Melatonin: Extraordinary Antioxidant Benefits Beyond Sleep

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Melatonin: Agenda

Melatonin:
What it does
Primary Uses
Additional Benefits
New Evidence found in studies

Melatonin: Agenda

Melatonin’s role in:
- Immunomodulation
- Brain Injury
- As an Antioxidant
- Cardioprotection
- Aging
- GI protection
- Cancer

Followed by:
- Dosing parameters
- Summary
Melatonin

- The hormone that regulates sleep
- Production decreases with aging and lifestyle
- Taking melatonin helps regulate normal sleep patterns and improve sleep quality.

Benefits go beyond improving overall quality of sleep:
- Anti-oxidant
- Anti-inflammatory qualities for the:
  - Brain
  - Neurological system
  - Heart
  - Cancer prevention and protection
Melatonin: Who is at Risk for Melatonin Deficiency?

- Cancer Patients
- Elderly
- Shift-workers
- Airline pilots, flight attendants
- People working or living near high electromagnetic fields
- Post-gastric, post-spinal cord surgery patients
- Eating disorders
- Irritable Bowel Syndrome
- Chronic fasters
- Delayed sleep phase syndrome
- Fibromyalgia, Depression, Anxiety
- Females suffering from cramping with menses
- Drugs: anti-hypertensives and statins

Melatonin in a High Dose

Supports the body to help resolve:

- Insomnia
- Waking in the night
- Jet Lag and shift work
- Seasonal Affective Disorder
- Anti-Aging
- Cancer
Insomnia vs. Benefits of Sleep

- Insomnia is a common condition associated with chronic stress
- Sleep promotes the 3 Rs:
  - Repair, Rejuvenate, Regenerate: many of the major restorative functions in the body like muscle growth, tissue repair, protein synthesis, and growth hormone release occur mostly, or in some cases only, during sleep
- Restoring sleep biorhythm will in itself help promote chronic stress reversal, associated pain and evolution of disease
Melatonin: Additional Benefits

- Ability to control oxidative damage throughout the body
- Reduce trauma related to brain injury
- Prevent damage of the heart muscle
- Offer neuroprotection
- Increase cognitive functioning
- Reduce toxic effects of chemotherapy while enhancing its benefits in cancer

Melatonin: New Evidence

- Much of the new evidence uncovered in the past 10 years.
- Now known to be produced in multiple body sites.
- It is able to cross the Blood-Brain Barrier
- Derived from L-tryptophan, its molecular structure allows it to be a very impressive antioxidant
Melatonin: New Evidence

- Anti-inflammatory qualities as it inhibits Cox-2 without inhibiting Cox-1.
- Also promotes a healthy immune response very early in the process of wound healing.
- Immunomodulation: enhancing the process of resolving inflammation and healing wounded tissue.
Cortisol Release, “Biorhythm” and ECM

- After midnight, cortisol levels decrease, creating a state of pro-inflammatory measures, cleaning-up the matrix (ECM)
- Endured stress creates a high cortisol state, day and night, causing insomnia and a huge intoxication state of the matrix as the cleansing phase at night is not present anymore
- Prolonged cortisol state will induce and accelerate disease evolution
- Stress and pain will become chronic and degenerative

Cortisol and Inflammation

- “Inflammation is partly regulated by the hormone cortisol and when cortisol is not allowed to serve this function, inflammation can get out of control”¹
- “...prolonged stress alters the effectiveness of cortisol to regulate the inflammatory response because it decreases tissue sensitivity to the hormone”¹
- Specifically, immune cells become insensitive to cortisol's regulatory effect¹
- In turn, runaway inflammation is thought to promote the development and progression of many diseases¹

¹Sheldon Cohen, Dennis Janicki-Deverts, William J. Doyle, Gregory E. Miller, Ellen Frank, Bruce S. Rubin, and Ronald B. Turner. Chronic stress, glucocorticoid receptor resistance, inflammation, and disease risk. PNAS, April 2, 2012 DOI: 10.1073/pnas.1118355109
Melatonin: Uses with Brain Injury

- Powerful free radical scavenging and anti-inflammatory effects.
- Children and Young Adults: mostly head trauma
- Older Adults: complications mostly due to atherosclerosis
Effects of Anti-oxidants

- Reduction of chemicals produced by brain cell oxidation
- Increases levels of other antioxidants such as Vitamin C
- Decreases activation of pro-inflammatory cytokines
- This would result in reducing the size of brain contusions following head trauma

Melatonin: Cardioprotection

- Efficiently scavenges free radicals that are a result of cardiac injury
- Increase antioxidant enzymes
- Prevention of further oxidative damage
- Protection of the mitochondria
- Potentiating the beneficial effect of certain heart medications
- Reducing blood coagulation activity
Melatonin: Importance in Aging

- Effectiveness of supplementation may increase with advancing age.
- Calcification of the Pineal Gland causing:
  - Decreased capability to produce melatonin
  - Memory disorders
  - Increased daytime tiredness
  - Various sleep disturbances

Melatonin: GI Protection

- GI Tract produces more than 500 times more Melatonin as the pineal gland.
- Effective in trauma due to strong acid and digestive enzyme exposure producing free radicals
- Stimulates blood flow in the area, therefore, promoting healing
- Protects the pancreas and stomach from oxidative damage
Melatonin: Cancer Prevention and Control

- Studies show that at 40 mg per day starting 1 week prior to treatment could improve the tumor-killing power of IL-2
- Studies also done using 20 mg per day with chemotherapy showing very favorable results
- Studies also showed a reduction of prostate cancer cell growth rates

Melatonin: When to Dose It

- Taken 30 minutes to one hour before sleep
- Exposure to light at night, regardless of the duration or intensity of the light, can fully suppress or decrease melatonin levels
Melatonin: Summary

• Formerly a hormone long thought to be responsible only for circadian rhythms and its effects on sleep
• Performs many pivotal functions in the body:
  • Antioxidant abilities
  • Immunomodulation
  • Capacity to manage inflammation
  • Used as a adjunct in cancer therapy

Thank you for your interest in Melatonin + B6

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