provider.

Magnesium, the miracle of magnesium, I don't know how many books I have just on magnesium which supports normal nervous system and muscle function as well as about 300 other things.

It is critical in the Krebs cycle which helps create ATP and so magnesium is critically for energy requirements. There is evidence that supplementation improves sleep, and the majority of the US population is deficient.

Early Research on Infections and Inflammation

So it's hard to go wrong with adding some magnesium. Now, I did a podcast a while back where I looked at eight different forms of magnesium, what was the benefit of each one?

Now they all overlap, but some of them like glycinate I like for sleep alone. I love threonate for brain and sleep. There are a lot of different forms.

Vitamin B6 helps enzymes involved in neurotransmitter production, but it doesn't reliably increase melatonin. There is some studies that show it does.

But excess or deficiency can cause neuropathy. So I don't give vitamin B 6 on its own. I would give small amounts in some B multis. Okay, let's look at some study.

There's a study that was from the Review and Medical Virology from 2012. Now, one of the things I'd like you to pay attention to is as I go through these studies, many of them are over a decade old, and they're quite well done.

They are in major, major publications. in the medical world, and in my almost three decades of treating patients, I have never seen a patient being recommended melatonin for any of these conditions.

So melotonin is a signaling molecule and has tons of important functions. In the article, beneficial actions of melatonin in the management of viral infections, they called it the molecular handyman.

I love that. Because as you're going to see, if you watch or listen to the rest of this production, I'm going put out there many studies that it affects many different parts of health.

Melatonins can be explained by its properties as a powerful, potent antioxidant. enzyme inducer, it's a regulator of apoptosis, that's the programmed cell death that should happen and in some conditions the cells don't die and that is problematic.

And it is a stimulator of immune functions. In fact, melatonin has used recently to treat several viral infections. In this article, they use transdermal melatonin at very high doses as a treatment for all infections, including retroviral activity.

And I believe, I don't remember, but I believed they used up to 1800 milligrams in this study. Okay. Another one, prevention of immune dysfunction and vitamin E loss by dehydroepiandosterone, that's DHEA, and melatonin supplementation during murine retrovirus infections.

Now, vitamin e loss, most people don't think about a lot, but vitamin D is really the primary antioxidant for fats, where vitamin C is the primarily antioxidants for water-based issues.

So, in this they were looking at the leukemia retrovirus developing a murine acquired immunodeficiency syndrome or AIDS. And they use DHEA sometimes with melatonin, sometimes D HEA alone, and sometimes melotonin alone.

So their result, treatment with D Hea or melatonin alone, as well as together, largely prevented the reduction of B and T cell proliferation, As well TH1 cytokine secretion caused by retrovirus infection.

Don't need to know what all that means. Trust me, that's, you know, we can get very complicated biochemistry. but it lowers inflammation caused by retrovirus infection.

And their conclusion, these results suggest that supplementation with DHEA and melatonin may prevent cytokine

dysregulation, lipid oxidation, and tissue vitamin E loss induced by retrovirus infections.

Again, many different things, murine, retroviruses, AIDS, et cetera. Now that's from 1999. So that is 27 years old at the time I'm doing this podcast.

Never had a doctor recommend it. Some others that I'm not going to go into so much detail. There was an article from the British Journal of Pharmacology entitled, Utilizing Melatonin to Combat Bacterial Infections and Septic Injury.

Now, the death rate from sepsis is very, very high.

Melatonin for COVID, Heart, and Brain Health

If it's even fairly well treated, it is about 25%. Another study done in the, which was reported in The Journal of Pineal Research in 2016, again a decade ago, melatonin reduces endoplasmic reticulant stress and autophagy in liver disease.

Again, a decades old. Therapeutic, another one, therapeutic potential of melotonin in oral medicine and periodontology. That's wild. Probably the most significant factor Well, certainly the most significant factor in heart disease is inflammation.

And one of the primary sources of inflammation are bacteria spreading to the cardiovascular system from the oral cavity. This is well known. Journal of Pineal Research in 2016, melatonin as an antioxidant, it under promises and over delivers.

That's my motto, by the way. And then the Journal of Medical Virology from 2015, Ebola virus, melatonin as a readily available treatment option. So I hope you're starting to get the picture here.

These are major, major publications making grand claims for melatonin. Brain research from 2013, dietary melotonin attenuates age-related changes in morphology and levels in key, in levels of key proteins.

Age- related changes, the thing we're all afraid of. Another study, melatonin modulates the autophagic response in acute liver failure. And that was published in 2014 in the Journal of Pineal Research.

The role of melotonin on production and preservation of gametes and embryos. So that's critical, critical critical for fertility cases and infertility cases.

In the journal Open Medicine in 2013, there's a study called Impact of Melatonin on Immunity. In 2018, the effect of melatonin on antifungal susceptibility.

Now, I want you to kind of put that together. It lowers inflammation, it treats viruses, It treats retroviruses, treats bacteria, and it treat fungi. Those are the things that most infections are caused by, almost all of them.

So here's a fascinating one from 2016 from the International Journal of Molecular Sciences, melatonin as a potential agent in the treatment of sarcopenia.

Sarcopena means muscle wasting. So this is critical for an older population who often don't sleep well and are losing muscle mass. Okay, let's move on to an article or a study that was published in 2021 in the journal Melatonin Research.

And it says, Melotonin reduces the mortality of severely infected COVID-19 patients. The actual number is that it reduced the death rate from COVID by 93%. 93%, that is insane.

There is no pharmaceutical drug that even approaches that. Another article for melatonin research from 2022, mitochondrial dynamics and myocardial ischemia slash reperfusion injury, effects of melotonin.

So when someone has a heart attack, timely reperusion, getting blood back into the heart is critical, but it also can lead to hyper, or reperfusion injuries which are very dangerous.

And it says mitochondrial quality control has emerged as a key participant in regulation of this process. That process is aided by having melatonin on board.

Using a variety of experimental models, both in vivo, which means in people or animals, and in vitro, means a test tube, melotonin induced cardio protection has been demonstrated to be associated with attenuation or reversal of the harmful effects.

In summary, available evidence supports a major role for mitochondrial quality control in the beneficial actions of melatonin in a damaged heart. Okay, here's a fun one.

This one I really, really got excited about. It's from 2021 in the journal Melatonin Research, Neuroglymphatic System, Clinical Implications and Potential Importance of Melotonin.

Okay, so until fairly recently, the central nervous system was thought to lack a lymphatic drainage network. So the lymphotic system is basically your sewer system.

As cells die, as noxious chemicals are passed out of the system, much of it goes through the lymphatic system through your lymph nodes, et cetera, until it gets dumped into your large intestine.

But recently there was a discovery of the neural glymphatic system.

Cancer, Radiation, and Chronic Pain

So that's a lymphatic of brain and central nervous system and says this highly specialized waste disposal network includes classical lymphic vessels in the dura, that is the lining around the brain that absorb fluid and metabolic byproducts and debris from the underlying cerebrospinal fluid in the subarachnoid space of the brain.

So much of what causes dementia, and if we look at the APOE genotypes, two, three, four, they are graded by their ability to move debris from the underlying cerebrospinal fluid.

This is really critical. And it's believed to follow the route of the lymphatics and to clear waste products such as amyloid beta. That's the really nasty stuff that forms tangles in the brain.

Experimentally exogenously administered, that means you take a supplement or in some way take something in from the outside. So experimentally, exogeneously-administered melatonin defers amyloid beta buildup in brain, Now, who would like to prevent dementia?

Collectively, these findings suggest a potential association between the loss of melatonin, and our melotonin levels go down dramatically as we age. So, collectively, this finding suggests a potentially association decreased lymphatic drainage and neurocognitive decline in the elderly.

I'm 75. I'm going to put myself in elderly category. And so this was very exciting news for me. Study from 2022 reported in The Journal Melatonin Research.

Microglia or microglia, I've seen it both ways. The sentinels of the central nervous system are responsible for the surveillance and the innate defense against pathogens.

melatonin synthesized by the microglia play a key role in the transformation of M1 to M2 phenotypes. Now, you don't have to know the biology behind that.

I explained that in some detail in my podcast on cell danger response. This is directly related to that, And the findings at the end were thus, melatonin content synthesized by cerebellar mycologlia determines the extension of

the pro-inflammatory phase of defense response.

Right? You don't want to keep inflammation. You want shut the inflammation off. And melotonin does that. An article reported in 2017 in the International Journal of Molecular Sciences, melatonin, a full-service anti-cancer agent.

And in their abstract, they said there is highly credible evidence that melotonin mitigates cancer at the initiation progression, and metastasis phases.

That's all three phases, the beginnings of cancer, it helps mitigate or lower. It mitigates the progression and it mitigated, mitigating the metasthesis.

And the meta stasis of the cancer moving to additional locations is often what causes death. Another area that deserves additional consideration, and I'm reading this from the abstract, is related to the capacity of melatonin in reducing the toxic consequences of anti-cancer drugs.

while increasing their efficacy. Although this information has been available for more than a decade, and this was published more a decades ago, so we're going back two decades, it has not been adequately exploited at the clinical level.

We treat a lot of cancer patients in our clinic. We can't legally treat cancer and we don't, but we treat them for nausea and to prevent the neuropathy in their hands and feet that is often caused by chemotherapy.

And we have a tremendous track record at preventing and and in some cases, reversing neuropathy. So it hits both stages. It lowers the cancer risk, and if they are doing chemotherapy, it reduces the chemotherapy risk.

Okay, from 2019, melatonin suppresses lung cancer metastasis. And it goes into explaining that an antioxidant effect or the hormone secreted by the pineal gland has an antioxidant effect and prevents cells against carcinogenic substances that reduce tumor progression.

However, the effects of melatonin in lung cancer metastasis are largely unknown. And in this article, they explain how that happens through the twist process and reduces lung-cancer metastiases.

Here's another one from 2022, use of melatonin in cancer treatment from the International Journal of Molecular Sciences. And they found, it says, melotonin is well acknowledged as a drug with no significant toxicity, both in physiological and pharmacological concentrations.

That means taken as the supplement. The review compared 50 studies with melatonin administration ranging from 0.3 milligrams to 1600 milligrams daily for four weeks up to three and a half years.

26 studies reported no adverse effects at all and the ones that did report adverse affects were a little nausea and sleepiness. So the conclusions, melotonin, a pleiotropic hormone, used in treating sleep disorders as minimal toxicity and could mitigate cancer at the initiation, promotion, and progression phases.

So here's another study that says it helps prevent cancer. It helps it keep from getting worse. And it help keep it from going to the metastatic phase.

Here's a another one. 2012, role of melatonin in cancer treatment. The decline in production of melatonin with age is thought to contribute to immunosenescence.

That means your immune system goes to sleep. And potential development of neoplastic, that's cancer-like, diseases. Melatonins has been shown to inhibit growth of different tumors under both in vitro, in a test tube or a Petri dish, and in vivo, which means in the living body.

So at the very end it says, Chemotherapy has been shown to be better tolerated in patients treated with melatonin.

So why isn't it being recommended? Here's the last one that I wanted to throw in here, or almost last, Journal of Radiation Research.

Melatonins reduces oxidative stress induced by chronic exposure of microwave radiation from mobile phones in a rat brain. Interesting. Now, you know, people argue about, are cell phones safe or cell phone's not safe?

The jury is not out. They are not saved. I use one, but I also realize the risk I'm taking by using it. And so the aim of the study was to evaluate the intensity of oxidative stress in the brain of animals that were chronically exposed to mobile phones and potential protective effects of melatonin in reducing oxidated stress and brain injury.

And so, what they found in the results, that there was decreased activity of catalase and increased activity xanthine oxidase that remained after 40 to 60 days of exposure to mobile phones.

So, you use a mobile phone, and you stop using it. And the xantine oxidase, which is a nasty chemical, remained for 40-60 days after you stopped using your cell phone.

That's crazy. Now, And that's only one form of radiation that we're exposed to constantly, electromagnetic field radiation. So melatonin treatment significantly prevented the increase in the MDA content and xanthine oxidase activity in brain tissue after 40 days of exposure.

Conclusion, we demonstrated two important findings. One, that mobile phones cause oxidative damage. Two, the treatment with melatonin significantly prevented oxidative damage in the brain.

And in The Journal Cell Biochemistry and Biophysics from 2001, peroxynate, scavenger in our system. That word's a rough one, always for me. But anyway, peroxy nitrate.

And so those are very nasty chemicals that build up. They concluded that melatonin is the ultimate protection against electromagnetic radiation, both 3G and 5G.

It also said the ultimately repair agent for mitochondrial damage is melotonin. And there's another article that I'm not going to go into much detail here because it's fairly complex, but it was reported in the journal Bioelectromagnetics in 2006, and there was a very large radio transmitter in Switzerland.

Recommended Products and Closing Remarks

It was turned off for a while. And after it was turned off, sleep quality improved dramatically. Melatonin excretion increased by 15%. And the change in sleep-quality and melatonine excreation was related to the extent of magnetic field reduction.

So if you're living near those towers, definitely either move or do your meletonin. Okay, melatonin for chronic pain. I didn't print this actual study, but it's fascinating.

23 clinical studies with over 2,000 patients found melotonin reduce chronic paint. It was more effectively than non-steroidal anti-inflammatories, right?

All the NSAIDs have side effects. Some damage the kidney, some damage, the intestinal lining, and some damages the liver. They all are bad for the heart.

Melatonin is none of those things. Studies done with two to three milligrams of melatonins for less than three months help reduce chronic pain better than those anti-inflammatories.

It is not effective for acute pains like a fracture or a severe cut or something like that, only for chronic pains. And part of the reason is probably because pain and sleep have a big overlap.

Seventy to ninety-five percent of osteoporosis and fibromyalgia patients overlap with a diagnosis of insomnia.

Osteoparosis about seventy percent, and Fibromialgia is up to about ninety five percent.

So here's the sequence. You have pain. As you all know, pain can make sleep difficult, so you develop insomniac. When you have insomnia, you developed increased inflammation.

The more inflammation you had, the more pain you've had. So you've got more pain which leads to more insomnia and the loop keeps going on and on, and melatonin helps break that loop.

And while it's doing it, it helps reduce anxiety and anxiety can increase pain. Okay. These are our favorite melatonin and melotonin support products.

We use something called Nite's Rest from Source Naturals, and it's melatonin with herbal support. we get great success with that for sleep. Another is Serenity PM from Ortho Molecular Products.

This has melotonins and 5-HTP for serotonins support, GABA support and Melatonins Support. So also supports anxiety and depression, all in one little capsule.

And then we like melatonin SRT, which is extended release melotonin. That's for those that fall asleep well, but then they wake up during the night, often have trouble going back to sleep.

Then, Ceramag from Orthomolecular Products, and this has three brain-supporting forms of magnesium. Now, there are many forms magnesium, as I said earlier, they each are better at certain things, but we love Ceromag because it's so diverse in its effects.

I want to thank you for enjoying this production along with me. I find it very fascinating and I hope it moves you to make some decisions. Be happy, be healthy.

Bye for now. This is Dr. John. Thank you, for joining me on The Balancing Point. If you enjoyed today's episode, please follow the show, share it with a friend, and leave a review.

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