

# Chapter 5: States of Consciousness

(pgs 131-140)

- ①.1 \* biological rhythms → regularly occurring cycles of behaviors.  
↳ circadian rhythm = guides the daily waking + sleeping cycles

\* There are two types of sleep stages:

①. Rapid eye movement (REM) sleep → quick eye movements + dreaming

→ Accounts for about 25% of total sleep time

→ Awareness of outside events is dramatically reduced

→ Muscles shut down; twitches; increased heart rate

②. Non-REM sleep → deep sleep with very slow brain waves

→ N1 stage: • characterized by theta brain waves

• characterized by feelings of drowsiness

• some muscle tone is lost + most awareness

• occasional sudden jerks, twitches, or hallucinations

→ N2 stage: • theta waves interspersed with sleep spindles (bursts of rapid brain activity)

• muscular activity is further decreased

• conscious awareness is totally lost

• accounts for about 50% of adults' total sleep time

→ N3 stage: • aka "slow wave sleep"; increased proportion of very slow delta brain waves.

• deepest level of sleep

• when most sleep abnormalities occur (i.e. sleep walking/talking, nightmares, bedwetting etc.)

• some muscle tone remains → sleepwalking

①.2 \* insomnia → persistent difficulty falling/staying asleep

→ mostly a temporary issue, but can sometimes last years

→ can result from physical disorders (i.e. pain) or psychological problems (i.e. stress, financial/relationship trouble).

→ can result from changes in sleep patterns (i.e. jet lag)

→ sometimes the sleep managed to get is of poor quality

→ some sufferers turn to drugs (i.e. barbiturates, benzodiazepines)

# Sleep disorders

\* See pg 138 for techniques used to combat insomnia

\* sleep apnea → pauses in breathing that last at least 10 seconds during sleep  
→ prevents restorative sleep  
→ can cause high blood pressure  
→ can raise the risk of stroke + heart attack  
→ mostly caused by an obstruction in the throat wall  
→ common in older or obese people, especially men  
→ usually treated w/ an air machine that prevents the airway from collapsing  
→ surgical treatment is a last resort

\* Narcolepsy → extreme daytime sleepiness + frequent "nodding off."  
→ may be accompanied w/ attacks of cataplexy (loss in muscle tone)  
→ ~~is partially~~ caused by genetics + partially by lack of deep sleep (move directly to REM sleep)  
→ treated with stimulants or antidepressants

\* Somnambulism → sleepwalking  
→ more common during childhood; most frequent around 12 y

\* Sleep terrors → may involve screaming + panic which a person can't wake from  
→ most frequently experienced during childhood  
→ occurs in sleep stage N3

\* bruxism → teeth grinding during sleep  
\* restless leg syndrome → itching/burning/discomfort before going to sleep  
\* periodic limb movement disorder → sudden involuntary jerking of limbs  
\* REM sleep behavior disorder → vigorous + bizarre physical activity during sleep in response to intense/violent dreams  
\* typically affects middle-aged or older men  
\* thought to be neurological in nature  
\* treated with hypnosis and medications

1.3 \* Sleep preferences/requirements based on age:

→ infants = 16-18 hours

→ toddlers = 10-12 hours

→ school age/adolescents = at least 9 hours

→ adults = 7-8 hours

\* Sleep preferences/requirements also vary from person to person

\* American average sleep time → less than 7 hours

\* Even a 1 to 2 hour sleep deficit per night can substantially impact mood and performance over a long period of time.

\* Sleep has a vital restorative function; prolonged lack of sleep can

cause: → increased anxiety

→ diminished performance

→ death (in very severe + extended cases)

→ poor driving performance (similar effects to drunk driving)

→ misdiagnosis/malpractice by doctors

→ a weaker immune system response to infections

→ obesity

→ high blood pressure

→ memory impairment

1.4 \* dreams → the succession of images, thoughts, sounds, and emotions that pass thru the mind during sleep.

① manifest content: literal actions of a dream

② latent content: hidden psychological meaning of a dream

\* Remember: "Latent" means "Not Visible."

Why do we have dreams?

→ to move info into long-term memory

→ the activation-synthesis theory of dreaming → dreams are our brain's interpretation of the random firing of neurons in the brain stem.