Circadian rhythms: the body's natural time cues

Circadian rhythms influence body temperature, sleep, wakefulness and a variety of hormonal changes. Sunlight and other time cues help us set our circadian cycles so that they are consistent from day to day. Fluctuations in circadian rhythms continue to occur within a period of about one day even if we don't have time cues from the outside. Twenty-five hours is the most typical circadian period, which is adaptable to the 24 hours we actually live under.

Disorders associated with circadian rhythms

There are certain situations that may disrupt our circadian rhythms.

Jet lag

One of the most common circadian problems is jet lag, which occurs when a person travels across several time zones; most commonly oversea travel. Many individuals experience a mild type of jet lag during daylight savings time changes.

Shift work

Individuals who work nontraditional hours such as night shift and/or rotating shifts may face problems similar to those suffering jet lag. These Individuals must continually adjust their schedules as their shift changes.

Tips for adjusting to jet lag and shift work

Try to allow extra time for adjusting to a long trip or a changing work schedule. Often a short nap during the day is helpful in overcoming jet lag. Occasional use of a short acting sleeping pill may also help reduce symptoms of circadian rhythm disorder. As always check with your physician before taking medications.

Inheriting circadian rhythm problems

People's circadian system can be determined by genetics. Age also appears to impact the natural rhythm and ability to respond to time cues.

Delayed Sleep Phase Syndrome (DSPS)

Individuals with Delayed Sleep Phase Syndrome are not able to fall asleep until late into the night. The problem is most common in young adults and can interfere with employment and school, and may lead to psychological stress.

Advanced Sleep Phase Syndrome (ASPS)

Individuals with Advanced Sleep Phase Syndrome often wake up too early and then aren't able to go back to sleep. Sleepiness usually begins in the early afternoon.

Other Circadian Rhythm-Related Disorders

Inability to adjust to a regular sleep schedule

Some individuals have sleep/wake cycles that cannot adjust to the 24-hour period. Bedtimes are irregular resulting in a variety of problems similar to jet lag.

Weak or nonexistent circadian rhythms

Individuals with weak or nonexistent circadian cycles become sleepy after being awake for a short time and then nap for a few hours. These naps take the place of a full night's sleep.

Treatment of circadian phase disorders

Certain disorders are related to depression or poor sleep hygiene. Properly timed exposure to bright lights may help advance the sleep cycle. Chronotherapy may also be used where the individual sets the bedtime later and later until it has been rotated around the clock and the desired bedtime is reached.

Establish good sleep habits

- Go to bed only when sleepy
- Get up at the same time every day
- Establish relaxing pre-sleep rituals
- Exercise regularly
- Keep a regular schedule
- Avoid caffeine within six hours of bedtime
- Avoid smoking close to bedtime
- Try to nap at the same time every day
- Avoid sleeping pills or use very conservatively.

Resources: American Academy of Sleep Medicine