The Function Of Sleep

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A healthy, consistent sleep cycle is vital to our health and happiness. Because a good sleep cycle, or its lack, impacts all our organs and body functions, including our brains. Sleep is a function of the body, not a ‘waste of time’

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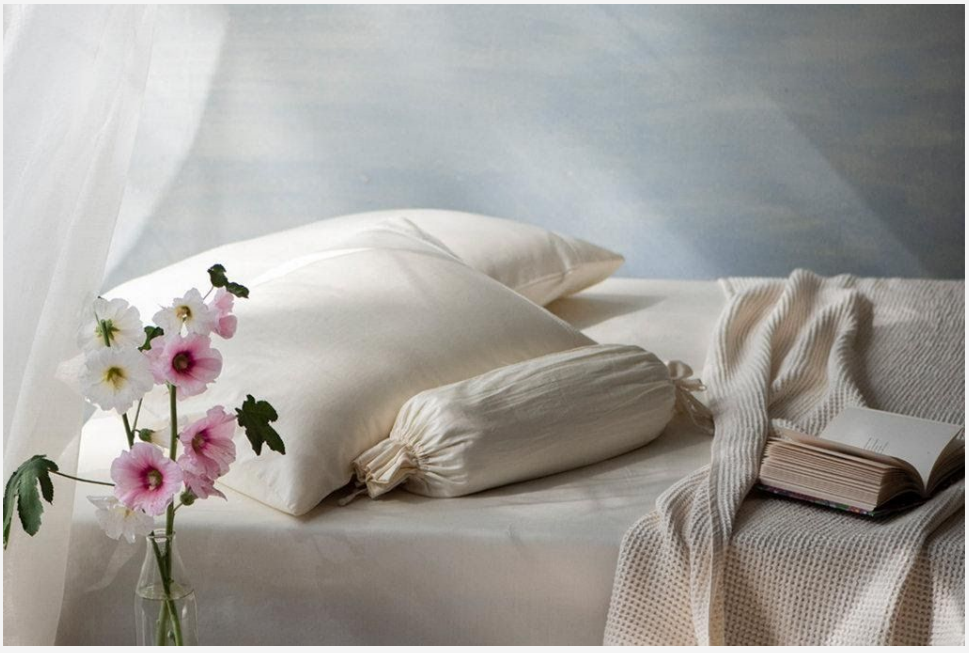

Sleep is one of the most neglected functions of the human body today. Sleep makes up one-third of human lifespan and is an integral function of the human body, it plays a dynamic role in every person's overall health and wellbeing. Sleep is vital because it enables the body to repair and be fit and ready for another day. Getting enough sleep may help prevent

excess weight gain, heart disease, and boost immunity. Getting sufficient sleep is one of the building blocks for good heath along with eating well and exercising. Each one plays an important role. Often, the commonest reason for disruption is self-induced sleep restriction, either due to work or entertainment/lifestyle --- delayed bedtime and overall decreased duration of sleep. But given the overall impact of how sleep deprivation or consistent disruptions in our sleep cycle impact our overall health and wellbeing it is important to understand the function and need for sleep and find ways to ensure that we form the habit of a healthy sleep cycle.

Why do we sleep?

We need sleep to recharge our brain, it is a necessity like food, water and air. A common misconception is that while we are asleep the brain does nothing. Thus, sleeping is often called a 'waste of time'. Nothing could be further from the truth. While we sleep our brain is busy working, albeit differently.

There is a significant link between how someone sleeps and their overall health and functioning. Chronic sleep deprivation is linked to development of cardiovascular diseases such as hypertension, stroke, weight gain and diabetes. In children chronic sleep deprivation may cause learning disabilities and mood changes. People with poor sleep hygiene have poor control of the hormones that control appetite and hunger; poor sleep habits can promote over-eating and weight gain.

Sleep & Brain

Sleep is said to have links to the three important functions of the brain: Concentration, Productivity and Cognition. It is essential for making memories and learning new skills. Because when we sleep those memories and skills are being refined and improved upon. According to research, sleep affects learning and memory in two ways; lack of sleep impairs a person's ability to focus and learn efficiently. Sleep is necessary to consolidate a memory (make it stick) so that it can be recalled in the future. A recent study showed that a child's sleep patterns can have a direct impact on their behaviour and academic performance.

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The Functions of Sleep

Sleep has multiple functions; in fact, it has a role to play in all functions of the body directly or indirectly.

1. Regulation of appetite: Leptin is a hormone that gives us the feeling of fulfilment and satiety and Ghrelin is a hormone that stimulates our appetite. Sleep deprivation results in decreased leptin and increased ghrelin levels. This results in increased food intake, with a partiality towards energy-rich foods with high carbohydrate content. While good sleep helps to make healthy food choices, chronic sleep deprivation is associated with higher body mass indices (BMI) and thus weight gain.
2. Hormonal Secretion: It is noticed that during ‘Deep Sleep’ or ‘Slow Wave Sleep’, the growth hormone (GH) levels peak

within minutes and remain significantly high during this period. Prolactin (PRL), a hormone that stimulates milk production after childbirth, increases and reaches a twofold elevation during sleep, as compared to the levels during wakefulness. The thyroid-stimulating hormone (TSH) secretion is closely linked to the circadian rhythm which occurs during sleep. TSH peaks in the evening and early night and reaches its trough in the afternoon. In men, testosterone peaks during sleep (REM) and even during daytime naps.

3. Moods and emotional stability: Sleep serves an important role in stabilizing mood and emotions thus chronic sleep deprivation in turn has devastating effects on depression and mood stability. Sleep is also involved in the processing and modulation of emotional stimuli.
4. Regulation of Pain: Sleep may also be involved in the regulation of pain via parts of the brain and which are highly connected with the emotional neural network. Studies have shown that having slept less than 6 hours is associated with increased levels of pain.
5. Blood Pressure & Blood Sugar: Sleep helps to maintain the day and night blood pressure, heart rate and blood sugar levels. This ensures overall good quality of health

Sleep Environment

Your sleep environment should be relaxing to promote secretion of melatonin or ‘the sleep hormone’. Some of the factors that influence the sleep environment, include light, noise, and temperature.

Light: Light is one of the most important external factors that can affect sleep. It influences the timing of our internal clock thus sleep habits. It does so by affecting the specialized "light sensitive" cells in the retina of our eyes. These cells, which occupy the same space as the rods and cones that make vision possible, tell the brain whether it is daytime or night-time disturbing our sleep schedules. Blue light emitted from our devices are a good example of this. We keep scrolling for hours at night fooling our bodies into thinking that it is day.

Noise: Noisy backgrounds can interrupt sleep by distracting and distressing the person. This may cause frequent awakenings during the night preventing transitions to the deeper stages of sleep. Even though, ‘white noise’ may relax some people, the volume level must be low.

Temperature: Research shows that the ideal temperature range for sleeping varies amongst different individuals due to them living in different regions around the world, generally a lower temp is more condusive for good sleep, that is 19 or 20 degree Celsius.

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