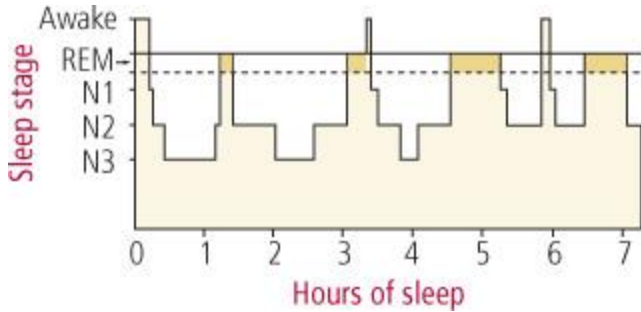


Help me sleep!

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“normal” sleep pattern



The natural rhythm of our sleep pattern is typically, six- 90 minute cycles in a 24 hour period.

Since the industrial revolution and the “modernization” of our world, we have been taught that we are supposed to get all of these cycles in succession each day- from a time frame of 10AM to 6PM (if you are lucky) and excluding the challenges of shift workers . Most people average 4 cycles.

This pattern has developed as a result of a consumer/goods driven society, following the invention of electricity.

This is not the state that our innate biorhythm is meant to function. And, in many places of the world it is not how other people live.

Deep sleep is the portion of the sleep cycle when our body is being restored. During this time your **body repairs** itself and builds up energy for the day ahead. It plays a major role in maintaining your health, stimulating growth and development, repairing muscles and tissues, and boosting your immune system. In order to wake up energized and refreshed, getting quality deep sleep is essential.

During REM sleep our **mind** is being impacted. During REM sleep, your brain consolidates and processes the information you’ve learned during the day, forms neural connections that strengthen memory, and replenishes its supply of neurotransmitters, including feel-good chemicals like serotonin and dopamine that boost your mood during the day.

REM sleep cycles are longer in the early morning and deep sleep part of the cycle happens earlier.

Improving your overall sleep will also increase your REM sleep. If you aren’t getting enough deep sleep, your body will try to make that up first, at the expense of REM sleep. This can lead to decreased alertness, problem solving, attention span and emotional stability.

Sleep debt is the difference between the amount of sleep you need and the hours you actually get. Every time you sacrifice on sleep, you add to the debt. Eventually, the debt will have to be repaid; it won’t go away on its own. If you lose an hour of sleep, you must make up that extra hour somewhere down the line in order to bring your “account” back into balance.

Sleeping in on the weekends isn’t enough for *chronic* lack of sleep.

Many of us try to repay our sleep debt by sleeping in on the weekends, but as it turns out, bouncing back from *chronic* lack of sleep isn’t that easy. One or two solid nights of sleep aren’t enough to pay off a long-term debt. While extra sleep can give you a temporary boost (for example, you may feel great on Monday morning after a relaxing weekend), your performance and energy will drop back down as the day wears on.

Restorative sleep happens after at least 9 1/2 hours of sleep 3 or more days in a row. (Paul Bergner)

Tips for getting and staying out of sleep debt

While you can’t pay off sleep debt in a night or even a weekend, with a little effort and planning, you can get back on track.

Aim for at least seven and a half hours of sleep every night. Make sure you don’t fall farther in debt by blocking off enough time for sleep each night. **Consistency is the key.** You may be able to settle *short-term* sleep debt with an extra hour or two per night.

Having a hard time getting up when your alarm goes off?

A typical sleep cycle goes thru its pattern in about 90 minutes. Depending on what time of the night it is the segments within that 90 minutes will vary. (Refer to the diagram at the top of the handout.)

Even if you've enjoyed a full night's sleep, getting out of bed can be **difficult if your alarm goes off when you're in the middle of deep sleep (Stage N3)**. If you want to make mornings less painful—or if you know you only have a limited time for sleep—**try setting a wake-up time that's a multiple of 90 minutes**, the length of the average sleep cycle. For example, if you go to bed at 10 p.m., set your alarm for 5:30 (a total of 7 ½ hours of sleep) instead of 6:00 or 6:30. You may feel more refreshed at 5:30 than with another 30 to 60 minutes of sleep because you're getting up at the end of a sleep cycle when your body and brain are already close to wakefulness.

Keeping a sleep diary can be helpful to **identify your personal rhythm and figure out the best timing for this**. Record when you go to bed, when you get up, your total hours of sleep, and how you feel during the day. As you keep track of your sleep, you'll discover your natural patterns and get to know your sleep needs.

Take a **sleep vacation** to pay off a long-term sleep debt .Prioritize a period when you have more flexibility in your schedule, or try and intentionally make the time. Go to bed at the same time every night and allow yourself to sleep until you wake up naturally. No alarm clocks! If you continue to keep the same bedtime and wake up naturally, you'll eventually dig your way out of debt and arrive at the sleep schedule that's ideal for you.

Make sleep a priority. Just as you schedule time for work and other commitments, you should schedule enough time for sleep. **Instead of cutting back on sleep in order to tackle the rest of your daily tasks, put sleep at the top of your to-do list.**

CORTISOL

Here in America, recent statistics indicate that 1 in 8 people have difficulty falling or remaining asleep. **Elevated or deficient cortisol levels contribute significantly to sleeping.**

Cortisol and Fear

The media constantly reminds us that we live in an unpredictable and potentially dangerous world. For many of us our thoughts are on overdrive and our minds are constantly filled with negative chatter. Hectic schedules, time frames that are "overbooked" and "paper tigers" at work all contribute. Worry and concern at this low grade and constant level drive cortisol levels up.

Cortisol is called the "stress hormone" because it is secreted during times of fear or stress, whenever your body goes into the fight or flight response. Cortisol is made in your adrenal glands. In the constant state of stress so commonplace today, cortisol levels remain heighten and are part of a hormonal cascade that contributes to chronic inflammatory patterns. This has been linked to premature aging and leads to an earlier death.

Cortisol causes blood sugar to elevate. Chronically high levels lead to an acidic blood condition. Acidic blood leads to the modern life-style epidemics we see today like diabetes, heart disease and cancer.

Cortisol suppresses another important, hormone, DHEA, the "youth" hormone.

SOME OTHER AFFECTS OF ELEVATED CORTISOL ARE:

Lowered immunity

Poor short-term memory

Constipation

Loss of muscle tone

Reduced growth hormone, testosterone, DHEA and estrogen

Osteoporosis

Weight gain, especially in the abdominal region and the waist

Diet- When we skip meals or fast too long between meals, our blood glucose drops and our body sustains our energy needs by elevating cortisol

Grain-like seeds (Quinoa, Millet, Buckwheat and Amaranth) as part of your evening meal - these delicious vegetarian, protein-rich seeds are gluten-free, have the benefits of grains and are calming. Eating them for dinner will help you sleep better

Make sure you are eating high quality proteins that are best for your blood type. You must also be digesting your protein. The liver and the gall bladder are key organs to support for this function. Research shows that when you are deficient in protein your cortisol levels will be chronically elevated. Include good quality unrefined fats, especially those rich in Omega 3 fatty acids to help lower cortisol and the inflammation it causes.

Food sensitivities/ allergies and inflammation- Cortisol is not only our natural hormone that is produced in response to stress, but it is a powerful anti-inflammatory. Essentially, cortisol is secreted whenever inflammation is present in the body. If there is unresolved inflammation, this creates excess demand for cortisol and causes havoc to hormone balance. Identifying underlying sources of inflammation helps alleviate excessive cortisol release and overall stress demand on the body. Sources of undiagnosed inflammation often include irritable bowel syndrome, food sensitivities, arthritis, allergies, obesity, or other gastrointestinal issues.

Both high and low nighttime cortisol levels can interrupt sound sleep.

When the adrenals fatigue, adrenal hormone levels may become low, leading to another possible source of nighttime sleep disruption – low blood sugar. Cortisol plays an important role in maintaining blood sugar (glucose) levels around the clock. Although blood glucose is normally low by the early morning hours, during adrenal fatigue cortisol levels may not stay sufficient to adequately sustain blood glucose. Low glucose signals an internal alarm (glucose is the main fuel for all cells, including brain cells) that disrupts sleep so the person can wake up and refuel.

Low nighttime blood glucose can also result from inadequate glycogen reserves in the liver. Cortisol causes these reserves to be broken down into glucose that is then available to the cells. When low cortisol and low glycogen reserves coincide, blood glucose will most likely drop, disrupting sleep.

Waking between 1 AM and 3 AM may indicate low blood sugar resulting from inadequate glycogen reserves in the liver, low adrenal function and cortisol, or both. If low blood sugar is disrupting sound sleep, having a healthy snack before bed can help fortify the body's nighttime energy reserves. The snack should be **one or two bites of food** that contains protein, unrefined carbohydrate, and high quality fat, such as half a slice of whole grain toast with peanut butter or a slice of cheese on a whole grain cracker. **Bananas** contain tryptophan, and potassium and magnesium as well, which are muscle relaxants. Have ½ of one, a half-an-hour before bed every night and up your magnesium levels while simultaneously relaxing your muscles.

Eating or drinking sugary, refined foods will only aggravate the problem.

tart cherry juice: Tart cherries are incredibly rich in melatonin, 5-8 ounces in the morning and about 1 hour before bedtime.

Tea or Milk infused with calming herb of choice- Chamomile, Spearmint, Dill, and Thyme are good ones to try.

Nutmeg Warm milk (can be nut or rice milk)–to taste

Magnesium supplement prior to bedtime can be helpful

1 (only 1) very hopp-y beer, 30-40 minutes before trying to go to bed.

A few simple lifestyle changes, nutritional support for your adrenals and some special herbs called adaptogens and nervines, will help you obtain a much deeper level of sleep at night.

Choose a few of these tried and true ways to reduce stress and lower your cortisol before you go to sleep:

Turn off the screen and Dim the lights - **When your eyes are exposed to lights your pineal gland** (a tiny endocrine organ in your brain) **will not secrete the melatonin you need for a good night's sleep.** Turn the face of your alarm clock away from the bed, and block any other LED lights you can see in your room with the main lights off.

Listen to relaxing music.

Take a hot bath or a foot bath with Epsom salts a few hours before bed.

Ask someone to give you a foot massage (aka foot reflexology) or give yourself one - when cortisol levels are up, you can be certain that too much energy has gone up into your head. A foot massage is a great way to calm down that excessive nervous energy in your head.

*1/3 of the distance from the base of your second toe (next to your big toe) toward the heel is acupressure point K1. Rubbing this spot can help you relax and sleep better.

Establish a regular bedtime and a regular wake-up time—and stick to them for one week, even on the weekends (no matter how hard it is for the first few days). Sleep researchers tell us that within the time span of one week our body clocks will reset themselves to the new schedule.

Do something calming in the hour or so before bedtime—such as relaxing with a book and a cup of warm chamomile tea, doing a crossword puzzle, or whatever else provides you with a few moments of peaceful reflection.

Exercise -Avoid exercise within three hours of bedtime. Exercise causes an increase in hormones, body temperature, and alertness—each of which will thwart efforts to fall asleep. For most people, exercising after work or even right after dinner (between 5:00 p.m. and 7:00 p.m.) is probably okay (assuming bedtime will be three to four hours later), because sufficient time is still available to allow the body to calm down and return to resting levels.

The high-stress/low-sleep/no-exercise cycle is a vicious one—but breaking it, even by doing a small amount of exercise several days a week, can yield dramatic benefits. Even light physical activity in small, manageable doses will trigger a cascade of stress-busting benefits, from lowering blood pressure to improving mood

Meditation and Spiritual Growth-We must each connect to our own understanding of the Creative Divine Power as we understand it. This understanding will continually grow and evolve. It is important to follow your heart and seek the Truth that works for you. Spiritual masters have always encouraged us to strive toward connecting our physical self with the more sacred part of us - our soul. As we grow spiritually we feel safer. We let go and relax. This state of being takes a tremendous burden off our adrenals.

EFT Can Help-If you are currently having trouble sleeping, consider the Emotional Freedom Technique, or EFT. Effective and very easy to do. Founded by Gary Craig, many people are using EFT to clear negative energy and get relief from pain, addictions, diseases and other negative emotions like guilt, sadness and anger; which helps you sleep better

Adaptogens We sleep better at night when we build energy during the day. Adaptogens are safe yet effective choices for building energy and fortunately they are abundantly grown in the earth's garden.

Russian researcher Professor Israel Brekman established the definition of Adaptogens. They are harmless plants with no side effects. They increase the general capacity of the human body to adapt to stress and they increase resistance to disease. They are not localized to a specific body organ but have a "normalizing" effect (restorative rather than curative) on the imbalances caused by physical or emotional stress.

There are many different adaptogenic herbs, all of them have the same tonic and generalized supportive effects. In addition to that they each have unique characteristics that may make one herb work better for you than another. For example, Ashwaganda works very well for some people and is less effective for others

A few commonly know and easy to obtain adaptogens are; Holy Basil, Ashwaganda ,Dong Quai,Schizandra, Gynostemma, Astragalus ,Rhodiola, and, *my* all-time favorite Stinging Nettles

Optimal use of Adaptogens – Using adaptogen supplementation in the morning and mid-day/early afternoon is an effective way to assist the natural cortisol, metabolic and other hormonal patterns of your body. It will help moderate the highs and lows.

Nervines – Incorporating calming herbs in the evening and before bedtime helps your body and mind calm and get ready for sleeping. They will also help you fall asleep more quickly and stay sleeping more soundly, though the natural 90 minute cycles.

As with adaptogens there are many different nervine options available and they all work a little differently to help your system calm.

Chamomile, Linden Flower, Catnip, Hops, Valerian, Kava Kava – more effective for calming the body

Skullcap, Passion flower, St John's wort, Wood Betony, Wild Lettuce Lemon Balm, – more effective for nervous system and mental energy.

You can typically get these herbs at the local whole foods co – op, health food store or from your local herbalist© .They are usually available in teas, tinctures or dry herb supplements.

Homeopathic remedies – Rescue Remedy is a well know remedy to help decrease stress and increase calm. There are several homeopathic sleep remedies available. Calm Forte is one brand. There are also options for children. Homeopathic remedies are very safe to use and generally have no side effects.

Not sure what you need? This is where some research or *consulting a qualified professional can assist you in making choices that fit your constitution the best.*

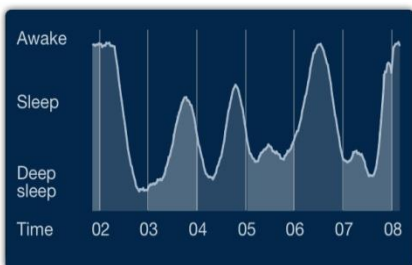
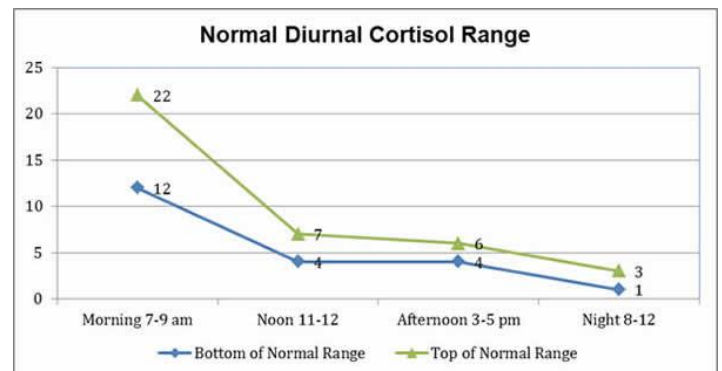
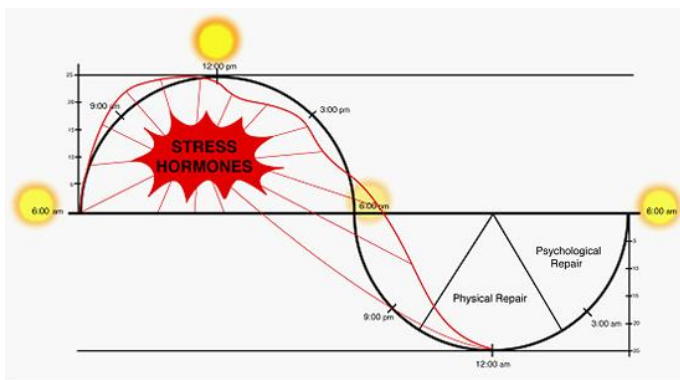
Vitamins /Minerals-Minerals feed your adrenals so that you can build energy. In order to get the benefits of minerals in your body, you have to digest them from the mineral-rich foods you eat. The full B-complex group esp. vitamin B6, vitamin B5 (pantothenic acid), and vitamin C L-tyrosine and L- calcium, magnesium, potassium, manganese, and zinc are important adrenal and endocrine system supporters. *Getting a good multi supplement can be very helpful.*

Pro/Pre biotics - A healthy inner ecosystem, full of healthy microflora, plays a critical role in assimilating and retaining minerals

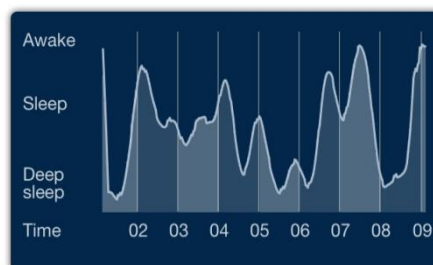
Aroma therapy – Many soothing essential oils, like lavender. can help you sleep better. You can make a Lavender Sleep Sachet, use a reed diffuser or just put a few drops on a cloth and sleep with it next to your pillow.

Light therapy – go outside in the middle of the day and let the sun shine in your eyes. In the winter this is harder, getting a full spectrum light bulb and sitting by it for a few minutes a day can help sleep – and SAD (seasonal affective disorder)

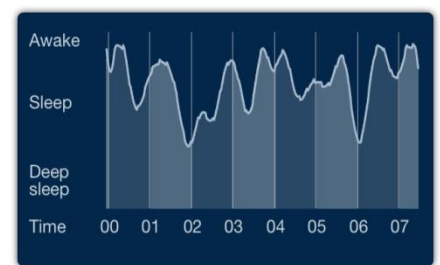
Remember that changing old habits takes time. Lifestyle changing is a process. Especially, when you are living and coordinating a family system. Some people can (and need to) make a big shift in their patterns and habits and take the “cold turkey” or “jump in the deep end” approach. Most people need to make changes one or two at a time. Maybe your focus needs to be just around the sleep and night time routine- like turning the screen off earlier. Maybe changing evening meal time and also turning the screen off can happen. Adding the supplements, adaptogens and nervines can help bridge the gap as you make changes, and then provide intermittent support when needed.



Regular sleep



disturbed sleep



alcohol affected sleep

<https://www.adrenalfatigue.org/sleep-disruption>

http://cortisolconnection.com/ch6_4.php

<http://www.sleepcycle.com/howitworks.html>

<http://naturalmedicinejournal.com/journal/2010-06/role-cortisol-sleep>

http://www.dramybrenner.com/bhrt_cortisol.htm

<http://www.thetappingsolution.com/>

<http://everydayroots.com/sleep-aid-drinks>

<http://pathways4health.org/2010/03/04/the-chinese-body-clock-energy-patterns-through-24-hours/>

http://bodyecology.com/articles/reduce_your_cortisol_levels.php

<http://www.helpguide.org/articles/sleep/how-much-sleep-do-you-need.htm>

Sleep Debt- Pathophysiology and Natural Therapeutics – Paul Bergner

Herb TV- www.HERbTVonline.com