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Can Your Bedtime Determine Your Heart Health?

Analysis by Dr. Joseph Mercola ✓ Fact Checked

January 20, 2022
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STORY AT-A-GLANCE

- Research data found people who go to bed from 10 p.m. to 11 p.m. and fall asleep before 11 p.m. have a much lower risk of developing cardiovascular disease than those who go to bed earlier or later
- Lack of sleep is associated with cardiac morbidity and mortality and fragmented sleep is linked to atherosclerosis and inflammation
- Sleep deprivation is linked to a significant number of other health problems including obesity, mental health conditions, dementia, impaired immune function, increased risk of cancer and increased risk of pain-related conditions

There's a growing body of evidence that shows a lack of sleep increases your cardiovascular risk. A study published in the European Heart Journal Digital Health[1] found it's not just the amount of sleep you get, but also the time you go to bed that makes a difference in your health.[2]

In the short-term, sleep deprivation can affect your judgment, ability to learn and mood, and increase your risk of an accident or injury.[3] How much sleep you need is dependent on your age.[4] Adults ages 18 and older benefit from seven to nine hours of uninterrupted sleep each night.

In 2016, the Centers for Disease Control and Prevention[5] revealed that 1 in 3 adults doesn't get enough sleep. In reviewing the data, they found that sleep duration varied between states with a lower portion of adults who lived in states in the southeastern region of the U.S. and the Appalachian Mountains getting seven hours of sleep.

The reasons people don't get enough sleep vary.[6] According to the International Classification of Sleep Disorders there are approximately 90 distinct sleep conditions. Many have symptoms of daytime sleepiness, difficulty going to sleep or staying asleep, or abnormal sensations or movements that happen during sleep.

The importance of good sleep is a cornerstone of well-being that is recognized by almost all health professionals. The current study adds to the information of how integral sleep is to good health.

Going to Sleep at 10 P.M. May Help Protect Your Heart

One of the scientists in the featured study[7] explained that the impact bedtime has on your health may be related to the body's 24-hour internal clock. He noted that although the data could not be linked to causation, it did suggest that the time you go to bed may disrupt your circadian rhythm and cause adverse consequences on your heart health.

Past research has looked at and found a link between sleep duration and heart disease. However, the relationship between what time an individual goes to bed and cardiovascular disease has not been the subject of much study.[8]

Data were collected from 103,713 U.K. participants over seven days[9] from an accelerometer. The researchers then excluded over 15,000 people from the study as the data supplied was either low quality or incomplete. They also excluded participants who had been diagnosed with heart disease, sleep apnea or insomnia before or during data collection.

In the end, the researchers used a sample of 88,026 people. The average age of the individuals was 61 years and 58% of the participants were women. The participants were followed over the next 5.7 years, during which the researchers measured sleep times as they were reported before 10 p.m., between 10 p.m. and 10:59 p.m., 11 p.m. to 12 p.m. or at midnight or later.

The researchers controlled for age and gender while analyzing the data and found that those who went to sleep between 10 p.m. and 10:59 p.m. had the lowest incidence of cardiovascular disease. The results showed those who went to sleep at midnight or later experienced a 25% higher risk of heart disease when compared to those who went to bed between 10 p.m. and 10:59 p.m.

Interestingly, the risk for those who fell asleep before 10 p.m. was similar at 24%. Those who went to bed consistently between 11 p.m. and midnight had a 12% greater risk for heart disease. After further analysis of the association with gender, the researchers found there was a stronger risk in women than in men. One of the researchers, David Plans, Ph.D., commented in a press release:

> *"Our study indicates that the optimum time to go to sleep is at a specific point in the body's 24-hour cycle and deviations may be detrimental to health. The riskiest time was after midnight, potentially because it may reduce the likelihood of seeing morning light, which resets the body clock.*
>
> *While the findings do not show causality, sleep timing has emerged as a potential cardiac risk factor — independent of other risk factors and sleep characteristics. If our findings are confirmed in other studies, sleep timing and basic sleep hygiene could be a low-cost public health target for lowering risk of heart disease."*

Lack of Sleep Is Associated With Cardiac Morbidity

According to the World Health Organization, ischemic heart disease and stroke were the top two global causes of death in 2019.[10] Although there have been dramatic declines in CVDs, conditions in this category continue to remain major causes of loss of health and life.[11]

The pervasive nature of sleep deprivation contributes to the rising incidence of heart disease and may have an underlying association with an increase in cardiovascular morbidity and mortality.[12][13]

One systematic review of the literature published in the Journal of the American Heart Association[14] included 74 studies with 3,340,684 participants. The data showed that when there was a divergence from the recommended seven to eight hours of sleep there was a higher risk of mortality and other cardiovascular events. The researchers believe that more sleep may have a higher association with adverse outcomes compared to shorter sleep duration.

A 2019 paper[15] published in Circulation discussed the risks of cardiovascular events or death in people who sleep too little or too much. The writer notes that sleeping too little has long been associated with high blood pressure, obesity and diabetes.

Another study[16] evaluated the risks associated with too much or too little sleep in people with known coronary artery disease. They enrolled 2,846 patients who were followed for a median of 2.8 years. The researchers found sleeping both too long and too short were independently associated with higher mortality from heart disease.

Fragmented Sleep Linked to Atherosclerosis and Inflammation

In addition to the time of night you go to sleep and the number of hours you sleep, quality of sleep is also important for your cardiovascular health.

Fragmented sleep is associated with atherosclerosis,[17] a buildup of fatty plaque in the arteries often called "clogged" or "hardened" arteries that can result in fatal heart disease.[18] Cardiovascular disease kills 12,000 Americans a week,[19] which is far more than the average reported COVID-19 toll of 8,279 people each week in 2021 as reported by the CDC.[20]

In June 2020, U.C. Berkeley sleep scientists published an article in PLOS Biology that began to clarify some of the mechanisms through which fragmented sleep can cause atherosclerosis.[21]

Fragmented sleep is characterized by waking up during the night, having difficulty going back to sleep and a sense of not being rested when you wake in the morning. Several causes of fragmented sleep can range from stress and anxiety to excessive caffeine and alcohol consumption. It is also associated with an assortment of illnesses.[22]

Sleep specialists from UC Berkeley studied more than 1,600 participants.[23] They were able to separate the effect of fragmented sleep on atherosclerosis from other common contributors such as sex, ethnicity, body mass index, age, smoking status, blood pressure and other lifestyle factors.

Senior study scientist Matthew Walker, a UC Berkeley professor of psychology and neuroscience, commented on the results:[24]

> *"We've discovered that fragmented sleep is associated with a unique pathway — chronic circulating inflammation throughout the bloodstream — which, in turn, is linked to higher amounts of plaques in coronary arteries."*

According to Walker, "This link between fragmented sleep and chronic inflammation may not be limited to heart disease, but could include mental health and neurological disorders, such as major depression and Alzheimer's disease."[25]

Sleep Deprivation Affects More Than Your Heart

Insufficient sleep is linked to other significant health problems, including:

Increased risk of obesity and Type 2 diabetes — A scientific review article[26] published in 2017 noted "difficulty initiating sleep increased the risk of Type 2 diabetes by 55%, while difficulty maintaining sleep increased its risk" by a whopping 74%.

Increased risk of neurological problems — These may range from depression[27] to dementia and Alzheimer's disease.[28] Your blood-brain barrier becomes more permeable with age, allowing more toxins to enter.[29] This, in conjunction with reduced efficiency of the glymphatic system due to lack of sleep,[30] allows for more rapid damage to occur in your brain and is thought to play a significant role in the development of Alzheimer's.

Decreased immune function — Research[31] suggests deep sleep strengthens immunological memories of previously encountered pathogens. In this way, your immune system can mount a faster and more effective response when an antigen is encountered a second time.

Increased risk of cancer — Tumors grow two to three times faster in laboratory animals with severe sleep dysfunctions.[32] The primary mechanism thought to be responsible for this effect is disrupted melatonin production, a hormone with both antioxidant and endocrine activity.[33]

Melatonin both inhibits the proliferation of cancer cells and triggers cancer cell apoptosis (self-destruction). It also interferes with the new blood supply tumors require for their rapid growth (angiogenesis).

Increased risk of osteoporosis — Women sleeping five hours or less each night had significantly lower bone mineral density measurements.[34]

Increased risk of pain and pain-related conditions — Total sleep deprivation increased pain sensitivity and lowered pain threshold in healthy adults.[35] Chronic sleep deprivation and fatigue are strong predictors for the onset of chronic widespread pain in a population that was free from pain at the onset of the study.[36]

Increased susceptibility to stomach ulcers — Sleep disturbances raise the level of proinflammatory cytokines, which is associated with gastrointestinal diseases, such as gastroesophageal reflux disease (GERD), inflammatory bowel disease and colorectal cancer.[37]

Impaired sexual function — Hormonal changes linked to sleep deprivation affects testosterone levels and sexual function in men and women.[38]

Premature aging — One study found statistically significant differences in the quality of skin as measured by the SCINEXA skin aging scoring system and the participant's assessment of their own skin.[39]

Increased risk of dying from any cause — Compared to people without insomnia, the adjusted hazard ratio for all-cause mortality among those with chronic insomnia was three times higher.[40]

Impaired regulation of emotions — There is a bidirectional relationship between emotion and sleep. Quality sleep is essential to cope with emotional stress, and stress can result in sleep disturbances.[41] Healthy sleep helps regulate brain activity and integrity of the prefrontal cortex and amygdala connections, which are important in emotion regulation.

Increased risk of mental health conditions — Chronic sleep problems affect up to 80% of people with mental health conditions, especially those with anxiety, depression, bipolar disorder and attention deficit hyperactivity disorder (ADHD).[42]

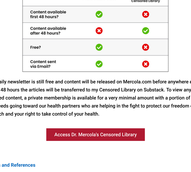
Impaired memory and reduced ability to learn — Memory consolidation occurs during sleep. Data suggest that insufficient or excessive sleep can affect this process and affect other cognitive processes.[43]

Reduced productivity, performance and creativity.[44]

Slower reaction time — Getting less than six hours of sleep leaves you cognitively impaired and increases your risk of accidents. According to the National Highway Traffic Safety Administration, in 2017 there were an estimated 91,000 police-reported crashes, 50,000 people injured and 800 deaths from drowsy-driving-related crashes.[45]

Gut bacteria — One study[46] recruited participants to measure the effect sleep deprivation may have on gut bacteria. They found a positive correlation between gut microbiome diversity and a cytokine known to affect sleep quality.

Additionally, they found several bacteria in the gut were negatively correlated with sleep and concluded "Our findings initiate linkages between gut microbiome composition, sleep physiology, the immune system and cognition."



As most of you know, I've been forced to remove 25 years of free health information from my website under threats of the technocratic elite.

By popular demand, I am pleased to share with you an exciting update — my entire Censored Library has finally returned! Through Substack, an information sharing platform, I am once again able to share with you all the valuable research I have gathered through the years.

MERCOLA NEWSLETTER | Dr. Mercola's Censored Library

	Dr. Mercola's Censored Library	
Content available first 48 hours?	✓	✗
Content available after 48 hours?	✗	✓
Free?	✓	✗
Content sent via Email?	✓	✗

My daily newsletter is still free and content will be released on Mercola.com before anywhere else. After 48 hours the articles will be transferred to my Censored Library on Substack. To view any missed content, a private membership is available for a very minimal amount with a portion of proceeds going toward our health partners who are helping in the fight to protect our freedom of speech and your right to take control of your health.

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Guillermou
Joined On 4/1/2010 8:47:48 AM
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A very interesting report that highlights the great importance of sleep. Also consider how Dr. Mercola has recommended having dinner early. Research suggests that eating dinner late, early or not skipping dinner, may have a negative impact. Secondly, it improved metabolic flexibility, thus allowing their bodies to switch more efficiently from burning carbohydrates to burning fat.

The body has an internal clock and many aspects of the metabolism are at their optimal function in the morning. www.sciencedaily.com/.../161103091229.htm (2016) New research reports that people who start eating before 8:30 a.m. have lower blood sugar levels and less insulin resistance, which could reduce the risk of developing type 2 diabetes, according to a featured study. virtually at ENDO 2021, the annual meeting of the Endocrine Society.

www.sciencedaily.com/.../210329091446.htm (2021) In this study, those who kept two or more hours dinner head a 20% reduction in the risk of breast and prostate cancer combined (OR = 0.80) and each cancer individually (prostate cancer OR = 0.74; breast cancer OR = 0.84. Compared with subjects who slept immediately after dinner. Adherence to daytime eating patterns and, specifically, a prolonged interval between the last meal and sleep are associated with a lower cancer risk.. Adherence to daytime eating patterns and specifically a prolonged interval between the last meal and sleep are associated with lower cancer risk Chronic inflammation is a hallmark of cancer and, by feeding your body late at night, the excess free radicals generated in your mitochondria will only promote that inflammation. www.nature.com/.../s41587-021-00956-4 (2021)

Reply Mark as Spam Posted On : 1/26/2022 3:52:42 AM
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Guillermou
Joined On 4/1/2010 8:47:48 AM
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Evidence is accumulating that eating within a 6-hour window and fasting for 18 hours can trigger a metabolic shift from glucose-based energy to ketone-based energy, with increased resistance to stress, increased longevity, and decreased incidence of disease, including stroke, cancer and obesity. ginecosalb.com/.../Fasting2019Tenpin.pdf (2019) Selective removal of glycogen through autophagy, termed glycophagy, plays a crucial role in glucose homeostasis and thus insulin resistance. This review examines several emergent features of autophagy and posits how they may be related to aging, as well as with the development and progression of the disease. www.nature.com/.../s41587-021-00956-4 (2021)

Mark as Spam Posted On : 1/26/2022 3:52:42 AM
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MMaster
Joined On 6/14/2021 1:37:23 AM
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I have been following Dr. Mercola's recommendations for intermittent fasting, and am slowly losing weight. It's the only thing that works for me.

Mark as Spam Posted On : 1/26/2022 1:38:46 PM
Like Dislike

grafis
Joined On 1/17/2012 8:03:55 AM
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"Master" and according to Dr. M's post article, if you can time your ~8 hour 8' eating window event so it allows for at least 3-4 hours to digest and empty your stomach before you turn in for the night, then that much better for a good night's sleep.

Mark as Spam Posted On : 1/26/2022 4:01:25 PM

fedeo
Joined On 2/6/2021 12:16:12 PM
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Refering to the study that states there are huge consequences of health problems if you go to bed before 10 but rather to 11 (all 8 Es. As a kid, I can be injured by surmises or my uncle's dairy farm and we were to get up at 03:00 in order to start milking the cows at 04:00, which meant you went to bed about 19:00 (7 PM). This was done because during the school year, his sons, my cousins, had to milk the cows at 4 and have breakfast, go to school, then school let out at 2 PM, then would milk them at 4 PM, then have dinner and go to bed by 7 PM. Now farmers are among the healthiest people on the planet.

You have heard the term "farmer Strong", well it is true as I also knew a few in the military, and while they did not look like Arnold, they were strong as an ox, and I assure you they are very heart healthy. Now, these statics may be true for these researchers whose most intense physical factors include having to sit up and punch some keys on the keyboard of their computer. You should send this article to Jocko Willink (Navy Seal) and let him discuss this B.S. with you.

I am sure Commander Willink will gladly debate as to why the military also goes to bed early and gets up at Zero-Dark-Thirty. Being a Board Certified Respiratory Therapist and having knowledge of sleep studies, I could go on even more as to why this article is very inaccurate. Again, please contact Commander Jocko Willink and he will explain why it is not the time you hit the rack (bed), but rather, what you do or do not do, during your waking hours. So, never mind when you go to bed, just when you get out of the bed, not even onto the Front Leaning Rest Position and start pushing the ground away from you, then do some squats, crunches, pull-ups, then run or bike, take some Jiu Jitsu, Krav Maga or some kind of self-defense training.

If you get off your ass and move, you won't have to worry about what time you go to bed. Respectfully, HM2 FMF Mark "Doc" Paolino

Reply · Mark as Spam · Posted On : 1/20/2022 6:14:40 AM
Like · Dislike

Catrysna
Joined On 7/25/2006 5:48:46 PM
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I agree with you. For myself, I usually go to bed somewhere between 9pm-10pm and rise around 4am. Six hours is pretty much the longest I can stay asleep. Even as a child I required less sleep than other children and that was true of one of my brothers...Our other siblings were the average sleepers.

Mark as Spam · Posted On : 1/26/2022 7:27:14 AM
Like · Dislike

Keythong
Joined On 5/2/2021 12:07:23 PM
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This study also seems dubious because it doesn't mention other significant variables, including: What diet was been eaten/drank? Was there any snacking? What was the eating window start and end? Were there any busy thoughts which can delay or interrupt sleep?. These variables can have significant effects on sleep quality e.g since going carnivore, in addition to intermittent fasting, my sleep quality seems to be improving e.g less/no physical/mental issues which can disturb sleep. As "The Carnivore Code" book author states repeatedly, epidemiological studies can be significantly flawed, probably because they didn't attempt to limit variation of other significant variables, to limit correlation to causation mistakes.

Mark as Spam · Posted On : 1/26/2022 8:56:15 AM
Like · Dislike

Mr.AK
Joined On 6/23/2006 6:58:33 PM
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On the other hand, getting 2 hours less sleep every night means that you get 730 extra hours of waking time annually, which amounts to 30.54 days of "living" every year, or a 8% overall increase in time spent living. So if you die at 70, you've lived the equivalent number of days as someone who dies at the age of about 76.

Reply · Mark as Spam · Posted On : 1/26/2022 8:52:32 AM
Like · Dislike

earthlover
Joined On 11/29/2006 8:27:25 PM
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Interesting observation

Mark as Spam · Posted On : 1/26/2022 4:13:35 PM
Like · Dislike

steelj
Joined On 6/19/2006 11:43:25 PM
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Excellent point which is strangely overlooked ! always. Despite being obvious.

Mark as Spam · Posted On : 1/28/2022 4:48:58 PM
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MHaster
Joined On 8/14/2021 1:37:22 AM
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It wouldn't surprise me to learn that the real issue is whether or not people who go to bed later are forced to get up before their body has gotten enough rest, and this is the real problem. Society has boxed us in to a tight schedule with everyone required to be at work at 8. The result is that night owls get shortchanged on sleep. I think your article rather hints on that...We need for society to be more willing to accommodate people who have a different circadian rhythm...If a person sleeps in the dark all night, for whatever his "night" is, and then gets daylight or some kind of light, that should do him well.

Reply · Mark as Spam · Posted On : 1/29/2022 7:37:39 PM
Like · Dislike

earthlover
Joined On 11/29/2006 8:37:25 PM
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You make a valid point. Its possible that their circadian rhythms may be set differently. Also what about somebody who goes to bed at the recommended time but gets no sun later in next day or even in the morning when they wake up, as may happen in winter when it stays dark longer or foggier.

Mark as Spam · Posted On : 1/29/2022 4:23:18 PM
Like · Dislike

steelj
Joined On 6/19/2006 11:43:25 PM
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Excellent point which is strangely overlooked ! always. Despite being obvious.

Mark as Spam · Posted On : 1/29/2022 4:48:58 PM
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Scott41
Joined On 10/9/2010 10:04:36 AM
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I have heard low magnesium levels cause some people to wake up at 3 AM abouts.

Reply · Mark as Spam · Posted On : 1/29/2022 9:52:34 AM
Like · Dislike

jamieharclay
Joined On 11/30/2007 1:56:27 AM
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I heard that too and I take magnesium and I got my levels checked and they are fine. Damn. I usually wake up at 3 and a few more times. I am awake for at least an hour through the night

Mark as Spam · Posted On : 1/30/2022 8:39:21 PM
Like · Dislike

datadragon
Joined On 6/14/2015 6:50:55 PM
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Late post. Type II insomnia, characterized by falling asleep easily but awakening frequently throughout the night is a classical sign of magnesium deficiency. Perhaps consider a form of magnesium to try based on the research that is more and inflammatory such as Dr Mark Magnesium Sulfate which is epsom salt in pills, 1030 mg per single capsule. 1 pm (1030 mg) of Magnesium Sulfate contains 100 mg of elemental Magnesium so maybe trying one or two at a time but this is not medical advice, just some basic research I'm mentioning.

Other forms of magnesium such as glycinate and chloride I just found might not work as well for this purpose due to the glycinate/chloride it is attached to. You can always compare those or other forms like Dr Mercola Magnesium L-Threonate since you see if the sulfate form helps if you consider trying it on your own. People who were missing the SHANK3 gene and mice that lacked part of the gene had difficulty falling asleep even when sleepy which can occur also with zinc deficiency and high inflammation levels (NLRP3 over activation). Shank3 is an important modulator of sleep and clock gene expression.

elifesciences.org/...v8i2018 www.ncbi.nlm.nih.gov/...PMC5914931 Vitamin D, Vitamin A and Magnesium have interrelationships with zinc and so its possible that a true deficiency in one of those may also lower your zinc levels (not a so called deficiency because you don't have a very high level). Type I insomnia was also mentioned to be associated with a calcium deficiency and causes difficulty in falling asleep but I have found that zinc seems to be further other than its involved in the melatonin pathway. Here is also the pathway for some of the other nutrients involved in melatonin production understand-endocrine-anxiety#portack-pancakeback-depression.com/images/M... It-top might show if your problem is the last conversion step only.

Mark as Spam · Posted On : 1/29/2022 11:41:29 PM
Like · Dislike

tallulah3
Joined On 6/21/2021 9:26:59 AM
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In 2009 when I was diagnosed with multiple food allergies, I had terrible insomnia for 2 years. It was awful. Sometimes I wouldn't sleep for days. It made me wonder if the two were connected...Worst 2 years ever.

Reply · Mark as Spam · Posted On : 1/26/2022 8:04:19 AM
Like · Dislike

Almond
Joined On 2/26/2008 4:23:33 PM
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In many cases, some of us are just hard-wired differently as night people. I went to the doctor for a persistent minor infection due to a work injury. So, they test you for unrelated stuff, including standing on the scale. My cardiovascular scores were all either normal or exceptionally good. I am always amazed at how when I get normal scores, they tell me it is impressive at my age or good for a person of any age. It makes me wonder how sick the "normal" person is. For those of us who are healthy, it is best just to leave us to our own devices.

Reply · Mark as Spam · Posted On : 1/26/2022 7:44:03 AM
Like · Dislike

jamieharclay
Joined On 11/30/2007 1:56:27 AM
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I used to sleep well before menopause and now I just don't. I do everything recommended and my sleep is fragmented and of poor quality. I have tried melatonin and every other herbal sleep remedy out there and nothing changes it. This just stresses me out because it is out of my control...As a young adult I said I like the dead, no more

Reply · Mark as Spam · Posted On : 1/26/2022 8:57:41 PM
Like · Dislike

Almond
Joined On 2/26/2008 4:23:33 PM
Add as Friend · Send Message

The cat knows... www.youtube.com/watch

Reply · Mark as Spam · Posted On : 1/26/2022 7:40:16 PM
Like · Dislike

steelj
Joined On 6/19/2006 11:43:25 PM
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All winter, except for warm spells, I wake up a couple times a night to toss more wood on the fire. Our subconscious is amazing - if there's a fire to tend, I wake up effortlessly and completely and go right back to sleep very quickly. I never notice extra fatigue or sleepiness the next day. Maybe my ancestors are busy hundreing but I doubt it.

Reply · Mark as Spam · Posted On : 1/28/2022 4:43:59 PM
Like · Dislike

Hercster
Joined On 1/6/2021 8:14:01 AM
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Fluoride is toxic for most physiological systems in the body. Fluoride was the first fanatical medical experiment on us, on that has NEVER been tested properly. Fluoride calcifies the pineal gland, that which creates melatonin. And when melatonin production is reduced, your sleep is reduced, and many health effects result, including more susceptibility to the covid flu.

distilled water, is the only way to get it out of your glass. Avoid cereal, canned (wet) food, and toxic municipal water supplies. "In the 1990s, a British scientist, Jennifer Luke, discovered that fluoride accumulates to strikingly high levels in the pineal gland. (Luke 2001)

The pineal gland is located between the two hemispheres of the brain and is responsible for the synthesis and secretion of the hormone melatonin. Melatonin maintains the body's circadian rhythm (sleep-wake cycle), regulates the onset of puberty in females, and helps protect the body from cell damage caused by free radicals. While it is not yet known if fluoride accumulation affects pineal gland function, preliminary animal experiments found that fluoride reduced melatonin levels and shortened the time to puberty. (Luke, 1997).

Based on this and other evidence, the National Research Council has stated that fluoride "may have endocrine-gland effects" and "may be a factor in the onset of puberty, in the development of certain kinds of tumors, in turn could contribute to a variety of effects in humans" (NRC, 2006, p. 256). The Pineal Gland Has Highest Levels of Fluoride in Body" fluoridealert.org/...-pineal-gland

Reply · Mark as Spam · Posted On : 1/28/2022 5:32:29 AM
Like · Dislike

Guillermus
Joined On 4/17/2015 8:47:48 AM
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Yes, Hercster the pineal gland's main function is the biosynthesis and secretion of melatonin, a hormone responsible for regulating circadian rhythms. Due to its exceptionally high mitochondrial density and its location outside the blood-brain barrier, the pineal gland can accumulate significant amounts of calcium and fluoride, making it the most fluoride-saturated organ in the human body. Both calcification and fluoride accumulation can result in melatonin deficiency. The fluoride that has this effect has long been known in relation to many enzymes, including melatonin pubs.acs.org/doi/abs/10.1021/ja01538a035 (2020) fluoridesearch.org/...fl.2003_v36_n4_p217-229.pdf (2003) www.mdpi.com/...7/ten (2020) Melatonin is a potentially excellent weapon against SARS-CoV-2 virus infection.

Low doses of melatonin significantly improved symptoms in hospitalized COVID-19 patients, significantly decreased CRP levels, proinflammatory cytokines, and humoral immunity. www.mdpi.com/...7/ten (2021) RATIONALE FOR THE CONTINUED USE OF MELATONIN TO COMBAT THE DELTA VARIANT OF SARS-COV-2. www.melatonin-research.net/...1150 (2021) Melatonin supplements can prevent the consequences of COVID-19 disease such as altered hemoglobin properties, heart problems, and / or kidney injury, increased D-dimer, leukocytosis, existing deficiencies of nitric oxide, oxygen and vitamin B12. COVID-19 markers www.sciencedirect.com/.../S0152531621001158 (2021)

Mark as Spam · Posted On : 1/28/2022 6:51:56 AM
Like · Dislike

datadragon
Joined On 6/14/2015 6:50:55 PM
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Results showed significant decrease (p< 0.001) in vitamin A in fluoride induced samples in comparison to the control samples suggesting that decreased levels of vitamin A can be used as another marker in fluoride induced toxicity studies. www.researchgate.net/publication/283415495_Vitamin_A_deficiency_as_ind... vitamin A deficiency causes a reduction in melatonin levels The components required for RA signaling are present in the pineal gland and suggest that RA has a role in the regulation of melatonin synthesis. pubs.acs.org/doi/abs/10.1021/acs.jafc.6b05425 ... It is also involved with zinc metabolism (and vice versa) which would also have effects on sleep (see other comments), so a deficiency in A can lead to low zinc levels as covered several times in more detail in comments in the past. A significant decrease was observed in melatonin levels of the zinc-deficient group compared to the control and zinc-supplemented group (P<0.01).

The results of this study suggest that zinc deficiency decreases the melatonin levels and zinc supplementation may increase the plasma melatonin levels in rats pubmed.ncbi.nlm.nih.gov/11928015 We review the role of vitamin A and retinoic acid (RA) as mediators of rhythm in the brain. In the suprachiasmatic nucleus and hippocampus they control expression of circadian clock genes while in the cortex retinoic acid is required for delta oscillations of sleep. Retinoic acid is also central to a second rhythm that keeps pace with the seasons, regulating function in the hypothalamus and pineal gland www.ncbi.nlm.nih.gov/...PMC6325548

Mark as Spam · Posted On : 1/31/2022 12:01:33 AM
Like · Dislike

fundamentalassumptions
Joined On 8/1/2009 12:17:58 PM
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Suspect that this becoming more of an issue due to cumulative rejections of God's way under a design... with the cumulative consequences. We're a lot of of fleeing truth into our design, but when you pile on all the artificial expectations & things of mere choices within & without our control, sooner or later the straw breaks the camel's back in genome come... I doubt the 10:00-11:00 breaking to really find vitality early to bed & early to rise was always the way of the productive, it was driven more by hours of daylight & darkness, & the natural rhythms of agrarian living, having to fuel & hydrate the sun, or fuel, then the industrial revolution, artificial lighting & then radio & television programming... over a cultural alternate reality more & more, & here & there a matter of individual choice... So long as reason wasn't abandoned for mystical mumbo-jumbo, sufficient capital & freedom was left to the innovative middle class, & that freedom rightly preserved & protected... there was a tendency for real progress addressing the life, & resisting manipulations & parasitical hierarchies.

Hope of salvation is for general providence to prevail. Real problem solving & real critical thinking still attached to legitimate truth & reason rather than utterly given over to sophist philosophy seeking to deny & escape personal responsibility... wrapping it up in blame or shifting it off onto others. Joining Satan in his fallen state to prevent one-up & replace God, his order, & his salvation with something of his & man's own invention doomed to fail.

Reply · Mark as Spam · Posted On : 1/26/2022 11:23:52 AM
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DocJudi
Joined On 9/21/2011 12:20:49 PM
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I have a different view. I believe the birth time of the person sets the personal circadian and energy cycle. For example, I was born at 8:30 AM - my mother had been in labor since about 4:30 AM. The fetus needs an incredible amount of energy for the birth as well - my energy starts to increase about 4 AM, I wake fully alert around 8:30 AM, I feel sleepy about 8 PM, and have abundant energy all day. But, I am ready to sleep by 8 PM and I go right to sleep then after some reading. That gives me 7-1/2 to 8 hours a night - and that is plenty.

Dr. Sutherland

Reply | Mark as Spam | Posted On 1/20/2022 5:29:19 AM

Like Dislike

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therealjones

Joined On 10/8/2010 5:59:47 PM

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I was born at 8:30 PM. Does that mean I am a night owl?

Mark as Spam | Posted On 1/20/2022 7:26:48 AM

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Keythong

Joined On 3/2/2021 12:07:23 PM

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Interesting. I was born about 2pm in the afternoon, and when I have a choice, I prefer to wake up around that time. I find normal working hours hard to stick to, so have to use an alarm to force myself awake, and can lose sleep because I didn't want to and find it difficult to fall asleep 8 hours earlier than the alarm time.

Mark as Spam | Posted On 1/20/2022 9:07:03 AM

Like Dislike

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earthlover

Joined On 11/29/2006 8:37:25 PM

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Interesting. Makes sense.

Mark as Spam | Posted On 1/20/2022 4:32:27 PM

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