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The Side Effects of Sleep Deprivation

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THE SIDE EFFECTS OF SLEEP DEPRIVATION

INTRODUCTION
Sleep is one of the most analyzed subjects on the planet. As scientists learn more over the years, there is still so much that they do not understand. This is the process where our body goes into a lowered state of consciousness where it heals and replenishes itself. It is an intricate and interesting phenomenon, that it will be continually studied until the end of time.

CHEMICALS
There are many different brain chemicals and hormones that function in the process of sleep. The formulas for some of the active chemicals that are involved in the process of sleep are shown to the left.

Melatonin regulates the circadian rhythm, or 24-hour cycle for the human "body clock" that we run everyday. It helps in making a person sleepy.

Serotonin is the chemical that keeps the body's muscles relaxed to maximize movement during sleep.

Histamine, a histamine response level, stands out among the others. It is a neurotransmitter that plays a key role in alertness and wakefulness.

Norepinephrine and acetylcholine are also brain chemicals that keep us from falling asleep. They are neurotransmitters that work in the hypothalamus to prevent falling asleep.

Dopamine is a chemical related to sleep regulation. It is produced in the brain and affects the sleep cycles of the body.

Histamine is a chemical related to learning and memory that has been linked to sleep apnea.

Adenosine is a chemical that is directly related to the transfer of energy in the brain and body.

SLEEP DEPRIVATION
When a person fails to get the proper amount of sleep, the person becomes sleep deprived. There are many effects, physical, psychological, and medical effects that occur when a person fails to get adequate sleep. Sleep loss can be cumulative, for example, someone loses one hour of sleep per night for a month or more, sleep deprivation can result. Sleep deprivation can be a lack of sleep for many hours in a day. Sleep deprivation, and most of the negative side effects happen with both types.

The table to the left shows the difference in sleep-related effects on brain and body. Scientists have researched the subject extensively and determined that there are numerous side effects from sleep deprivation. As the table shows, people who have more sleep deprivation scored lower on an arithmetic exam, and their scores became worse the more sleep they deprived.

Some of the other negative effects only occur when the person's health or grades, but many of the side effects can affect anyone, including everyone. Sleep deprivation increases risk of cardiovascular diseases.

CONCLUSION
Sleep is an extremely intricate and complex subject that is still being researched. It is a fascinating process, but some things are clear, such as the importance of sleep to our well-being.

Many different brain chemicals are involved in sleep. As we learn more about the stages of sleep, you will see that at times our brains are active and aware while we sleep; and there are many different things involved with the process. With all the various chemicals released during sleep, reports to our body are important and appropriate sleep is essential to a healthy lifestyle.

Sleep deprivation decreases productivity in various activities such as reaction time, alertness, poor health, impaired problem solving, and many other negative effects. It is very important for everyone to pay attention to getting adequate sleep every night to prevent any of the consequences of sleep deprivation.