

ADVANCED NURSING SKILLS

MODULE II SLEEP & OXYGENATION

Instructor: Audra Xenakis, DNP, RN

Sleep

Chapters 31

Sleep...



zzz We all
Need it...

But not all of us get it...

OBJECTIVES

- Identify- Characteristics of NREM and REM sleep
- Recognize how the need for sleep changes over the lifespan
- Identify factors that can interfere with sleep and interventions you might use to promote sleep
- Recognize the sleep disorders of insomnia, sleep apnea, and narcolepsy



HEALTHY PEOPLE 2030 OBJECTIVES FOR SLEEP HEALTH



SH-01

Reduce rate of motor vehicle crashes due to drowsy driving



SH-02

Increase the number of adults with sleep apnea symptoms getting evaluated



SH-03

Increase number of adults who get enough sleep



SH-04

Increase number of high school student who get enough sleep

Success

(Williams, pg. 620)

FUNCTIONS OF SLEEP



Influences:

- Memory
- Mood
- Cognitive function
- Secretion of hormones
- Immune function
- Body temperature
- Kidney function



Promotes:

- Adequate rest
- Factor in healthy general health
- Recovery from illness
- Pain control and tolerance



Inadequate:

- Daytime drowsiness and fatigue
- Irritability
- Depression
- Impaired concentration and memory
- Accidents and illness

(Williams, pg. 620)

WHAT HAPPENS WHEN WE SLEEP?



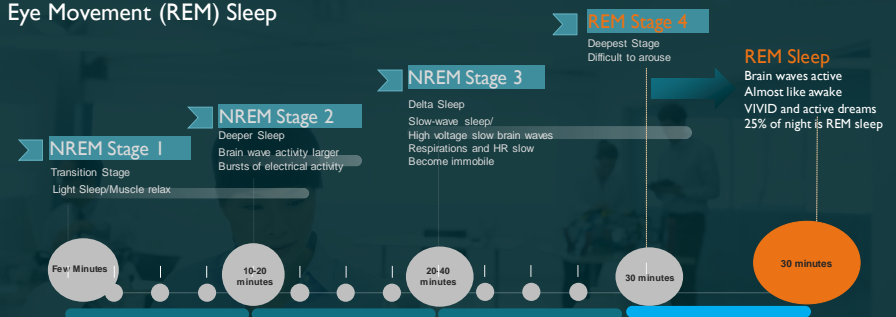
https://www.youtube.com/watch?v=e1gNgGO_bLs

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STATES OF SLEEP

Non-Rapid Eye Movement (NREM) Sleep

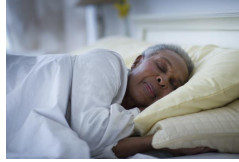
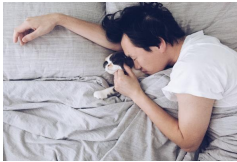
Rapid Eye Movement (REM) Sleep



(Williams, pg. 620)

NORMAL SLEEP REQUIREMENTS

The amount of sleep needs varies throughout the lifecycle.



(Williams, pg. 620)

NORMAL SLEEP REQUIREMENTS

The amount of sleep needs varies throughout the lifecycle.

Newborns:

- Distributed 24 hours
- 80% REM sleep
- Brain maturation

Preschool:

- 11-13 hours

School-Age:

- REM decreases
- Deep Sleep increases
- Repair & growth of cells
- Inadequate sleep-
 - growth & learning

2-3 months:

- True Sleep Cycles
- 50% REM sleep

Adolescents:

- Growth hormone secreted during sleep
- Circadian rhythm changes
- Sleep deprived-
 - Temperament
 - Academics
 - Judgment
 - Stay awake
 - Driving

Adults:

- Deep sleep decreases
- REM 20%
- Sleep disorders

Adults-Seniors:

- Physical conditions
- Circadian rhythm changes
- Advanced sleep onset
- Naps

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WHAT IS A CIRCADIAN RHYTHMS?



[What Makes You Tick: Circadian Rhythms](#)

(Oxford Sparks, 2015)



FACTORS AFFECTING SLEEP



Shiftwork-Evening/Night

Difficulty getting rest



Students studying at night

Sleep deprived



Travelers

Jet lag



Lifestyle

Caffeine
Nicotine
Alcohol



Environment

Too hot or cold
Too noisy
Ambient light



Sleep Disorders

Snoring
Insomnia
Sleep Apnea
Narcolepsy

SLEEP DISORDERS



Insomnia:

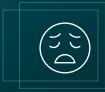
- **Defined: difficulty in getting to sleep or staying asleep**
- Short-term or long-term
- Transient (short-term) insomnia-Stress, excitement, change in sleeping arrangement
- Chronic insomnia-medical, behavioral, psychiatric problem
- Chronic insomnia requires treatment from healthcare provider

(Williams, pg. 621)



Sleep Apnea:

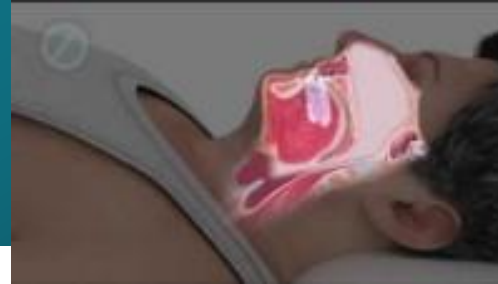
- **Condition where person stops/pauses breathing for brief periods during sleep**
- Obstructive, Central, Mixed Complex-mild, moderate, severe



Narcolepsy:

- **Sudden onset, recurrent, uncontrollable episodes of sleep during normal hours of wakefulness**
- Few seconds to more than 30 minutes
- Symptoms usually begin at 25 years old
- No cure-drug and behavioral therapies
- Regular exercise and bright light exposure, stimulant medications
- Sleep log or diaries

SLEEP APNEA



Obstructive Apnea:

- Most common
- Caused by relaxation of soft tissues, bony structures obstructing airway
- Has visible respiratory effort-but may not move air past the obstruction
- Often do not remember waking
- [Obstructive Sleep Apnea Animation](#)

(ProPlayerSleep, 2013)

Central Apnea:

- Less common
- Caused by failure of brain to communicate with respiratory muscles
- Cessation of breathing with no observable respiratory effort
- As oxygen saturation decreases-breathing is resumed
- [What is Central Sleep Apnea?](#)

(Whitneysleepcenter, 2013)

Mixed Apnea:

- Combination of obstructive and central

(Williams, pg. 621)

SLEEP APNEA TREATMENTS



Obstructive Sleep Apnea

- Continuous Positive Airway Pressure (CPAP)
- Small compressor to maintain airflow via mask or nasal prongs
- Dental appliance to reposition the tongue or jaw
- Surgical procedures to correct obstruction

(Williams, pg. 621)



Central Apnea:

- Does not respond to CPAP
- Treated by specialist



Mixed Apnea:

Combination of obstructive and central

TREATMENTS

Continuous Positive Airway Pressure (CPAP)

Small compressor use during sleep to maintain airflow via mask or nasal prongs

Central apnea does not respond to CPAP

[CPAP Tips from FDA](#)



Dental Appliance

Placed to reposition the tongue or jaw deterring obstruction



Surgical procedures

Correcting obstruction

[Mount Sinai Spotlight: Inspire Therapy Surgery For Sleep Apnea](#)



SNORING

Causes:

- Vibration and/or obstruction of air passages at the back of the mouth and nose
- Poor muscle tone, excessive tissue, or deformities such as deviated septum
- Colds and allergies
- May be symptom of sleep apnea
- Treatment for mild snoring- exercise to develop good muscle tone and lose weight if need
- Treatment for moderate or severe-referral may be needed



NARCOLEPSY

Sudden onset, recurrent, uncontrollable episodes of sleep during normal waking hours

Few seconds to more than 30 minutes

Symptoms usually begin by 25 years old

No cure-stimulant medications and behavioral therapy, regular exercise, exposure to sunlight

- Sleep log and diaries
- Cataplexy-Medical Condition which strong emotion or laughter causes a person to suddenly collapse



NURSING PROCESS



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