Melatonin: benefits and side effects

Melatonin is a hormone identified as being potentially important in the regulation of the circadian rhythms including sleep–wake timing.

The role of Melatonin in Sleep regulation

This hormone is produced by the pineal gland (also called epiphysis). Melatonin secretion is inhibited in the presence of light and stimulated in the dark. Maximum production is reached from 2 AM to 5 AM, hence the names sleep hormone or dark hormone. Through melatonin, the pineal gland informs the brain about the relative duration, hours of darkness and light over a 24-hour period (daily cycle), but also throughout the year (seasonal cycle). By secreting melatonin, the pineal gland “tells” the brain that it is dark and that it is the right time to sleep.

Since the implementation of the new regulations on natural health products, melatonin marketed in some countries like Canada as a synthetic product, entirely manufactured in a laboratory.

Two forms of melatonin are marketed. Immediate-release melatonin (regular form) and sustained-release melatonin. It can be assumed that the first one helps to fall asleep more quickly and the second one helps to stay asleep.

The leaves and roots of many plants contain small amounts of melatonin, including seeds of fenugreek, alfalfa, fennel, poppy, flax, coriander, and sunflowers. This antioxidant substance is believed to protect the fragile germ of these
plants from the oxidative effects of UV rays, drought, extreme temperatures, and toxins.

**Benefits**

- Prevent or reduce the effects of jet lag (probable)
- Treat insomnia in people 55 years of age and older.
- Treat disorders in children with neurodevelopmental disorders or attention deficit disorder with or without hyperactivity
- Reduce pain in the newborn (adjuvant treatment)
- Improves sleep in children with circadian rhythm disorders
- Reduce the risk of cancer remission and side effects related to chemotherapy and radiation therapy.
- Contribute to the withdrawal of sleeping pills.
- Reduce chronic pain (migraine, irritable bowel syndrome, fibromyalgia).
- Reduce agitation and dementia.

**Posology**

Ordinary melatonin. Take 1 mg to 5 mg from 30 minutes to 1 hour before bedtime.
This treatment is only effective if insomnia is associated with low melatonin levels.
However, the optimal dosage is not established, as it has varied greatly during the studies.
Sustained-release melatonin. Take 2 mg, 1 to 2 hours before bedtime.
This dosage is the one used during trials on a prescription product available in Europe (Circadin®), but not in Canada.
See the Research section for more information.
Side effects

Attention

The use of melatonin in case of serious illness (cancer, epilepsy, Alzheimer’s disease, etc.) must be under medical supervision.

Although melatonin is considered safe in the short term, the effects of continuous use are not known. However, in an open-label study (without a placebo group), children with circadian rhythm disorders were followed for nearly 4 years: sustained-release melatonin was well tolerated by the young participants.

Due to the risk of drowsiness, loss of alertness or balance, do not drive for 4 to 5 hours after taking melatonin. Note that, according to several clinical trials, when melatonin is taken in the evening to improve sleep, it does not harm waking up.

Contra-indications

Due to insufficient safety data, caution should be exercised in pregnant and lactating women and children.

Adverse reactions

Clinical studies have shown that melatonin might cause drowsiness, nausea, headache, and dizziness. Note, however, that these adverse effects also occurred at the same frequency in subjects taking a placebo.