Sleep Tight, Catch a Light

For centuries we have wondered how we sleep, and why we sleep. These questions eluded us, as we drift into the arms of the night, and waking up next morning, we would try to remember our dreams and interpret them.

Since the ancient times, we loved sleeping, in Greek mythology, the God of Sleep was Hypnos, for whom rituals were held, offering him gifts for his sleep enhancement.

The most awake record is held by a man named Randy Gardner, who did not sleep for 11 days and 24 minutes. Doctors who were observing him noticed hallucinations, paranoia, and memory problems. He was noticed to have severe trouble concentrating and performing simple tasks, such as basic arithmetics, and forgetting where he is at all times. After the conclusion of the 11 days, he slept for 14 hours, and it took him multiple days to reach steady state sleep.

Today we know that certain chemicals accumulate in cerebrospinal fluid without sleep. These are the byproducts of metabolism in brain and spinal cord. The only time these can be cleaned and removed from the system is during sleep. Brain also uses sleep to go over the day's activities, sort them out and helps creating new memories. This is the way we learn new things, and especially for students, this is of extreme importance, to pave for new knowledge.

Without sleep, the chemical byproducts accumulate and cause dysfunction of the central nervous system. But brain is not the only organ that is affected by insomnia, which is sleeplessness.

The cardiovascular system, namely the heart also suffers from lack of sleep. Heart rhythm problems occur during insomnia, such as palpitations which are rapid heart beats, as well as more severe heart rate issues. Blood pressure rises and patients can develop irreversible hypertension.

We know now that sleep is an integral part of our health, so much that certain doctors are specialized on sleep. Sleep medicine focuses on how people sleep, and perform sleep studies on patients who has trouble with sleep. There are now medications and machines that can help solve your sleep problems, which can be used under the care of specialized physicians.

This is why I chose my project on sleep. I wanted to see for myself, how our reflexes are affected by sleep, or lack there of. Different amounts of sleep can have varying effects on people. Recommend times are 7 hours for adults, and 8-9 hours for children. I wanted to see how certain amounts of sleep can affect our light catch reflexes.

But the main purpose of my study was to check how my dad would react, since he is always so tired with little sleep!