SPEAKER NOTES

Sleep Better … Feel Better

Summarized by Thomas T. Thomas

Allison Harvey, PhD, is a Professor of Psychology and Director of the Golden Bear Sleep and Mood Research Clinic at the University of California, Berkeley. Her research and clinical work aim to improve sleep in individuals with bipolar disorder and depression. Harvey and her colleagues hope that by improving their sleep, people with mood disorders improve their quality of life and perhaps even reduce the risk of relapse. At our March 23 meeting, she gave an overview of what happens within the brain and body as we sleep. She also offered suggestions about how we can improve our sleep.

Allison Harvey, PhD

"Thinking broadly," Harvey said, "the world around us has rhythms—night and day, the four seasons—but many of us are moving so fast we're not aware of them. That's true for bodily rhythms, too."

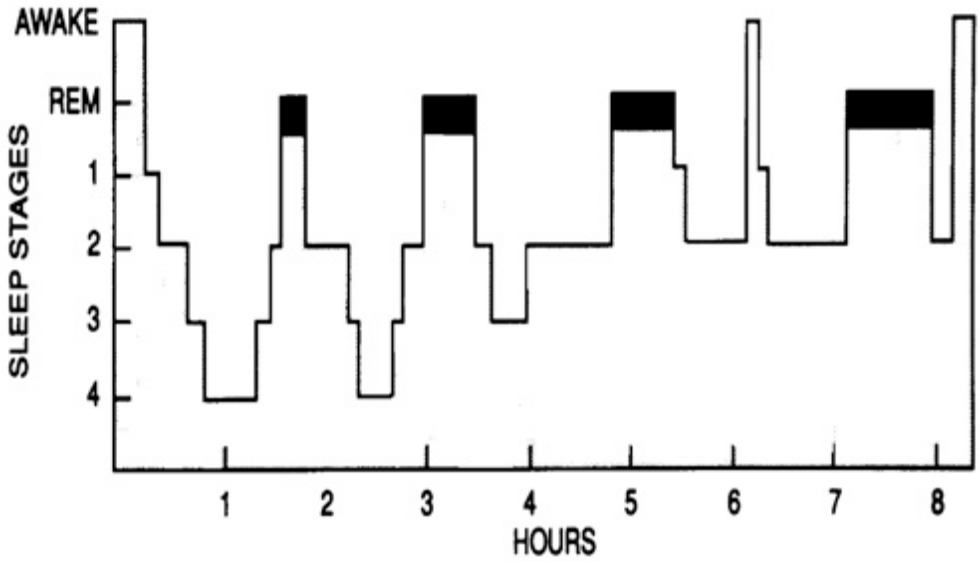
The circadian rhythm, also called the sleep-wake cycle, is actually 24 hours and 10 minutes. "Without light, social cues, and clocks," she said, "we would go to bed and get up later each day. By the end of the week we would be an hour late for work. By the end of the month, four hours late. But things we do naturally help us entrain to the 24-hour clock. We can strengthen that entrainment."

Most people believe they should function at the same level throughout the day. However, people usually have 5 to 15 minutes of "sleep inertia" when waking up. (For some, especially those with bipolar disorder and schizophrenia, the inertia can be two to three hours, although this may be due in part to medication.) The circadian rhythm also includes a natural lag after lunchtime.

"We used to think nothing was happening during sleep," Harvey said, "but that's not true. Sleep is a period of substantial neurological and physiological activity." Polysomnography—that is, taking electronic readings from the brain, eyes, and muscles—classifies the various stages of human sleep. The diagram on the next page shows the typical sleep pattern of a young adult.

There are four stages of sleep, each in about 15-minute segments. Stage 2 is easy to wake from, but if you wake in Stage 3 or 4, after about an hour, "you will feel lousy," she said. "That's why naps are best taken for about 20 to 30 minutes."

During the night, you cycle through the four stages as the diagram shows. You will get the most REM (rapid eye movement, or dreaming) sleep early in the cycles. You also get REM fragments, or hypnogogic hallucinations, just as you begin to fall asleep. "You only remember dreams if you wake up during REM sleep," she said. Some awakenings are normal during the sixth hour, and it's ideal if you can get back to sleep within 10 to 15 minutes—otherwise the mind gets caught by our ruminations.



REM sleep is important for mood and emotional regulation. "Dreams often have a sad, anxious quality," she said, "because they process things we're worried about." Stage 2 sleep is important for processing the memories made during the day.

How much sleep you need depends on your age and stage of life. Newborn babies sleep 16 to 17 hours a day, and 50% of that is REM sleep; they have a lot of learning to process. Children need 10 to 11 hours plus naps. Young adults, 7 to 9 hours. Middle-aged people, 6 to 8 hours. And older adults, reduced and lighter nighttime sleep with more daytime naps. Research has also shown that when you lose sleep one night, you only need to make up about a third of the lost time by sleeping more on following nights.

People with mental illness present particular sleep problems, including insomnia, hypersomnia or oversleeping, reduced sleep need, delayed sleep phase, nightmares, and nocturnal panic. Harvey noted that people with depression sometimes have insomnia because they are worrying over things, but they may also have hypersomnia, which can be a way of escaping their emotions and avoiding pain.

We entrain to the 24-hour clock by what are called zeitgebers, German for "time givers": light, social cues, activity, eating, and temperature. Light is the most important, because the circadian system is regulated by the suprachiasmatic nucleus (SCN), a nerve center tied to the optic nerves and linked to the pineal gland, which secretes melatonin, a hormone that promotes sleepiness.

A practice in Europe called "chronotherapy" uses light to treat people with bipolar disorder. It's been shown that patients who are sleep deprived have a greater tendency toward manic episodes. During an acute manic episode, they are invited into a dark room for up to 14 hours, and this helps reduce their mania. Similarly, people with depression can be helped with bright light, so long as it doesn't interfere with their sleep schedule. It's also been found that cognitive behavior therapy can reduce the sleep disturbance, and that helps reduce hallucinations and delusions in people with schizophrenia.

In addition to the rhythm set by the SCN, there are clocks in every cell of the body—"a temporal orchestra," Harvey called them—especially the muscles, liver, and lungs. These genes reset at their own rates, and a person can experience "double desynchronization," when there's a difference between internal SCN time and external time, and between different clocks and organs in the body.

Improving sleep patterns is important for quality of life, emotion and mood regulation, thinking and problem solving, learning and memory retention, and physical health.[1]

One of the ways to improve your overall sleep—which you should pursue in collaboration with a nurse, doctor, counselor, or psychologist—is to adopt a healthy lifestyle. Avoid stimulants like caffeine and depressants like alcohol, especially 4 to 6 hours before bedtime. Avoid smoking—while nicotine appears to relax you, it's actually a stimulant—near bedtime. Get regular aerobic exercise, but not in the 2 to 3 hours before bedtime. Diet is also important, because going to bed on an empty stomach makes you wakeful; a light snack is good but a heavy meal is not, because the digestive system then works overtime.

People also sleep better if they feel they are in a safe and protected place. It helps if the temperature is low, about 65 degrees, and the room dark.

It's important to regularize your sleep-wake cycle. To do this, use the bedroom and the bed only for sleeping, and go to bed only when you're sleepy. If you can't fall asleep, or if you wake up for longer than 10 to 15 minutes, get out of bed. It's important to have a "wind-down" period of 30 to 60 minutes before bedtime when you undertake only relaxing activities. Some people also find it useful to have a few moments before bedtime when they write in a diary or recall something good or positive they did during the day, or something good that happened to them, in order to fight the natural tendency to ruminate and worry. Treating yourself with "loving kindness" and employing Beckian cognitive therapy also help to manage worries.

More important than going to bed at the same time every night is waking and rising at the same time in the morning. "Keep the same schedule on weekends that you do on weekdays," Harvey said. "Waking up three or four hours later on the weekend has the same effect as flying from California to Hawaii once a week."

Some people experience low energy and tiredness during the day. Contributors to this condition may be poor nutrition, illness, stress, anxiety, lack of proper exercise, or simple boredom and lack of stimulation. Strategies for combating that post-lunch lowering of the circadian rhythm, in place of stimulants like coffee, include taking brisk exercise, like going for a walk, or having a cold drink.

Some people believe they do better with a daytime nap. But Allison Harvey suggested this experiment: for two days take a nap in the afternoon, and then for two days do something active and fun. "Energy is like elastic," she said. "It stretches. The more you put out, the more you get."

[1] Dr. Harvey noted that shift work was recently identified as being correlated with cancer.