Melatonin

MULTIFUNCTIONAL HORMONE

60 VEGETARIAN CAPSULES | NPN80110394 | MEL060-CN

Melatonin is a hormone with many functions. Most importantly it is involved in the control of the circadian (day/night) biological rhythms. Melatonin mediates the body's response to variations of natural light availability from indoor/outdoor exposure or due to seasons (winter/summer). Darkness into the eye tells the brain to make melatonin so the body can prepare for sleep mode. Its production should peak at night.

This important hormone also helps regulate the immune system, the stress response, and some aspects of the aging process, including growth hormone production. In addition, melatonin acts as a very potent antioxidant in the body that easily penetrates the cell membranes and even binds and protects the nuclear DNA.[1] This necessary hormone is synthesized in the human body, mostly in the brain, by the pineal gland from precursors as shown below:

Tryptophan → 5-HTP → Serotonin → Melatonin

The synthesis steps depicted above require cofactors such as vitamin B6, SAMe, iron and THB (tetrahydrobiopterin), a folate-derived compound. Other cells in the body, such as immune cells, synthesize small amounts of melatonin as well. Melatonin production declines significantly with age, due to various causes such as pineal calcification, possibly inadequate brain tissue function and sensitivity, and other unknown factors.[2]

Human, animal and mechanistic research suggests melatonin may help to:

- Improve sleep quality, especially during aging[3,4]
- Reduce jet lag or help adjust sleep times for shift workers[5-8]
- Stimulate the immune system[13,14]
- Increase antioxidant defenses[15,16]

FACTORS THAT MAY REDUCE MELATONIN PRODUCTION AT ANY AGE INCLUDE:

Lifestyle

- Poor sleeping habits: going to bed too late, sleeping during the day
- Inadequate darkness for the duration of the night (night lamps, clocks with light, outside street lighting, curtains that allow light through)
- Insufficient exposure to natural light during daytime, such as during winter at certain latitudes, and too much time spent indoors
- Excessive mental stress, high adrenaline and/or cortisol at night
- High caffeine or alcohol consumption too close to bedtime

Diet and Supplements

- Inadequate brain availability of precursors such as tryptophan or serotonin, which may occur during stressful states or high protein/low carbohydrate diets
- Inadequate availability of cofactors necessary for serotonin and melatonin synthesis: vitamin B6, SAMe, iron and folate

Medications

- Benzodiazepines, beta-blockers, loop diuretics, aspirin

Melatonin deficiency may be defined based on quality of sleep and difficulty falling asleep, as well as specific urinary metabolites. By age 60, the body's production may fall to close to 50% of youthful levels. Due to its effects on sleep and many other metabolic functions, it is hypothesized that replacement that restores melatonin to youthful levels may have a multitude of benefits.

MELATONIN AND SLEEP

Supplemental melatonin was shown in studies to help with falling asleep when taken about 20 minutes before the desired sleep time. It has a plasma half life of 30-60 minutes from the time it is absorbed in the bloodstream. 5-HTP can be used in conjunction with melatonin, as a precursor to serotonin, which can support further endogenous melatonin production during the night to help with staying asleep.

When using melatonin for sleep enhancement, additional synergistic nutrients may be beneficial to counteract excessive stress: Taurine and GABA reduce the effects of the stress hormones, such as adrenaline, while omega-3 fatty acids (EPA/DHA) reduce the production of the hormones cortisol and adrenaline in response to mental stress. Magnesium also has been shown to reduce certain age-related changes in sleep patterns.

CONDITIONS FOR WHICH MELATONIN IS NOT RECOMMENDED

- Autoimmune conditions such as lupus or arthritis, because the immune stimulatory effect of melatonin may exacerbate the action of certain types of lympocytes or B-cells involved in the pathogenic course of these diseases
- Immune-related cancers such as lymphoma and leukemia
- Pregnancy, lactation or during the time where fertility is desired

INTERACTIONS WITH DRUG THERAPY

Melatonin may not be suitable to administer along with MAO inhibitors and corticosteroid therapy.

Medicinal Ingredients (per capsule):

Melatonin..... 3 mg

Non-Medicinal Ingredients: Cellulose, hydroxypropylmethylcellulose, L-Leucine. **Recommended Dose:** Adults: Take 1 to 3 capsules, once daily, at or before bedtime, or as recommended by your health care practitioner. Consult a health care practitioner for use beyond 4 weeks. Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

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REFERENCES

For a list of references cited in this document, please visit: https://www.designsforhealth.com/techsheet-references/melatonin-references.pdf

designs for health®

Melatonin

3 MG MELATONIN PER SERVING

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SLEEP SUPPORT

GLUTEN FREE FORMULA
DAIRY FREE FORMULA
SOY FREE FORMULA
VEGETARIAN FORMULA
NON GMO INGREDIENTS

Melatonin is a hormone secreted by the pineal gland, a pea-sized endocrine gland located in the brain. One of melatonin's primary functions is to help regulate sleep by controlling the body's natural sleep-wake cycle, known as the circadian rhythm or 24-hour biological clock. Melatonin regulates the body's sleep response when exposed to natural light. The brain releases more melatonin toward the end of the day to prepare for sleep and decreases in the early morning as the sun rises. Melatonin also supports a healthy immune response and antioxidant status in the body. Designs for Health offers melatonin in 3 mg capsules to support quality sleep, especially for individuals who have difficulty sleeping through the night.

Factors that may reduce the natural production of melatonin include the normal aging process, poor sleeping habits, insufficient exposure to sunlight during the day, exposure to blue lights close to bedtime, excessive mental stress, high caffeine or alcohol intake near bedtime, certain medications, and inadequate intake of the nutrient cofactors required to synthesize melatonin. The nutrients and compounds that are required for the body to produce healthy amounts of melatonin include the amino acid tryptophan, vitamin B6, folate, S-adenosyl-L-methionine (SAMe), and iron.

Benefits

- Supports sleep quality
- Helps support antioxidant status in the body
- May help support a healthy immune system
- May help support the body's response to changes in time zone

Recommended Dose

Take 1 to 3 capsules, once daily, at or before bedtime, or as recommended by your health care practitioner. Consult a health care practitioner for use beyond 4 weeks.

Warning: If pregnant or using a prescription drug, consult your health-care practitioner. Do not take this product if you suffer from an autoimmune disease, depression, diabetes, or any endocrine disorders. Do not use this product while operating a motorized vehicle or heavy machinery.

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