Sleep and the Sleep Disorders

“\textit{To sleep, perchance to dream – ay, there’s the rub.}”

William Shakespeare, from Hamlet

The National Sleep Foundation tells us that nearly half of us don’t get enough sleep. In modern-day society, because of night work, television, computers, and the profound stress we experience in everyday life, our sleep is often disrupted. Sleep is a basic biological need, like hunger and thirst. When we don’t get enough of it, our bodies let us know that there are consequences. Sleep is a regular, natural state of rest characterized by a reduction in voluntary body movement and a decreased awareness of the surroundings. Sleep is not a state of falling completely into unconsciousness, but rather an altered state of consciousness that performs a restorative function for the brain and body.

Why Do We Sleep?

An older view on the function of sleep suggested that sleep is a period of rest from the activity of the day. It occurs at night when we would be safer by staying out of harm’s way. We know now, however, that sleep is much more than just a period of recuperation from the energy expended during the course of the day. A great deal happens during our sleep that is vital to maintaining our health.
While we sleep, the brain produces enzymes that neutralize the damage done to cells by molecules called free radicals (in other words, sleep keeps our bodies younger longer). This is just one of the many processes that happen during our sleep. One recent research study, for example, suggests that babies learn the placement of their own limbs during their sleep. As their arms and feet twitch during sleep, the brain maps out the positioning of their limbs and forms new neural connections. Adults use the same process to maintain existing connections in their nervous systems. Other research suggests that sleep may contribute to the formation of new nerve cells in the brain.

One compelling theory states that sleep allows us to process, consolidate, and retain new memories and skills. As we go through each day we are exposed to thousands of experiences, including some that are anxiety-producing. It is during our sleep, especially in the dream stage of sleep, that we process these experiences. If certain experiences seem critical to our lives, they are retained in long-term memory. If they seem trivial, they are deleted and never reach our long-term memory – they are simply forgotten.

(For example, think of what you had for lunch last Tuesday. You’ve probably forgotten it, unless it was in some way meaningful, because your brain processed this information and found it not to be valuable for future decision-making purposes.) After a good night’s sleep, all of the clutter from the previous day has been sorted through and only the important bits of information are retained. You are now ready to face the new day. But think about what happens if you miss that night’s sleep. (This is why we can feel so overwhelmed, confused, groggy, and unable to concentrate when we miss sleeping for a night. And if we go for a long period of sleeplessness, the consequences can be devastating.)

Sleep Disorders

Many conditions are classified as sleep disorders. The main culprits that cause sleep difficulties for most of us are stress, worry, and depression. These problems can be addressed with the help of a professional therapist. The following are some of the more common sleep disorders.

Sleep Deprivation

A common myth is that everybody needs eight hours of sleep. This is probably true as a general rule, but the amount of sleep needed is individually and biologically determined and is different for each person. Some people can get by with six hours of sleep and others need nine or ten. As we grow older, we seem to sleep less – but this may be the result of our inability to sleep as we age rather than our need to sleep less. Sleep experts point out that you cannot store sleep by sleeping more on the weekends in preparation for the week ahead.

It should be noted that drugs such as alcohol or sleeping pills can suppress certain stages of sleep – they generate a loss of consciousness, but prevent us from completing our sleep cycle so that dreaming is impaired. Without dreaming, processing and consolidating our memories may not occur, so that we wake up tired, irritable, and disorganized the next day. We are not beginning the day with a fresh start. Drinking alcohol is not recommended as a sleep aid. If your medical doctor prescribes sleeping pills, he or she will probably recommend that you take them at a low dose and for only a few days. There are healthier alternatives than drugs for getting a good night’s sleep.

Studies in sleep deprivation show that people experience progressively severe psychological and physical distress the longer they go without sleep. For example, people deprived of a full night’s sleep both eat more and show evidence that they no longer process carbohydrates adequately so that their blood sugar levels rise. Other studies show an increased incidence of obesity in those who are sleep deprived. Over the long term, poor sleepers show vulnerability to hypertension, heart attacks, and cancer. The day after a poor night’s sleep, people display irritability, impaired cognitive functioning, and poor judgment.

Insomnia. It is best to look at insomnia as a symptom of an underlying problem. The goal is to find the cause. There are three major types of insomnia – difficulty falling asleep, restless sleep with many awakenings during the night, and early morning wakening. Medications, herbs, and stimulants such as caffeine and nicotine can cause insomnia. Stressful life events can also be the cause, and once these are resolved,
sleep can return to normal. Even anxiety about falling asleep can cause sleeplessness, especially if you have a long history of insomnia. Some people feel that they occasionally toss and turn all night without being able to fall asleep. This may actually be a condition called sleep-state misperception. The person actually has many hours of sleep during the night, but remembers the night as one with little or no sleep.

Transient insomnia (lasting for a few nights) or short-term insomnia (lasting for two to four weeks) are usually caused by stress, environmental noise, fluctuations in room temperature, and medication side effects. Chronic insomnia (lasting longer than four weeks) is more complex and can be caused by a variety of psychological and physical problems, including depression, asthma, arthritis, heart disease, kidney disease, and hyperthyroidism.

Sleeplessness is not the only symptom of insomnia. Daytime symptoms of insomnia include sleepiness, anxiety, impaired concentration, impaired memory, and irritability.

Narcolepsy. Only three people out of a thousand suffer from narcolepsy, so it is a fairly rare condition. No matter how much they sleep at night, narcoleptics experience an irresistible need to sleep during the day. They can fall asleep at work, while talking to someone, or while driving a car. Their sleep attacks last from 30 seconds to 30 minutes. They may also exhibit loss of muscle tone during these times. Narcolepsy can be seen as an intrusion of dreaming sleep into the waking state. It is thought to have a genetic component and the condition first appears between the ages of 15 and 30.

The major symptoms of narcolepsy include excessive daytime sleepiness; brief periods of muscle weakness brought on by strong emotions such as laughter, anticipation, or surprise; sleep paralysis (paralysis of muscles when falling asleep or waking up); and hypnagogic hallucinations (vivid dreamlike images that accompany sleep onset).

Restless Legs Syndrome. RLS is a discomfort in the legs, which is relieved by moving or stimulating the legs. People have difficulty in describing this condition, but it is commonly referred to as a crawling, tingling, or pricking sensation. It is most likely to be experienced while trying to fall asleep, riding in a car, watching TV, reading, or other periods of physical inactivity. Relief can be achieved by walking around, rubbing the legs, taking a hot shower, or with medication.

Sleep Apnea. Sleep apnea is a sleep disorder that is accompanied by loud snoring. There are brief periods during the night in which breathing stops for 10 to 60 seconds between periods of snoring. The person wakes briefly to breathe and usually has no memory of these awakenings. The symptoms include the following – loud snoring, waking up unrefreshed, sleepiness during the day, waking up with headaches, waking up during the night with the sensation of choking or gasping for air, waking up sweating, and being overweight. Sleep apnea is a serious sleep disorder that can be life threatening. Undiagnosed sleep apnea can lead to heart disease, strokes, irregular heartbeat, impotence, and high blood pressure.

Other Sleep Disorders. Other common sleep disorders include somnambulism (sleep walking), sleep terrors (waking up in fright suddenly from sleep), sleep bruxism (grinding teeth during sleep), and hypersomnia (excessive sleeping).

In conclusion, getting a good night’s sleep is essential to achieving a healthy, happy, and well-adjusted life. We function at our best when we’ve slept well. Unfortunately, our highly technological society today often serves to disrupt our sleep cycles. People today report an increasing incidence of difficulty with their sleep. Many of these sleep problems can be addressed by working with a professional psychotherapist, especially if they involve anxiety, stress, worry, addictive behavior, and mood disorders such as depression. There is no reason to rob ourselves of the joy, clarity of mind, and positive energy that can come from sound sleep.

Recommended Website

For more information on sleep, sleep disorders, and how to get better sleep, go to the National Sleep Foundation’s website at www.sleepfoundation.org
Some Tips for Healthy Sleeping

M aintain regular times for getting to sleep and waking up, including on the weekends. Our sleep-wake cycle is regulated by an internal clock that balances both sleep time and wake time. Getting up at the same time every morning helps with getting to sleep the next night. If you have difficulty sleeping at night, try to avoid daytime naps.

C reate a sleep environment that is dark, cool, quiet, comfortable, and free of interruptions. It may help to use eye shades, ear plugs, “white noise” machines, humidifiers, or fans. The brain responds to light to detect whether it’s night or day, so use curtains or shading to keep light at minimal levels. Studies have shown that sleep induction is increased when body temperatures are lower (and this means a fan or air conditioner and light covers, not heavy blankets – depending on the season, of course).

S low down the metabolic rate about half an hour before getting to sleep. Establish a regular, relaxing routine before going to bed. This might involve soaking in a hot bath, then reading or listening to soothing music before trying to sleep. Avoid stimulating activities before bedtime, like computers, video games, office work, housework, or family problem-solving.

A void using the bed for activities other than sleep. The bed is not the place to read, watch TV, work on a laptop, or do office work. We need to make an association in our brain between bed and sleep. Sexual activity is an exception, which is believed to make it easier to fall asleep and improve the quality of sleep.

E xercise regularly. Finish your exercise at least three hours before bedtime. Higher body temperatures accompany exercise and we sleep best when our body temperature is lower.

A void caffeine, nicotine, and alcohol close to bedtime. Caffeine and nicotine are stimulants that can interfere with the process of falling asleep. Although many people think of alcohol as a sedative, it actually disrupts sleep and causes nighttime awakening. Consuming alcohol causes a night of restless sleep.

F inish eating at least two to three hours before your regular bedtime. Also, try to restrict fluid intake close to bedtime to prevent waking up during the night to go to the bathroom. (Some people, on the other hand, find that warm milk or herbal teas are soothing and a helpful part of the nighttime routine.)

James R. David, Ph.D.
14220 Bradshaw Drive
Silver Spring, MD 20905