

Hints for Encouraging Healthy Sleep

Why is it important to get good sleep?

There are lots of reasons that good sleep is important.¹⁻⁷

The body needs time to fix itself and heal.

While we sleep, the body's cells and tissues can be repaired or fixed. Also, new cells can grow while we sleep. Everyday life can cause damage to our bodies, no matter how careful we may be. During good quality sleep, the body can fix this damage and make our bodies strong and healthy again.²⁻⁷ What this also means is that when people don't get good sleep, their bodies can't heal very well.

The brain needs time to grow and learn.

Our brains are full of cells called neurons that work like roads. The neurons connect different parts of the brain together. This is why we can use many different parts of the brain at the same time. Some of the neurons (roads) that we use the most are like well-paved highways. This is because they have lots of traffic (information) on them, all the time. Others are like small dirt paths. They don't get used all that much, or they are old and

forgotten. As we learn new skills, a new path is made. While we sleep, this path can be made bigger and smoother, so that the new connection from point A to point B is easier. In this way, new skills and memories are learned faster. What this also means is that people who do not get good sleep have a harder time learning new things.

Good sleep helps people feel better and perform better.

There are lots of studies that show us what can happen when people don't get enough sleep. They are more likely to cause car accidents.⁸ They have a hard time doing well at school, work, and sports. People who are sleep deprived have trouble remembering things, and more trouble focusing.⁹ They are more likely to feel irritable and grumpy. They have less emotional balance. These are all easy to avoid, *IF* you can get enough good sleep.

Sleep affects our hormone levels.

There are many hormones affected by sleep habits.

- The hormone **melatonin** controls our daily awake/asleep cycle. It goes up in the evening, a few hours before our bodies get ready to go to sleep. There are several things that can keep your melatonin levels from going up like they are supposed to:
 - **Bright lights:** Brightly lit rooms, TV and computer screens, iPads, cell phones, and other devices in the evening make our brains think that it is still daytime.
 - **Stress:** When our bodies or minds are in fight-or-flight mode, the brain does not release much (or any) melatonin. This makes sense, because it would be bad to feel sleepy if we were in the middle of running away from a bear. In our modern world, though, many of us are stressed all day, and then cannot sleep well.

Trying to de-stress at the end of the day can really help make it easier to sleep well at night.

- **Medicines:** If you take any medicines on the following list and if you have trouble sleeping, it would be a good idea to talk with your health care team.

Medicines That Can Make It Harder To Sleep, or Limit How Much Melatonin Your Brain Lets Out At Night

- Amphetamines (Ritalin, methylphenidate)
- Antidepressants (many classes)
- Asthma “rescue” inhalers (albuterol)
- Beta Blockers (atenolol, carvedilol, labetalol, metoprolol, propranolol)
- Decongestants (phenylephrine, ephedrine)
- Diuretics (also called “water pills”)
- Estrogen
- Histamine blockers (ranitidine, famotidine) and antihistamines (loratadine, fexofenadine, cetirizine)
- Steroids (prednisone, betamethasone, cortisone, dexamethasone, fluticasone, mometasone)
- Thyroid medicines (liothyronine/Cytomel)

Other substances and supplements that make it hard to sleep

- Alcohol
- Caffeine (including coffee, green/black tea, energy drinks)
- Chocolate
- Ginseng
- Nicotine
- SAMe
- Tobacco
- Weight loss supplements (Ma huang/ephedra, bitter orange)

- **Cortisol** is another important hormone that affects sleep. This is the main stress hormone. (Refer to the section above about stress.) If you have high levels of stress, you will have high levels of cortisol.¹⁰ This hormone stops melatonin from getting out and making the brain feel sleepy. Consider the graph, below.

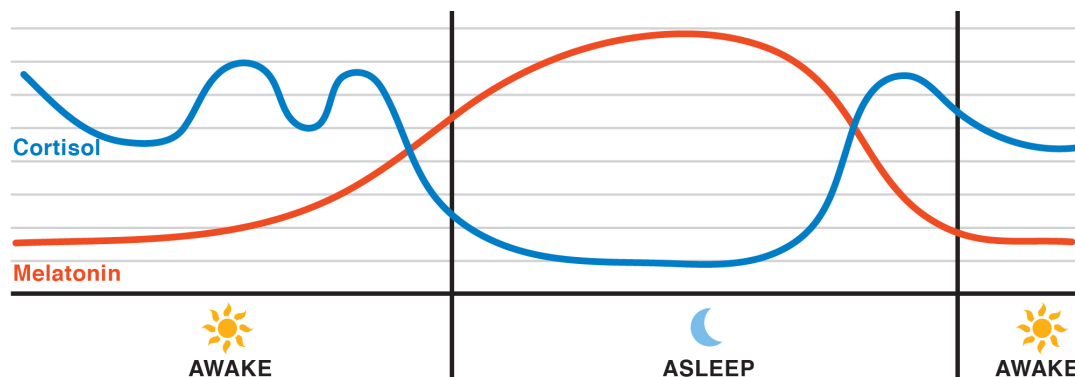


Figure 1. Melatonin and cortisol levels through the sleep-wake daily cycle

- A third hormone is **adenosine**. It builds up in the body all day, left over from the chemical reactions in the body to keep you alive. When the adenosine level is high, a person feels sleepy. Caffeine blocks this hormone (which is why it can make you feel awake). During quality sleep, the body processes extra adenosine. This lowers the levels again, so you can wake up feeling rested.
- Two other important hormones that go up while we sleep are **GABA** and **growth hormone**. These make sure your body's cells, nerves, and tissues heal well during sleep.

What is Insomnia?

Insomnia is the inability to get enough sleep or a good quality sleep. There are two main kinds of insomnia.¹¹ Some people have both kinds.

- One kind makes it hard to fall asleep in the first place. People with this kind of insomnia don't feel tired when it's time to go to sleep. Or they do feel tired, but toss and turn, and cannot fall asleep.
- The other kind makes it hard to stay asleep. People with this kind of insomnia fall asleep quickly. Then after a few hours, they wake up and can't get back to sleep. Some people think this can be normal, because it used to be common to be awake for a few hours in the middle of the night. Researchers call this "bi-phasic sleep" since it includes sleeping in two separate chunks. In our modern world, this can be a problem because many people need to wake up early to go to work. This means the total number of sleeping hours is often not enough.

What are Some Causes of Insomnia?

Insomnia can be caused by trouble calming down the body and mind. These may be related to a person's nervous system, genetics, work schedule, overall health, or habits. Insomnia may also be caused by other disorders. Some examples are:

- acid reflux
- depression and anxiety
- heart disease
- iron deficiency
- pain
- PTSD
- restless legs
- sleep apnea
- substance abuse
- urinary tract disease

Insomnia can also be related to medicine side effects.^{11,12} (Refer to the list on page 2.) Eating fatty meals before bed can also contribute to poor sleep.

To get a better idea of what kind of sleep problem you may have, use a sleep diary for a week. Then talk with your health care team. A good example of a sleep diary can be found at <https://sleepfoundation.org/sleep-diary/SleepDiaryv6.pdf>. It is free. Using a sleep diary can give your health care team a good idea about how to help you get your sleep back on track.

What are the best ways to make my sleep habits better?¹²

Research about what works for sleep, and what does not, shows that three things work best, for most people.

- 1. Sleep therapy.** This is also called Cognitive Behavioral Therapy for Insomnia (aka “CBT-I”). This therapy involves a trained counselor. The counselor helps a person look at sleep habits, and then talk about things to adjust.¹³⁻¹⁵ There are many phases to this therapy. The therapy includes figuring out what a person is doing that may keep her or him awake at night. It may also include relaxation techniques to help calm down before bed and lower stress during the day. After this kind of therapy, most people sleep better and longer. They are also not as likely to have trouble sleeping in the future. Examples of things to consider include:
 - Keep a regular sleep schedule. Do not take naps.
 - Avoid caffeine, alcohol, and tobacco, especially after noon.
 - Do not spend lots of time in bed while you are awake.
 - Don’t watch the clock. This can make you more awake.
 - Make your bedroom comfortable. Also keep it dark.
 - Have a consistent bedtime routine.
 - For more ideas, refer to the handout “[Change Your Habits to Sleep Better.](#)”
- 2. Music Therapy.** Listen to different kinds of music to help calm down the body and mind. Many people start with music that matches their mood. Then they slowly change to music that is calmer.¹⁶
- 3. Melatonin.*** This is a supplement, and it can be found over-the-counter. It is also one of the hormones that the brain makes at night. Take a melatonin pill at least 1-2 hours before going to bed, to allow it to start working. Also, take it at least 8 hours before you want to wake up (this will help you not feel so drowsy). Many people do well with 1-3 mg at a time, but some people sleep better with a smaller dose (0.25 mg). Other people sleep better with a bigger dose (10 mg). It is safe in this dose range, so you can easily adjust the dose to see what works best for you.

Note: Testing has found that products labeled as melatonin sometimes do not contain actual melatonin but instead include fillers. Try to buy melatonin from a store or pharmacy where the person in charge knows the source of the ingredients or trusts the supplier.

What are some other things to try?

- **Medicines.** There are several medicines to try. The bad news is that most of them work about as well as a sugar pill (which is also called a “placebo”).¹⁷ Talk to your health care team about a sleep medicine that may work for you.
- **Keep healthy sleep habits.** Information (like this handout) can help people figure out things they can change. But most of the time, information alone doesn’t help people sleep better. When this sleep information comes with counseling, people sleep better. (See the above section called “Sleep Therapy.”)

- **Exercise** every day. We don't know exactly why this helps people sleep better. It helps to keep stress and hormone levels balanced. It's OK to exercise any time during the day but may be best to exercise at least two hours before you try to go to bed. Yoga seems to work well for many people.
- **Make a good sleep environment** for yourself. Keep bright lights out of the bedroom. Keep electronics (including bright clocks and cell phones) away from the head of the bed while you sleep.^{18,19} Make sure the pillows, mattress, and sheets are comfortable. Try wearing a sleep mask and/or ear plugs.
- **Meditate**, pray, or make a habit of having a mindful, quiet time. Do this regularly. This helps to calm down the nervous system, during the day and at night.
- **Breathing exercises.** These can help calm the body and mind also. One simple method is called "4-7-8 breathing."
 - Breathe in for a count of 4.
 - Hold the breath for a count of 7.
 - Let the breath out slowly, for a count of 8.Do not do this exercise if you think it will trigger breathing problems for you. Do it for only 2-3 breaths. Go back to breathing normally right away if you feel lightheaded at all.
- Try **acupuncture** or **traditional Chinese medicine**. Some people sleep much better with the help of these treatments.
- **Guided imagery.** This is a method that uses the imagination. People lie down with their eyes closed and listen to a recording. It usually has soft music and a soothing voice. This helps calm the mind and body, and makes it easier to fall asleep (or fall back asleep). There are many recordings online and at public libraries.
- **Regular eating times.** This can also help with sleep.²⁰
- **Water.** Drinking enough water might also lead to better sleep. It is about finding the right balance between too much (up to the bathroom) and not enough (changes in body chemistry that make sleep worse).
- **Eating some foods that can make you sleepy** might help.²¹ Examples might include a handful of nuts, cottage cheese, a cup of decaf tea, or fruits. Many of these foods have melatonin in them, which helps with sleep. Warm milk has tryptophan, another chemical that helps you feel sleepy. Carbohydrates make tryptophan more available to the brain, and it comes from proteins, so it might help to eat a small, snack before bed that has both carbs and proteins. Examples would be a small serving of cereal and milk, cheese and crackers, or toast with peanut butter. Be sure to keep the snack as healthy as you can.
- **Aromatherapy.** Certain plants, like lavender, can help with sleep.²² You can try different essential oils or pillows that contain dried herbs.

- **Try some other supplements:***
 - **Valerian** – this is one of the oldest and most-used supplements in the world. It is very safe, and it can make you tired. Many people find that it works best after taking it every night for about a month.
 - **Magnesium** – this can be taken in foods, as a pill, or on the skin (as a cream or in an Epsom salt bath). It is safe for people whose kidneys work well. If a person gets too much magnesium, the body gets rid of any extra by causing diarrhea. If this happens, lower your dose.
 - **Omega 3 oils** – these are very safe, and help with pain and an overactive immune system in the body. They can cause some burping. Take this before bedtime so that the fishy taste will not bother you as much since you will be asleep.
 - **Chamomile** – this is most often taken in tea, just before bedtime. It can also calm anxiety and help with an upset stomach.
 - **Essential oils (lavender oil and/or sweet almond oil)** – these can make the bedroom smell good and help you relax. Put a few drops on a cotton ball next to the head of the bed, or on your skin.

For you to consider:

- Do you have trouble sleeping? If so, how long has this been the case?
- Will you consider keeping a sleep diary for a week?
- What other ideas would you like to try?
- Don't hesitate to get help from your health care team if you are not sleeping well.

The information in this handout is general. **Please work with your health care team to use the information in the best way possible to promote your health and happiness.**

For more information:

| ORGANIZATION | RESOURCES | WEBSITE |
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| University of Wisconsin Integrative Health Program | A variety of Integrative Whole Health handouts on your surroundings | https://www.fammed.wisc.edu/integrative/resources/modules/ |
| National Sleep Foundation | Information and videos | www.sleepfoundation.org |
| Kaiser Permanente | Guided Imagery recordings, from their Health Journeys website | www.healthjourneys.com/kaiser/download/download_healthfulSleep.asp |

Also check out the book: *Healthy at Home: Get Well and Stay Well without Prescriptions*. Specifically check out Chapter 4, called “Calming the Nerves, Strengthening the Nervous System.” Book by T. Low Dog, National Geographic Press, 2014.



*** Note about taking supplements:** *In the United States, we do not have any way to guarantee the ingredients in a supplement. For this reason, it is worth being careful when buying supplements. One way to do this is to buy them from a store or pharmacy where the person in charge knows the source of the ingredients, or trusts the supplier.*

This handout was adapted for the University of Wisconsin Integrative Health Program from the original written for the Veterans Health Administration (VHA) by Taryn Lawler DO, Integrative Health Family Physician and former Academic Integrative Health Fellow, Integrative Health Program, University of Wisconsin Department of Family Medicine and Community Health. It is based in part on “Recharge” documents for clinicians by John McBurney, MD. The handout was reviewed and edited by Veterans and VHA subject matter experts.

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