



## MELATONIN (IN)SUFFICIENCY ASSESSMENT

Laboratory analysis of melatonin has several challenges, and, therefore, is not always reliable. Therefore, assessing one's client using the checklist below may provide a general, indirect guide to whether melatonin levels could be imbalanced. The list below gives general, proposed markers that could indicate reduced endogenous melatonin levels.

### GENERAL HEALTH STATUS

- Abnormal fatigue (mitochondrial dysfunction)
- Accelerated aging (e.g., hair greying, excessive skin fragility)
- Advanced age (40+ years old)
- Aspirin/ibuprofen use
- Autoimmune disease
- Blindness or impaired sight
- Blood sugar imbalance
- Changes in the menstrual cycle
- Chronic inflammatory states (e.g., pain, redness, swelling)
- Chronic stress levels
- Cortisol imbalance (high or low)
- Difficulty with making seasonal transitions
- Gut dysbiosis
- Known gene variants or deletions in glutathione
- Low bone mineral density
- Low HCl production in stomach or use of medications to reduce HCl
- Low vitamin D levels
- Medication side effects (decongestants, those with stimulating effects)
- Mood changes/shifts
- Perimenopause or other fluxes in hormones
- Recurring immune-related issues, like colds, flus, COVID, cancer, etc.
- States of heightened oxidative stress (e.g., bouts of extensive exercise)

### FOOD/DIET

- Alcohol consumption within 3 hours of bed
- Increased intake of toxins such as heavy metals and endocrine disruptors
- Intake of caffeinated beverages close to bedtime (or in the afternoon) for those who are sensitive to caffeine
- Low intake of nutrient cofactors needed to synthesize melatonin (i.e., vitamin B5, vitamin B6, niacin, iron, zinc, magnesium, folate, vitamin C, methylcobalamin)
- Low intake of protein, especially foods higher in L-tryptophan



## WORK/ACTIVITIES

- Aerobic activities within 3 hours of bedtime
- Exercise in a well-lit gym at night
- Travel at night in a well-lit airplane, train, or bus for extended periods
- Work at night or doing shift work (e.g., casinos, hospitals, etc.)
- Work in a daytime job that requires darkness (e.g., miners, X-ray technicians)
- Insufficient light <250 lux during the day

## HOME ENVIRONMENT

- Excessive exposure to artificial lighting (e.g., lamps, light fixtures) in surroundings between dusk and bedtime
- Exposure to computer, iPad, or other electronic devices in the evening hours when it is dark
- Exposure to EMFs
- Exposure to one or more appliances at home that cast light at night
- Lack of exposure to morning light
- Television-watching on a TV screen at night

## SLEEP

- Book-reading before going to sleep
- Issues with acclimatization to different time zones with travel
- LED alarm clock next to the bed while sleeping
- Less than 7 hours of sleep per night
- Lights on during sleeping, even just a night light
- Living in a well-lit neighborhood where the light from outside (e.g., from street lamps, etc.) comes into the home at night
- Napping during late afternoon or early evening hours
- Problems falling asleep or sleep maintenance insomnia
- Sleep apnea
- Use of a smartphone while in bed before going to sleep
- Varied sleep patterns during week compared to weekend (sleeping more or less)
- Warm body temperature at night

## References:

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