

All things medical

## Sleep and grow thin

Research has recently shown that sleep is an important regulator of metabolism. In the last 4 years, there have been three epidemiologic studies finding a positive relationship between obesity and short sleep duration. An article published in The Annals of Internal Medicine in December confirms this. In that study, 12 young, healthy normal-weight men showed a reduction in the satiety chemical, Leptin, increase in the hunger molecule, Ghrelin, and a significant increase in the desire to eat with sleep restriction. This was a reduction of 5 hours of sleep nightly and a significant increase in appetite. The hormone, Leptin, originates in fat cells and Ghrelin, from the stomach. Therefore, sleep deprivation causes a decrease in Leptin, an increase in Ghrelin and weight gain. The increased Ghrelin and decreased Leptin drives the release of Orexin from the feeding center in our brain and stimulates our desire to eat. Both in animals and humans, disruption of the Orexin system does result in narcolepsy.

Sleep loss due to voluntary curtailment of bedtime is a hallmark of modern society. A century ago, there was nighttime lighting, 50 years ago, television and in the last decade, the Internet. In a recent study, a proportion of young adults sleeping 8 to 9 hours a night decreased from 41 percent in 1960 to 24 percent in 2002.

Dr.

J.E.

Block



Since that time, the incidence of obesity has gone up 30 percent. The correlation is now made in the peripheral hormones (Leptin and Ghrelin) and the central hormone (Orexin) that the shorter one sleeps, the more one eats. Not only is there more hunger and decreased satiation, but more time to perform this act of eating.

We do not have all the answers to our puzzle. Why is it that some of us can eat all day long and not gain an ounce, and others of us just look at food and gain a pound? It is truly amazing that we can vary our eating and our exercise so greatly from day to day and barely change our weight. This is because of the balancing act of our metabolic hormones, such as Leptin, Ghrelin and Orexin. However, some of us do balance better than others and sleep tips that balance for the better.

A wise doctor stated, "Early to bed and early to rise makes a man healthy, wealthy, wise and not obese."