Sleep Success!

CIRCADIAN RHYTHM

All living things function according to a circadian rhythm, biological processes that reoccur on a 24-hour cycle. The rising and setting of our sun governs the natural order of fluctuation in our body. This cyclical pattern of light and dark controls our production of important hormones. Sunshine is a stimulating, blue-dominant, full- spectrum light. In the evening after sunset (in the absence of light), the pineal gland secretes melatonin, our sleep hormone. Ideally, we will wind down, catch the wave of melatonin and fall into the pocket of deep, nourishing sleep. In the wee hours of morning, melatonin subsides. Our adrenal glands start producing cortisol, our "be alert" (fight or flight) hormone and we emerge from sleep. Ideally, we awaken refreshed and full of energy! This is an expression of homeostasis (balance).

HOWEVER: In our wired world of today, all electronics ---TVs, computers and cell phones --- serve to lengthen the perceived day because they all emit blue light. Increased time of blue light makes our metabolism slow down, causing our bodies to store calories rather than to burn them. This means that an equal number of calories will cause increased fat storage with increased light exposure in a day. We must have adequate sleep to maintain our energy and metabolism, which helps us achieve and maintain our ideal weight. And, we must sleep well EVERY night, because:

THERE IS NO "MAKING-UP" FOR LOST SLEEP!

The human body requires 7 to 9 HOURS of sleep every night. It is during sleep that essential "housekeeping" occurs. When we sleep and fast (go without food),² we clear our digestive tract, detox our brains and bodies, balance our hormones, boost our immunity and reprogram our emotions and psyche. Lack of sleep is especially damaging to the brain because it specifically inhibits the functions of the glymphatic system, which clears waste via the cerebrospinal fluid, allowing toxins to build up in the brain.

- 1. Kooijman S, van den Berg R, Ramkisoensing A, et al. (2015). Prolonged daily light exposure increases body fat mass through attenuation of brown adipose tissue activity. *Proceedings of the National Academy of Sciences of the United States of America*; 112(21): 6748-53.
- 2. This is why it it highly beneficial to eat an earlier, lighter meal in the evening and not to snack before bed.

WE DON'T GET ENOUGH SLEEP

We are increasingly sleep-deprived compared to just 100 years ago:

In 1910 most people enjoyed about 9 hours of sleep.

In 1975 = 7.5 hours

In 2002 = less than 7 hours

Today, many only get about 5 or 6 hours! This is dangerous!

LACK OF ADEQUATE SLEEP = A SHORTER LIFE SPAN

Lack of sleep leads to elevated levels of the hormones cortisol (stress), ghrelin (hunger), and insulin (blood sugar). When out of balance and in excess, these hormones contribute to inflammation which drives the expression of most of the preventable, degenerative diseases prevalent in our modern world. These include cardio-vascular, auto-immune diseases, diabetes, cancer, arthritis and dementia. Most of these diseases are not caused by genetics; instead, their causes are epigenetic which is good news. Epigenetic means that they are caused by environmental factors that you can control; i.e, they are the direct result of personal choices. Knowing that you have the power to chose:

YOU CAN MAKE SOME WISE CHOICES!

- (1) Rise early, and expose yourself to sunlight or bright full-spectrum light.
- (2) When possible, exercise earlier in the day. Barefoot outdoors is ideal!
- (3) Later in the day, cut out the caffeine, and avoid alcohol.
- (4) Eat sleep-promoting foods (that agree with your physiology), such as green vegetables, avocados, raw nuts and seeds (walnuts, almonds, flax, chia, sesame and sunflower), cherries, bananas, clean proteins (like beans, salmon, grass-fed meat and sardines), and complex carbohydrates.
- (5) Soothing teas such as chamomile are beneficial before bed.

MAKE YOUR BEDROOM YOUR SLEEP SANCTUARY

Pick a designated bedtime and start winding down about an hour before then. Aim for bed around 9 to 10 pm, when your levels of melatonin are starting to peak. Make your bedroom electronics-free. TV does not belong in your sleep sanctuary. In the rest of your home, turn off ALL electronics and disconnect your WI-FI. Amber or red lights are soothing in the evening and are a good choice for a night light in the bathroom, because red is a long wavelength and does not inhibit melatonin.

Reading something inspirational or listening to music, while enjoying an Epsom Salt (magnesium sulfate) foot soak, can create a relaxing wind-down time for you!

Lavender essential oil works magic to calm stress and welcome deep sleep.

Sleep in a cool temperature, but wear socks. Sleep in total darkness with light-blocking curtains. A sleep mask can be useful.

WHAT IS THE BEST SLEEP POSITION?

Sleeping on the back is associated with snoring and sleep apnea. Stomach sleeping can compromise breathing and spinal alignment. Ayurvedic medicine techniques suggest sleeping on the LEFT side. This facilitates digestion and lymphatic drainage by supporting the functions of the stomach, spleen and liver. Sleeping on the left side also alleviates the acid reflux symptoms of GERD.

NATURAL SLEEP AIDS:

MELATONIN

Start with 1 mg about 30 minutes before bed. If that is not effective try 2 mg the next evening. You should not need more that 3 mg.

MAGNESIUM

Magnesium is called the "Lamp of Life" in traditional Chinese medicine. It is also known as the "Master Mineral," and is profoundly relaxing and sleep-inducing! Some good choices for magnesium are:

❖ Magnesium Chloride. When applied to the skin in the form of a transdermal oil, it is highly absorbable, and bypasses digestion, eliminating the laxative effect that magnesium can cause when it is taken orally. This form of magnesium allows for a much higher, therapeutic dosage. Because most of us are magnesium depleted, this may be the best way for our body to replenish its reserves.

- ❖ Epsom Salt. Soaking the whole body (or even just the feet) in a bath of Epsom salt, which is magnesium sulfate, is another way of quickly absorbing magnesium. It can alleviate aches and pains to help you sleep like a baby.
- **★** <u>Magnesium Threonate.</u> This supplemental form has the superior ability to penetrate mitochondrial membranes, as well as to cross the blood-brain barrier. It has been shown to improve long-term memory.
- **★ Magnesium Citrate**. This is available in a flavored powder called "Natural Calm." At the optimal dosage, it can have a laxative effect, which for some might be a good thing.
- Magnesium taurate, malate, glycinate, and carbonate are also beneficial, but less absorbable, pill supplements.
- Avoid Magnesium oxide, glutamate and aspartate!

VALERIAN ROOT EXTRACT

Taken as a tincture, tea, essential oil, powder or pill. It has a strong, distinctive smell and is often used in formulations with other relaxing herbs such as chamomile, lemon balm, skullcap, peppermint, catnip, licorice and passionflower. Passionflower should not be taken orally during pregnancy, because it is known to cause uterine stimulation. It may also interact with anti-hypertensive and depressant drugs.

TRYPTOPHAN

Tryptophan is an aromatic amino acid, involved in many important metabolic pathways. L-tryptophan is converted to serotonin (the feel-good hormone and neurotransmitter). Levels of serotonin are naturally elevated in a body nourished by an organic, non-GMO, plant based, whole foods diet. Serotonin is in turn converted into melatonin. The nighttime surge in melatonin comes from the pineal gland, but the gastrointestinal tract maintains baseline levels. Melatonin levels in the gut are 10 to 100 times higher than in the blood.

SLEEP WELL AND LIVE LONG!

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