

WHAT IS MELATONIN?

- ❖ Melatonin is a naturally occurring hormone produced by the brain.
- ❖ Darkness signals the body to produce more melatonin, while light causes melatonin production to decrease.
- ❖ Melatonin level usually rises before bedtime at around 9 to 10 pm and falls during the day.
- ❖ Normally melatonin is produced at high levels in young people up to the age of 20 years, after that the level continues to decline with age.

WHAT IS MELATONIN USED FOR?

- ❖ The main function of melatonin is to adjust our body's internal clock or sleep-wake cycles.
- ❖ Melatonin can be used for treating insomnia, jetlag, shift-work sleep disorder, delayed sleep phase syndrome (DSPS), sleep disorder in blind people, and other sleep problems.
- ❖ Some people also use melatonin for Alzheimer's disease, ringing in the ears, benzodiazepine and nicotine withdrawal, migraine and cluster headaches, irritable bowel syndrome (IBS), bone loss (osteoporosis), movement disorder called tardive dyskinesia (TD), fibromyalgia, and chronic fatigue syndrome (CFS).
- ❖ Other uses of melatonin include breast cancer, brain cancer, prostate cancer, head-neck cancer, and gastrointestinal cancer.

WHAT ARE THE SIDE EFFECTS OF MELATONIN?

- ❖ As with many hormonal supplements, there are potential side effects of taking melatonin. Most common ones are:
 - daytime drowsiness and dizziness
 - headache
 - reduced alertness and confusion
 - worsening of depressive symptoms
 - mild tremor, anxiety, and irritability
 - abdominal cramps, nausea, and vomiting
 - changes in blood pressure
 - worsening of seizure disorder
 - resumption of spotting or menstrual flow in perimenopausal women
- ❖ Use melatonin with caution and only under the supervision of a physician if you have high blood pressure (hypertension), seizure disorder (epilepsy), depression, bipolar disorder, or liver problems.
- ❖ You should not drive or operate any heavy machinery for 4 to 5 hours after taking melatonin. Avoid drinking alcohol or taking other medications that can

cause drowsiness while taking melatonin (for example: other sleeping pills, pain relievers, antihistamines or allergy medications).

- ❖ Contact your physician if you experience any unusual thoughts or behaviors.
- ❖ Melatonin can affect the normal production of certain hormones in your body such as thyroid hormone, growth hormone, and other hormones for normal body development. Since melatonin may affect the result of laboratory test for these hormones, inform your physician before you have any blood work done.
- ❖ Women who are pregnant or breastfeeding should not take melatonin.
- ❖ Melatonin may promote immune response and inflammation. Avoid using melatonin if you have any of the following conditions:
 - Crohn's disease
 - multiple sclerosis (MS)
 - psoriasis
 - rheumatoid arthritis (RA)
 - systemic lupus erythematosus (SLE)
 - type 1 diabetes
- ❖ Some herbal supplements have been found to contain possible harmful impurities or additives. This is especially true with preparations derived from animal sources. Melatonin supplements are available commercially as synthetic products or derived from animal pineal tissues. Use of melatonin products from animal sources is not recommended because of a risk of contamination.
- ❖ Seek medical attention immediately if you experience severe allergic reactions such as rash, hives, difficulty breathing, tightness in the chest, swelling of the mouth, face, lips, or tongue.

ARE THERE ANY DRUG INTERACTIONS WITH MELATONIN?

- ❖ Some medications may interact with melatonin. Before taking a melatonin supplement, you should let your health care provider know about other medications you take.
- ❖ If you have high blood pressure, melatonin may affect how well your blood pressure medicines work. Melatonin has been shown to increase blood pressure and heart rate in people who take nifedipine (Procardia® or Adalat®).
- ❖ If you take medications for diabetes, melatonin may reduce the ability of your medications to lower your blood sugar.
- ❖ An antidepressant, fluvoxamine (Luvox®), is known to increase melatonin blood level and side effects. It is recommended not to take melatonin if you take an antidepressant.
- ❖ Melatonin may increase your risk of bleeding or bruising if you take medications that slow blood clotting, such as warfarin (Coumadin®), aspirin, clopidogrel (Plavix®), enoxaparin (Lovenox®), or herbal supplements such as angelica, garlic, ginger, ginkgo, Panax ginseng, red clover, willow.
- ❖ Taking melatonin can promote your immune system and may interfere with immunosuppressive therapies used in organ transplants or other conditions. Examples of immunosuppressive drugs are: azathioprine (Imuran®), cyclosporine (Neoral®, Sandimmune®), mycophenolate (CellCept®), tacrolimus (Prograf®), sirolimus (Rapamune®).

- ❖ Melatonin can decrease the effect of corticosteroid drugs used to treat various inflammatory conditions such as arthritis, asthma, and skin problems. Examples of corticosteroids are beclomethasone, methylprednisolone, prednisolone, dexamethasone, prednisone, hydrocortisone, triamcinolone.
- ❖ Melatonin can cause drowsiness and sleepiness. Use caution when taking melatonin with other medications or herbal supplements that can also cause drowsiness.
- ❖ Caffeine consumption may reduce the production of body natural melatonin and possibly block the effect of melatonin supplement.
- ❖ Birth controls can increase the level and side effects of melatonin.

WHAT IS THE NORMAL DOSE OF MELATONIN?
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- ❖ For sleep disorder (insomnia) :
 - 0.3 mg to 5 mg at bedtime (for children, 2 to 5 mg has been used).
 - Sustained-release melatonin products are more beneficial for improving length of sleep and immediate-release melatonin products are better for falling asleep.
 - Take 2 hours before bedtime. Results may be seen within 30 minutes, but it may take 1 to 3 days for the effects to be noticed.
- ❖ For jet lag :
 - 0.5 mg to 5 mg taken at local bedtime on the day of arrival for 2 to 5 nights.
- ❖ For nicotine withdrawal :
 - 0.3 mg taken at 3 to 4 hours after the last cigarette.
- ❖ For benzodiazepine withdrawal :
 - 2 mg controlled release at bedtime for 6 weeks as the dose of benzodiazepine is gradually reduced every week.
- ❖ For irritable bowel syndrome and migraine prevention :
 - 3 mg at bedtime
- ❖ For chronic fatigue syndrome :
 - 5 mg at bedtime

When used appropriately, melatonin is safe for use up to two months. Melatonin products have not been approved by the Food and Drug Administration (FDA) as safe and effective for any medical condition. Long-term safety of melatonin supplements is not known. If you decide to use melatonin as a supplement, make sure you follow the recommended dosage and always consult with your physician or other health care professionals.

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