

# LEONARDI INSTITUTE

## ENERGY VITALITY LONGEVITY

### **SLEEP: For Optimal Health**

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#### **Health Implications:**

Consider how you would feel if you restricted the oxygen in the air you breathe, deprived yourself of fluids, or limited your access to food. Most likely such deprivations would result in an immediate decline in your quality of life, including lower energy levels, mood states, productivity, and general motivation. Continued deprivation would destroy your health. Well, this is exactly what most people living in developed countries are doing to themselves in regards to sleep. Adequate sleep is as important to health and life as air, water, food, shelter, and relationships. Yet, sleep is often one of the first cornerstones of health to be sacrificed in the name of productivity or entertainment. The consequences are astounding, but overlooked.

Adequate high quality sleep is critical for the balanced function of mind and body. It generates health and, therefore, has a role in preventing and treating ALL diseases. Inadequate and poor quality sleep has been associated with obesity, diabetes, cancers, depression, cognitive decline and dementia, high blood pressure, heart attacks and strokes, infections, and the list goes on. In regards to immediate quality of life, inadequate sleep contributes to fatigue, stress intolerance, poor productivity and performance, irritability, and general disinterest.

#### **Achieving Adequate Sleep:**

**What is adequate:** For most people, adequate sleep involves 8-10 hours of uninterrupted sleep each night. It's true that some people may require only 6 hours of sleep each night, but most people believing this to be true for themselves are likely incorrect and simply living an over stimulated life. The best indication of having achieved adequate sleep is feeling fully rested and refreshed upon awakening and having this feeling sustained throughout the day (without caffeine or other stimulants!).

#### **What to do during the day:**

1. Wake up spontaneously. If at all possible, avoid using alarm clocks and awaken before dawn. The body naturally wakes at the end of a sleep cycle when it is most ready to transition into being awake.
2. Exercise! Exercise in the morning and/or afternoon helps optimize circadian rhythms and enhances deep stage sleep.

3. Get natural light. Exposure to sunlight (or bright full spectrum lights) in the morning upon awakening and throughout the day helps to optimize circadian rhythms and enhance daytime energy.
4. Wake up at the same time each day (which means going to bed at the same time each night). This also optimizes the circadian rhythms and helps to prevent delays in going to sleep at night.
5. Minimize caffeine, nicotine, and other stimulants, especially after noon.
6. Address stressful or emotionally involved problems as soon as possible during the day in order to avoid transferring them into disrupted sleep at night.

### **What to do during the evening and night:**

1. Have a wind-down period before bed. The body and mind should begin coming down with the sun. This means not trying to finish up work demands, exercising intensely, watching action movies, or being under bright lights for 1-2 hours before bedtime. Find something that is limited in time and tends to help you relax and get tired. A warm bath, easy yoga or stretching, breathing exercises or meditation, progressive muscle relaxation, listening to calming music, and light reading are examples of activities which can be incorporated into wind-down routines.
2. Keep the lights dim after dark. Light in the yellow to blue part of the spectrum suppress melatonin secretion, even at low intensities. Light in the red wavelengths does not. Keeping the lights dim and, ideally, using red lights for reading and getting up to go to the bathroom will help promote high quality sleep. Alternatively, red sunglasses (Blue-blockers, etc.) can be used. By the way, light at night (LAN) is considered a probable human carcinogen.
3. Avoid alcohol, nicotine, caffeine, and large meals before bedtime. All of these have been shown to disrupt sleep physiology in detrimental ways.
4. Minimize electromagnetic radiation (“electro-smog”). This type of non-ionizing radiation, in unnatural form, is emitted by wireless technologies and electronics. Studies have shown that exposure to EMR at night reduces melatonin secretion. A simple step is to unplug the wireless modem at night and don’t sleep next to (or wearing) active electronic devices.
5. Get grounded. New research is demonstrating that the body dramatically benefits from frequently being electrically connected to the earth, just as in grounding an electronic device. The free electrons prevalent on the earth’s surface move into the body and act as powerful antioxidants. Furthermore, the flux of these electrons is a powerful regulator of circadian rhythms and has been shown to improve sleep quality and duration. Grounded sleeping sheets can be purchased online at <https://shop.earthing.com>.
6. Keep the bedroom cool and quiet and use the bed only for sleeping and sexual activity.

7. Keep a pencil and paper or a journal next to the bed. Record any thoughts which you might attempt to remember overnight. For example, things you just remembered that need to get done, brilliant ideas that come to you, solutions to problems, concerns that are lingering, and etc. You can then leave them on the paper and not in your mind. You can also use the paper or journal to record dreams immediately upon awakening, if interested.
8. Use progressive muscle relaxation or the mindfulness sleep induction technique (see below).
9. Use imagery as you fall asleep. After relaxing, take yourself on a trip to a relaxing paradise or perfect resting spot limited only by your imagination.
10. If you find yourself laying awake in bed, don't stay there watching the clock and tossing and turning. Get out of bed and do something relaxing such as reading, stretching, breathing exercises, etc. Or, repeat part of your wind-down routine. Then return to bed for sleep. This helps to reset the mind and body for sleep.

#### **Example of before bed routine:**

- 8:00pm: House lights dimmed or limited to red lights. Finished with T.V. and computer. Light reading, conversation, or music. Enjoy a cup of caffeine-free herbal tea.
- 9:00pm: Get ready for bed, then enjoy a warm bath with lavender essential oils, meditation, breathing exercises, or light stretching or yoga, for 30 minutes. Keep lights very low or off.
- 9:45pm: Lay down in bed and begin progressive muscle relaxation, mindfulness sleep induction technique, and/or imagery.
- 10:00pm: Sleep.

#### **Supplements and herbs for sleep:**

1. Magnesium: Magnesium helps prevent a number of degenerative and chronic conditions, but it can also help with relaxation and sleep when taken before bedtime. Magnesium promotes the secretion of melatonin during deep stage sleep.
2. Melatonin: Melatonin is a key hormone in regulating the sleep-wake cycle, driving deep stage sleep, modulating the immune system, and preventing certain cancers. Taking melatonin at the right time can help correct abnormal circadian rhythms and promote deep sleep. Some medical conditions result in impaired secretion of melatonin, and melatonin supplements then become important for maintaining health and treating the condition.

3. Zinc: Helps promote melatonin secretion during sleep. Taking melatonin, magnesium, and zinc together, 1 hour before bedtime, was shown to significantly improve sleep time and quality, daytime alertness and activity, mood, and quality of life.
4. Herbs: there are numerous herbs which can be used to improve sleep. These include Chamomile, Passion Flower, Hops, Reishi mushroom, Valerian, Lemon Balm, L-Theanine, GABA, and 5-HT. Oftentimes they are used in combination. If you are interesting in trying herbs for sleep, please contact us for an individualized recommendation.
5. Lavender aromatherapy: Applying lavender oil to the pillow case or bed sheets, or using it in a bath, can help prepare the mind for sleep.

### **Drugs for sleep:**

There are many over the counter and prescription drugs used to initiate and maintain sleep. The majority of these also alter the normal sleep architecture (relationships between deep sleep and REM sleep) to some extent. This includes the common use of diphen-hydramine (Benadryl) and other anti-histamines. Please contact use for direction in using any of these medications. Ideally, their use will be temporary and as a bridge to naturally achieved sleep. However, some conditions may require prolonged use and individual circumstances must be considered.

**Mindfulness Sleep Induction Technique:** (adapted from the University of Wisconsin Integrative Medicine handout by David Rakel).

1. Lay in bed and prepare to fall asleep.
2. Begin with abdominal breathing: To check that you are doing abdominal breathing, place one hand on your chest and one on your abdomen. Breathe in so that the hand on the abdomen rises higher than the hand on the chest.
3. Take a slow deep breath in through your nose for a count of 3-4 and exhale slowly through your mouth for a count of 6-7.
4. Allow your thoughts to focus on your breath and the air gently entering and leaving your nose and mouth.
5. Repeat this cycle for 8 breaths.
6. After 8 breaths, change your body position in bed and repeat for another 8 breaths. Continue this cycle of position changes and 8 breaths. It is rare to complete 4 cycles before falling asleep.

### **Progressive Muscle Relaxation Technique:**

1. Lay in bed and prepare to fall asleep. Have someone else read these steps if possible.

2. Assume a passive attitude and focus on your body.
3. Tense and relax each muscle group as follows:
  - a. Forehead: wrinkle your forehead; try to make your eyebrows touch your hairline for five seconds. Relax.
  - b. Eyes and nose: close your eyes as tightly as you can for five seconds. Relax.
  - c. Lips, cheeks, and jaw: Draw the centers of your mouth back and grimace for five seconds. Relax. Feel the warmth and calmness in your face.
  - d. Hands: extend your arms in front of you. Clench your fists tightly for five seconds. Relax. Feel the warmth and calmness in your hands.
  - e. Forearms: extend your arms out against an invisible wall and push forward with your hands for five seconds. Relax.
  - f. Upper arms: bend your elbows and tense your biceps for five seconds. Relax. Feel the tension leave your arms.
  - g. Shoulders: shrug your shoulders up to your ears for five seconds. Relax.
  - h. Back: arch your back off the bed for five seconds. Relax. Feel the tension disappearing.
  - i. Stomach: tighten your stomach muscles for five seconds. Relax.
  - j. Hips and Buttocks: tighten your hip and buttock muscles for five seconds. Relax.
  - k. Thighs: tighten your thigh muscles by pressing your legs together as tightly as you can for five seconds. Relax.
  - l. Feet: bend your ankles toward your body as far as you can for five seconds. Relax.
  - m. Toes: curl your toes as tightly as you can for five seconds. Relax.
4. Assess for remaining tense muscles. Tighten and relax those muscles four times.
5. Experience the deep relaxation of your body and the peace of your mind.