



SUPERCHARGE YOUR SLEEP

10 Sure-Fire Ways
to Supercharge
Your Sleeping Habits For
a Month Without Migraines

Erin Knight, FDN-P

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ABOUT ENGINEERING RADIANCE



Erin Knight helps women who desire natural solutions providing freedom from migraines, so that they can experience a dramatic increase in productivity and thrive in the active life that they dream of.

Having suffered with migraines for over a decade, Erin is sympathetic to the impact that headaches have on our work and social life. After discovering functional medicine and realizing her migraines disappeared as she balanced her hormones and fixed her digestion, she started her company, Engineering Radiance, to help women who are frustrated with the conventional management of migraines and want to get to the root causes.

Erin has her Masters of Engineering from the University of Michigan and is trained in Functional Diagnostic Nutrition™ and nutrigenomics. After a decade guiding Fortune 500 teams through root cause analysis, she now applies these problem-solving skills to our most complex system - the human body.

The Engineering Radiance team shares implementation strategies for achieving radiant health through online classes, corporate workshops, and 1:1 consulting. We have a goal of helping a million women discover freedom from their migraine headaches.



THE SECRET OF QUALITY SLEEP

When asked about the top secrets to a long and happy life, thought leaders and health professionals consistently name getting quality sleep in their top 3.

HOLD ON, IT IS NO SECRET THAT SLEEP IS IMPORTANT FOR OUR HEALTH. THE SECRET IS HOW TO MAKE IT HAPPEN, RIGHT?

What I have found is that our sleep habits create either a vicious cycle of being “tired and wired” or a virtuous cycle, the often-overlooked cousin of the vicious cycle. A **virtuous cycle** is a situation where successful results are self-propagating, like compound interest in your bank account.

Can you think of a time when you had a work out goal, like a 5k, that you were training for and suddenly you found yourself avoiding junk food and feeling so good and full of energy that you started taking the stairs instead of the elevator? That is a virtuous cycle!

Similarly, one or two tweaks to your evening routine can snowball into a big impact on your health and happiness. When I started making sleep a very high priority, if not the #1 priority in my day-to-day health habits, I started to feel changes that made me want to keep at it. When I am well rested, I can think more clearly, form a plan to get things done and then knock it out in a way that can never happen when I am tired. Ironically this enables me to be more efficient and leaves me more time for sleep at the end of the day.

THUS THE SECRET TO GETTING MORE SLEEP IS TO START SLEEPING WELL TO IMPROVE YOUR EFFICIENCY AND PRODUCTIVITY FIRST.



Why is sleep so critical for your brain function?

Academic research shows that:

- Memories are stored during sleep (1)
- Toxins are flushed out of the brain (2)
- Sleeping on a problem sets the stage for insight and creative thinking (3)
- Sleeping less than 6 hours affects 711 genes including ones that impact inflammation and your ability to respond to stress. (4)

You probably don't even need to read the studies to be convinced that sleep is important. Just think, how do you feel after a great night of sleep?

I FEEL FANTASTIC

For years I scraped by on 6-7 hours of sleep. Dragging myself into the office, holding my eyelids open during training classes and long meetings. So painful... I know you know what I am talking about.

Did you know that when the average person has had only 6 hours of sleep, they experience the mental impairment of someone with a 0.05 blood alcohol level? The comparisons with drinking don't stop there. Studies have shown that people get used to a certain level of brain fog and fatigue and will report feeling fine – just like the guy at the party who has had too much to drink and perceives that he is “fine” to drive home! It takes several days of quality sleep for the study participants to emerge from the fog and realize what it feels like to be rested.

HOW LONG HAVE YOU BEEN LIVING IN A FOG?

I finally got my act together and made it a priority to start following all the advice you read about over and over like sleeping consistent hours week days to weekends, not falling asleep with the TV on and avoiding caffeine in the afternoons and evenings. As I started to notice what a difference a good night's sleep made, I started to wonder if there was more that I could be doing and started researching sleep hacks incessantly (because that's what I do). After reading research and listening to countless hours of experts talk about how to get the deepest, most restful sleep I found that a few things are quoted across the board as being successful (I tried them and these worked for me too!)



WHERE DOES THIS FIT INTO THE MIGRAINE FREEDOM PLAN?



We set the stage for your body to repair during the HEAL phase. Of course, this includes reviewing and upgrading sleep habits and a little bit of trial and error. During the THRIVE phase, we look at how to maintain these new healthy habits even as your life becomes more active and you find your routine changing.

MY TOP 10 SLEEP STRATEGIES

1. Avoid Blue lights before bed

Why: Blue light disrupts natural melatonin production. Even 5 minutes of staring at your iPhone, TV or tablet can shut off this important sleep hormone and antioxidant and make it difficult for you to get to sleep.

How: Work towards strictly eliminating screen time at least 30 minutes before bed. If you need to use the computer in the evening or enjoy watching TV to unwind, there are a few tricks to mitigate the impact in the hours before bedtime.

In your bedroom you may choose light bulbs emitting a warm/soft light or better yet a string of red/orange tinted LEDs instead of bright, white bulbs.

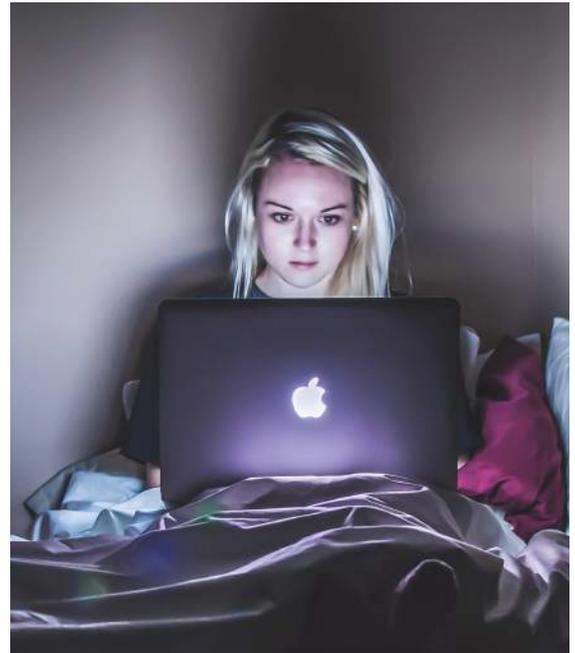
Choosing between blue light blocking glasses, filter or software?

Glasses are great if you use white LED or fluorescent lights in or around the house, want to watch TV in the evening or drive. Screen filters are able to block more blue light than most software solutions but will turn your screen yellow, orange or red, will reduce contrast (not a good thing) and also may not be that practical for bigger monitors or TVs.



Software solutions like apps and special browsers can adjust with the time of day, but don't eliminate blue light completely.

Try the free software IRIS or f.lux on your computer, which have both daytime and nighttime settings that take stress off your visual processing. As of publishing this guidebook, these are the best options on the market because they use a color transform approach to eliminating blue light rather than a transparent overlay which can reduce overall contrast on the display, which increases eye strain. I personally prefer IRIS because it makes my screen much more comfortable to view during the daytime without major color distortion and then has the nighttime mode that I can flip on when needed. If I turn it off for just a moment, my eyes scream for mercy because they've become accustomed to the softer output with the app running!



Popular Blue Light filtering apps like Nightshift (iOS), Nightmode or Twilight (Android), G.Lux (Chrome browser), Redshift (Windows, Mac, Linux) use the transparent overlay method, which does limit blue light and may be better than nothing but not the best option.

Avoid just dimming your screens (use IRIS or f.lux or glasses instead) Many digital screens (including TVs) will flicker on and off when dimmed, which is not visibly perceivable but can increase eye strain and cause headaches for some people. The software solutions IRIS and f.lux can lower brightness without inducing flickering by changing the white colors to a grey color instead of pulsing the light source on and off.

Cheap orange glasses will block blue light, but don't filter out all of the wavelengths that can impact melatonin production in the evening. [TrueDark Twilight glasses](#) are designed to be worn 2 hours before bed to completely block daytime wavelengths and facilitate the best quality sleep, making them a favorite with biohackers around the world.



This has become somewhat of a trendy topic and there are many products claiming to be blue-blocking on the market now, which could give you a false sense of security or make you think that blue-blocking isn't working for you. At a minimum, try out IRIS and f.lux immediately to see which one you prefer. Good glasses will cost more, especially for prescription eye glasses, but provide an extra layer of protection for bright lights in your house (like the bathroom lights when you brush your teeth before bed) and in the end may be simpler and cheaper than chasing down solutions for the lighting around your house and all of your devices.



2. Go to bed before 10 PM

Why: The pineal gland receives information about the daylight from your optic nerve and helps to prepare your body for bed by releasing melatonin as it senses that the sun has set. Within one to two hours after sunset, you should naturally feel sleepy as melatonin rises. Around 10pm part of your body's metabolism gears up for the vital repair process that happens during sleep. If you are still awake you may experience this as a "second wind" that will keep you up and active until the wee hours of the night. Unfortunately that means you are missing out on the healing and repairing benefits of this energy. This is why it is important to jump on the wave of biochemistry that your body is producing and take advantage of this natural bedtime window. The deepest most restorative sleep occurs from approximately 10pm – 2am, so don't miss out on this gift!



Timing your sleep is like timing an investment in the stock market – it doesn't (just) matter how much you invest, it matters when you invest. - Kulreet Chaudhary, M.D.

How: If you are a night owl, adjusting your bedtime might seem like a momentous task, but once you realize that your "second wind" of energy is taking away from vital repair functions in your body and brain, I hope you will consider taking steps towards getting on an optimized rhythm.

- Don't stay up to watch late night TV or the news. Just record it on the DVR if it is something you aren't ready to skip entirely.
- Adjust bedtime gradually in 15min increments, and start getting up earlier so that you feel sleepy at night time.
- If you are struggling with this, take some time to watch the sun go down for a few days and remember tip #1 – avoid bright, blue lights in the evening because the eyes designed to tune in to the color changes that occur as the sun sets, not just the level of light and darkness.

(Note: Of course, someone has to work the night shift and that is what makes the world go round these days. Instead of feeling bad, just don't start with this one and if your life allows for a 10pm bedtime later on, remember why it is valuable.)



3. Create a bedtime ritual

Why: Chances are, you already have a bed time routine; certain activities that you do to prepare for sleep and the next day. Rather than accomplish practical matters (like brushing your teeth), the bed time ritual is most significant for its ability to transform your mental state to “bedtime”.

How: How do we best transport our mind to a different state? By engaging our senses! Traveling around SE Asia, I have enjoyed observing the rituals performed in beautiful temples in nearly every town. What I noticed is that people are practicing their worship rituals surrounded by beautiful sculpture and painting, elegant music, and incense.



Because senses are at the core of a ritual experience, you will often hear recommendations to have a warm beverage or to take a bath before bed. Perhaps have a small glass of herbal tea or turmeric infused coconut milk, which provide a soothing warmth and pleasant taste and smell.



A bath with Epsom salts and essential oils not only gives you the opportunity to absorb relaxing magnesium through the skin and raise your body temperature which helps you drift into sleep as you cool down (practical benefits), but the warmth is soothing (activating touch), the scented water smells nice and if you have candles or some nice art in the bathroom, the experience can be visually stimulating as well. Finish by massaging your skin with sesame oil as you step out to prevent drying out your skin and enhance the relaxing effects of the bath.

Well that is all well and good, but I don't know about you, I have time to take a bath about once a week if I am lucky. So what do I do the rest of the week??

I like to focus on activating the sense of smell because for many of us, smells trigger the strongest memories. For example, the smell of cinnamon and cloves might remind you of baking cookies with Grandma or the smell of horses may remind you of a summer job. Well you can very quickly train your brain to “remember” that lavender (or chamomile, or any other pleasant, relaxing essential oil) means it is time to go to sleep. When I discovered this trick or “hack” it felt like pure magic. Quick, affordable and easy to remember if I keep it right by my bed.



Here are **4 easy ways** to incorporate your favorite essential oil into a bedtime ritual. Which one sounds most appealing to you??

- Put 10 drops in water into a 1 oz glass spritz bottle and give your pillow a few spritzes before bed.
- Rub a drop onto the sole of each foot, where it is easily absorbed into the body.
- Put a drop in one palm and then rub your hands together and inhale the scent with 3 deep breaths.
- Turn on a diffuser when you start to change your clothes and brush your teeth so your room fills with a light mist of your favorite oil.

4. Try Topical Magnesium

Why: Magnesium, along with calcium, salt and potassium, regulate how blood vessels contract and relax. When we are under stress, our bodies burn through magnesium at an increased rate. This phenomenon is caused not only by mental and emotional stress, but hidden internal stressors like food sensitivities, viruses, taking Rx and over the counter drugs or being exposed to heavy metals in pollution or dental work! As you can imagine, a lot of us could use supplemental magnesium.

How: Magnesium absorbs readily through the skin, which is why taking an Epsom salt bath is recommended to relax tense muscles and help you relax for bedtime. If you don't have time for a daily bath, try a topical magnesium gel in the evening after you brush your teeth. Here are two brands that I recommend: [Designs for Health](#) and [White Egret](#).

5. Put your phone on airplane mode if you keep it by the bed

Why? While study results continue to be inconsistent, there is a lot of investigation going on into possible harmful effects of our constant exposure to electromagnetic fields (EMFs), including disruption of sleep quality (5). As much as sleep quantity, I value my sleep quality even more (bang for the buck, right?) and would rather be on the cautious side until the long term biological effects of relatively new technology like cell phones pan out.

Even if you are highly skeptical, putting your device on airplane mode will keep you from being woken up by texts and emails. I remember one day last year when I forgot to do this and was woken up at 5am when someone from my carpool texted me a completely irrelevant question assuming I was already up. That is when I got serious about turning my phone onto airplane mode.

How? Under settings, slide the option for Airplane mode over to on. Yes, your alarm will still work.



6. Sleep in complete darkness

Why: Artificial light, whether it is from street lamps, cars driving by or electronics in your bedroom is **several hundred times brighter than the light from the moon or stars** and affects the quality of sleep.



While it may not affect the hours that you are asleep, light exposure has been shown to impact how deeply you sleep. Let's try asking why not? This is an easy one to try and see what benefits you reap because it doesn't require a huge lifestyle change or time investment.

How: Get blackout curtains or shades. Remove nightlights or at a minimum replace them with ones that have a red/orange light. Remove electronics that glow from the bedroom or put a piece of electrical tape over the LED lights.

7. Consider putting your router on an on/off timer

Why: Reducing electromagnetic radiation in the environment is thought to help people experience deeper sleep, especially individuals that are more sensitive. This is a big topic and worthy of a whole book, so I recommend reading the book [Zapped](#), if you want to learn more. Bonus, it will remind you and the rest of your household to go to stop surfing the web and go to sleep.

How: One very simple step you can take is to put your router on an on/off timer, the type you may use around the holidays to turn decorative lights on and off.

8. Slow down two hours before bed

Why: If you are having trouble getting to bed by 10pm or falling asleep, it is worth taking a look at your typical evening. If you are pumping out cortisol in response to stimulus (positive or negative), the cortisol can override the subtler hormonal cascade that is trying to lure you to sleep.



How: Avoid things that raise your adrenaline like watching a scary TV show, calling someone that you know will get you riled up, surfing controversial message boards, or even a hard workout. "But what if evenings are the only time I can work out?" you are thinking. It is more important for your health to get a good night's rest.

Once you are sleeping well, you will likely notice your productivity during the day improve so much that you can squeeze a workout in at a more appropriate hour.



9. Try vetiver oil

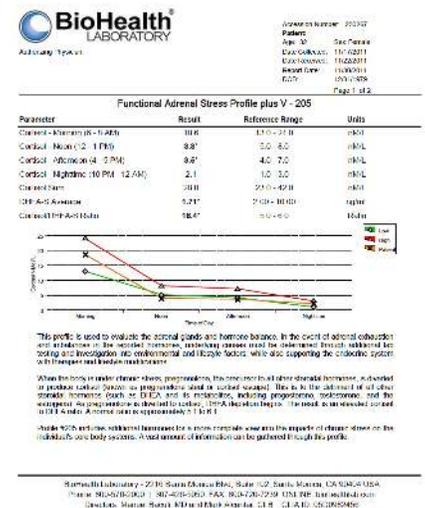
Why: I think of vetiver essential oil as “lavender on steroids”. Shown to be beneficial to children with ADHD, it has the same calming effect for those of us who suffer with an active “monkey mind” before bed. During periods of high-stress, when I tend to have trouble calming down and going to sleep this works like a charm!

How: Use a small drop on each wrist or side of the neck or dilute into a roller bottle with a carrier oil and apply on the same places. You may feel a deep sense of relaxation within 20-30 minutes. The benefit of vetiver oil comes from its uniquely high proportion of sesquiterpene. Be sure to use a therapeutic grade, organic oil that verifies the chemical composition of each batch of oils.

10. PRO TIP: Measure your cortisol pattern

Why: Cortisol plays a part in regulating a healthy circadian rhythm. It should naturally be highest in the morning and slowly drop mid-day and be at a low point in the evening. Irregular patterns can give clues about underlying malfunctions in the body that warrant further investigation. For example, extra-high cortisol in the morning can indicate blood sugar issues during sleep. High cortisol before bed can highlight a circadian rhythm issue that may need more attention and explain why it is difficult for you to get to sleep.

How: Measure cortisol levels 4 times throughout the day to see if there is a disrupted pattern. The most accessible way is with an at home saliva or urine test (I offer this with my [Functional Diagnostic Nutrition based Migraine Freedom coaching programs](#)).



WHAT IS FUNCTIONAL DIAGNOSTIC NUTRITION ANYWAY?

Functional Diagnostic Nutrition® (FDN) is a systematic health restoration program in which the goal is to find and correct the root causes of bodily malfunction and health complaints. FDN® involves a process of investigating, analyzing, and continuous course correction until optimal function of the body is achieved. Ultimately, FDN® is a self-care model in which the client is empowered through education to take responsibility and control of his or her own health.

What makes FDN different?

- We focus on the cause not the symptoms
- We test for hidden imbalances – stop guessing
- We respect biochemical individuality and custom tailor each program
- We give you the tools and knowledge to optimize your biology



WHERE DO I START?

Start with the “hack” that seems easiest for you to implement and make it a goal to do it for 7 days before trying the next one. Even if it takes you 7 months to incorporate these tips (that is about how long it took me!), you will be taking steps in the right direction and quickly start to notice the impact. As you notice the incremental improvements, you will find more time, energy and motivation to add the next one in, so don't worry if 10 steps seems like too much to start with right now.

Take the first step today! Use the action planner below to pick your first “hack” and decide how you are going to make it happen. **(Keep reading for a special offer!)**

Which of the 10 steps seems like a good place for you to start:

What resources do you need to implement it?

What roadblock or hurdles could get in your way, and how can you plan to work around each one?



What would you making this step towards improving your sleep do for you?

For example, you might be thinking “If I was more rested, I could think on my feet better and give great presentations at work” or “If I wasn’t sleep deprived all the time, I could kick my latte habit”. What is your motivation?

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When you have mastered the basics, then we can talk about upping your game with toys like grounding sheets, sleep induction matts or supplements. In fact, once you have picked your first goal and started to implement it, send your worksheet over to me at erin@engineeringradiance.com and let me know how you are doing!

SPECIAL OFFER

If you **complete this** action planning activity and **email it to us**, we offer a complementary **45-minute sleep strategy session** where we can talk in more depth about how you can achieve the deepest, most refreshing sleep of your life! Absolutely **no selling, no-strings attached**. Just a special **thank you** for actually committing to upgrading your sleep habits and working towards optimal health.

JOIN US ON SOCIAL MEDIA FOR MORE FREE TIPS TO BUILD RADIANT HEALTH @ENGINEERINGRADIANCE



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RESOURCES

Bed image for the logo - http://www.flaticon.com/free-icon/bed_235813

1. Blue Lights - Photographer: Victoria Heath, https://unsplash.com/photos/MAGAXAYq_NE
2. Moon - <https://www.pexels.com/photo/night-dark-moon-slice-761/>
3. Owl - Photographer: Andy Chilton, <https://stocksnap.io/photo/BEE5M1PV8U>
4. Ritual - Photographer: Lia Leslie <https://www.pexels.com/photo/coffee-cup-notebook-pen-64775/>
5. Slow down - <https://picjumbo.com/night-owl-man-working-on-computer-at-night/>
6. Airplane mode - http://kaboompics.com/one_foto/912/close-up-portrait-of-a-young-woman-typing-a-text-message-on-mobile-phone
7. Night lights - Photographer: Agnieszka Bladzik - <https://stocksnap.io/photo/WU7Z7REJ7K>

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