

OLA LOA Energy Drink
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OLA LOA and NUTRITION FOR SLEEP

If you are comfortable and sleepy at bedtime, a snack is not necessary. In fact, it is often adverse to snack on cheese, chocolate, eggplant, potatoes, spinach, tomatoes, and wine close to bedtime. These foods contain tyramine, which increases the release of norepinephrine, a brain stimulant. And for sure, it is wise to beware of MSG, monosodium glutamate, which is present in many packaged snack foods, especially soups. MSG is an excitotoxin and has damaging effects, especially in babies and young children and anyone subject to symptoms of insomnia, headache and anxiety-irritability.

Beware of simple sugars in soft drinks, desserts, and even natural fruit juices even though they do enhance brain uptake of tryptophan and thus increase brain serotonin, a sleep hormone. I advise limit of 15 grams, about a tablespoon, due to rebound low blood sugar and early waking 3 or 4 hours later, the so-called dawn phenomenon.

Complex carbohydrates work best: bananas, figs, dates, melons, all high in tryptophan and/or serotonin, and potassium, a natural blood flow enhancer and cell membrane energy regulator. Bread or crackers contain wheat flour, a natural source of TMG-betaine, a powerful booster of methylation, essential for balancing production of serotonin and melatonin, major sleep hormones. Methylation also stabilizes DNA and regulates cell division, thus is required for tissue healing.

Methylation removes excess homocysteine, which is high after an evening meal, especially if it contains excess animal protein, due to high methionine, which generates homocysteine. Methylation involves transfer of a special carbon atom (combined with hydrogen) and requires adequate vitamins folic acid, B12, B6 and B2 in order to pass the methyl carbon from folic acid via B12 to homocysteine (HCY), thus regenerating methionine (MET). If this process fails for as little as an hour or two, serious and permanent nerve damage can occur. Methionine is activated into SAMe, the activated metabolite required for production of creatine, carnitine, CoQ and choline. Choline is perhaps most important link between sleep and healing, because synthesis is enhanced by sugars, which stimulate insulin and insulin growth factor (IGF-1), which increase activity of the enzyme, PEMT, catalyst for production of choline and phosphatidylcholine, the membrane form of choline.

Nut butters provide healthy fats that maintain energy for a longer duration than do carbohydrates. Flax oil in particular provides both omega-3 and omega-6 fatty acids, which are essential for long term cell membrane structure and function but in the short term are essential for prostaglandin synthesis, including PGD2, now recognized as a primary sleep hormone! The vitamin niacin (B3) at a dose of 100 mg causes a flush response, which is also due to the release of PGD2, hence a good marker for integrity of this system. Schizophrenics usually lack this flush response and suffer severe insomnia, which is often a sign of impending relapse of psychosis.

if you do crave a bedtime snack, limit animal protein to a cup of milk or yogurt, or 2 Tbsp of cottage cheese or an ounce of turkey or chicken (high tryptophan). Why? Animal protein is high methionine and in some people this can cause insomnia and excessive dreaming due to a) stimulating effect of SAMe; b) excess homocysteine by-product, which causes low blood flow (ischemia); c) excess SAH, which inhibits methyl transferase activity and unbalances essential cellular chemistry.

The goal is to increase tryptophan transport into brain (source of serotonin) but without increasing homocysteine above 15 to 20mM/L. Chambers and MacGregor and also Nappo found triple increase in homocysteine, averaging about 30mM) for 5 hours after a large methionine load in young, healthy men. Major artery blood flow was reduced by 85% unless they were pre-treated with vitamin C above 1000mg. A 500mg dose did not work!

Avoid heavy high calorie meals near bedtime as calories, sugars and fats all turn off the BHMT enzyme, ie. the alternate methyl pathway, which has evolved as a survival mechanism in response to conditions of famine, drought and starvation. At such times folic acid (from leaves and plants) and B12 (from meats) are unavailable so that BHMT is, indeed, the key to survival of the human species.

In addition the following may enhance the body's ability to lower homocysteine, create SAMe, and maintain taurine and glutathione: Glycine, Choline, B1, B3, calcium (vitamin D), selenium, manganese, zinc, copper, inositol and pantothenic acid.

I have formulated these into a single dose vitamin drink, **Ola Loa Repair**, which provides synergistic support for methylation and better sleep and healing. It contains significant amounts of TMG, vitamin C, taurine, Gotu kola herb, calcium-magnesium-vitamin D and glucosamine sulfate to enhance the sleep that heals.