

To Sleep, Perchance To Dream

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1 hr intermediate systemic/ocular conditions

Course description: Shakespeare's Hamlet Act 3 Scene 1. Hamlet lamenting his situation, & wishing to relieve his anguish, in sleep, & perhaps a dream. What is sleep? Why do we spend 1/3rd of our life doing it? This class explores sleep, sleep disorders, tests to evaluate it, sleep apnea, & things that disrupt sleep. An extensive list of things will be covered to promote better quality of this critical life function to guide you to better zzzzzzz's.

1) Introduction

- a. Reasons we sleep
 - i. Shut down consciousness
 - ii. Processing daytime experiences
 - iii. Converting data from short term to long term memory
 - iv. Deleting thousands of impressions
 - v. Cleansing/purging/rejuvenating systems
 - vi. Sleep cycle
 1. Stage 1 NREM dozing- Alpha waves
 2. Stage 2 In between – Theta waves
 3. Stage 3 & 4 Deep sleep- Delta waves
 4. Stage 5 REM sleep (dreams) – Beta waves
- b. Guidelines of what we need
- c. Measuring sleep
 - i. Quality and quantity
 - ii. Sleep efficiency
 - iii. Disrupted time of sleep
- d. Lack of sleep effects
 - i. Lose of creativity/problem solving
 - ii. Can't concentrate
 - iii. Mentally unstable
 - iv. Accident prone
 - v. Forgetful
 - vi. Depression
 - vii. Confusion
 - viii. Irritable
 - ix. Dozing off
- e. Sleep chemicals
 - i. Sleep drive – adenosine
 - ii. Circadian rhythm – Cortisol/Melatonin balance
 - iii. 5-HTP > serotonin > cortisol
 - iv. Effects of excess cortisol

- 2) Sleep disorders
 - a. Snoring – NORMAL, but risks
 - b. Insomnia – chronic sleep disruption
 - c. Sleep apnea – interrupted breathing
 - d. Narcolepsy – spontaneous “sleep attacks”
 - e. Restless leg syndrome – sensory & motor limb condition
 - f. REM-sleep behavior disorder – REM/awake collisions
 - g. Adrenal Fatigue - ? controversy

- 3) Tests for sleep deprivation
 - a. Polysomnography – sleep study
 - b. 3 questions
 - i. Does your partner snore horribly
 - ii. Do you need a nap, or fall asleep during the day
 - iii. Do you wake up with a headache
 - c. Spoon test
 - d. Sleep diary
 - e. Sleep Cycle phone app

- 4) Ocular complications of sleep deprivation
 - a. Myopia progression
 - b. Glaucoma
 - c. Mac degeneration
 - d. Cystoid macular edema
 - e. Central serous retinopathy
 - f. Diabetic retinopathy
 - g. Ischemic optic neuropathy

- 5) Systemic complications of sleep deprivation
 - a. Hypertension
 - b. Heart disease
 - c. Heart attack
 - d. Seizures
 - e. Stroke
 - f. Asthma
 - g. COPD
 - h. Inflammation/ Chronic pain
 - i. Obesity
 - j. Diabetes
 - k. Cancer
 - l. Anxiety
 - m. Depression
 - n. Kidney disease
 - o. Weakened immune system
 - p. Dementia/Alzheimer’s/memory loss
 - q. Death

- 6) Interfering/disrupting sleep factors
 - a. No Caffeine after noon
 - b. Late/heavy meals
 - c. Nicotine
 - d. Anxiety
 - e. Overweight
 - f. Alcohol
 - g. Blue light
 - h. Electro-Magnetic Fields
 - i. ELF – extreme low frequencies
 - j. Napping after 3PM

- 7) Methods to encourage quality sleep
 - a. Set a bedtime routine schedule
 - b. Mattresses & pillows
 - c. Cool temps (<65°)
 - d. Warm bath
 - e. Cup of hot decaf tea
 - f. Avoid alcohol
 - g. BreatheRight nasal strips
 - h. Complete darkness
 - i. No tech toys within 2 hrs of bedtime
 - j. Soothing music
 - i. Wholetones.com
 - ii. Nadamamusic.com
 - iii. stevenhalpern@innerpeacemusic.com
 - k. Breathing exercises/Meditation
 - l. CBD oil – futurevisions,newyoupro.com
 - m. EMF/ELF radiation protection – vybesource.com
 - n. OTC supplements
 - o. C-pap
 - p. Rx sleep meds
 - q. Pistachio nuts

- 8) To Be or Not To Be
 - a. To sleep isn't the most famous phrase if Shakespeare's Hamlet
 - b. The fundamental question of our existence
 - c. Optometry is a unique AMAZING profession
 - d. Paraoptometrics (YOU!) are critical to profession and patients lives
 - e. What do YOU want to do, to be, to achieve?
 - f. SLEEP ON IT !!!

Sample Sleep Diary

Name: _____

Complete in the Morning		Complete in the Evening	
Today's date (include month/day/year):	Monday*		
Time I went to bed last night:	11 p.m.		
Time I woke up this morning:	7 a.m.		
No. of hours slept last night:	8		
Number of awakenings and total time awake last night:	5 times 2 hours		
How long I took to fall asleep last night:	30 mins.		
Medications taken last night:	None		
How awake did I feel when I got up this morning?	2		
1—Wide awake			
2—Awake but a little tired			
3—Sleepy			
Number of caffeinated drinks (coffee, tea, cola) and time when I had them today:	1 drink at 8 p.m.		
Number of alcoholic drinks (beer, wine, liquor) and time when I had them today:	2 drinks 9 p.m.		
Nap times and lengths today:	3:30 p.m. 45 mins.		
Exercise times and lengths today:	None		
How sleepy did I feel during the day today?	1		
1—So sleepy had to struggle to stay awake during much of the day			
2—Somewhat tired			
3—Fairly alert			
4—Wide awake			

* This column shows example diary entries—use as a model for your own diary notes.