

Sleep: New findings on how it makes children thinner, calmer, smarter, and happier

Is your child getting enough sleep? Our children are getting an average of an hour less sleep than they did thirty years ago and it's costing big time. New evidence shows some startling facts. Because children's brains are a work in progress until the age of at least 21, and much of that development occurs during sleep cycles, sleep's impact on children is far greater than on adults.

The research cited in *NurtureShock*, by Bronson and Merryman, states that a child who is "slightly sleepy" in school can actually lose 2 years maturation during the day's learning intake. In other words, a sleepy sixth grader learns at the level of a fourth grader. The authors say that, "Tired children can't remember what they just learned...because neurons lose their plasticity, becoming incapable of forming the new synaptic connections necessary to encode a memory...." Sleep specifically affects the prefrontal cortex responsible for "the orchestration of thoughts to fulfill a goal, prediction of outcomes, and perceiving consequences of actions." Tired children lose impulse control and passive entertainment is preferred over using one's mind and imagination. As well, "a tired brain perseverates—it gets stuck on a wrong answer and can't come up with a more creative solution...."

Amazingly, the sleeping brain re-stores information learned during the day in more efficient storage units for long-term learning. And different kinds of memory get stored differently. Negative information is processed by the amygdala and positive or neutral information by the hippocampus. Lack of sleep affects the hippocampus more than the amygdala, which means that too little sleep leads to a gloomier, eventually more depressed, child. One study showed that "...dropping below eight hours doubled the rate of *clinical-level* depression."

Ever wonder why your teen stays up late and wants to sleep all morning? The circadian rhythm shifts during adolescent years, and melatonin, which is produced for younger children and grown ups when it gets dark, isn't released in the teen brain for another 90 minutes! Teen's melatonin is still being released in the early morning—hence falling asleep at their desks and at the wheel (teenagers account for more than half of asleep-at-

the-wheel crashes). Where schools have moved ahead their start time an hour, teenage car accidents are down by 25% and SAT scores were astoundingly higher.

We've been wrong about the sedentary screen time connection to obesity. No studies show a correlation. It's all about hormones during sleep. Lack of sleep increases the hormone that signals hunger and decreases the hormone that suppresses appetite. Too little sleep elevates a stress hormone, which signals the body to make fat. Not to mention the decrease in growth hormone required to break down fat. "All the studies point in the same direction: on average, children who sleep less are fatter than children who sleep more." And this is true around the world. One study found that an hour of lost sleep increased the chances of obesity in middle and high schoolers by 80%!

So how do we parent children who "refuse" to go to bed, are overscheduled and overstimulated, have hours of homework and have to be up at the crack, who insist on socializing on cellphones till the wee hours? Many parents work late and want time to connect, are too tired to deal with bedtime battles and get lax on routines. It takes stamina and confidence to establish and maintain a consistent bedtime program—which begins at the start of the day.

How is your child dealing with school? Is he stressed over social relationships, academic demands, too much homework? A conference with the teacher/s might help problems you can't figure out. How about after school activities? Do they release your child's stress and tension from the day or is she more exhausted and stressed even if she insists on the activities. Are you afraid of holding her back or not being a good parent if you cut back activities? Are mealtimes inconsistent and often too late to get to bed in a relaxed manner? Do you shy away from potential battles with a strong willed child who resists bedtime?

Especially with younger kids, schedule as early a dinner as you can and still eat together. Make sure it is relaxed and fun with NO talk of food or critiques. Eliminate TV (messes with the brain before bed) and engage in a slow, relaxed bedtime ritual they can count on. Write down the routine for each day, draw pictures of it, etc. Stay engaged with your young children until you say goodnight. Don't insist on falling asleep but do get them into bed at a time when you know they will have 9 or 10 hours

of sleep. Work on breaking the waking-at-night cycle of young children. Get help to do that.

If your child's high school starts before 8:30, get a copy of the chapter from NurtureShock and take it to your principal (unfortunately there are many complex reasons why they won't switch). Establish a rule of no technology in bedrooms. Cell phones live in a basket in the kitchen after a certain hour. Keep computers and televisions out of bedrooms.

None of this is easy, especially if you have allowed bad habits, but isn't it worth the journey to get back on track?