



A MODEST PROPOSAL FOR SLEEP EDUCATION

By William C. Dement, MD, PhD

Following an intensive effort by sleep professionals, U.S. Congress created a National Commission on Sleep Disorders Research. However, at the first meeting of the National Commission in March 1991, the director of the National Institutes of Health informed the commissioners that there would be no money available to study the role of sleep deprivation and sleep disorders in American society.

I had been appointed chairman of this impecunious commission. Accordingly, I was shocked that it would not have a budget to support data gathering. However, I succeeded in persuading my fellow commissioners that if students at Stanford University didn't know about something, it was highly likely that the American public also didn't know it. In this way, we learned that, in general, U.S. citizens knew nothing about sleep.

Fifteen years later, there has been very little change. The clinical discipline of sleep disorders medicine has not effectively penetrated the mainstream educational system. Teenage drivers do not know about sleep debt and how it creates the ominous danger of falling asleep at the wheel. Most citizens do not know the significance of loud and persistent snoring every night. Many people believe sleeping pills are addicting.

In the first place, it is necessary to understand the inertia surrounding the process of including sleep knowledge in curriculum at any educational level. There is no question that the material is very attractive to students when effectively presented. For example, my undergraduate course at Stanford University, known as

Sleep and Dreams, is by far the largest and most popular offering. I have even had Stanford students complain to me that the course wasn't offered while I took a hiatus from teaching from winter 2003 to 2006.


At the present time, most individuals who desire to acquire knowledge about sleep and sleep disorders are physicians who wish to practice sleep medicine. There is also a need for support personnel called polysomnographic technologists who perform the widely used overnight sleep studies for diagnosing and treating sleep disorders. To sum up, the clinical specialty of sleep medicine has done very well. There are more than 1,400 accredited sleep clinics through out the U.S. However, despite this clinical success, there does not seem to be a widely held belief that knowledge about sleep can be useful in every nook and cranny of society.

All parents should know something about sleep. They should know what to do if their infant seems not to sleep as much as expected or may seem to have difficulty breathing when sleeping. Some parents may have heard of Sudden Infant Death Syndrome, but they have no knowledge about it. They can only hope that it doesn't happen in their family. Parents also need to know that large tonsils and adenoids can contribute to breathing difficulties, or what it means when children seem to be having too many nightmares.

Then, there is the whole issue of doing well in the educational process from kindergarten through high school, as well as into college and the postgraduate years. The major value of promoting healthy sleep is to foster optimal waking function. Almost no one would question the relationship of healthy sleep to optimal productivity in any business or sports arena. Finally, there is the need to understand the deterioration of sleep with advancing age. Certainly the percentage of citizens who live to a very advanced age is steadily increasing in our society.

The myths that were established in the distant past still persist, too. As my yearly undergraduate course gets under way, several students always ask, "Is the sleep before midnight twice as good as sleep after midnight?" Another common question is, "Can we get too much sleep?"

At the last two annual meetings of the Associated Professional Sleep Societies, my colleagues and I presented a



William Dement will be a featured speaker at the 9th annual Focus Conference May 14-16, 2009 Disney's Coronado Springs Resort Orlando, Florida

scientific poster and, in addition, we offered to anyone who made the request the entire lecture series of Sleep and Dreams and the course text, Stanford Sleep Book, entirely free of charge. The number of takers can be counted on the thumb of one hand.

To be sure, a small number of people around the country have developed undergraduate courses. A few years ago, a publishing company did a survey of more than 4,000 colleges and universities. At that time, they found only three that presented a comprehensive curriculum. There were courses on all aspects of sleep, a fair number of modules about dreaming in psychology curricula, but nothing comprehensive.

Starting in 2006, I conducted a survey about prior exposure to sleep-related knowledge in high school. The results confirmed the ongoing near-complete failure to deliver sleep knowledge at the high school level. Fewer than 2 percent of students who participated in the survey (approximately 2,000) said that they had learned about sleep in high school. Assuming that Stanford undergraduates are recruited from the top tier of high schools, it would seem possible that the national level is much lower than 2 percent.

Top down education, which is education of sleep professionals and physicians, should be continued; however, the gigantic population of people with sleep disorders who need diagnosis and treatment will not be reached until sleep education is a required part of the mainstream educational system.

How can this be accomplished? It seems likely that current efforts should begin with state legislators who, in most states, have the authority to mandate what is taught in public high schools throughout their state. Given that more high school students than ever are learning to drive, and that these students should be alert in class for optimal learning, effectively transmitting knowledge about sleep, sleep deprivation and sleep disorders should be a required part of the high school curriculum. This should be a goal for America.

Legislators must be made to understand that this knowledge gap must be corrected. There was progress toward this goal in the state of California, but the governor vetoed the overall legislation that contained language supporting mandatory sleep education. This is a temporary setback, but we will never give up.

William C. Dement is the director of the Stanford University Center of Excellence for the Diagnosis and Treatment of Sleep Disorder in California. Eileen B. Leary, B.A., RPSGT, is a clinician with the Stanford University Sleep Research Center.

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Curiously there is a species of rattlesnake, the Mojave Rattlesnake, a pit viper found in Arizona and parts of California, with a venom that contains a special toxin named Type-A Mojave Toxin. This particular toxin is also neurotoxic and has been shown to cause respiratory paralysis. Fortunately an antivenom approved in October 2000 by the FDA, contains antibodies to this toxin. Provided this antivenom (Cro-Fab™) is administered in time, bites by this species rarely progress to respiratory failure. However RTs faced with seeing Mojave A-type snakebites should keep in mind that intubation and mechanical ventilation also may be necessary for this type of victim if Cro-Fab is not available.

There is concern that the Mojave A-type toxin may show up in other species of rattlesnakes, but bites by these are rare. The most serious effects of most pit viper bites, including that of rattlers, is extensive local tissue damage and serious coagulopathies.

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