

General Sleep Information

Introduction to the treatment:

This treatment will require you to make some major changes in your sleep habits so you can improve your sleep. However, before you learn these new habits, it is important that you have a better understanding of your sleep needs and what controls the amount and quality of sleep you obtain. The information presented in this handout should help you understand how your body's system works and prepare you for the specific treatment suggestions you will be given.

How much sleep do we need?

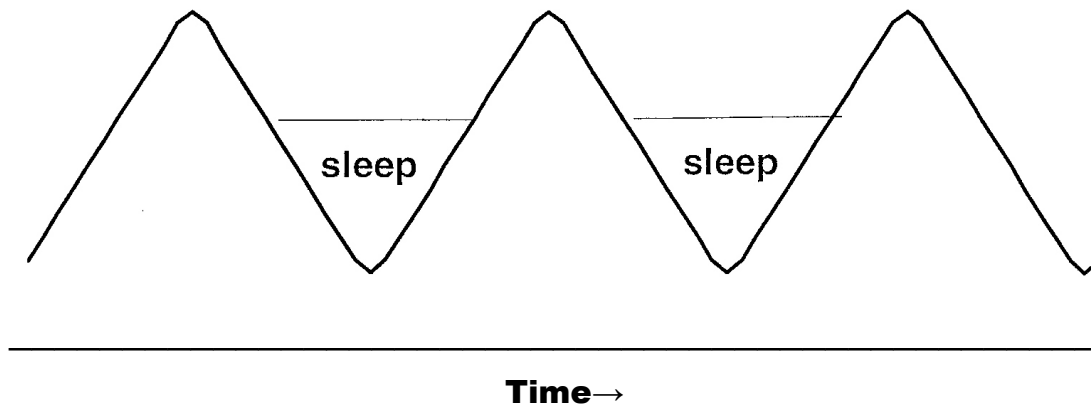
Before you make any changes in your sleep habits, it is important that you ask the question 'How much sleep do I need each night?' Generally speaking, there is no one amount of sleep that "fits" everyone. Most normal adults need 6-8 hours of sleep per night. However, some people need only 3 or 4 hours of sleep each night where others require 10-12 hours of sleep each night. At this point, it is important to set aside any previous notions or beliefs you might have about your sleep needs. These beliefs may be incorrect and may hinder your progress. This treatment you will be provided at Abbott Northwestern Hospital Sleep Center will help you discover the amount of sleep that satisfies your needs and lets you feel alert and energetic during the day.

Sleep and Biological Rhythms:

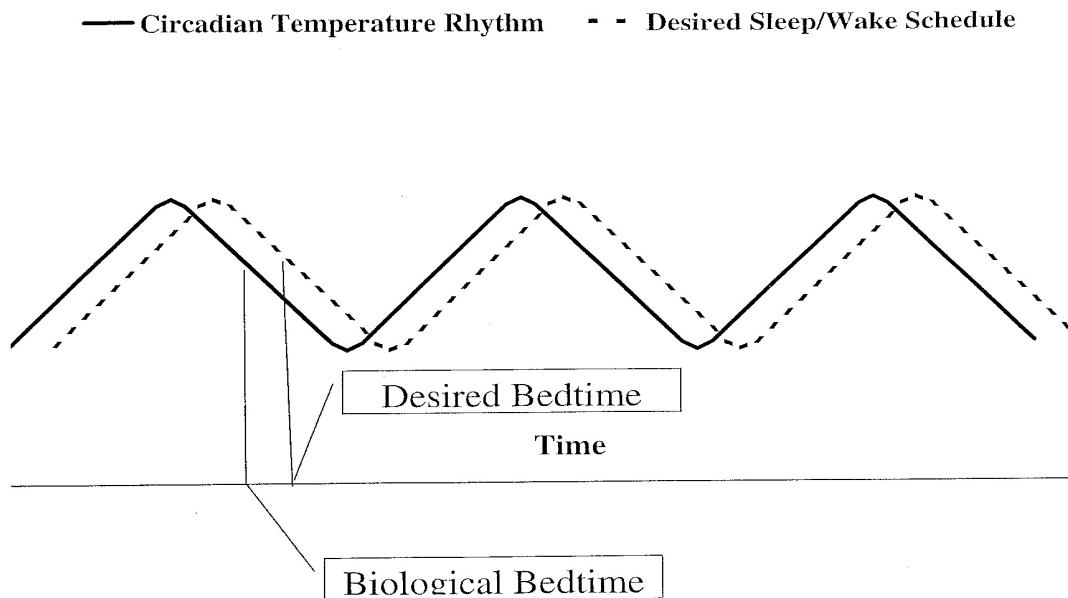
In addition to getting rid of any old ideas you have about your sleep needs, it is important that you learn some things about how your body's sleep system works. People, like many animals, have powerful internal "clocks" that affect their behavior and bodily functioning. These "clocks" seem to work in roughly 24-hour periods and produce 24-hour cycles in such things as digestion, body temperature, and the sleep/wake pattern. For example, if we record a person's body temperature for several days in a row, we will see a consistent up and down pattern or rhythm in temperature across each 24-hour day. The temperature will be at its lowest point around 3 or 4 AM, will rise through the morning and early afternoon, and will hit its peak around 3 or 4 PM. Then, once again the temperature will begin to fall until it hits its low point in the early morning hours.

Although it is believed that different body "clocks" control your temperature and sleep-wake pattern, these clocks seem to have an influence on each other. This fact is best demonstrated if a person is placed in a place like a cave, away from daylight, external clocks, and all other time of day indicators. In this situation the person will continue to show a 24 to 25 hour temperature rhythm and sleep-wake pattern. In most people, there is a close relationship between the temperature cycle and the sleep-wake pattern they show. The main sleep period begins when body temperature is falling and later ends after the body temperature begins rising again. This relationship is shown in the diagram that follows:

— Circadian Temperature Rhythm



In the real world, work schedules, meal times, and other activities work together with our body clocks to help us keep a stable sleep-wake pattern. However, significant changes in our sleep-wake schedule can interfere with our ability to sleep normally. This may be caused by what is often called "jet lag". If, for example, a woman living in New York flies to Los Angeles, she is likely to initially have some difficulty with her sleep and some daytime fatigue. This occurs because the 3-hour time change places her desired sleep-wake schedule at odds with her "body clock" that is "stuck" in her old time zone. This situation is shown in the following diagram. The woman's body clock remains on New York time and initially lags behind the real world clock time in California.



This traveler is likely to become sleepy 3 hours earlier than she wishes and to wake up 3 hours before she prefers on the initial days of his trip. Fortunately, with repeated exposure to the light-dark pattern in the new time zone, the body clock gets re-set and allows the traveler to "get in sync" with the new time zone. However, this traveler is again likely to experience temporary problems with her sleep and fatigue in the daytime when she first returns to New York.

When we go to bed late and sleep in on the weekends we may experience a mismatch between our sleep schedule and body rhythm. This can often lead to “Sunday night insomnia,” making it difficult to fall asleep the evening before the start of the work week.

Sleep and Aging:

In addition to our body clocks, aging usually leads to changes in our sleep. As we grow older we tend to spend more time awake in bed and we spend less time in the deeper stages of sleep. Because sleep becomes more "shallow" and broken as we age, we may notice a decrease in the quality of our sleep as we grow older. Although these changes set the stage for the development of sleep problems, they do not guarantee such problems. However, because of these changes, it is probably unrealistic to expect that you will again have the type of sleep you enjoyed as a teenager or young adult.

Effects of Sleep Loss:

Finally, before attempting to change your sleep habits, it is important that you understand the effects of sleep loss on you. This understanding is important because many who have sleep difficulties make these problems worse by the things they do to make up for lost sleep. For example, people may take daytime naps, go to bed too early or "sleep in" following a poor night's sleep in order to recover lost sleep. Although these habits seem logical and sensible, they all may serve to continue the sleep problems. In fact, these habits are usually the opposite of what needs to be done to improve sleep.

In some respects, sleep loss may have a positive effect on the following night's sleep. In fact, the drive to sleep gets stronger the longer one is awake before attempting to sleep. For example, a person is much more likely to sleep for a long time after being awake for 16 hours in a row than after being awake for only 2 hours. It is important to remain awake throughout each day in order to build up enough sleep drive to produce a full night's sleep.

Extended periods of sleep loss, of course, may have some bad effects as well. If people are totally deprived of a night's sleep, they usually become very sleepy, have some trouble concentrating and generally feel somewhat irritable. However, they typically can continue most normal daytime activities even after a night without any sleep at all. When allowed to sleep after being awake for longer than usual, most people will tend to sleep longer and more deeply than they typically do on a normal night. Although people tend not to recover all the sleep time they lost, they do typically recover the deep sleep they lost during longer than usual periods without sleep. Hence, your body's system has some ability to make up for times when you don't get the amount of sleep you need.

When you track your sleep for several weeks, you will likely notice that you occasionally have a relatively good night's sleep after one or several nights of poor sleep. Such a pattern suggests that your body's sleep system has an ability to make up for some of the sleep loss you experience over time. Although your sleep is not normal, you can take some comfort in this observation. The important point to remember is that you do not need to worry a great deal about lost sleep nor should you actively try to recover lost sleep. Needless worry and attempts to recover lost sleep will only worsen your sleep problem.

Now this handout is not intended to "make light" of your sleep problem. You do indeed have a sleep problem that needs to be treated. This handout is intended to help you understand your problem. With this knowledge you should now understand the purpose for the treatment recommendations we will present to you in the coming weeks. If you have any questions about this educational material, please write down your questions at so you can remember to ask me during your next appointment.