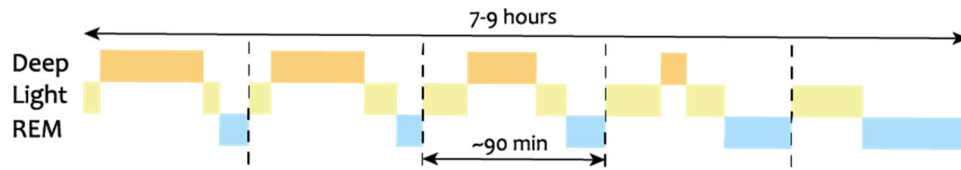


Insights from *Why We Sleep* by Matthew Walker Ph.D.

During sleep, your brain transition between three types of sleep: deep sleep, light sleep, and REM sleep.



Deep Sleep

During the day, your hippocampus (a finger-shaped region in the middle of your brain) temporarily stores information, like names or the steps of a new work procedure. During deep sleep, your mind transports data from the hippocampus to permanent storage locations in the brain, like a mail delivery service transporting packages from a mailroom to homes around a city.

If you decide to stay up late and skip out on the first two hours of your regular sleep schedule, you'll miss most of your deep sleep and fail to store important information in your long-term memory.

Light Sleep

Light sleep acts like the mailroom cleaning staff – it clears your hippocampus to make room for new information the following day. After being awake for 16 hours, it's difficult for your hippocampus to hold on to new information. If you've stayed up late to read a textbook, and read the same paragraph over and over, failing to comprehend the information, then you've experienced a full hippocampus. Light sleep is the delay refresh that renews your ability to learn new facts.

Most of your light sleep is at the end of a full night's sleep. That means waking up early to study can be counterproductive. When you wake up early and only get five to six hours of sleep, you severely impair your ability to learn. And, if you wake up much earlier than usual (up at 5 a.m. when you typically wake at 7 a.m.), you're also missing most of your REM sleep that night.

REM Sleep (Dream Sleep)

When you enter REM sleep, your mind begins to make sense of what happened during the day by connecting newly stored information with previously stored information. The connections are often bizarre and lead to creative breakthroughs. Singer/songwriter Paul McCartney famously woke up with the entire melody to 'Yesterday' in his head and thought someone else had written it.

REM sleep not only provides creative insights, it offers emotional insights too.

Dreams (which only occur during REM sleep) simulate anxious situations so that you learn how to deal with your anxiety and become coolheaded under pressure. Dreams also help you transition from despair to hope - if you're going through a bitter break-up or divorce, dreaming will help you move on. Dreams are the cheapest and most effective form of therapy.

Deep sleep improves your ability to recall information, light sleep improves your ability to learn new information, and REM sleep improves your ability to make sense of information, and any related emotion.

Two Pillars of a Good Night's Sleep

Dark	Cool
<p>When the brain detects blue light, it suppresses a chemical called melatonin. That's not good, because melatonin provides the push you need to fall asleep.</p> <p>A study found that reading a book on an iPad suppressed melatonin 50% more than reading a print book. Another study found that a bedside lamp, with just one to two percent of the strength of daylight, can also reduce melatonin by 50%. That's why when the sun goes down, I now put on blue light blocking glasses. Then, a half hour before bed, I read a print book under red LED light. Then, when it's time to sleep, I put on my sleep mask.</p>	<p>Your body temperature needs to drop two to three degrees Fahrenheit to initiate sleep. It is hard to lower your core temperature when your house remains at room temperature. That's why I've programmed my thermostat to reduce my house temperature to 65F every night at nine p.m., and maintain that temperature throughout the night.</p> <p>Also, right before bed, I take a hot shower. Taking a hot shower might seem counter-intuitive... but after a hot shower/bath my body heat transfers from my core to the surface of my body, then dissipates into the atmosphere. The result: core temperature drops, and it's easy to fall asleep.</p>