

MODULE 08: SLEEP, DREAMS, AND BODY
RHYTHMS

CONSCIOUSNESS

CONSCIOUSNESS

Awareness of yourself and your environment.



CIRCADIAN RHYTHMS

Biological rhythms (for example, of temperature and wakefulness) that occur approximately every 24 hours.

Example: Sleep-wake cycle and temperature



ULTRADIAN RHYTHMS

Biological rhythms that occur more than once each day.

Example: Stages of sleep throughout the night



INFRADIAN RHYTHMS

Biological rhythms that occur once a month or once a season.

Example: Women's menstrual cycle

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SLEEP AND SLEEP
DEFICIT

SLEEP DEPRIVATION EFFECTS

Decreases efficiency of immune system functioning

Safety and accident issues

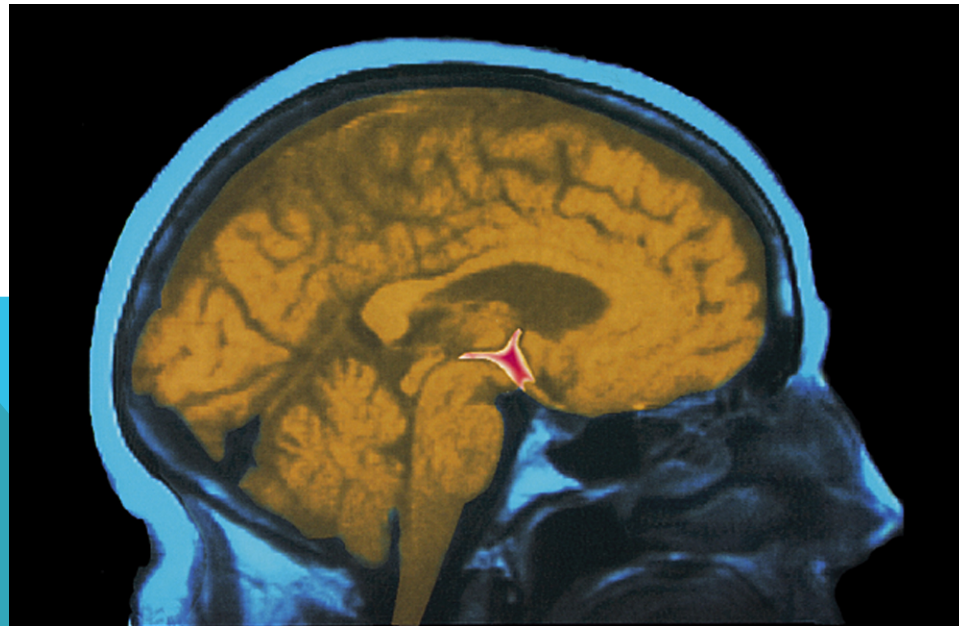
Contributes to hypertension, impaired concentration, irritability, etc.

HYPOTHALAMUS

Sleep control center in the brain

Monitors changes in light or dark in the environment

Changes levels of hormones in the body



MELATONIN

Hormone that helps regulate daily biological rhythms.

Linked to the sleep-wake cycle

Melatonin level increases during the night and decreases with exposure to morning light

REASONS FOR SLEEP

Two primary reasons:

- Preservation/protection: keep us protected from the dangers of the night
- Restoration: recuperate from the wear and tear of the day

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SLEEP STAGES, REM
SLEEP AND
DREAMING

STAGE 1 SLEEP

Transition to sleep (5% of sleep time)

Rarely lasts longer than 5 minutes

- **STAGE 2 SLEEP**

- **Transition to sleep (5% of sleep time)**

- **Rarely lasts longer than 5 minutes**

STAGE 2 SLEEP

Brain wave cycle slows.

First time through stage 2 last about 20 minutes.

STAGES 3 AND 4 SLEEP

Slow wave sleep

First time through stage 4 is about 30 minutes and is where one gets rejuvenated

RAPID EYE MOVEMENT (REM) SLEEP

**Recurring sleep stage during which
vivid dreams commonly occur.**

**Called rapid eye movement (REM
Sleep) as eyes move quickly back and
forth**

Considered “paradoxical sleep”

Term coined by William Dement

PARADOXICAL SLEEP

**During REM sleep brain wave patterns are similar to when a person is awake
Pulse and breathing quickens.**

REM sleep is sometimes called paradoxical sleep as one's physiology is close to that of being awake but the brainstem blocks all muscle movement

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SLEEP STAGES, REM,
AND DREAMING:
WHY DO WE DREAM?

INFORMATION-PROCESSING THEORY

Dreams serve an important memory-related function by sorting and sifting through the day's experiences

Research suggests REM sleep helps memory storage.

PHYSIOLOGICAL FUNCTION THEORY

Neural activity during REM sleep provides periodic stimulation of the brain.

ACTIVATION-SYNTHESIS THEORY

Dreams are the mind's attempt to make sense of random neural firings in the brain as one sleeps.

COGNITIVE DEVELOPMENT THEORY

Dreams part of the maturation process

Dreams reflect our knowledge

**Reflection of normal cognitive
development**



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**SLEEP DISORDERS
AND SLEEP
PROBLEMS**

INSOMNIA

Recurring problems falling asleep or staying asleep.

Sleeping pills tend to inhibit or suppress REM sleep; worsen the problem

Alcohol suppresses REM sleep; also worsens the problem

Studies show most people overestimate how long it took them to get to sleep

SLEEP APNEA

Sleep disorder characterized by temporary cessations of breathing during sleep and consequent momentary reawakenings.

Tend to be loud snorers

Continuous Positive Airway Pressure machine



NARCOLEPSY

Sleep disorder characterized by uncontrollable sleep attacks; the sufferer may lapse directly into REM sleep, often at inopportune times.

Nervous system getting aroused tends to trigger the sleep attack

SOMNAMBULISM

Sleepwalking, which usually starts in the deep stages of NREM sleep; the sleepwalker can walk or talk and is able to see but rarely has any memory of the event.



NIGHT TERRORS

Sleep related problem characterized by high arousal and an appearance of being terrified;

unlike nightmares, they occur during NREM 3 sleep, occur within two or three hours of falling sleep, and are seldom remembered.

THE END