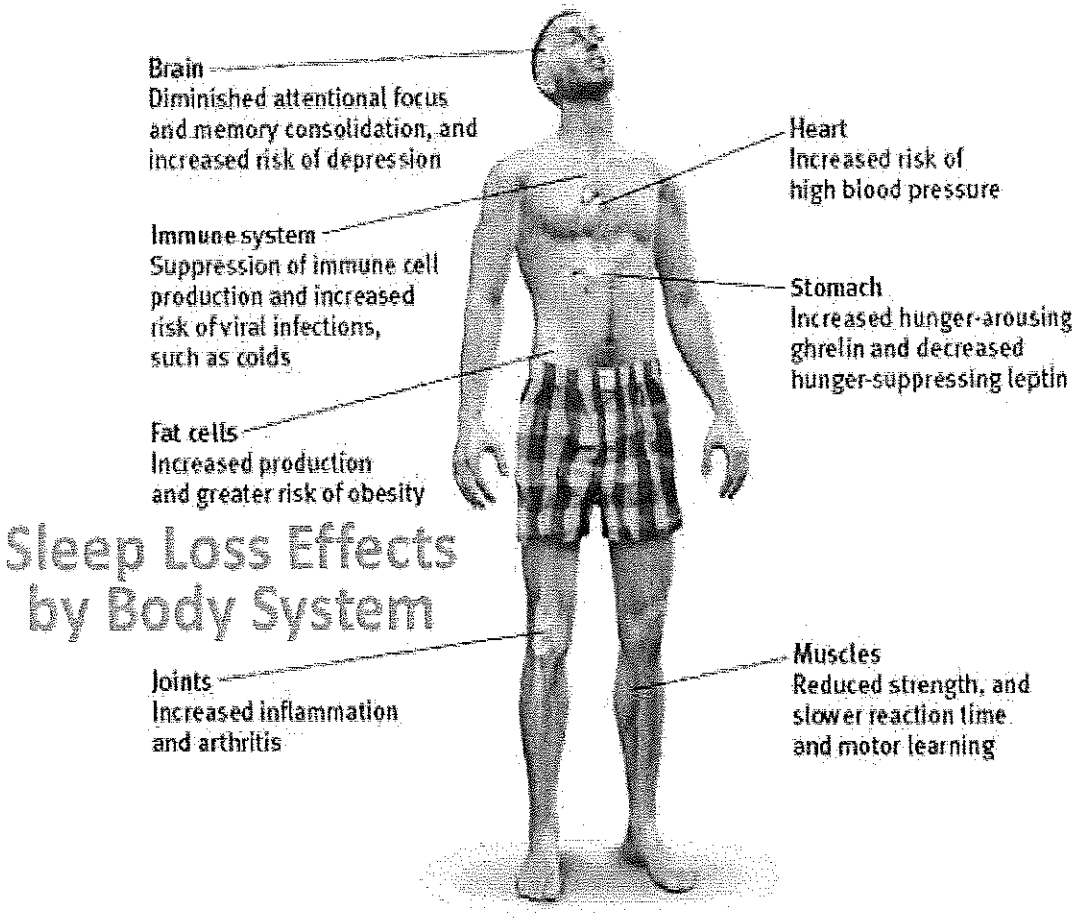
MODULE 24 SLEEP DEPRIVATION, SLEEP DISORDERS, AND DREAMS

SLEEP DEPRIVATION AND SLEEP DISORDERS

- Sleep loss is a predictor of depression. 4 in 5 teens and three in five 18-29 years olds wish they could get more sleep on weekdays.
- A large "sleep debt" makes you stupid.
- Losing sleep can also make you fatter. Think about the "Freshman Fifteen"
- Sleep loss can suppress immune cells that fight off viral infections and cancer.



MAJOR SLEEP DISORDERS

- **INSOMNIA** is a recurring problem in falling or staying asleep
- Sleeping pills and alcohol to try and "fix" insomnia actually make it worse in most cases –reducing REM sleep and leaving the person with next-day blahs.
- **NARCOLEPSY** is the opposite of insomnia. Patients with narcolepsy fall asleep without their control. This disorder is known as the "sleep attack" disorder. Most lapse right into REM sleep at inopportune times. These patients have a lacking of the production of orexin (a neurotransmitter linked to alertness). This means that narcolepsy is a brain disorder. Inheritable.

- **SLEEP APNEA** is where people intermittently stop breathing during sleep. Deprivation of slow wave sleep. Most patients have no idea they suffer from sleep apnea. Due to this disorder, obesity is common among these individuals. Treatment is a goofy machine that keeps the sleeper's airway open.
- **NIGHT TERRORS** is a sleep disorder characterized by high arousal and an appearance of being terrified; unlike nightmares, night terrors occur during NREM-3 sleep, within two or three hours of falling asleep, and are seldom remembered.
- Sleep walking another NREM-3 sleep disorder and sleep talking are usually childhood disorders, and are inheritable.

DREAMS

- How can our brain so creatively, colorfully, and completely construct this alternative world?
- DREAMS are "hallucinations of the sleeping mind" so vivid we may confuse them with reality. We spend 6 years of our lives in dreams. More commonly, the story line of our dreams incorporates traces of previous days' nonsexual experiences and preoccupations. Memory is usually on hold of the outside world during sleep.
- Why do we dream? To satisfy our own wishes. Sigmund Freud offered that dreams provide a psychic safety valve that discharges otherwise unacceptable feelings. **MANIFEST CONTENT** is the storyline of the dream while the **LATENT CONTENT** is the underlying meaning of a dream.
- Freud believed dreams are the key to understanding our inner conflicts.

SLEEP

- The information-processing perspective proposes that dreams may help sift, sort, and fix the day's experiences in our memory. This explains why high school students with high grades have averaged 25 minutes more sleep a night than their lower-achieving classmates.
- Sleep helps to develop and preserve neural pathways. The visual centers and the limbic system are most active during dreaming while the frontal lobes (inhibition and logical thinking) are idled.
- Dreams are part of the brain maturation and cognitive development. A dreamer at the age of 9 will not have as complex storylines as a dreamer at the age 14.
- **REM REBOUND** is the tendency for REM sleep to increase following REM sleep deprivation (created by repeated awakenings during REM sleep).

Dream Theories

Summary

DREAM THEORIES

Theory	Explanation	Critical Considerations
Freud's wish-fulfillment	Dreams provide a "psychic safety valve"—expressing otherwise unacceptable feelings; contain manifest (remembered) content and a deeper layer of latent content—a hidden meaning.	Lacks any scientific support; dreams may be interpreted in many different ways.
Information-processing	Dreams help us sort out the day's events and consolidate our memories.	But why do we sometimes dream about things we have not experienced?
Physiological function	Regular brain stimulation from REM sleep may help develop and preserve neural pathways.	This may be true, but it does not explain why we experience *meaningful* dreams.
Activation-synthesis	REM sleep triggers impulses that evoke random visual memories, which our sleeping brain weaves into stories.	The individual's brain is weaving the stories, which still tells us something about the dreamer.
Cognitive theory	Dream content reflects dreamers' cognitive development—their knowledge and understanding.	Does not address the neuroscience of dreams.

BE ABLE TO ANSWER: Are you getting enough sleep? What might you ask yourself to answer this question?

PRACTICE FRQ: Identify and briefly describe the three major sleep disorders experienced by adults.