



Free informational handouts for educators, parents, and students

# Vitamin Zzz

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During sleep, our bodies are hard at work preparing for the next day. Problem solving, decision-making, controlling our emotions and coping with change are affected by how much or how little sleep we get. Lack of sleep affects a child's ability to think, learn, and get along with peers. Getting enough quality sleep at night can benefit a child's health and development through adulthood.

## What Happens When We Sleep?

While we sleep, our body cycles through four different phases – stages 1, 2, 3, and REM (Rapid Eye Movement). Each phase plays an important role in our mental and physical health and development.



**Stage 1 –** Otherwise known as "light sleep," this stage lasts for 5-10 minutes. It involves being awake and falling into sleep, all the while being somewhat alert and easy to wake.



**Stage 2** – In this stage, our breathing and heart rate evens, body temperature drops, and we become less and less aware of our surroundings.



**Stage 3** – Known as "deep sleep," our muscles and tissues are repaired during this stage. Also, this phase stimulates growth and development, boosts our ability to fight disease, and stores up energy for the following day.



**REM** – Rapid Eye Movement plays an important role in learning and memory. REM sleep is essential to learning, and making or retaining memories.

#### How Much Sleep Do We Need?

The amount of sleep we require varies depending on age. The sleep cycle of a newborn will look very different from the sleep cycle of an adult. Below is the recommended amount of sleep for various ages per 24 hour period:

- **Newborns (0-3 months)** 14 to 17 hours
- Infants (4-11 months) 12 to 15 hours
- Toddlers (1-2 years) 11 to 14 hours
- Preschoolers (3-5 years) 10 to 13 hours
- School-Age (6-13 years) 9 to 11 hours
- **Teenagers (14-17 years)** 8 to 10 hours
- Young Adults (18-25 years) 7 to 9 hours







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## Why Do Children Need More Sleep?

Sleep is essential to healthy cognitive and physical development throughout childhood and into young adulthood. Kids who do not get enough sleep may not only have difficulty in the classroom, but are at risk for diabetes, obesity, and heart disease. Problems may arise in the following areas if children consistently go without enough sleep:



**Growth** – Growth hormone is released during deep sleep. If a child does not get enough sleep, cells do not grow or do not grow enough, affecting height, weight, and overall physical development.



**Heart Health** - Children who do not get enough sleep may undergo damage to the walls carrying blood from the heart to the body.



**Weight** - Research is beginning to uncover that a child's struggle to maintain a healthy weight may begin in infancy. The hormones that signal the brain to stop eating may be affected by lack of sleep. In addition, kids who do not get enough sleep tend to crave foods higher in fat and carbohydrates.



**Immunity** – The body relies on certain proteins to fight infection, illness, and stress. When kids do not get enough sleep, they are unable to make the amount of proteins necessary to stay healthy.



**Safety** - Lack of sleep often means kids are clumsier and more impulsive, contributing to more accidents and injuries.



Attention – Research has shown that kids under age 3 who consistently sleep for ten or fewer hours per night are more likely to have problems with hyperactivity and impulsivity by age 6. It is important to note that the symptoms of Attention Deficit Hyperactivity Disorder (ADHD) and sleep-deprivation look very similar, and ruling out sleep deprivation is an important part of the ADHD diagnosis.



**Learning** – Lack of sleep diminishes planning and organization skills, affects mood and behavior, reduces focus and attention, and impedes short-and long-term memory function.

## Steps to a Good Night's Sleep

Parents play an important role in helping children get the sleep they need. When parents prioritize sleep, children learn when and how to wind down appropriately.



**Get on a Schedule** – Go to bed at the same time every night and wake up at the same time every morning. A manageable nighttime routine should last 20-30 minutes and may include activities such as brushing teeth, putting on pajamas, and reading a bedtime story.



**Exercise** – Encourage your kids to run and play outside or play a video game that encourages movement. Twenty to thirty minutes of exercise a day may help kids sleep more soundly at night.

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Cut the Caffeine – Soda, bottled teas, energy drinks, and even kid-friendly foods contain enough caffeine to disturb the sleep cycle. Parents can find a chart outlining the caffeine content of food and drinks marketed to children on the Center for Science in the Public Interest's website at www.cspinet.org.



**Give Advanced Warning** – Whether ten minutes or an hour away, notifying kids that bedtime is around the corner prepares them to wrap up any tasks they may be working on in time to start the nighttime routine.



**Environmental Control** – Kids will be more likely to fall asleep and stay asleep when calm and relaxed. Limit technology, light, and noise distractions as much as possible.



**Toss the Tech -** Research has shown that kids who have access to bedroom computers and televisions tend to get less sleep than those who do not. If it is not possible to remove technology from the bedroom, establish a non-negotiable "turn-off time."



All children need a good night's sleep every night in order to promote cognitive, physical, and emotional growth and well-being. Trying to tackle all of the items on the list above may leave parents feeling overwhelmed and discouraged. Choosing one task, such as limiting technology, may allow parents to make small and manageable changes to the bedtime routine. One change at a time can help set children on the path for social, academic, and lifelong success.

#### Resources:

The 7 Reasons Your Kids Need Sleep by Sarah Mahoney. Retrieved 12/29/2016 from www.parents.com.

"How Much Sleep Do Babies and Kids Need?" by the National Sleep Foundation (2016). Retrieved 12/29/2016 from https://sleepfoundation.org.

"At a Glance: 4 Ways Sleep Problems Affect How Kids Learn (2014). Retrieved 12/29/2016 from www.understood.org.

"Brain Basics: Understanding Sleep" by the National Institute of Neurological Disorders and Stroke. Retrieved 12/29/2016 from www.ninds.nih.gov.

Caffeine Chart by the Center for Science in the Public Interest. Retrieved 12/29/2016 from https://cspinet.org/.

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