

The Importance of Sleep

By Susan R. Johnson M.D.

I will struggle getting my almost 7-year-old son to sleep by eight o'clock. It seems there is a magic window. If we eat by five and I start slowing down his activities by six, there is a good chance that he will fall asleep soon after reading stories at seven-thirty. If I don't have dinner ready until six or seven and slow down doesn't begin until eight or eight-thirty, then he seems to get a second wind that keeps him awake and active till ten or ten-thirty at night. The next day is difficult for him. It is hard for him to get up, eat breakfast, and get to school on time. He is tired and more irritable the entire day. What is happening?

If you see an anthroposophical physician with these complaints, chances are your child will end up with a remedy for the liver. Often Hepatodoron is given, made from the leaves of the vine *Vitus vinifera*, and the wild strawberry, *Fragaria vesca*. It seems the liver is involved in a good night's sleep. It regulates our energy level for the next day. The liver follows the cycle of the sun. Around six in the evening it wants to go to sleep and starts to store up the sugars (glycogen) to be used for the next day. It doesn't want to process any big meals after 3 p.m., especially ones high in protein or fat.

When we stay up late at night we affect the liver's metabolism. It can no longer simply store sugar. Our body, by being awake and active, needs sugar in the blood stream, and so we force the liver to reverse its process and break down glycogen to provide this sugar. We get a second wind, a burst of sugar in our blood stream, and yet we are really depleting our energy for the next day. Our liver can't store up the glycogen it needs for the next day and so the next day we have a liver that is depleted of glycogen. Our body then requires us to release stress hormones from our adrenal glands to keep us functioning. These hormones act to provide more sugar in the blood, but they also accelerate our heart rate, increase our blood pressure, and suppress our immunity so that we get colds more easily. When stress hormones are acting, one also develops cold hands and cold feet during the day from the vasoconstriction of the blood vessels to the hands and feet.

The combination of stress hormones and too little glycogen makes us develop a craving for sugar. When we eat something really sweet, especially on an empty stomach, the excess load of sugar overstimulates our pancreas to produce too much of another hormone, insulin. Too much insulin causes our cells to take up or to absorb too much sugar so that there isn't much sugar left in our blood. We become hypoglycemic with a low blood sugar. We feel tired, irritable, and lightheaded and children's body movements become more impulsive and overactive, less purposeful. Being hypoglycemic makes us crave sugar again, and the whole process repeats itself throughout the entire day.

Some children and adults are more sensitive to these changes than others. Their pancreas may release more insulin in response to sugar. Some children and adults release more stress hormones in response to sleep deprivation, but this physiologic response occurs in all of us. For children that are already very active and have difficulties paying attention in school, going to bed early and cutting down on sugar really can help the child and family function better.

They say that any sleep you get before midnight is restorative and counts for double, and therefore it is far better to go to bed early (seven to eight for a young school-age child and nine to ten for an adult) and wake up early to get your work done. Maybe this is the truth in the saying of Benjamin Franklin: "Early to bed, early to rise makes (one) healthy, wealthy, and wise."

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