



*University of Maryland
Medical Center*

Sleep Education Module

Adapted from the SAFER program
of the American Academy of Sleep Medicine



Learning Objectives

- Appreciate the myths and facts associated with sleep and sleep deprivation
- Understand the impact of sleep loss on performance
- Recognize the signs of sleepiness and fatigue
- Develop an awareness of strategies to prevent and manage undue fatigue



Epworth Sleepiness Scale

- 8-Item self report in which respondents rate their likelihood of dozing under several specified conditions
- Each situation is rated from 0-3 with 3 equal to the highest likelihood
- Upper limit of “normal” is 11

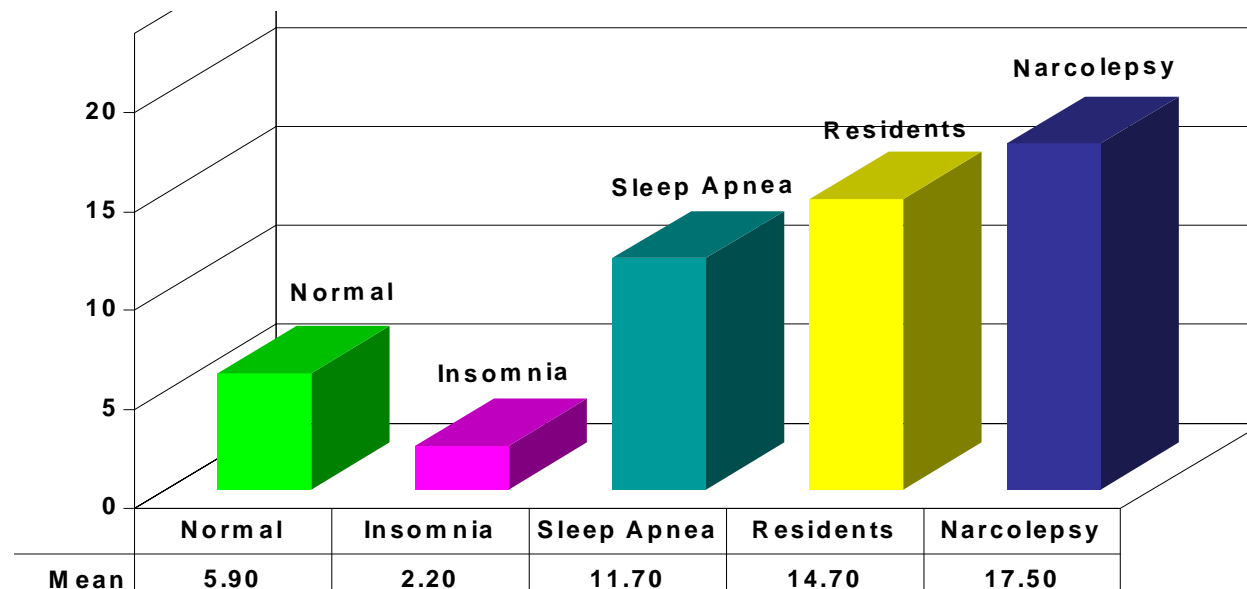


Epworth Sleepiness Scale



American Academy of Sleep Medicine

Epworth Sleepiness Scale



Sleepiness in residents is equivalent to that found in patients with serious sleep disorders. Mustafa and Strohl, unpublished data. Papp, 2002

© American Academy of Sleep Medicine

- Residents fall between those with sleep apnea and narcolepsy for sleepiness tendencies



Myth versus Fact

Myth: Environmental factors such as uninteresting lectures cause sleepiness

Fact: Excessive daytime sleepiness may be due to insufficient or fragmented sleep; circadian rhythm abnormalities; and primary sleep disorders



Sleep Needs

- 6 - 10 hours required per 24-hour period for adults
- Sleep debt, defined as the discrepancy between the amount of sleep needed by an individual and the amount of sleep actually obtained, occurs when adequate sleep is not achieved; sleep debt continues to accumulate until adequate sleep recovery is obtained
- Relative level of sleepiness or alertness is determined by the duration and quality of previous sleep as well as time since the last sleep period



Stages of Sleep

REM Sleep:

- * 20-25% per night;
- * Associated with dreaming;
- * Bursts of rapid eye movement

Non-REM Sleep:

- Stage 1
 - * 2-5%; occurs at sleep-wake transition
- Stage 2
 - * 45-55%; initiation of true sleep
- Stages 3 and 4
 - * 3-23%; deep sleep; most restorative stage of sleep



Circadian Rhythms

- Intrinsic physiologic processes
- Generally synchronized with the external environment
- Allows us to adapt to environmental demands
- Shift-work impacts circadian rhythms
 - * Easier to adapt to shifts in a clockwise direction (day to evening to night)
 - * Easier to stay up later than fall asleep earlier



Myth versus Fact

Myth: I can learn to function with less sleep

Fact: Sleep is a biological imperative and performance can only be maintained under conditions of sleep loss for very short periods of time, and generally at sub-optimal levels



Consequences of Sleep Deprivation

- Slower response times
- Altered mood
- Reduced morale and initiative
- Decreased vigilance in memory
- Impaired information processing
- Increase risk of
 - * Alcohol and substance abuse
 - * Motor vehicle accidents and which can be related to “microsleeps” (briefly falling asleep without knowing it)



Consequences of Sleep Deprivation

- Although definitive cause and effect between sleep deprivation and medical errors has not been demonstrated, numerous studies suggest that more medical errors occur in circumstances where physicians are sleep deprived
- Studies show residents working longer hours and averaging fewer hours of sleep report committing significantly more serious medical errors and conflicts with colleagues



Consequences of Sleep Deprivation

Impact on professionalism

- * Loss of empathy
- * Difficulty listening to patients
- * Less patience with families
- * Decreased level of compassion



Recognizing Signs and Symptoms of Fatigue

Myth versus Fact

Myth: I know when I'm too tired to function up to par

Fact: The more sleep deprived you are the less accurate you are in predicting the degree of your impairment



Recognizing Signs and Symptoms of Fatigue

Warning signs:

- * Difficulty focusing
- * Apathy
- * Need to recheck work
- * Restlessness and irritability
- * Falling asleep at inappropriate times



Management Strategies

- Recognize that new duty hour work limits alone are not an effective fatigue management strategy
- Recognize your own vulnerability to sleep loss
- Anticipate sleep debt related to prolonged duty and compensate through adequate sleep before duty and sleep recovery sleep following duty
- Understand that napping can temporarily improve alertness and help to combat the effects of fatigue, but is not a substitute for adequate sleep



Management Strategies

Prior to driving following prolonged duty, consider:

- Asking for a ride
- Taking a 20 minute nap before driving
- Drinking a cup of coffee
- Anticipating the need to pull off the road if you notice the warning signs of sleepiness
 - * Trouble focusing on the road
 - * Difficulty keeping your eyes open
 - * Nodding
 - * Not remembering driving the last few miles
 - * Missing signs or exits



Completion of the Course

- Please take the test provided and return it following the instructions included on the test form
- Review the background information about the course and the reference sources if additional information is desired