From our friends at "Back to Herbs" 11/19/10

Back to Herbs
The Complete Alternative Health Resource
Eflash

Melatonin

Melatonin

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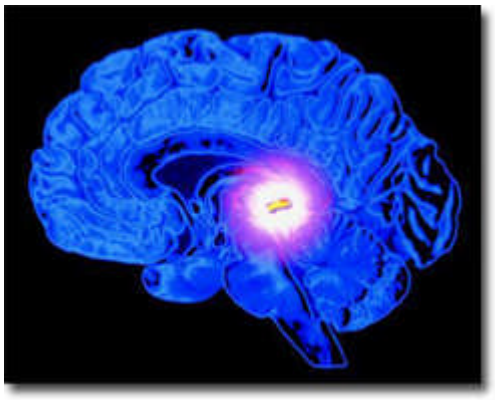
Not to be confused with melanin or Melanotan.



Melatonin is a hormone produced in the brain by the pineal gland, from the amino acid tryptophan. The synthesis and release of melatonin are stimulated by darkness and suppressed by light, suggesting the involvement of melatonin in circadian rhythm and regulation of diverse body functions. Levels of melatonin in the blood are highest prior to bedtime. Synthetic melatonin supplements have been used for a variety of medical conditions, most notably for disorders related to sleep. Melatonin possesses antioxidant activity, and many of its proposed therapeutic or preventive uses are based on this property.

Melatonin has been called the body's own natural sleeping pill. It plays a key role in the sleep cycle by helping you fall asleep. Low melatonin levels can cause sleep-onset insomnia. The pineal gland releases melatonin only during times when the level of light is low. Practically speaking, this means that melatonin is secreted only at night, while you are asleep. In the morning, when you open your eyes, the presence of light is a sign to your brain to shut down the melatonin production.

During the shorter days of the winter months, your body may produce melatonin either earlier or later in the day than usual. This change can lead to symptoms of seasonal affective disorder (SAD), or winter depression. Natural melatonin levels slowly drop with age. Some older adults make very small amounts of it or none at all.

The pineal gland helps govern circadian rhythms- the biological rhythms that take place over a day, such as the sleep-wake cycle. The pineal gland is believed to use melatonin as a "messenger" to "tell" other systems what to do. Several studies suggest that melatonin induces sleep without suppressing REM (dream) sleep, as sedatives and other artificial sleep aids do. Travelers have started using melatonin to "reset their clocks" after flying across one or more time zones, and some studies seem to confirm melatonin's efficacy in combating jet lag and restoring restful sleep patterns.

Besides its function as synchronizer of the biological clock, melatonin also exerts a powerful antioxidant activity. The discovery of melatonin as an antioxidant was made in 1993. In many less complex life forms, this is its only known purpose. Melatonin is an antioxidant that can easily cross cell membranes and the blood-brain barrier.

In animal models, melatonin has been demonstrated to prevent the damage to DNA by some carcinogens, stopping the mechanism by which they cause cancer. Melatonin's antioxidant activity may reduce damage caused by some types of Parkinson's disease, may play a role in preventing cardiac arrhythmia and may increase longevity; it has been shown to increase the average life span of mice by 20% in some studies.

There is preliminary evidence that melatonin may actually decrease intraocular pressure in the eye, and it has been suggested as a possible therapy for glaucoma. Patients with glaucoma taking melatonin should be monitored

by a healthcare professional.

Some supplemental melatonin users report an increase in vivid dreaming. Extremely high doses of melatonin (50 mg) dramatically increased REM sleep time and dream activity in both people with and without narcolepsy. Many psychoactive drugs, such as cannabis and lysergic acid diethylamide (LSD), increase melatonin synthesis.

A research team in Italy has found that melatonin supplementation in the evening in perimenopausal women produces an improvement in thyroid function and gonadotropin levels, as well as restoring fertility and menstruation and preventing the depression associated with the menopause. However, at the same time, some resources warn women trying to conceive not to take a melatonin supplement.

Several clinical studies indicate that supplementation with melatonin is an effective preventive treatment for migraines and cluster headaches.

Melatonin has been shown to be effective in treating one form of depression, seasonal affective disorder, and is being considered for bipolar and other disorders where circadian disturbances are involved.

Melatonin levels at night are reduced to 50% by exposure to a low-level incandescent bulb for only 39 minutes, and it has been shown that women with the brightest bedrooms have an increased risk for breast cancer. Reduced melatonin production has been proposed as a likely factor in the significantly higher cancer rates in night workers.

Melatonin presence in the gallbladder has many protective properties, such as converting cholesterol to bile, preventing oxidative stress, and increasing the mobility of gallstones from the gallbladder.

Melatonin is involved in energy metabolism and body weight control in small animals. Many studies show that chronic melatonin supplementation in drinking water reduces body weight and abdominal fat in experimental animals, especially in the middle-aged rats. Interestingly, the weight loss effect of melatonin does not require the animals to eat less and to be physically more active. A potential mechanism is that melatonin promotes the recruitment of brown adipose tissue (BAT) as well as enhances its activity. Whether the results of animal studies can be extrapolated to human obesity is a matter of future clinical studies.

Large doses of melatonin can even be counterproductive. Based on available studies and clinical use, melatonin is generally regarded as safe in recommended doses for short-term daily use (2 months). Occasional use is safe for most people.

Melatonin may interact with various medications, including:

- Blood-thinning medications (anticoagulants)
- Immunosuppressants
- Diabetes medications
- Birth control pills

Cautions:

Patients with seizure disorder taking melatonin should be monitored closely by a healthcare professional.

Patients with underlying major depression or psychotic disorders taking melatonin should be monitored closely by a healthcare professional.

Melatonin should be avoided in patients using warfarin, and possibly in patients taking other blood-thinning medications or with clotting disorders.

Melatonin may cause drops in blood pressure. Caution is advised in patients taking medications that may also lower blood pressure.

If you take melatonin, make sure the supplements are made of natural plant-based ingredients, not made from animals. Melatonin from animals can contain viruses or other contaminants.

Be sure to try NSP's Melatoni

References

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Yours in Good Health!

Sincerely,

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