

How Your Body Heals When You Sleep?

Researchers used to believe that a person was physically as well as mentally inactive while sleeping. But the assumptions turned out to be wrong. Sleep is the only time when your body restores and repairs itself. But how exactly does a body heal when you are asleep?

There are different stages of sleep, i.e. REM (rapid eye movement) and Non-REM sleep. In this file, we have explored all the ins and outs of how our system functions all night.

Non-REM Sleep starts light and is separated into N1, N2, and N3 stage. Our body begins with the non-REM sleep and slowly the brain turns less responsive to the surroundings or outside world as it reaches the N3 stage. The body functions and the thought process gets slower with each passing stage.

In the N1 stage, the eyelids become heavy but the brain is quite active. Within 5-10 minutes, the head starts dropping off to sleep. After falling asleep for 10-25 minutes, in the N2 Stage, one can wake easily. Though the brain activity becomes slow and eyes stop moving. Further, the heart rate gets regular and the body temperature drops.

Sooner crossing the other 40 minutes, the blood pressure drops, you are in the deep sleep zone and energy is restored. The body increases the blood supply to the muscles during the stage. Further now, the body starts releasing growth hormones and proteins.

Prolactin, a protein is released in the body during deep sleep which has anti-inflammatory properties that help in the recovery of joints. Learn more about [the healing power of sleep](#).

REM Stage, also known as the 4th Stage, is when you start entering into the dream zone. In this stage, the eye movement is visible. Your body temperature and blood pressure rise to the daytime level, muscles become temporarily paralyzed, the nervous system turns active and your eyes dart back and forth behind your lids, which is why this stage is referred to as rapid eye movement (REM) sleep.

Sleep Cycles

All the four stages repeat around three to four times during the night. The REM stage for the first time is shorter in comparison to the last sleep cycle. Though, it is different from the N3 stage. With each passing cycle, the N3 stage duration gets shorter. Also, if somehow you miss REM sleep your body will try to make it in the next night cycle.

How These Stages Help Recover or Heal the Body?

Body Temperature

Normally, the body temperature fluctuates during the night as it aids in controlling your sleep cycle. Hypothalamus, the body temperature regulator releases chemicals and hormones during this period. It works together with the other body parts such as your skin, sweat glands, and blood vessels to warm up or cool down the temperature. This process is essential for the body to maintain a consistent healthy temperature. Also, the body temperature is the lowest 2 hours before you wake up.

Breathing

The flow of your breath slows down and becomes regular as one falls deeply asleep. The moment one reaches the REM stage your breathing gets heavy and fast. Slow breathing has significant effects on the respiratory, heart rate variability, and autonomic nervous systems while sleeping. Further, optimizing physiological parameters for good health and longevity.

Heart Rate

The heart and blood vessels relax, rest, and recover while you are in the deep non-REM sleep stage because the pulse rate and BP tend to be low whereas it's vice-versa during the REM stage.

Brain Activity

The brain cells give a much regulated, rhythmic pattern as compared to its daytime activity once you close your eyes and try to doze off on entering the non-REM sleep stage. However, cells jump back to activity and work once you start dreaming. The Brain functions command and helps reenergize the body's cells, clear and pass out waste from the brain, support learning, and memory, regulate mood and appetite. You can say in the REM stage, the brain activity sounds similar just as if you are awake.

Dreams

These are just magical mysteries unsolved. Though each person has felt its occurrence for ages, yet we fail to conclude their objective. Commonly showing up during the REM when the visualization is at its peak. Also, the night terrors (that scare you out or make you cry out of fear) occur only during the deeper stages of sleep

Time to Repair

Deep sleep duration is almost one-fifth of your total night sleep. The repairing and restoration of muscles, organs, and all the cells are under process during the deep sleep

hours. Immunity strengthening chemicals flow with the blood in these hours. You stay young and healthy during this period. However, this tends to decline and finally fail as you age, say cross 65.

Take out the Trash

Much like your electronic devices such as mobiles that seem to perform better and speedily once you clean the trash your brain too functions the same. Scientists believe REM functions for the same. For this reason, concentrating over just anything after a night of sleep is much easy. Also, the memory responds in a much better manner. However, those who do not experience REM are the ones that stay deprived of these advantages.

Brain Stem

This area along with the hypothalamus decides your dozing off or wake up time. In association, the two also make a chemical named 'GABA'. This chemical prevents you from staying asleep by calming your arousal centers. Additionally to prevent you from enacting/performing your dreams (during the REM) the brainstem temporarily paralyzes the muscles responsible for body movement.

Hormone Symphony

Your hormonal secretions may vary during the sleep hours like the growth hormones get boosted to speed up the recovery process whereas the levels of cortisol (hormone related to stress) may lower down. The reason being your body is relaxing and under the pressure. As per the opinion of some scientists, Insomnia might be an issue due to the hormone production in your body. 'Leptin' and 'Ghrelin' hormones controlling hunger and strongly affected due to lack of sleep. This might change your diet or also be responsible for your weight gain.

Sleep is really essential for the body to reenergize and repair the internal damages. So, stay healthy and sleep well. Keep a check on your daily routine and enjoy a sleep of 8-9 hours daily.

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