Sleep Problems
Complicated by Substance Use Disorders

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Overview

Normal Sleep Cycle

Alcohol and Sleep
prototype for opioids, benzodiazepines, Marijuana

Obstructive Sleep Apnea (OSA)

OSA: Alcohol (as prototype) and Tobacco

Managing Sleep Problems
Among the many factors complicating substance use treatment is the unshakeable, under diagnosed persistence of insomnia.

- Relapse
- General Health and Well Being
Normal Sleep

Sleep stages: 1, 2, 3, 4, and REM (rapid eye movement)

Stages 1 and 2 are lighter sleep

Stages 3 and 4 are deep (slow wave) sleep

3–5 cycles per night

90–120 minutes

Deep to REM progression
### Brainwaves

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma: 30-100+Hz</td>
<td>Peak performance, flow</td>
</tr>
<tr>
<td>Beta: 12-30Hz</td>
<td>Awake, normal alert consciousness</td>
</tr>
<tr>
<td>Alpha: 8-12Hz</td>
<td>Relaxed, calm, lucid, not thinking</td>
</tr>
<tr>
<td>Theta: 4-7Hz</td>
<td>Deep relaxation and meditation, mental imagery</td>
</tr>
<tr>
<td>Delta: .1-4Hz</td>
<td>Deep, dreamless sleep</td>
</tr>
</tbody>
</table>

http://www.brainwavecollege.com/images/frequencies.jpg
<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
</tr>
</thead>
</table>
Alcohol Metabolism and Sleep

https://pubs.niaaa.nih.gov/publications/aa35.htm
Sleep and Sedatives – Alcohol, Opioids, Benzodiazepines, Marijuana

Alcohol’s effects during sleep

Body tries to adjust  Increased wake periods

Reduced dream sleep

Source: National Sleep Foundation (2008)
Your patient complains about...

- Memory or learning problems and not being able to concentrate
- Feeling irritable, depressed, or having mood swings or personality changes
- Waking up frequently to urinate
- Dry mouth or sore throat when you wake up
You broaden your clinical impressions

...After learning about your patient’s

- Daytime Fatigue
- Morning headaches
- Snoring
Obstructive Sleep Apnea (OSA)

- Breathing problems while asleep
- Often undiagnosed
- Usually chronic
- Interrupts normal sleep cycle
- Patient may not know they have it
- Most common type is obstructive sleep apnea (OSA)
OSA Respiratory Parameters

- **Apnea**: total cessation of air flow for 10 sec
- **Hypopnea**: 10 seconds of restricted air flow with 4% desaturation

**Apnea/Hypopnea Index**

- AHI = (# apneas + # hypopneas) / sleep hours
- AHI < 5 normal
- AHI 5 – 14 mild
- AHI 15 – 29 moderate
- AHI > 30 severe
Risk Factors OSA

- Male
- Age 40–70
- Obesity
- Neck Size

And for purposes of this discussion
  - Alcohol, Benzodiazepines, Marijuana, Opioids
  - Tobacco
Sleep and Sedatives – Alcohol, Opioids, Benzodiazepines, Marijuana and OSA

Increased risk of breathing problems while asleep

Consumption worsens OSA by relaxing upper airway muscles – snoring now

Impairs normal arousal response to airway obstruction – respiratory effort related arousals (RERA)

Further complicated by co-occurring psychiatric disorders
Sleep Problems Among Tobacco Users

Motivating individuals to quit tobacco use can be an uphill struggle

“One problem at a time”

Clinicians have a choice

Most individuals with a tobacco use disorder are familiar with the major physical problems associated with smoking
Tobacco and Sleep

- Less Evidence
- Tobacco and Sleep Architecture
  - Initiating Sleep
  - Staying Asleep
  - Daytime Sleepiness
  - Less time asleep
Tobacco and OSA

- Even less conclusive
- Smoking and upper airway inflammation may narrow airways
- Untested hypothesis
  - Individuals with undiagnosed OSA self medicate with tobacco (nicotine)
    - Higher arousal threshold produces less sleep interruptions
    - Nicotine fights daytime drowsiness
Managing Sleep Problems
Overview

Managing Expectations
Screening and Assessment
Medications
Non Pharmacologic Interventions
Managing Expectations

- Drugs and alcohol effect sleep during acute and chronic use, during withdrawal, and for extended periods of time thereafter.

- Breathing problems while asleep best assessed/managed free of Alcohol, Opioids, Benzodiazepines, Marijuana, Tobacco.
Screening and Assessment Overview

- Clinical Interview
- Screening Instruments
- Home Sleep Study
- Polysomnography
Sleep Examination

- Onset, duration, and impairment
  - Initiation or maintenance
- Dreams, nightmares, and snoring
  - Sleep routine
- Collateral history
  - Medical history
- Medications
Screening: Clinical Interview

- What time do you go to bed
- What time do you awaken for the day
- How long would you estimate it takes to fall asleep
- After falling asleep how many times do you awaken (and why)
- How do you feel upon awakening
- Has anyone commented on your sleeping (bed partner)
  - Snoring, morning headaches, dry mouth, sore jaw, talking, walking, jerking
Screening: Self-Test Instruments

- Wide Variety
- Pittsburg Insomnia Rating Scale (PIRS)
- Insomnia Severity Index (ISI)
- Epworth Sleepiness Scale
- PreSleep Arousal Scale
The following questions ask about your sleep in the past 7 days and nights. Please circle the one best answer for each question.

A. In the past week, how much were you bothered by:

1. One or more awakenings after getting to sleep
2. Not getting enough sleep
3. Sleep that doesn’t fully refresh you
4. Poor alertness during the daytime
5. Difficulty keeping your thoughts focused
6. Others noticing you appeared tired or fatigued
7. Too many difficulties to overcome
8. Bad mood(s) because you had poor sleep
9. Lack of energy because of poor sleep
10. Poor sleep that interferes with your relationships
11. Being unable to sleep
12. Being able to do only enough to get by

B. Please circle the best answer for each question about the past week:

13. From the time you tried to go to sleep, how long did it take to fall asleep on most nights?
   0 Less than ½ hour
   1 Between ½ to 1 hour
   2 Between 1 to 3 hours
   3 More than 3 hours or I didn’t sleep

14. If you woke up during the night, how long did it take to fall back to sleep on most nights?
   0 Less than ½ hour or I didn’t wake up
   1 Between ½ to 1 hour
   2 Between 1 to 3 hours
   3 More than 3 hours or I didn’t fall back to sleep

C. Over the past week, how would you rate:

15. Not counting times when you were awake in bed, how many hours of actual sleep did you get during the worst night?
   0 More than 7 hours
   1 Between 4 to 7 hours
   2 Between 2 to 4 hours
   3 Less than 2 hours or I didn’t sleep

16. On how many days did you have trouble coping because of poor sleep?
   0 None or 1 day
   1 On 2 or 3 days
   2 On 4 or 5 days
   3 On 6 or all days

17. Your sleep quality, compared to most people
   0 Excellent
   1 Good
   2 Fair
   3 Poor

18. Your satisfaction with your sleep
   0 Excellent
   1 Good
   2 Fair
   3 Poor

19. The regularity of your sleep
   0 Excellent
   1 Good
   2 Fair
   3 Poor

20. The soundness of your sleep
   0 Excellent
   1 Good
   2 Fair
   3 Poor

http://www.psychiatry.pitt.edu/node/8235
## Insomnia Severity Index

The Insomnia Severity Index has seven questions. The seven answers are added up to get a total score. When you have your total score, look at the 'Guidelines for Scoring/Interpretation' below to see where your sleep difficulty fits.

For each question, please CIRCLE the number that best describes your answer.

*Please rate the CURRENT (i.e. LAST 2 WEEKS) SEVERITY of your insomnia problem(s).*

<table>
<thead>
<tr>
<th>Insomnia Problem</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Difficulty falling asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Difficulty staying asleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Problems waking up too early</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?

<table>
<thead>
<tr>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Moderately Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?

<table>
<thead>
<tr>
<th>Not at all Noticeable</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Noticeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

6. How WORRIED/DISTRESSED are you about your current sleep problem?

<table>
<thead>
<tr>
<th>Not at all Worried</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Worried</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) CURRENTLY?

<table>
<thead>
<tr>
<th>Not at all Interfering</th>
<th>A Little</th>
<th>Somewhat</th>
<th>Much</th>
<th>Very Much Interfering</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

### Guidelines for Scoring/Interpretation:

Add the scores for all seven items (questions 1 + 2 + 3 + 4 + 5 + 6 + 7) = ________ your total score

Total score categories:

- 0–7 = No clinically significant insomnia
- 8–14 = Subthreshold insomnia
- 15–21 = Clinical insomnia (moderate severity)
- 22–28 = Clinical insomnia (severe)
# Epworth Sleepiness Scale

0 = would NEVER doze  
1 = SLIGHT chance of dozing  
2 = MODERATE chance of dozing  
3 = HIGH chance of dozing

<table>
<thead>
<tr>
<th>SITUATION</th>
<th>CHANCE OF DOZING (0-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and reading</td>
<td></td>
</tr>
<tr>
<td>Watching television</td>
<td></td>
</tr>
<tr>
<td>Sitting inactive in a public place (e.g. a theater or meeting)</td>
<td></td>
</tr>
<tr>
<td>As a passenger in a car for an hour without a break</td>
<td></td>
</tr>
<tr>
<td>Lying down to rest in the afternoon when circumstances permit</td>
<td></td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td></td>
</tr>
<tr>
<td>Sitting quietly after a lunch without alcohol</td>
<td></td>
</tr>
<tr>
<td>In a car, while stopped for a few minutes in the traffic</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL SCORE</th>
</tr>
</thead>
</table>

**SCORE RESULTS:**

1-6  Congratulations, you are getting enough sleep!

7-8  Your score is average

9+   Very sleepy and should continue to seek sleep assistance.
The Pre-Sleep Arousal Scale

Instructions to patient
This scale is fairly self-explanatory. We are interested to find out about how you are feeling in your mind and in your body before you fall asleep. Please describe how intensely you experience each of the symptoms mentioned below as you attempt to fall asleep, by circling the appropriate number.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderate</th>
<th>A lot</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Worry about falling asleep</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Review or ponder the events of the day</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Depressing or anxious thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Worry about problems other than sleep</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Being mentally alert, active</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Can’t shut off your thoughts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Thoughts keep running through your head</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Being distracted by sounds, noise in the environment</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Heart racing, pounding or beating irregularly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. A jittery, nervous feeling in your body</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Shortness of breath or labored breathing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. A tight, tense feeling in your muscles</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Cold feeling in your hands, feet or your body in general</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Have stomach upset (knot or nervous feeling in stomach, heartburn, nausea, gas, etc.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Perspiration in palms of your hands or other parts of your body</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Dry feeling in mouth or throat</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Home Sleep Study

- Variety of instruments available
- Advantages
  - Natural environment
  - Less expensive
  - Medically reimbursable
- CPT Code 95800
  - Sleep study, unattended, simultaneous recording: heart rate, oxygen saturation, respiratory analysis (e.g., by airflow or peripheral arterial tone), and sleep time.
- CPT Code 95806
  - Sleep study, unattended, simultaneous recording of heart rate, oxygen saturation, respiratory airflow and respiratory effort.

- Ever increasing sophistication
Sleep Problems: Management

Medications

Non Pharmacologic
  Behavioral Approaches

Cranial Electric Stimulation

Ear Acupuncture
Medications and Sleep

No perfect choice

Effects on Sleep
Medication and Sleep – Sedatives and Hypnotics

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Sleep Stage Effects</th>
<th>Significant Side Effects</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepine</td>
<td>Triazolam</td>
<td>Decreased amplitude stage 3 and 4</td>
<td>Loss of effect with chronic use</td>
<td>Transient insomnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased stage 2 [all]</td>
<td>Dependence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Estazolam</td>
<td>Shortened sleep latency</td>
<td>Antegrade amnesia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>In night, REM sleep rebound</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flurazepam</td>
<td>Shortened sleep latency</td>
<td>Daytime sleepiness: chronic sleep latency</td>
<td>Transient insomnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decreased REM sleep</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Withdrawal REM sleep rebound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium-onset,</td>
<td>Temazepam</td>
<td>Decreased REM sleep</td>
<td>Daytime sleepiness: poor sleep induction</td>
<td>Transient insomnia</td>
</tr>
<tr>
<td>medium-life, 7–10 h</td>
<td>Clonazepam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GABA receptor agents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short onset,</td>
<td>Zoïpslém</td>
<td>Shortened sleep latency, benzodiazepine effects with dose</td>
<td>Dystrocytic dystonic daytime sleepiness or antegrade amnesia</td>
<td>Transient insomnia, chronic insomnia</td>
</tr>
<tr>
<td>medium-life</td>
<td></td>
<td>above that normally prescribed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other agents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Chlortal hydrate</td>
<td>Chlortal hydrate</td>
<td>1) Short sleep latency, decreased REM sleep, withdrawal</td>
<td>1) Low lethal dose, loss of effect with chronic use</td>
<td>Transient insomnia in controlled settings</td>
</tr>
<tr>
<td>2) Barbital, and</td>
<td>Phenobarbital, etc</td>
<td>REM suppression, short sleep latency, decreased REM sleep, withdrawal REM sleep rebound</td>
<td>2) Addiction, low lethal dose, loss of effect with chronic use</td>
<td></td>
</tr>
<tr>
<td>barbiturate-like</td>
<td>Methaqualone</td>
<td></td>
<td></td>
<td>No sleep indication</td>
</tr>
<tr>
<td>agents</td>
<td>Glutethimide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethchlorvynol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methypyrrolid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diphenhydramine</td>
<td>3) Decreased sleep latency in some patients</td>
<td>3) Transient insomnia</td>
<td></td>
</tr>
</tbody>
</table>

*Data from Page[1–3]. Abbreviations: GABA = γ-aminobutyric acid. PLMD = periodic limb movement disorder. REM = rapid eye movement.*

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC181172/
Medication and Sleep – Antidepressants

<table>
<thead>
<tr>
<th>Class</th>
<th>Drug</th>
<th>Sleep Stage Effects</th>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricyclic</td>
<td>Trimipramine</td>
<td>Increased REM sleep latency, decreased REM sleep (**), slow-wave sleep latency, deep sleep, sleep latency</td>
<td>Depression with insomnia, REM sleep and slow-wave sleep suppression, chronic pain, fibromyalgia, enuresis, etc</td>
</tr>
<tr>
<td></td>
<td>Nortriptyline</td>
<td>REM sleep (**), slow-wave sleep latency, deep sleep, sleep latency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desipramine</td>
<td>Increased REM sleep latency, decreased slow-wave sleep latency, REM sleep (***), sleep latency</td>
<td>Depression, depression with insomnia, REM sleep suppression</td>
</tr>
<tr>
<td></td>
<td>Maprotiline</td>
<td>Increased stage 4</td>
<td>Depression, REM sleep suppression</td>
</tr>
<tr>
<td></td>
<td>Mirtazapine</td>
<td>Decreased REM sleep latency, REM sleep (***), sleep latency</td>
<td>Depression, REM sleep suppression</td>
</tr>
<tr>
<td>MAOI</td>
<td>Phenelzine</td>
<td>Increased stage 4</td>
<td>Depression, REM sleep suppression</td>
</tr>
<tr>
<td></td>
<td>Tranylcypromine</td>
<td>Decreased REM sleep latency, REM sleep (***), sleep latency</td>
<td>Depression, REM sleep suppression</td>
</tr>
<tr>
<td>SSRI</td>
<td>Fluoxetine</td>
<td>Increased REM sleep latency, sleep latency, stage 1</td>
<td>Depression, posttraumatic stress disorder, obsessive-compulsive disorder, phobias, cataplexy, etc</td>
</tr>
<tr>
<td></td>
<td>Paroxetine</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sertraline</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fluvoxamine</td>
<td>Decreased REM sleep</td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Citalopram</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRI + tricyclic</td>
<td>Venlafaxine</td>
<td>Increased REM sleep latency, Decreased sleep latency, REM sleep</td>
<td>Depression, nicotine withdrawal</td>
</tr>
<tr>
<td>DA, NE, SSRI</td>
<td>Bupropion</td>
<td>Increased REM sleep latency, sleep latency</td>
<td>Depression, depression with insomnia and anxiety</td>
</tr>
<tr>
<td>Nontricyclic, non-SSRI</td>
<td>Nefazodone</td>
<td>Increased REM sleep latency</td>
<td>Depression, depression with insomnia and anxiety</td>
</tr>
<tr>
<td>5-HT&lt;sub&gt;1A&lt;/sub&gt; Agonist</td>
<td>Buspirone</td>
<td>Increased REM sleep latency, Decreased REM sleep</td>
<td>Anxiety</td>
</tr>
</tbody>
</table>

Data from Page. Boldface = sedating agents; italics = insomnia-inducing agents; ** = higher levels of effect. Abbreviations: DA = dopamine, 5-HT<sub>1A</sub> = serotonin type 1A receptor, MAOI = monoamine oxidase inhibitor, NE = norepinephrine, REM = rapid eye movement, SSRI = selective serotonin reuptake inhibitor.

Documented as respiratory stimulant.
Medication and Sleep – One Suggestion

Trazodone

Serotonin–2 receptor antagonist and weak serotonin reuptake inhibitor

Serotonin–2 receptor antagonists have been shown to decrease sleep onset latency and increase deep sleep

Trazodone increases total sleep time and reduce wakefulness during sleep.

Trazodone appears to exert minimal effects in suppressing REM sleep.

http://www.psychiatristtimes.com/sleep-disorders/effects-antidepressants-sleep/page/0/2
<table>
<thead>
<tr>
<th>I am worried about...</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The test I have to take</td>
<td>I will study all day tomorrow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I cannot forget to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get a sample exam</td>
</tr>
</tbody>
</table>
Non Pharmacologic Interventions: Behavioral treatments

- sleep hygiene
- stimulus control
- sleep restriction
<table>
<thead>
<tr>
<th>Sleep Hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>No caffeinated products, alcohol, or nicotine before bedtime.</td>
</tr>
<tr>
<td>Minimize noise, light, and excessive temperature.</td>
</tr>
<tr>
<td>Ensure that your bedroom is properly ventilated.</td>
</tr>
<tr>
<td>Experiment with different bedding and pillow sizes</td>
</tr>
<tr>
<td>Avoid large meals and/or skipping meals in the evening.</td>
</tr>
<tr>
<td>Try to resolve emotional dilemmas prior to bedtime</td>
</tr>
<tr>
<td>Do not exercise 4–5 hours prior to bedtime</td>
</tr>
<tr>
<td>Avoid too many fluids prior to bedtime.</td>
</tr>
<tr>
<td>Cover your clock</td>
</tr>
<tr>
<td>Take a warm bath before bedtime.</td>
</tr>
<tr>
<td>Avoid highly spiced, heavy or sugary foods at nighttime</td>
</tr>
<tr>
<td>Spend 15–20 minutes in a relaxing activity</td>
</tr>
<tr>
<td>Drink a calming herbal tea such as chamomile or peppermint.</td>
</tr>
</tbody>
</table>
Non Pharmacologic Interventions:
Behavioral treatments -
Stimulus Control

- Go to bed only when sleepy
- If not asleep in 15 minutes – leave bedroom until sleepy
- No naps
- Awaken the same time daily
- Use bedroom only for sleep and sex
Non Pharmacologic Interventions: Behavioral treatments - Sleep Restriction

Sleep efficiency is the ratio of time spent asleep (total sleep time) to the amount of time spent in bed.

**Examples:**
If a person spends eight hours in bed but only sleeps four hours, his sleep efficiency would be **50%**.

The patient's goal is to achieve sleep efficiencies of between **85 – 90%**, which means only **10 – 15%** of the time in bed is not spent sleeping.

**CAN'T SLEEP?**

- Exercise more
- Healthy diet

www.toothpastefordinner.com
DETERMINE YOUR USUAL RISE TIME (E.G., 6:30 AM)

DETERMINE THE AVERAGE NUMBER OF HOURS THAT YOU SPEND ASLEEP IN BED (E.G., 5.5 HOURS) EACH NIGHT. THIS CAN BE DONE USING A SLEEP LOG.

WORK BACKWARDS TO DETERMINE WHAT YOUR BEDTIME SHOULD BE. FOR EXAMPLE IF YOU NORMALLY RISE AT 6:00 AM AND YOU SLEEP 5.5 HOURS EACH NIGHT, YOUR BEDTIME SHOULD BE 12:30 AM.

GO TO BED AT YOUR NEW “PRESCRIBED” TIME EACH NIGHT FOR ONE WEEK.

IF YOU DO NOT FILL YOUR NIGHT WITH SLEEP, REPEAT STEPS 1 – 3 TO IDENTIFY AN APPROPRIATE, LATER BEDTIME.

CONTINUE THIS PLAN UNTIL YOUR TIME IN BED IS MOSTLY FILLED WITH SLEEP, OR UNTIL YOU REDUCE YOUR TIME IN BED TO 4 HOURS.
Non Pharmacologic - Cranial Electric Stimulation
Ear Acupuncture

- Omega 2
- Shenmen
- Point Zero
- Thalamus
- Cingulate Gyrus

http://img10.deviantart.net/84c2/i/2015/114/3/e/battlefield_acupuncture_points_by_mistmyc_hance-d53kd6p.jpg
Summary

- Normal Sleep Cycle
- Alcohol, Opioids, Benzodiazepines, Marijuana and Sleep
- Obstructive Sleep Apnea (OSA)
- OSA: and SUDs
- Managing Sleep Problems
Questions?
Morin CM; Belleville G; Bélanger L; Ivers H. The insomnia severity index: psychometric indicators to detect insomnia cases and evaluate treatment response. *SLEEP* 2011;34(5):601–608.


**Franklin KA¹, Lindberg E¹.** Obstructive sleep apnea is a common disorder in the population—a review on the epidemiology of sleep apnea. *J Thorac Dis.* 2015 Aug;7(8):1311–22.


**Andrew Winokur, MD, PhD and Nicholas Demartinis, MD:** The Effects of Antidepressants on Sleep. June 13, 2012 | *Sleep Disorders, Depression, Psychopharmacology*