HUMAN SLEEP AND ITS REGULATION

Summary

Every night we give ourselves over to sleep. Observing a sleeping person one might mistakenly think that sleep is a time of inactivity for the body and brain. However, this is far from true. During sleep the brain is buzzing with activity and cortical oscillations emerge that can only be seen while asleep. In this article we discuss methods used to capture brain activity during sleep, and focus on a cortical oscillation called the slow wave. Slow waves are low frequency high amplitude waves that reflect the sleep homeostatic processes — they track the amount of prior sleep and wakefulness, increasing with time awake and decreasing during sleep. We discuss how these waves have been used to model the homeostatic sleep process. Finally, we conclude by giving an overview of a few of the most prominent theories about the functions of sleep.