

Sleep Disorders: How Sleep Changes Throughout Your Life

We All Need Sleep



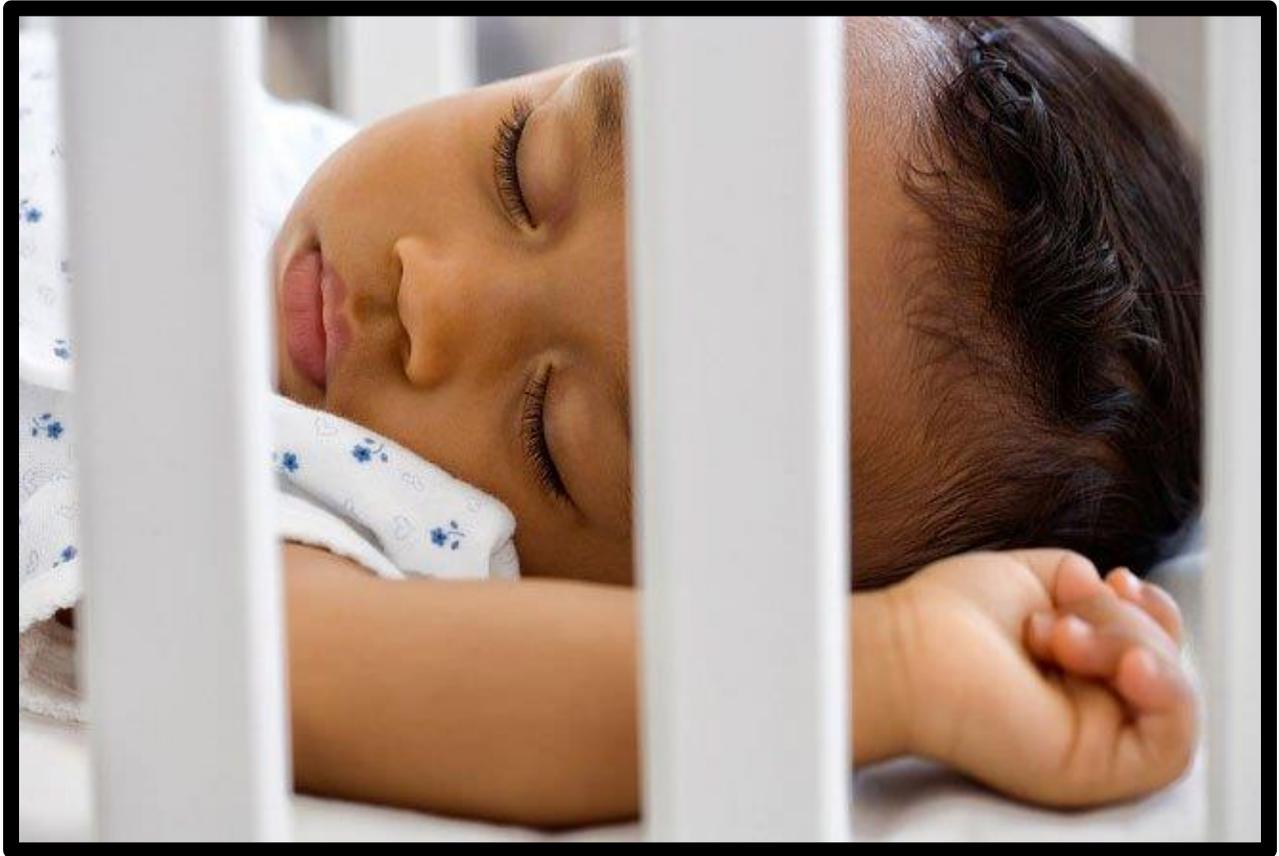
We spend about a third of our lives asleep. That's a good thing. Sleep helps keep our brain, body, and immune system healthy. But from birth to older age, sleep patterns change throughout our life.

Newborns and Infants



They spend most of their time -- about 70% -- asleep. Experts think all that shut-eye is what helps them learn and grow. Newborns tend to snooze for 2 to 4 hours at a time, up to 16 to 18 hours a day. They also have more active sleep than adults. That means they start out in rapid eye movement (REM) sleep instead of non-rapid eye movement (NREM) sleep. They might twitch a lot, too. That's because the part of their brain that stops them from moving during dreams is still forming.

3 to 12 Months Old



A baby's circadian rhythm, or wake and sleep cycle, falls into a more regular pattern when they're a few months old. Their bodies start to make hormones like melatonin and cortisol. These chemicals tell them to stay awake during the day and sleep at night. Babies may start to conk out for long stretches -- 6 hours or more -- anywhere between 6 months to 12 months old. They start to spend more time in deep sleep. And their body temperature starts to follow a 24-hour cycle.

Toddlers to Preschool Age



Kids ages 1 to 2 need about 11-14 hours of sleep every day. Children ages 3 to 5 need about an hour less, or 10-13 hours. Both groups sleep mostly at night, but they might take naps during the day. Some preschoolers may skip daytime naps in favor of an earlier bedtime.

Young Children



They don't need as much sleep as they get older. Kids ages 6 to 12 should get about 9 to 12 hours every night. When they do snooze, children get more deep sleep than when they were younger. Certain sleep habits might show up around the time they're old enough for school. This includes "night owl" or "early bird" tendencies.

Teenagers



They need at least 8 to 10 hours of rest every night. But sleep patterns shift around this age. Lots of teens want to stay up at night and sleep later in the morning. That often conflicts with having to get up for school. Many teenagers don't get enough sleep. That lack of ZZZs can make it hard for them to focus at school or control their emotions.

Adults



Your sleep needs may be different than someone else your age. But most people 18-60 need 7 to 9 hours of shut-eye a night. And 1 in 3 U.S. adults don't get that. It's normal to miss out on sleep every now and then. But try to prioritize a good night's rest. Not getting enough sleep raises your risk of all kinds of health issues. That includes depression, memory problems, high blood pressure, type 2 diabetes, and heart disease.

Older Adults



People 65 and older need about 7-8 hours of sleep a night. That's less than any other age group. There are several reasons why your sleep patterns change as you get older. You make less melatonin, which can affect your sleep-wake cycle. You may start to get up and go to bed a little earlier. The type and quality of your sleep also changes. You'll spend less time in deep sleep, which can make it easier to wake up at night. That sometimes opens the door to insomnia and other sleep problems.

Health Conditions and Naps



Compared to younger adults, older people are more likely to nap during the day. Some adults 75 to 84 say they get so sleepy they can't do daily activities. This isn't a normal part of aging. It might happen because your circadian rhythm is off. But your odds of daytime sleepiness go way up if you have another health problem. That includes ongoing pain, depression, diabetes, heart disease, and sleep apnea. Prostate and bladder issues may cause lots of nighttime bathroom runs, interrupting sleep.

Reproductive Changes



Women report more sleep problems than men. These issues usually show up when female hormones are in flux. That can happen at different stages of life. Examples include shifts in your menstrual cycle that can disrupt your sleep-wake cycle and having insomnia or bad dreams the week before your period starts. Pregnancy hormones and the months after birth (postpartum) can both disturb sleep. You might also have trouble falling or staying asleep during perimenopause. That's the 4-8 years before menopause starts.

Menopause and Sleep



Hormonal changes alone can affect your sleep. But so can other symptoms that come with menopause, like hot flashes. These are fast and intense waves of body heat that last 1 to 5 minutes. They can happen at night, making you so warm and sweaty that you wake up. Tell your doctor if this happens a lot. They might suggest lifestyle changes, at-home remedies, hormone therapy, or medication.

How to Get the Sleep You Need



You might need to make a few lifestyle changes and practice good sleep hygiene habits. These include going to bed and waking up at the same time every day and making sure your room is cool, dark, and quiet. If it doesn't get better, cognitive behavioral therapy for insomnia (CBTi) or medication may help. Talk to your doctor if you're always sleepy during the day or take naps without trying. Tell them if you wake up a lot at night or snore or stop breathing in your sleep, too.

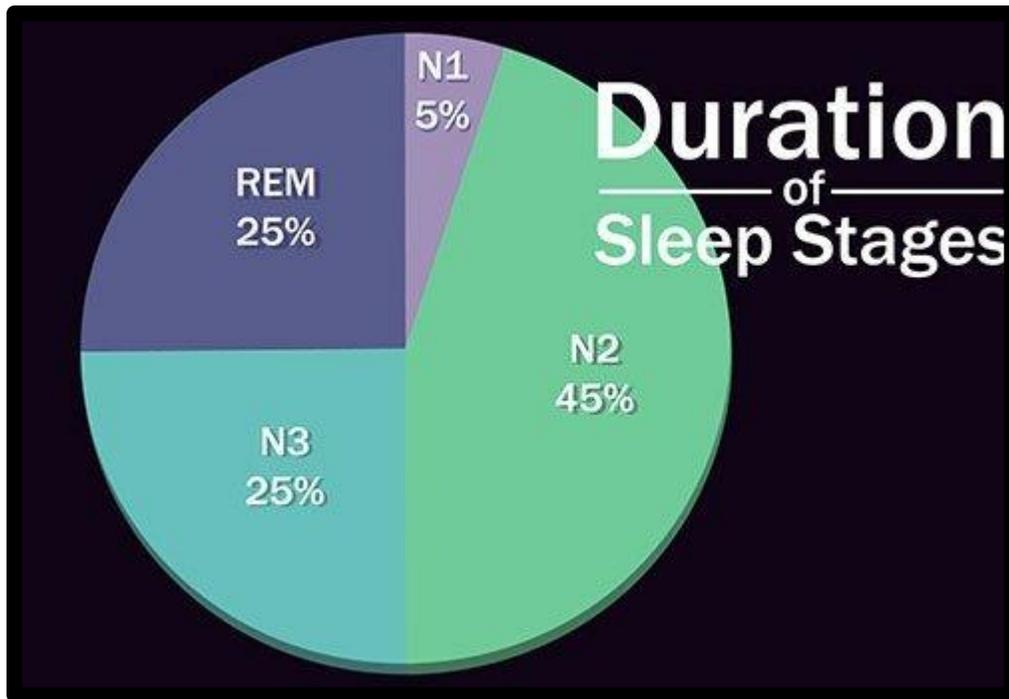
Sleep Cycle: What Happens When You Sleep

Actively Asleep



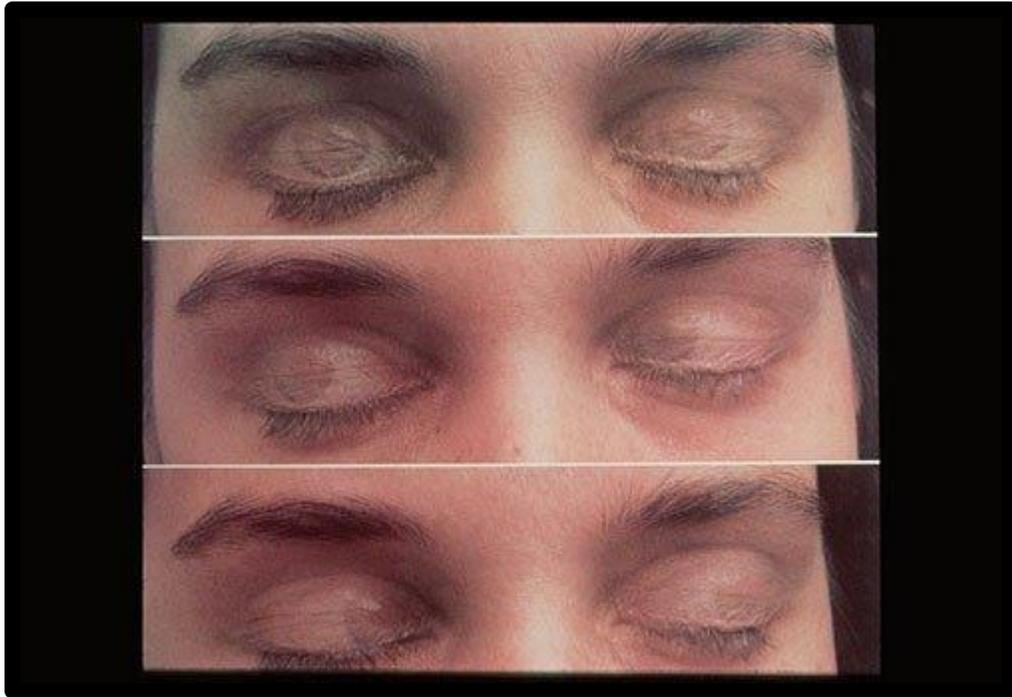
Scientists used to think that people were physically and mentally inactive during sleep. But now they know that's not the case. All night long, your body and brain do quite a bit of work that's key for your health. There are two main types of sleep that we cycle in and out of when we rest -- REM (rapid eye movement) and non-REM sleep.

Non-REM Sleep



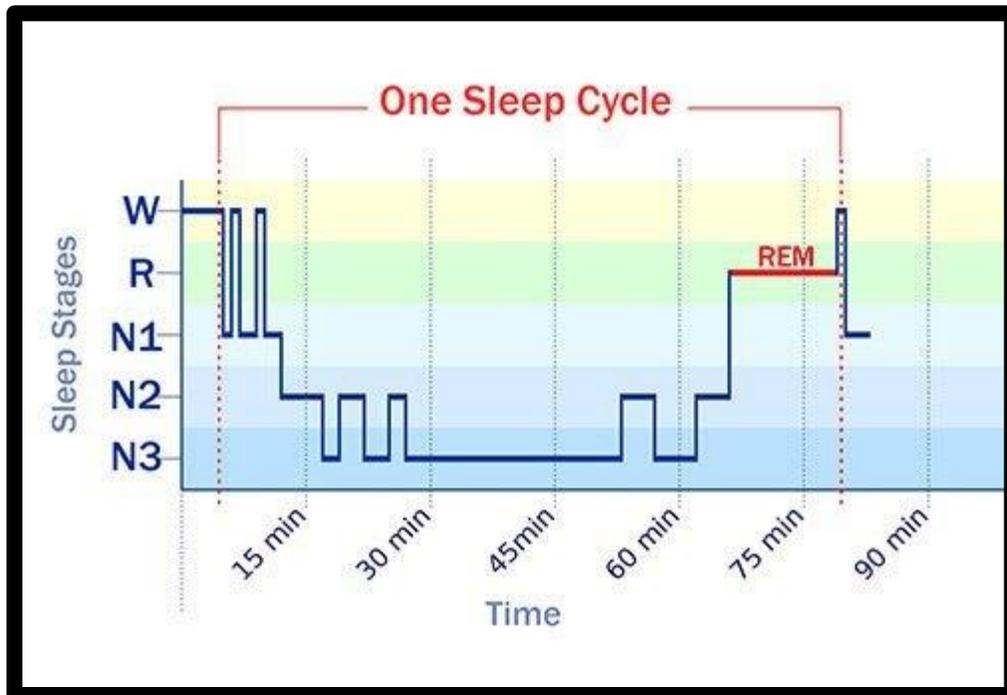
You begin the night in non-REM sleep and spend most of your rest time there. It starts light, in the "N1" stage, and moves to the deep "N3" stage. During this progression, your brain becomes less responsive to the outside world, and it gets harder to wake up. Your thoughts and most body functions slow down. You spend about half a normal night's sleep in the "N2" phase, when scientists think you file away long-term memories.

REM Stage



This stage got its name because of the way your eyes dart back and forth behind your lids. You dream most in this stage. Your pulse, body temperature, breathing, and blood pressure rise to daytime levels. Your sympathetic nervous system, which helps with automatic responses like "fight or flight," gets very active. And yet your body stays almost completely still.

Sleep Cycles



You typically go through all the sleep stages three to five times a night. The first REM stage may be just a few minutes, but gets longer with each new cycle, up to about a half an hour. The N3 stage, on the other hand, tends to get shorter with each new cycle. And if you lose REM sleep for whatever reason, your body will try to make it up the next night. Scientists aren't sure of the purpose of any of this.

Body Temperature



It drops a couple of degrees as you get drowsy before bed and is lowest about 2 hours before you wake up. In REM sleep, your brain even turns off your body thermometer. That's when heat or cold in your bedroom affects you more. In general, a cooler room helps you sleep better. A few pushups or a jog when you wake raises your temperature and makes you more alert.

Breathing



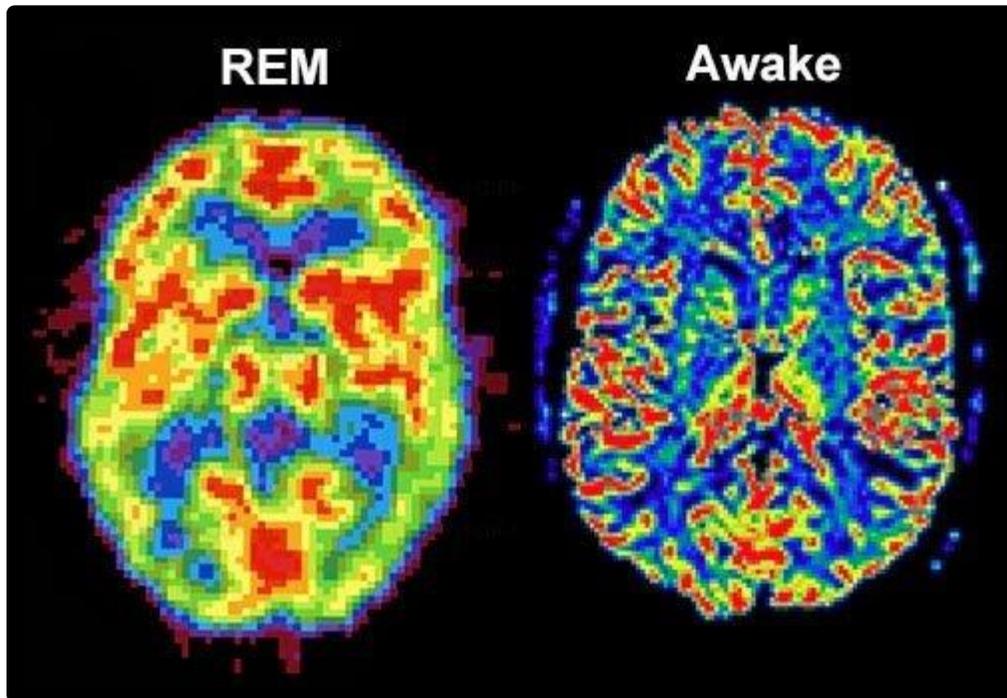
It changes a lot when you're awake, of course. But as you fall deeply asleep, you breathe more slowly and in a more regular pattern. Then, as you enter the REM stage, your breathing gets faster and varies more.

Heart Rate



Deep, non-REM sleep lowers your pulse and blood pressure, which gives your heart and blood vessels a chance to rest and recover. But during REM, these rates go back up or change around.

Brain Activity



When you close your eyes and start to drift into non-REM sleep, your brain cells settle down from their daytime activity levels and start firing in a steady, more rhythmic pattern. But when you start to dream, your brain cells fire actively and randomly. In fact, in REM sleep, brain activity looks similar to when you're awake.

Dreams



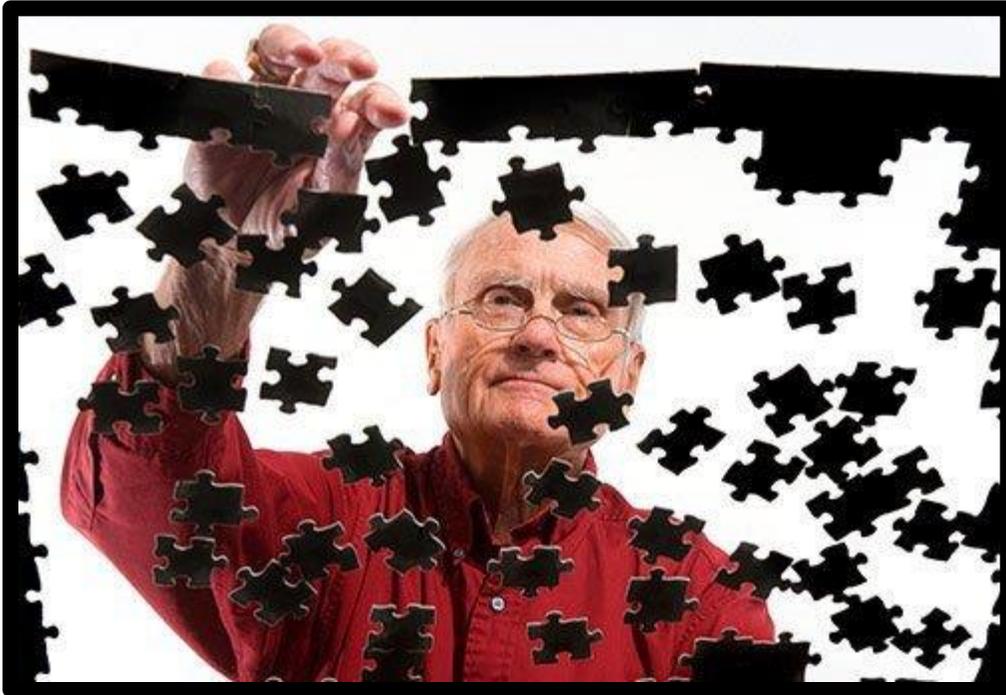
Though we've talked about them for thousands of years, they're still a mystery in many ways. It's not clear what causes them or if they have a purpose. They're most common during REM, especially when they're very visual, but you can dream in other sleep stages as well. Night terrors -- when people appear to be awake and cry out in fear or panic -- happen in deeper states of sleep.

Time to Repair



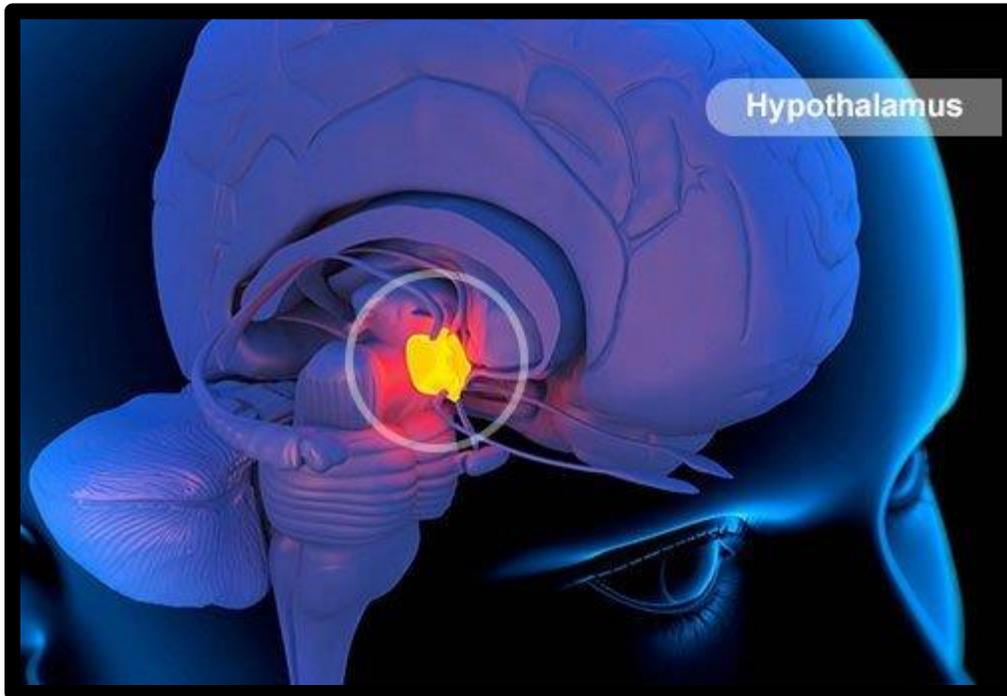
During deep sleep, your body works to repair muscle, organs, and other cells. Chemicals that strengthen your immune system start to circulate in your blood. You spend about a fifth of your night's sleep in deep sleep when you're young and healthy -- more if you haven't slept enough. But that starts to fade, and by the time you're over 65, it could be down to zero.

Take Out the Trash



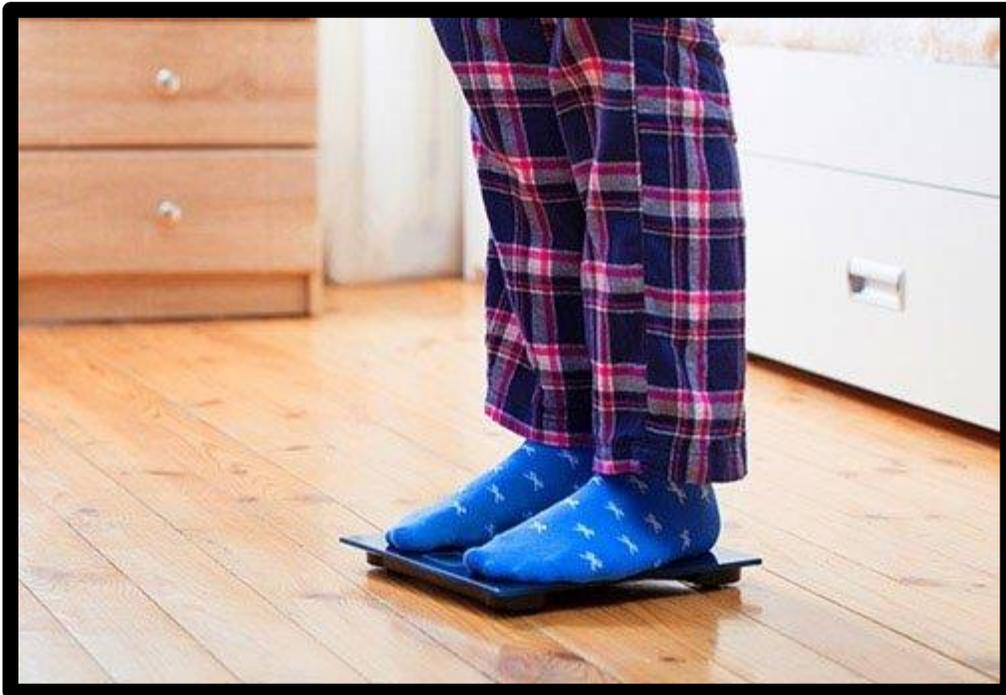
That's what scientists think REM does. It helps your brain clear out information you don't need. People who take a look at a hard puzzle solve it more easily after they sleep than before. And they remember facts and tasks better, too. Those deprived of REM in particular -- compared with other sleep stages -- lose this advantage.

Brainstem



This area plays a key role in many parts of sleep. It talks to the hypothalamus, another brain structure, to help you drift off and wake up. Together, they make a chemical called GABA that quiets "arousal centers" that might keep you from sleeping. And during REM sleep, the brainstem sends signals to temporarily paralyze muscles that move your body, arms, and legs. That stops you from acting out your dreams.

Hormone Symphony



Your body makes more of some hormones while you're asleep and lowers others. For example, levels of growth hormone go up, and cortisol, which is tied to stress, goes down. Some scientists think insomnia could be related to a problem with your body's hormone-making system. Also, a lack of sleep can mess with levels of the hormones that control hunger -- leptin and ghrelin -- and that can change how much you eat and make you gain weight.