

# Sleep

The essential for all other functions

# Why Should You Listen to Me?

- I do sleep hygiene counseling for every patient I see
- I have personal experience with shift work sleep challenges
- I have a vested interest in first responder sleep health
- I might tell a funny joke



Or...Should You Listen to Me?



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# Circadian Rhythm

- -Multiple 24 hour cycles in the body that coordinate mental and physical systems (digestive, endocrine, sleep/wake...). Most well known is sleep/wake
- -All connected to an internal clock in the hypothalamus
- At different times of the day, different signals are sent to regulate activity throughout the body
- Light is the most powerful influencer on circadian rhythms
- Sleep/wake cycle: Light causes signals to be sent that cause alertness (cortisol). Darkness initiate production of melatonin = stable system of sleep/restoration and alert/wakefulness

# Importance

- Sleep benefits physical, mental, and emotional health
- What happens to our body during sleep – slows your body down – body maintenance is done – memory, hormones, immune system, cardiovascular health
- When these areas are maintained in sleep there is improved cognitive functioning, physical health, overall job performance and satisfaction, improved family and social relationships
- Interruption of sleep or any of our circadian rhythms can result in: obesity, diabetes, high cholesterol, cardiovascular disorders, depression, anxiety, PTS, substance abuse, bipolar, dementia, impairment of our immune system, DNA repair, workplace injuries

# Disordered Sleep and Prevalence

- Disordered sleep affects 10-20% of folks who work different shifts (outside of 9-5)
- 35% of Firefighters screened positive for a sleep disorder
- Shift Work Sleep Disorder: Difficulty adjusting to different sleep/wake cycles causing difficulty sleeping when you want, staying asleep, and excessive sleepiness.
- PTS: Nightmares and hyperarousal can lead to insomnia. In reverse, insufficient sleep is a risk factor for developing PTS. Estimated 6.5%-37% of firefighters have PTS.
- Nightmares: 19% of firefighters have nightmares. A significant contributor to sleep disturbances
- Insomnia: Difficulty falling asleep, staying asleep, waking up early
- Restless Leg Syndrome, Obstructive Sleep Apnea

# Ideal Sleep

- 7.5-9 hours
- 4 stages: Ideally need 4-6 cycles every 24 hours (Each cycle lasts about 90 minutes)
- Stage 1: Light sleep
- Stage 2: Still light sleep, preparing you for deep sleep
- Stage 3: “Deep sleep” – Body is repairing, immune system strengthening, building bone and muscle. This should be 20-25% of your sleep or 1.5-2hrs.
- REM sleep: Dream sleep, brain is repairing



# Healthy Sleep Practices

- Sleep Hygiene:
  - Consistent sleep schedule
  - No screens 1-2 hours before bed (no screens in bed)
  - Set bedtime routine
  - Bed is only for sleep
  - Environment: Dark, cool, noise
- Healthy Diet
- Limit Caffeine/ETOH/Chemicals
- Exercise no later than 2-3hrs before bed/get sunlight
- Keep naps short – before 1600 and 30-90 minutes depending on need
- Light Therapy
- Protocol for sleep practices on shift

# Disruptors to Good Sleep

- Stimulants (Caffeine)
- ETOH/Marijuana
- Depression
- Shiftwork/Calls
- PTS
- Kids/Pets
- Bathroom
- Partner

# Practical Applications

- How do we apply this to real life?
- Recognize your sleep patterns/deficits
- Make changing something a priority!
- Pick 1 sleep hygiene practice that seems doable and practice for 1-2 weeks
- Once confident in that sleep hygiene practice, choose another
- Accept “failure” – Try again

# When Lifestyle Management Isn't Enough



# Decreasing Stigma

- Continue work to decrease stigma associated with mental health struggles
- Encourage peers to seek support
- Medication is not a weakness
- Medication does not have to be permanent
- Medication should be managed with a collaborative provider

# Alternatives and Compliments to Medication

- Supplements
  - Omega-3 - 2g/day total, at least 60% of that should be EPA vs DHA
  - Magnesium glycinate
  - Probiotic
  - Vitamin D 1000-2000iu daily
- Alpha-stim
  - Cranial Electrotherapy Stimulation

# Works cited

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