

The 5 Best At-Home Sleep Tracking Tools for Executives

Many of us still believe that exercising and maintaining a balanced diet is enough to keep us healthy and functioning at our best level. Sleep was long viewed as nothing more than a useless state of rest that our body seemed to need for some odd reason. It wasn't until innovations in the field of psychology and neuroscience emerged that we started looking at sleep itself more critically. Today, we still aren't sure about why we sleep, but there are a few things that have become apparent to us. The National Heart, Lung, and Blood Institute¹ says sleep plays an important part in both our physical and mental health, as well as serves to enhance our quality of life and safety. Sleep carries a vital role in repairing and rejuvenating our bodies and deeply affects our growth and development. The state of our hormonal balances and immune systems also depend on being well-rested. Importantly, sleep is essential for learning and memory². Without a good night's sleep, our new insights become muddled and remain fragile. As such, we risk for losing them. At the end of the day, all of us need the opportunity to sort out the information we processed during the day. Since we're bombarded with information, it's highly important we're given time to decide which parts are worth remembering in the future. We do much of this sorting while we are asleep. Consequently, our patterns of sleep hold remarkable influence over the memories we store.

It's because of sleep's notable influence on our bodies that when we find ourselves deprived of it, we tend to incur negative effects immediately³. Being sleep deprived isn't solely limited to not getting enough rest, but can also come in the form of poor quality sleep. We've all woken up after sleeping a full night and felt weary and cramped. When we first start to experience sleep deprivation, its effects primarily influence our frontal lobes. Two functions

keenly associated with this area are attention and working memory. Being robbed of quality sleep impairs this area and eventually leads to decreased performance. Our decision-making and long-term memory are also jeopardized by a lack of sleep. While suffering from sleep deprivation, our visuomotor performance takes a dip. This is believed to be a result of the limited capacity and duration of our iconic memory. Our creative processes are also placed at risk if our circadian cycles are interrupted or we're left to suffer a poor night's sleep. Consequently, we can experience something akin to intellectual deprivation under the effects of sleep deprivation.

Given how important getting enough sleep is for both our physical and mental health, it makes sense for us to strive to attain better sleeping habits. Historically, we've done this mainly through adopting routines both before and after we wake up to control our circadian cycles. Recently, however, technological innovations have made it possible for us to use machines to record and study our sleeping habits extensively. Many of us pay several hundreds of dollars to attend sleep studies, tests that measure how well we sleep and how our bodies responds to sleep problems. Problems sleeping can be dangerous, especially when we're unaware of how we sleep. Still, sleep studies are time consuming, costly, and sleeping in a foreign bed in some lab while hooked up to a bunch of wires often leaves us feeling awkward and uncomfortable. Luckily, there are devices called sleep trackers that containing the capabilities of existing technology like pedometers, heartbeat-monitors, and calorie trackers. This makes sleep trackers hybrid machines capable of giving us detailed feedback on our quality of sleep. Oftentimes, sleep trackers will also monitor your other daily activities as well, giving them far-ranging reach. Some even go as far as claiming to track your body's functions and activity in a holistic manner. In recent years, the sleep tracking industry has boomed and there currently exists countless products designed to address the same needs. These trackers fall under different price-ranges and often carry varying

auxiliary features, but ultimately, they serve the purpose of tracking your bodily functions. Given that, which ones are the best?

1. **Sleep Cycle**

We have become so attached to technology that most sleep trackers now come with tied-in functionality with both phones and social media. Fortunately, we can attain some of the convenience offered by sleep trackers without actually investing in them or wearing the brace or armbands that they usually require. These days, there are countless apps available for both Apple and Android phones that tend to your sleep. One of the most well-established of these apps is Sleep Cycle. This app costs no more than a dollar for both iOS and Android. When you go to sleep, the app will have you place your phone under your covers while charging. This is to make sure that the phone actually stays on the bed itself. While there, the app uses the built-in accelerometer in your phone to know when you're turning about. Movement while sleeping is often an indication of light sleep. The science behind the app focuses on tracking the cycles we all go through while sleeping. Sleep Cycle is specifically designed not to wake you up during slow-wave or REM sleep. This is something even scientists abide by. While studying sleep, even if you sleep past the necessary time the study needs to have you asleep, scientists usually won't wake you up. How does this work in practice, you might ask. Well, if you've set an alarm to go off at 7:30am and your phone senses movement at 7:20, your alarm will ring, hopefully resulting in a less groggy morning than if you were woken up during deeper sleep. Reviews for Sleep Cycle are generally positive and most users tend to prefer the app over a traditional alarm. Still, some neuroscientists remain skeptical about its efficiency, stating that most of us don't

experience the type of regular patterns of sleep that Sleep Cycle is based around, but rather experience moments of alertness which breaks these cycles⁴. Still, large consensus exists around the benefits of regular sleep and the strong habits an app like Sleep Cycle is capable of promoting.

2. **Fitbit One**

A popular line of portable trackers is the Fitbit series. These devices take a rounded approach to wellness. Generally speaking, almost all of these trackers include functions of sleep tracking, but it's evident they've been designed to be used for all functions of your life. Monitoring exercise and physical activity is often the most emphasized aspect of these trackers. A middle-of-the-road tracker, the Fitbit One cost just under \$100. Trackers of this kind can go up to \$300 and come with increased functionality and better monitoring. Still, the Fitbit One is a perfectly good tracker for most people. It comes with wireless synchronization to your computer, tablet, or smart phone. This clip-like device monitors your activity during the day, acts as a clock, and has some unique alarm functions. Much like Sleep Cycle, Fitbit One will pay attention to the way you move about in your sleep. Still, this technology is far from what you would get if you were to participate in a sleep study. If tracking sleep is the only thing you care about, spending on a product like this may not be in your best interest. Still, there are countless benefits to living a healthier life, including getting better sleep. If tracking your sleep leads you to adopt healthier habits, you'll end up for the better.

3. **Withings Aura**

One of the most high-end sleep trackers available today on the market is the Withings Aura. Since its launch, it's received relatively mixed reviews. However, most of the negative critique focuses on a lack of substantial feedback on how to improve your sleep. Withings itself has also acknowledged these concerns and appears to be working to fix what few kinks remain with their product. This system is a true sleep tracker in that it doesn't come bundled with countless additional features. Instead, for your \$300, you get a three part system: an iOS app, a bedside device that looks oddly similar to a fog horn, and a sleep sensor pad that is slipped underneath your mattress. The core of the tracker's functionality comes from the duo of the pad monitoring your movements and the bedside device adjusting music and lighting. The lava-lamp-like shine given off by the Withings Aura claims to be optimized around your body's secretion of melatonin, the hormone primarily responsible for your sleep cycle, to make falling asleep easier. It's worth noting that melatonin is linked to our sleep cycle and depends heavily on the light in our surroundings. In fact, being exposed to artificial light before bedtime affects both the time it takes for us to start releasing melatonin and the total time we secrete it⁵. Although the device is no replacement for a sleep study, The Withings Aura bedside monitor will provide you with an advanced look into your sleeping habits.

4. **Sense**

Sense is another multi-component system strictly for your bedroom. The system is composed of a tiny clip that attaches to your pillow and a white sphere that sits on your nightstand. The price for Sense is a reasonable \$129 and will give you many of the things

included in the Withings Aura, such as sensors for measuring ambient light, temperature, and noise. The system even boasts a particulate sensor designed to pick up on the particles floating around your room in bedroom. The notion is that if there is too much particle matter in your bedroom, your breathing will be affected, thus resulting in worse sleep. The device will also keep logs of the sounds you make during sleep. If you encounter repeated disturbances, these will cue you in to any problems you might be experiencing. This is quite important, as a lack of anything noteworthy could save you trips to the doctor's office. Sense also uses a similar wakeup system to that of Sleep Cycle and Withings Aura.

5. **Neuro:On**

Neuro:On is another promising system slated for release in the second half of 2015. The system itself is a state-of-the-art sleeping mask and is currently offered through preordering for a price of \$300. The design and science behind Neuro:On places heavy emphasis on your sleep cycles. The idea behind this mask is to use something called polyphasic sleeping to reduce the total amount of nightly sleep we get. This notion is fairly vague, as it could refer to long naps or brief but regular moments of sleep. By using a series of sensors in an attempt to differentiate between REM and NREM stages of sleep, Neuro:On is designed to hone in on your natural patterns of sleep. The problem is that there exists sizeable variation in these cycles between people. Since there is no one-size-fits-all solution to this issue, the effectiveness of Neuro:On will depend largely on how well these sensors will be able to monitor our sleep cycles. The mask itself has electrodes that measure EEG signals, eye movement, and muscle tension. These are all

things through which we may track sleep. Using a large mask may take some getting used to, but the notion of getting quality sleep through a more regulated cycle sounds quite attractive.

The number of available sleep tracking options on the market varies immensely and their benefits are felt by consumers worldwide. Although it can be daunting to try to decide which method or type of tracker would work best for you, the process becomes a lot easier once you evaluate sleep tracking in terms of what you value. Do you exercise and hold the health of your body to high esteem? If so, a tracker focused on the total health of your body could be in order. Otherwise you might benefit from trackers more focused on monitoring your sleep instead. Regardless, the benefits of getting proper sleep are notable enough to warrant exploring this field of technology. I'm sure all of us would enjoy better sleep.

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