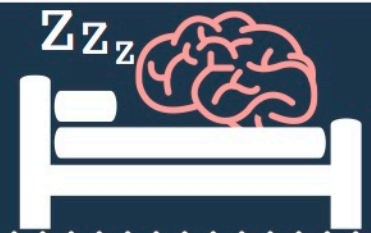


SLEEP & THE BRAIN

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Sleep Allows Us To



Rejuvenate and replenish the mind and the body



Retain information and perform better on memory tasks



Repair tissue, and synthesise and balance hormones

The Sleep Cycle and Brain Regions Involved in Sleep



The sleep-wake cycle (circadian rhythm) is an endogenous rhythm that gradually becomes locked to the day-night cycle through the first years of life



The normal pattern locking in sleep and wakefulness to the day-night cycle is partly controlled by a small group of cells in the hypothalamus called the suprachiasmatic nucleus



These neurons have lots of synapses between their dendrites to efficiently synchronise their firing together and they are part of the brain's biological clock



Source 2: The Brain Regions Involved in Sleep by Nature.com

Sleep Deprivation - The Randy Gardner Experiment



Randy Gardner attained the Guinness book of Records by not sleeping for the longest period recorded (11 days) in a carefully controlled experiment supervised by doctors in the American Navy



Difficulties: slurred speech, inability to concentration, memory problems and hallucination, however physically the body was doing well



After the experiment researchers were convinced that it is the brain and not the body that gains benefits from sleep



Source 3: Randy Gardner by Kalpana Mishra

References:

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