



The Surprising Non-Sleep

THIS WEEK'S TOPIC

Benefits of Melatonin

"We know melatonin has anti-cancer benefits, cardiovascular benefits, anti-viral benefits, anti-inflammatory benefits, and anti-aging benefits."

Dr. Russell Reiter has authored over 1,600 articles on melatonin, and clearly, the world's expert on melatonin. I heard a podcast between him and Dr. Mercola, and it was riveting. At 86, he is still very, very sharp. He shared some valuable insights on cardiovascular disease, cancer, virus protection, and aging.

Before we get into a summary of that discussion, let's remember that all chronic disease has major oxidative stress, and free radical damage accompanies it. So, anytime we can do things to support the body's ability to increase antioxidants naturally is high on our radar. Also high on our radar is anything that will support or enhance mitochondrial health, and melatonin supports mitochondrial function in multiple ways. We know that if cells don't have enough energy to repair, they function at sub-optimal levels. If cells function at suboptimal levels, we have fatigue, brain fog, concentration issues, inflammation, etc.

With that in mind, melatonin not only has independent and direct antioxidant effects on its



own, but because it is a hormone, it signals or stimulates the synthesis of glutathione and other important antioxidants like superoxide dismutase and catalase.

Our bodies make two forms of melatonin. The pineal gland produces about 5% of the total melatonin in the body, which is secreted into our blood and is produced at night. The rest of the melatonin is made in our mitochondria and then stays in our mitochondria. Supplemental melatonin will migrate into the mitochondria as needed.

One of the things I didn't know was that near-infrared spectrum from regular sun ex-

posure will trigger the generation of melatonin inside your mitochondria.

Remember, inside the mitochondria is where the action is. ATP is made and stored, and free radicals are a huge part of the process. The half-life of melatonin in the blood is about 40 minutes. Once swallowed, melatonin enters the bloodstream very quickly. However, within cells, the half-life varies according to the oxidative stress that is ongoing. If there's high oxidative stress, melatonin is destroyed much faster. If there's low oxidative stress, melatonin stays within the cell much longer. Dr. Reiter points out that someone with a heart

attack or stroke would benefit from melatonin because the oxidative damage done to the heart or brain involves massive free radicals.

Knowing the powerful effects of melatonin's antioxidant capacity, two of his friends, who have diabetes, take 1,000 mg per day to combat oxidative damage. He shared that there were probably better ways to treat the underlying cause. The point he was making was that there is no toxic level of melatonin. He's quick to say there is much we do not know about high doses for long periods, but based on his research, he hasn't seen any dangers from short-term high doses.

Also, melatonin is an anti-viral agent. He shared that there's about 200 publications in the scientific literature suggesting use of melatonin for COVID. He knows a physician colleague who gave 1 mg per kilogram of melatonin for COVID cases at the time of diagnosis and for 5 days afterwards. He has now treated more than 2,000 patients very successfully with melatonin. He mentioned that it has been effective for both delta and omicron strains. In pigs, 4 different coronaviruses were successfully treated. Also, Zika virus toxicity was prevented by melatonin.

He's personally been taking melatonin for 28 years. Currently at 86, he takes around 80 mg but has taken as much as 300 mg. He divides his dose in the evening and takes the first dose of melatonin about 45 minutes before he wants to go to sleep, and then the second dose is about 15 minutes before sleep. Even higher doses can be split up by taking them upon arising, at 10:00 am, at 4:00 pm and at bedtime, to avoid upsetting one's circadian rhythm.

He went on to discuss how melatonin blocks "Warburg type metabolism" which accompanies most cancers and other inflammatory conditions. Glucose which contains six carbons is metabolized to a 3-carbon molecule called pyruvate.

Pyruvate should be metabolized via the Krebs cycle and electron transport chain in the mitochondria to make Acetyl-CoA. Acetyl CoA is needed to make melatonin. The Warburg effect prevents pyruvate from going into the Krebs cycle. Instead, pyruvate is shunted into glycolysis which yields 2 units of ATP vs. 36 units of ATP that are generated from the Krebs cycle and electron transport chain.

Lactic acid is the end product of glycolysis, and we know cancer cells love an acidic environment. Interestingly, the Warburg effect stops at night when melatonin levels are elevated via the pineal gland. Other researchers have found melatonin to be effective against cancer in multiple ways. Keep in mind, Dr. Reiter was sharing the safety and use in extreme cases.

Low dose melatonin is also effective. According to my friend and colleague Dr. Berkson, "The work of a National Cancer Institute and National Institute of Health sponsored study showed .75 mg was effective for cancer prevention." So, smaller doses can have powerful effects as well. Remember, melatonin is a hormone that signals intracellular organelles to make glutathione, SOD, etc. You can hear the whole interview by clicking to the right. You can also see an earlier TM that went into more detail.

Melatonin-B6/Mg by Biotics Research is a 3 mg melatonin that also contains 10 mg of B6 as P-5-P and 50 mg of magnesium glycinate to help convert glutamate to GABA.

We know melatonin levels drop dramatically as we age. It has anti-cancer benefits, cardiovascular benefits, anti-viral benefits, anti-inflammatory benefits, and anti-aging benefits. So, it makes sense to increase melatonin levels via sunshine and supplementation.

Thanks for joining me today, I look forward to being with you again next Tuesday.