



INE | INSTITUTE OF
NUTRITIONAL
ENDOCRINOLOGY

Sleep: Supporting Clients to Achieve Restful Sleep - Part 4

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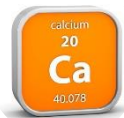
Vitamins and Minerals Involved in Sleep



Magnesium



Vitamin B6



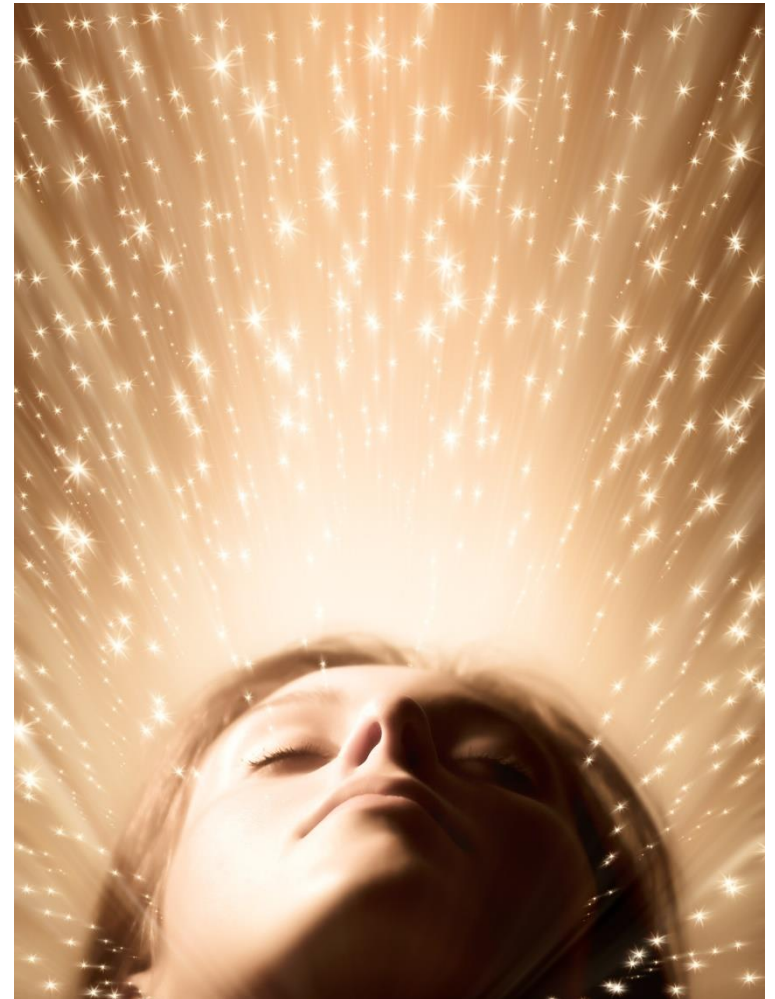
Calcium



Vitamin B12



Zinc



Magnesium: Effects on Sleep

- ✓ Plays a role in cellular communication and regulation of circadian rhythms
- ✓ As sleep restriction increases, intracellular magnesium concentrations decline
- ✓ Combined with melatonin and zinc, has been shown to improve sleep in the elderly
- ✓ Supplementation helped relieve insomnia related to restless legs in subjects mean age 57 years
- ✓ Magnesium threonate has been shown to penetrate the blood-brain barrier more efficiently than other forms of magnesium
- ✓ Works synergistically with calcium
- ✓ Impact on of GABA receptors
- ✓ Muscle relaxation
- ✓ Supplements at bedtime
 - Topically
 - Baths
 - Oral



Dosage: 200 to 400 mg



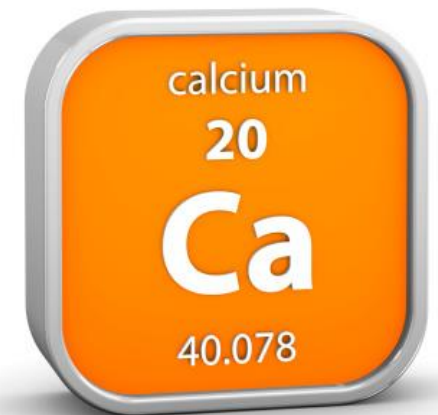
Vitamin B6 to Promote Sleep

- ✓ Important coenzyme in synthesis of serotonin and melatonin
- ✓ Low zinc causes impaired conversion of B6
- ✓ Elevated organic acid kynurenate acid and a low tryptophan
- ✓ Plasticizers lower zinc which is needed to convert B6 to its active form



Calcium to Promote Sleep

- ✓ Higher during REM sleep
- ✓ **Study:** European Neurology Journal
 - Disturbances in sleep, especially the absence disturbance of REM sleep related to a calcium deficiency
 - Normalization by improving blood calcium level
- ✓ William Sears, M.D.: "Calcium helps the brain use the amino acid tryptophan to manufacture the sleep-inducing substance melatonin. This explains why dairy products, which contain both tryptophan and calcium, are one of the top sleep-inducing foods."
- ✓ **Dosage:** 1,500 - 2,000 mg daily, in divided doses, after meals and at bedtime



Vitamin B12 and Sleep-Wake Cycle

- ✓ Shown to help with sleep-wake disorder
 - Excessive daytime sleepiness
 - Restless nights
 - Frequent night-time awakenings
 - Common in shift workers and the elderly
- ✓ **Effect:** Improved sleep quality, increased day time alertness and concentration, and improved mood
- ✓ **Mechanism:** Influence on melatonin secretion
- ✓ **Form:** Methylcobalamin
- ✓ **Dosage:** 3 mg total first thing upon arising for insomnia



Zinc and Sleep

✓ Mechanism:

- Essential for the synthesis of serotonin and melatonin
- Crucial to brain development - major role in protein synthesis
- Lowers excitability by moderating NMDA receptor release of excitatory glutamate
- Involved in the synthesis of GABA by the modulation of glutamate decarboxylase activity
- Involved in neuronal plasma membrane structure and functioning
- May play a key role in blood-brain-barrier integrity

✓ **Dosage:** 40 to 50 mg last thing at night with vitamin B6, about 5 to 10 mg

✓ **Caution:** Excess zinc can suppress iron and copper levels



Feng Shui and Sleep

- ✓ Keep the bed easily accessible/approachable from all sides
- ✓ Keeping the air pure, preferably with open windows to make the energy in the room fresh and help it flow
- ✓ Have several windows to allow in natural light
- ✓ Have the bed positioned so door can be seen
- ✓ Keep the room neat and clean with a balanced look and feel
 - Clutter and trash represents unfinished business, which can prevent deep rest and relaxation
 - Clutter can also impact sex life



Acupuncture and Sleep

- ✓ Open up blocked channels
- ✓ Allow brain to better understand that it's time to sleep
- ✓ Signals the release of neuro-endocrine chemicals
 - Tryptophan
 - Melatonin



Exercise and Sleep

✓ Large study

- 2,600 men and women
- Ages 18-85
- 150 minutes of moderate to vigorous activity a week improved sleep quality by 65%
- Also improved energy during the day



<http://www.drritamarie.com/go/MentalHealthPhysicalActivity>



Optimizing Sleep Part 1



- ✓ Stop eating within 3 hours of bedtime
- ✓ Dim the lights in the evening to simulate natural environment and stimulate melatonin
- ✓ Stop using a computer within 2 hours of bedtime
- ✓ Turn off the TV at least an hour before bedtime
- ✓ Avoid intense exercise close to bedtime
- ✓ Meditation, visualization, or “mini vacations” before bed to turn down the cortisol



Optimizing Sleep Part 2



- ✓ No intense mental activity within 2 hours of bedtime
- ✓ Outdoor activity early in the day (before 1:00 pm)
- ✓ Ideally get sunlight within 5 minutes of waking up
- ✓ Turn off bright lights as soon as possible after sunset
- ✓ Warm (body temperature) bath (not hot) 15 – 60 minutes before bed, ideally with Epsom salts or magnesium crystals and lavender oil
- ✓ Keep the room at a cool to moderate temperature
- ✓ Sleep in the dark



Optimizing Sleep Part 3

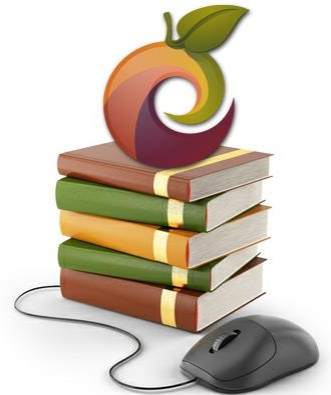


- ✓ Go to bed and get up at the same time every day, even on weekends
- ✓ Herbs 30 – 60 minutes before bed, then again at bedtime
- ✓ Horizontal for 30 minutes to an hour before sleep
- ✓ Journal right before turning out the light; get all the to-do items onto the paper
- ✓ Guided imagery CDs
- ✓ Keep clock and other things that have electromagnetic fields away from bed
- ✓ Avoid electric blankets or waterbeds
- ✓ White noise



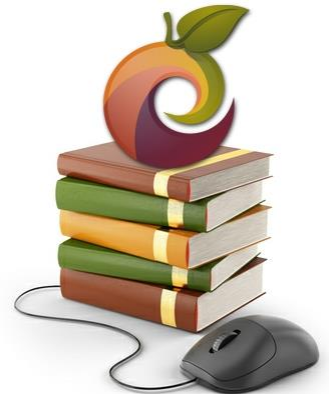
Sleep Resource List: 1

- ✓ <http://www.drritamarie.com/go/10BenefitsSleepingNaked>
- ✓ <http://www.drritamarie.com/go/11SurprisingSleepBenefits>
- ✓ <http://www.drritamarie.com/go/LackOfSleepCancerRisks>
- ✓ <http://www.drritamarie.com/go/ResetInternalClockSleepTips>
- ✓ <http://www.drritamarie.com/go/AdvancedSleepFormula>
- ✓ <http://www.drritamarie.com/go/InsomniaRelief>
- ✓ <http://www.drritamarie.com/go/Medscape502825>
(requires login)



Sleep Resource List: 2

- ✓ <http://www.drritamarie.com/go/InsomniaTreatment>
- ✓ <http://www.drritamarie.com/go/GlycineRejuvenateSleep>
- ✓ <http://www.drritamarie.com/go/AminoAcidsTreatInsomnia>
- ✓ <http://www.drritamarie.com/go/InsomniaHerbsNaturalRemedies>
- ✓ <http://www.drritamarie.com/go/WhelanSkullcap>
- ✓ <http://www.drritamarie.com/go/NaturalInsomniaTreatment>
- ✓ <http://www.drritamarie.com/go/TreatInsomniaHerbsMelatonins>



Sleep Resource List: 3

- ✓ <http://www.drritamarie.com/go/SleepStatistics>
- ✓ <http://www.drritamarie.com/go/InsufficientSleepPublicHealthProblem>
- ✓ <http://www.drritamarie.com/go/DrowsyDriving>
- ✓ <http://www.drritamarie.com/BetterSleepWithShambhaviMeditation>
- ✓ <http://www.drritamarie.com/go/SleepAndWakefulnessNeurobiology>
- ✓ Schoenborn CA, Adams PF. *Health behaviors of adults: United States, 2005–2007*. National Center for Health Statistics. Vital Health Stat 10(245). 2010.
- ✓ CDC. *Youth Risk Behavior Surveillance—United States, 2009*. MMWR 2010;59:SS-5.
- ✓ Institute of Medicine. *Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem*. Washington, DC: The National Academies Press; 2006.

