Helping people live the healthiest lives possible

Intermountain Healthcare
Mission Statement

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No Disclosures



Helping People Live the Healthiest Lives Possible

Mission of Intermountain Healthcare

Sleep is essential for optimal health!

1. Watson, Nathaniel F. et.al. Recommended Amount of Sleep for a Healthy Adult: A Joint Consensus Statement of the American Academy of Sleep Medicine and Sleep Research Society. *SLEEP*. 2015;38(6):843-844.



- PHYSICAL HEALTH & SAFETY
 - > Increased obesity risk
 - > Lower levels of physical activity
 - Higher rates & amounts of caffeine or stimulant consumption
 - Drowsy driving/motor vehicle crashes
 - Decreased physical reaction & coordination
 - Increased risk of <u>high blood pressure</u>; <u>stroke</u>; <u>cancer</u>; <u>type II diabetes</u>



MENTAL HEALTH & BEHAVIOR

- Increased risk or worsening of <u>anxiety</u>, <u>depression</u> & <u>suicidal ideation</u>
- Decreased impulse control & self-regulation
- Increase in risk-taking behaviors
- Decreased motivation
- Decreased coping ability
- Impaired ability to recognize social/emotional cues in <u>self</u> or others



JOB PERFORMANCE

- Increased risk for errors
- Increased odds of suffering an <u>injury</u>
- > Higher chance of experiencing a workplace injury
- Decrease in <u>vigilance</u> of care while on the job
- Increased risk of motor vehicle <u>crash</u> while driving.
- Much higher risk of making serious errors



Respiratory Therapist JOB PERFORMANCE

- Increased risk for treatment errors
- Higher chance of experiencing a workplace injury
- Decrease in vigilance of care while on the job
- Increased risk of motor vehicle crash while driving home from work
- Much higher risk of making serious medical errors



Why do we need sleep?

VITAL for normal living
- a physical necessity

Enhances our emotional capabilities

Integral in the body's immune response



Improves our cognitive and creative capability

Restorative effect on our bodies

Necessary for optimal physical performance



How much sleep do we need?



American Academy of Sleep Medicine Sleep Research Society

JOINT CONSENSUS STATEMENT

JUNE 2015

- Adults should sleep 7 or more hours per night on a regular basis to promote optimal health.
- Sleeping less than 7 hours per night on a regular basis is associated with adverse health outcomes.



Sleep: A Health Imperative

An underappreciated public health problem

- 50 to 70 million adult Americans have a chronic sleep disorder
- 1 in 3 adult Americans sleep less than 7 hours per night
- 20% of US workforce are working shift work
- Percentage of men & women reporting sleeping less than 6 hours per night has increased sharply over the last 20 years.
- Estimated annual US cost due to sleep disorders >\$100 billion



Restricting sleep below an individual's optimal time in bed (TIB) can cause a range of neurobehavioral deficits, including lapses of attention, slowed working memory, reduced cognitive throughput, depressed mood, and perseveration of thought. Neurobehavioral deficits accumulate across days of partial sleep loss to levels equivalent to those found after 1 to 3 nights of total sleep loss. Recent experiments reveal that following days of chronic restriction of sleep duration below 7 hours per night, significant daytime cognitive dysfunction accumulates to levels comparable to that found after severe acute total sleep deprivation.



Drowsy Driving

 "Both alcohol and a lack of sleep limit your ability to react quickly in situations that require rapid responses. . .when people who lack sleep are tested on a driving simulator, they perform as badly as or worse than those who are drunk."

Your Guide to Healthy Sleep: NIH Publication No. 11-5271 Originally printed November 2005 Revised August 2011



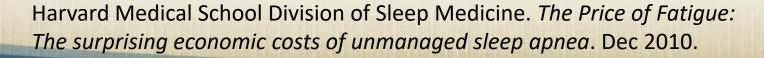
- 18 hours of sleep debt = 0.05 blood alcohol concentration (BAC), 24 hours = 0.10 BAC (Dawson & Reid, 1997)
- Four hours of sleep a night for six nights = driving performance worse than 0.08 BAC, (Powell et. al., 2001)
- Sleepiness reported by workers significantly under-estimates their degree of impairment.
- Moderate sleep apnea produces performance impairment greater than a BAC of 0.08, greater than legally drunk in Utah (Powell et. al., 1999).



Economic Impact

Annual estimated economic cost of moderate to severe obstructive sleep apnea: \$65-\$165 billion.

Higher than estimates for asthma, heart failure, stroke, hypertensive disease! (\$20-\$80 billion)





OSA Exacerbated Cerebrovascular Abnormalities Patients with OSA have an increased prevalence of:

- Systemic hypertension
- Heart disease
- Impaired vascular endothelial function
- Accelerated atherogenesis
- Diabetes
- Atrial fibrillation
 - Independently associated with recurrent atrial fibrillation after cardioversion or ablation as well as stroke
- Prothrombotic coagulation shifts
- Increased platelet aggregation
- Proinflammatory states

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Timing and Modality of Diagnostic Testing

The timing of diagnostic testing must take into account the <u>stability</u> of the patient and their <u>ability to</u> <u>comply</u> with testing.

- In-laboratory full-night or split-night polysomnography has traditionally been the gold standard diagnostic test for sleep-related breathing disorders.
- HST is an alternative in many patients, which may be preferred by patients and more cost effective than in-laboratory testing.
- Overnight oximetry is not considered an adequate diagnostic test.
- In addition to these modalities, limited data suggest that auto-titrating CPAP has acceptable validity.

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AASM Guidelines

Follow these tips to establish healthy sleep habits:

- •Keep a consistent sleep schedule. Get up at the same time every day, even on weekends or during vacations.
- •Set a bedtime that is early enough for you to get at least 7-8 hours of sleep.
- Don't go to bed unless you are sleepy.
- •If you don't fall asleep after 20 minutes, get out of bed. Go do a quiet activity without a lot of light exposure. It is especially important to not get on electronics.
- Establish a relaxing bedtime routine.
- •Use your bed only for sleep and sex.
- •Make your bedroom quiet and relaxing. Keep the room at a comfortable, cool temperature.
- •Limit exposure to bright light in the evenings (mornings for overnight shift).
- •Turn off electronic devices at least 30 minutes before bedtime.
- •Don't eat a large meal before bedtime. If you are hungry at night, eat a light, healthy snack.
- •Exercise regularly and maintain a healthy diet.
- Avoid consuming caffeine in the afternoon or evening.
- Avoid consuming alcohol before bedtime.
- •Reduce your fluid intake before bedtime.

