



# **The Sleep Center for Southwest Washington**

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# Sleep

- Blessings on him who first invented sleep, -It covers a man all over, thoughts and all, like a cloak.- It is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot. -It makes the shepherd equal to the monarch, and the fool to the wise.- There is but one evil in it, and that is it resembles death, since between a dead man and a sleeping man there is but little difference.

From *Don Quixote*

By Miguel de Cervantes Saavedra

# SLEEP EEG

Relaxed wakefulness

Alpha waves

Stage 1

Theta waves

Stage 2

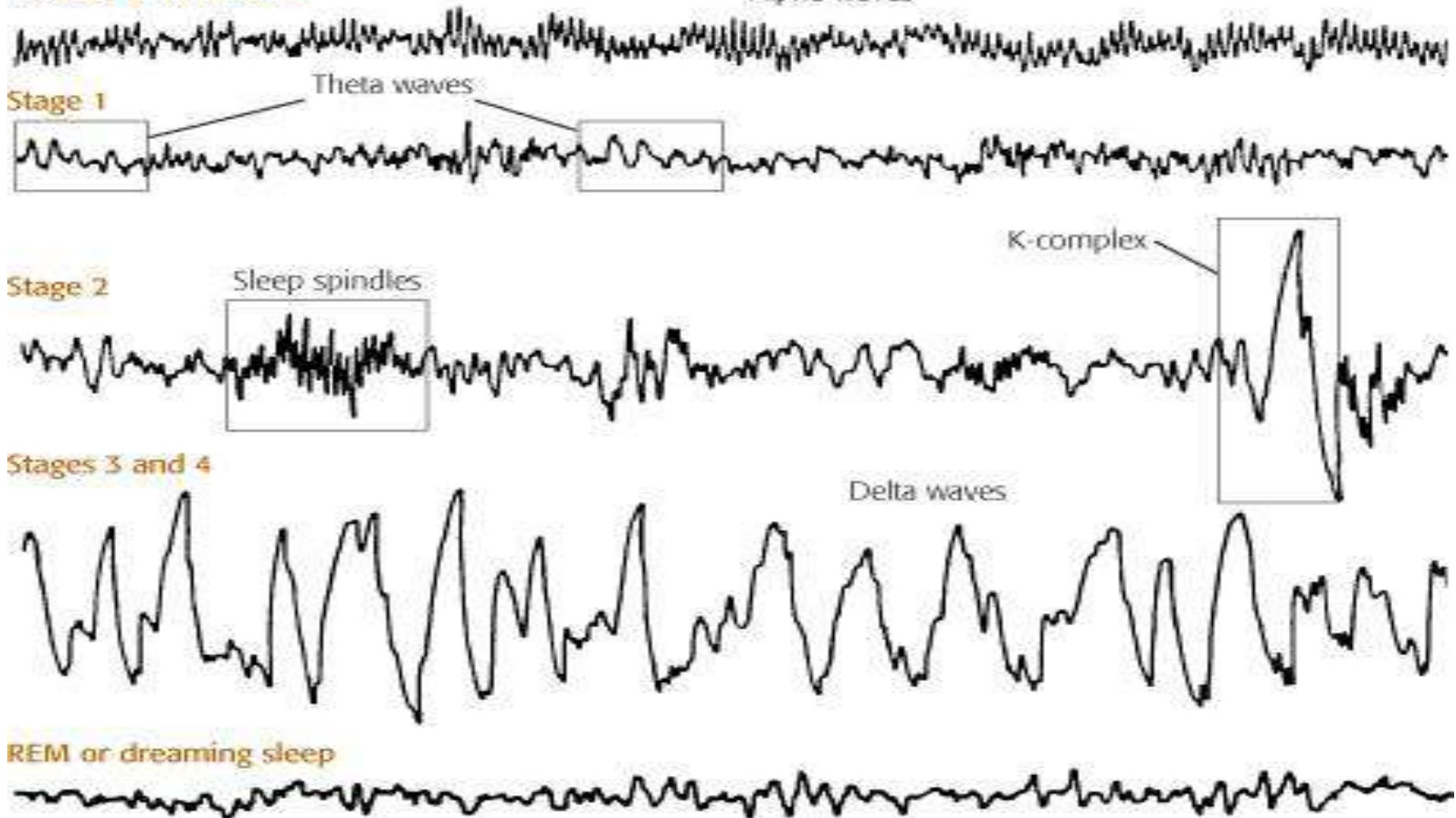
Sleep spindles

K-complex

Stages 3 and 4

Delta waves

REM or dreaming sleep



# Why Sleep?

- It allows us to grow and/or heal by using energy otherwise used while awake.
- It allows for us to have clear thought.
  - Some research suggests it can solidify learning
- What else were we going to do before artificial lighting?
  - Those who roamed in the dark may have been eaten or walked off a cliff

# How Much Sleep Do we Need?

- Shortest in land mammals: Giraffe-2 hours
- Longest in land mammals: Armadillo-20 hours
- Cetaceans, i.e. dolphins and whales, sleep with one half their brain at a time
- Humans-7-7.5 hours
  - Usual requires at least 8 hr in bed
  - Genetically there are “long” and “short” sleepers
  - 6 hours or less results in measurable effects of sleep deprivation

# Sleep Hygiene

- Why do we need good sleep habits?
  - So we can stay awake during the day
    - Improved productivity
    - Enjoy time with family and friends
    - Some studies suggest good uninterrupted sleep is beneficial to metabolism and fragmented sleep can inhibit the metabolic process
  - It is a matter of **safety**
    - A sleepy driver is worse than a drunk driver...
    - Many disasters were due to sleep deprivation

# Sleep Hygiene

## Traffic Safety and Sleep Debt

According to NSF's 2002 *Sleep in America* poll, 51% of Americans said they drove while feeling drowsy in the past year; 17% said they actually dozed off behind the wheel.

- If you have trouble keeping your eyes focused and increased blinking
- If you can't stop yawning
- If you don't remember the last few miles driven
- **You are too tired to drive!**



# Sleep Hygiene

- Good Sleeping Habits
  - Bedroom is only for sleeping and sex
    - Try not to discuss “issues” good or bad while in the bedroom
      - Leads to more thinking... and not sleeping
    - No TV or electronic devices, Cell phones or tablets in the bedroom!!!
    - Reading... well that’s a tough one
  - Same bedtime and rise time
    - How much? It varies with age. More as babies; 18 hours, Teens about 9-10 hours, and about 8 hours as adults.
    - Avoid bright light late in the evening
    - The TV....OFF!
    - Smart phones, not in the bedroom



# Sleep Hygiene

- Good Sleep Habits cont.
  - Avoid caffeine late in the day
  - Avoid bright light late in the evening
    - Natural melatonin production is inhibited by light
  - In the winter months, dim or turn off lights to signal your brain to sleep
  - In the summer turn down blinds or draw the curtains closed

# Sleep Hygiene

- Good Wake Habits
  - Exercise
  - Bright light during the day
    - The light outside is brighter than indoor lighting on a cloudy day
    - Helps with the winter blahs... or Seasonal Affective Disorder (SAD)
  - Try not to eat a large meal before bed
    - But don't go to bed hungry either
      - Try a light snack or milk.

# Sleep Hygiene

## Napping

- Apart of your daily routine... Great if you can always do it at the same time!
  - Too much; It can cause you to stay up later than you desire
  - You should try to maintain this habit but we are often not permitted to do so.
  - If you do need to nap, make it short!
    - REALLY SHORT!
    - 10-15 minutes. Anything more is sleeping

# Obstructive Sleep Apnea

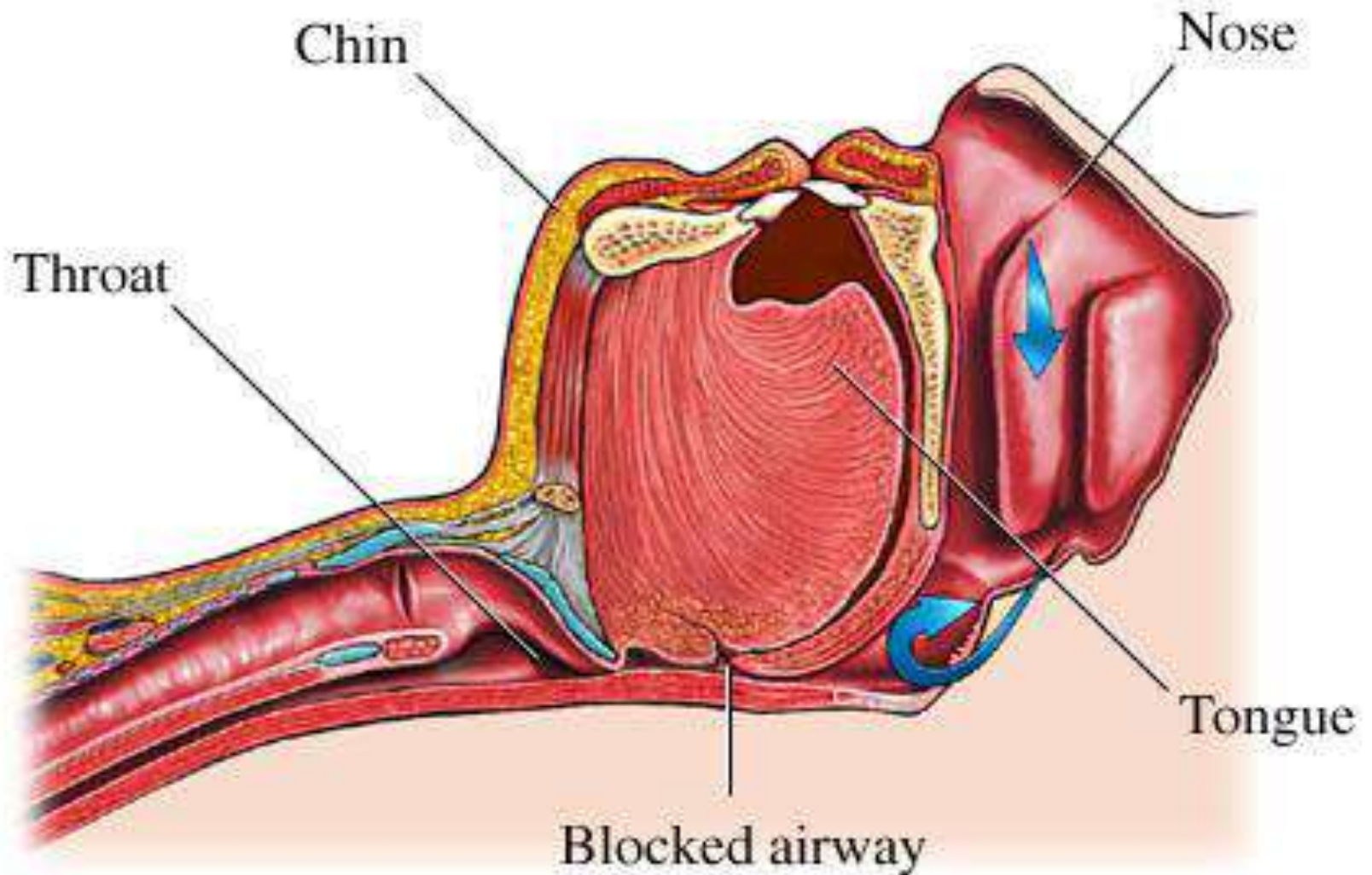


- Snoring Sometimes associated with snorting
- Excessive Daytime Sleepiness
- Increased nights restroom use
- Frequent arousals
- A feeling of choking

# Obstructive Sleep Apnea

- Increase in blood pressure; hypertension
- Increase the risk of stroke
- Increase the risk of heart disease
- Increased awakenings
- Seems like insomnia because of awakening
- Increased restroom use
- Acid reflux

# Cause of OSA



# Sleep Apnea Treatment

- CPAP- Continuous Positive Airway Pressure
  - Supports airway with air pressure
- Mandibular advancement devices
  - Holds the jaw forward to help keep the airway open.
  - Only effective with mild obstructive apneas

# Sleep Apnea Treatment

- Surgical interventions
  - UPPP: Uvulopalatopharyngoplasty
  - Inspire: an implanted device to stimulate your tongue to move forward as you breath



# Other Sleep Disruptors

- Smoking
- Alcohol
- Pets
- Changes in life
- Medications
  - Consult with a Board Certified Sleep Physician to evaluate possible medications that may interfere with your sleep

# Melatonin

## Disclaimer

Any information provided here is intended as informational and not for instructional use.

Consult with your healthcare provider regarding the dosage and timing, as well as discussing possible side effects or drug interactions.

# Melatonin

- A natural hormone
- Produced at night
- Over the counter (OTC) is variable in potency despite dosage
- Not regulated by the FDA
- Look for USP Verified – Meets US Pharmacopeial Convention
- Can be used for insomnia but the cause may be behavioral – Sleep Hygiene

# Melatonin

- Shift Work Disorder (SWD)
  - 20% of population
  - Night shift work
  - Early morning shifts
  - Variable work shiftsImproved daytime sleep duration and quality  
Did not improve alertness at night
- Jet Lag Disorder (JLD)
  - Temporary due to travel across multiple time zonesTake 3 days prior to travel and 3-5 days at destination at bedtime
- Advanced Sleep Phase Disorder (ASPD)
  - Going to bed several hours earlier than desire
  - Dx is dependent upon the amount of distress person expressesNo reported benefit
- Morgenthaler TI; Lee-Chiong T; Alessi C; Friedman L; Aurora N; Boehlecke B; Brown T; Chesson AL; Kapur V; Maganti R; Owens J; Pancer J; Swick TJ; Zak R; Standards of Practice Committee of the AASM. Practice Parameters for the Clinical Evaluation and Treatment of Circadian Rhythm Sleep Disorders. *SLEEP* 2007;30(11):1445-1459.

# Melatonin

- Delayed Sleep Phase Disorder (DSPD)
  - Falling asleep late night early morning better known as a "Night owl"
  - Sleep duration and quality are generally normal.
  - Difficulty falling asleep if attempting an earlier time

Melatonin reduced sleep onset but did not change sleep duration or subjective alertness
- Free-Running Circadian Rhythm Sleep Disorder (FRD)
  - Common in blind individuals

Successful with variable dosage and timing

  - Rare in sighted individuals

Successful – Taken at bedtime
- Irregular Sleep-Wake Rhythm (ISWR)
  - No circadian pattern
  - Sleep time is normal
  - Common with dementia or Alzheimer's

No benefit was noted
- Morgenthaler TI; Lee-Chiong T; Alessi C; Friedman L; Aurora N; Boehlecke B; Brown T; Chesson AL; Kapur V; Maganti R; Owens J; Pancer J; Swick TJ; Zak R; Standards of Practice Committee of the AASM. Practice Parameters for the Clinical Evaluation and Treatment of Circadian Rhythm Sleep Disorders. *SLEEP* 2007;30(11):1445-1459.



Questions?

Thank you!