



By Mendability

Sensory Enrichment for Brain Healing

Note by Claudie Gordon-Pomares, co-founder.

When I was 5, my best friend Simon stopped coming to school. He had Down syndrome and had been sent to an institution... Since then I knew I would go to school and become a neuroscientist to find ways to help everyone, especially when they feel vulnerable, to feel more confident, calmer and happier so that we all can journey through life together more comfortably.

The good news is that it's totally possible. The neuroscience field of Environmental Enrichment has been studying ways to boost brain development, increase brain reserves, and improve function. Scientists have successfully treated many neurological disorders that way, and the protocols can easily be adapted for home use.

In this guide, I will share with you a few that you can do yourself right away.

Sleeping or Not Sleeping is All in the Brain, and That's a Good Thing.

Everything you need for good sleep (hormones, circadian rhythm, thermoregulation, relaxation of muscles, digestion, stress response modulation, etc.) is regulated at least partially by the brain. The good news is that the brain can be helped. It can be changed and it's never too late.

The brain has more stem cells than all other body parts combined, highlighting its capacity for repair and growth. This is not the only clue that the brain can adapt by design. Neurons (the brain's communication cells) maintain a gap between them which not only prevents error spread but also facilitates the rapid formation and adjustment of connections.

Scientists now know that the brain's adaptability is not limited by age, but what's even more exciting is the brain can build reserves to protect against stress and deterioration, as observed in dementia studies where candidates showed resilience despite physical signs of the disease.



Fall Asleep to **Music** for a Serotonin Boost and Calm

Often, you will find that your brain turns on exactly when get ready to fall asleep and you need it to turn itself off.

There is one simple routine that will both:

- 1. Distract your brain from its usual intrusive thoughts and
- 2. Give you a strong dose of calm by giving you a boost of serotonin.

 (Serotonin is a brain hormone and is not only involved in sleep regulation, it is also a growth and calming factor)

The best music for bedtime is beautiful, orchestral (many instruments playing together in harmony), relaxing and has no vocals (vocals and lyrics involve other brain functions and can dilute the serotonin boost effect).



Scent on Pillow

The sense of smell is the only sensory system that functions exactly the same way whether you are awake or asleep. We can leverage that by simulating it through the night with a pleasant aroma. This will help the brain regulate its dopamine levels and help with a major aspect of sleep, which is waking up at the right time, and feeling refreshed.

Any scent will do. While some people find lavender calming others find it exciting. Simply pick the scent you like best, apply it to some tissue paper and slip that into your pillowcase.

Notes:

- A scent diffuser is less effective as it doesn't provide the same intermittent stimulation you get as you change positions on your pillow.
- You will probably notice that you wake up more often on your first night. Don't worry, this usually only happens on the first night and you should still wake up feeling more refreshed.

Touch: Serotonin and Stress Resilience

Touch, like listening to good music, is connected to serotonin. Serotonin helps the brain prepare for sleep by helping regulate a multitude of functions, like the circadian cycle, thermoregulation, melatonin release, etc.

There are 5 types of receptors in the skin, but gentle touch is the most direct and powerful way to boost serotonin. Have you had the perfect back rub and felt chills? This "frisson" is the physiological effect of a serotonin boost.

For best results, look for ways to experience touch in a passive, receptive state. One way is to **close your eyes and get a perfect back tickle.**Alternatively, use a backscratcher yourself (While movement and task planning dilute the stimulation, the fact that you can control exactly where and how to scratch compensates a little). **Another is to get a foot rub.**Doctor's orders!



Boost Dopamine and SerotoninEarlier in the Day with Fine Art and Orchestral Music

You can use music earlier it the day as well to help prepare your brain for sleep. This time, combine it with fine art to get 2 additional benefits:

- 1) Boost Serotonin (again!). Serotonin is like brain fuel. It gets used up by all the tasks the brain needs to complete throughout the day. If you have anxieties or stress, serotonin gets used up even faster. When you run low, your brain is even more susceptible to stress and anxieties. Let's get your brain well supplied with happy, calm fuel!
- 2) Combining pleasant sensory inputs induces an elevated state of neuroplasticity. In this state the brain can heal, grow, learn and compensate in a variety of ways and become more resilient.

We have art and music slideshows here to get you started: https://www.vimeo.com/showcase/sensoryenrichmentslideshows



Optimize Your Bedroom for Sleep

- **1. Darkness:** Light in your room could be distracting your brain. See if removing *ALL* light makes a difference.
- **2. Silence or White Noise:** Noise could also be a source of distraction. If removing all sound is impossible, see if adding white noise helps.
- **3. Temperature:** At night, as part of the sleep cycle, the body temperature typically drops by about 1 to 2 degrees Celsius $(1.8 \text{ to } 3.6^{\circ} \text{ F})$. You can help that process by keeping your room cool at night.
- **4. Stuff in the room:** Don't keep your office in your bedroom. Hide harsh colors. Remove distracting tools and other objects. Keep your bedroom as a sleep *(and other sacred things)* sanctuary.



Optimize Your Life for Sleep

- **1. Maintain a consistent sleep schedule:** Go to bed and wake up at the same time every day, even on weekends, to support your circadian rhythm.
- **2. Limit exposure to screens before bed:** Experiment with unplugging completely at least an hour before bed. Some data suggests that the blue light emitted by screens can interfere with your body's production of melatonin, a hormone that regulates sleep.
- **3. Diet:** Avoid caffeine and heavy meals close to bedtime; opt for a light snack if hungry. Some good foods to eat before bed include almonds, walnuts, turkey, chamomile tea, kiwi, tart cherry juice, bananas, oatmeal, Greek yogurt, and cottage cheese, as they contain nutrients like melatonin, tryptophan, magnesium, and potassium that promote better sleep.
- **4. Exercise regularly:** Regular exercise can significantly improve sleep quality by helping you fall asleep faster, enjoy deeper, more restorative sleep, regulate your circadian rhythm and alleviate stress and anxiety.





Want more? We design custom brain boost and repair programs

Scientists have already treated successfully many neurological conditions, from Autism to Alzheimer's. Environmental Enrichment can induce self-repair in the brain, reverse trauma and prompt it to build reserves against stress and trauma. Sensory Enrichment Therapy is our translation of this science and it has been **validated in randomized controlled trials** with populations of children with autism, ADHD, Rett syndrome and with seniors with dementia.

Let's talk!

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