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 zzzzzz’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:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity or Event</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 p.m.</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>7 p.m.</td>
<td>Dinner</td>
<td></td>
</tr>
<tr>
<td>9 p.m.</td>
<td>Bedtime routine</td>
<td></td>
</tr>
<tr>
<td>10 p.m.</td>
<td>Sleeping</td>
<td></td>
</tr>
</tbody>
</table>

**Complete in the Evening**

- Exercise/Move: 30 min. yoga
- Medication and Fasting: None
- Number of alcoholic drinks: 0
- Number of caffeine drinks: 0

**Complete in the Morning**

- How much did you drink last night? 0 oz.
- How long did you fall asleep? 8 hours
- Time woke up in the morning: 7 a.m.
- Time went to bed last night: 11 p.m.
- Morning mood: Happy
- Doctor's care (exclude routine care) |