DISCLAIMER:
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Sleep and Chronic Pain

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Sleep and Chronic Pain

- Common problem in people with pain = fatigue and non-restorative sleep.
- Chronic pain, persistent fatigue, and poor sleep constitute major health threats to quality of life.
- Predictors of poor sleep = Depressive mood and pain severity
- 50% and 88% of patients with chronic nonmalignant pain disorders have significant sleep complaints.
Poor Sleep and Sleep Interruptions

- decrease your energy levels and your ability to function.
- Sleep interference and anxiety over not getting a restful night’s sleep are huge problems for people in pain.
- People who can’t sleep have a lot of valid complaints, but most fall into two categories:
  - inability to initiate or maintain sleep at night (insomnia),
  - and inability to maintain wakefulness during the day (excessive daytime sleepiness).
Pain intake evaluation questions

- SLEEP PROBLEMS: YES/NO
  PAST____
  BEDTIME______AWAKE______ONSET TIME______

- INTERRUPTIONS/ YES/NO
  DURATION
  PAST____NOW______NAPPING YES/NO

- HOW RESTED? SNORING? DAYTIME FATIGUE AND SLEEPINESS?
Fatigue

- Pain leads to disruptions in slow-wave sleep, causing patients to feel unrefreshed upon awakening.
- High Stage 2 sleep is very common in people with chronic pain = not good quality
- Sleep disturbance gives rise to fatigue - insomnia and fatigue are hallmark symptoms of depression
- Studies demonstrated that poor sleep quality was associated with greater pain and fatigue the next day
Epworth Sleepiness Scale (ESS)

The following questionnaire will help you measure your general level of daytime sleepiness. You are to rate the chance that you would doze off or fall asleep during different routine daytime situations. Answers to the questions are rated on a reliable scale called the Epworth Sleepiness Scale (ESS). Each item is rated from 0 to 3, with 0 meaning you would never doze or fall asleep in a given situation, and 3 meaning that there is a very high chance that you would doze or fall asleep in that situation.

How likely are you to doze off or fall asleep in the following situations, in contrast to just feeling tired? Even if you haven’t done some of these activities recently, think about how they would have affected you.

Use this scale to choose the most appropriate number for each situation:
0 = would never doze
1 = slight chance of dozing
2 = moderate chance of dozing
3 = high chance of dozing

It is important that you circle a number (0 to 3) on each of the questions.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of dozing (0-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and reading</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Watching television</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Sitting inactive in a public place—for example, a theater or meeting</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>As a passenger in a car for an hour without a break</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Lying down to rest in the afternoon</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Sitting quietly after lunch (when you’ve had no alcohol)</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>In a car, while stopped in traffic</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

Total Score:
Scoring your results

Now that you have completed the questionnaire, it is time to score your results and evaluate your own level of daytime sleepiness. It’s simple. Just add up the numbers you put in each box to get your total score.

The Epworth Sleepiness Scale key

A total score of less than 10 suggests that you may not be suffering from excessive daytime sleepiness.

A total score of 10 or more suggests that you may need further evaluation by a physician to determine the cause of your excessive daytime sleepiness and whether you have an underlying sleep disorder.

Your next steps

This scale should not be used to make your own diagnosis. It is intended as a tool to help you identify your own level of daytime sleepiness, which is a symptom of many sleep disorders.

If your score is 10 or more, please share this information with your physician. Be sure to describe all your symptoms, as clearly as possible, to aid in your diagnosis and treatment.

It is important to remember that true excessive daytime sleepiness is almost always caused by an underlying medical condition that can be easily diagnosed and effectively treated.
Medications

- Pharmacotherapy remains the most widely used treatment for sleep disturbances - even though long-term efficacy has not been established.
- The prolonged use of sleep medication creates its own problems.
## Table 28-1. Drugs That Affect Sleep

<table>
<thead>
<tr>
<th>Drug</th>
<th>Effects on Sleep</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Barbiturates</strong></td>
<td>Acute: (&lt;\text{TST}) &lt;br&gt; (&lt;\text{WASO}) &lt;br&gt; (&lt;\text{REM}) &lt;br&gt; (+\text{Stage II, spindles}) &lt;br&gt; (+\text{or } -\text{Delta})</td>
<td>Rapid development of tolerance &lt;br&gt; Withdrawal insomnia &lt;br&gt; Daytime sedation</td>
</tr>
<tr>
<td>Withdrawal:</td>
<td>(&lt;\text{TST}) &lt;br&gt; (&lt;\text{REM}) &lt;br&gt; (+\text{Stage II, spindles}) &lt;br&gt; (-\text{Delta}) (most agents; some (+\text{delta}))</td>
<td>Agents vary in onset and duration of action &lt;br&gt; Daytime sedation (with long-acting agents) &lt;br&gt; Tolerance develops (with short-acting agents) &lt;br&gt; Withdrawal insomnia (with short-acting agents)</td>
</tr>
<tr>
<td><strong>Benzodiazepines</strong></td>
<td>Acute: (&lt;\text{SL}) (most agents) &lt;br&gt; (+\text{TST}) &lt;br&gt; (&lt;\text{WASO}) &lt;br&gt; (&lt;\text{REM}) &lt;br&gt; (+\text{Stage II, spindles}) &lt;br&gt; (-\text{Delta}) (most agents; some (+\text{delta}))</td>
<td>Sleep architecture not typically altered &lt;br&gt; Withdrawal effects inconsistently seen</td>
</tr>
<tr>
<td>Withdrawal:</td>
<td>(&lt;\text{TST}) &lt;br&gt; (&lt;\text{SL}) &lt;br&gt; (+\text{TST}) &lt;br&gt; (+\text{REM}) &lt;br&gt; (+\text{Delta})</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Acute Effects</td>
<td>Chronic Effects</td>
</tr>
<tr>
<td>--------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| ETOH   | ↑TST 1st half of night, ↓2nd half  
↓WASO 1st half of night, ↑2nd half  
↓REM 1st half of night  
↑Delta | →TST  
→REM  
↓Delta | ↓TST  
↑WASO  
↑REM  
↓Delta |
|        | Acute effects variable |                 | Degree of REM rebound may correlate with likelihood of withdrawal delirium |
| Opioids| ↑WASO  
↓REM  
↓Delta (total), with ↑delta “bursts” | →WASO  
→Delta | ↓WASO  
↓Delta |
|        | Effects vary with specific agents | Hypersomnolence may occur during withdrawal | |
| Aspirin| ↓Delta | | May act via prostaglandin inhibition and temperature effects |
Basic education about sleep and the nature and causes of chronic insomnia should be discussed.

These interventions are intended to reestablish the bed as the dominant cue for sleep, regulate sleep-wake schedules, and consolidate sleep over a shorter period of time.
Key Strategies

- strengthen the association between patient beds and sleeping.
- avoid napping
- go to bed only when sleepy
- use the bedroom only for sleep and sex
- establish a pre-sleep routine to be used every night
- get out of bed whenever they were unable to fall asleep within 20 min.
- maintain a regular sleep-wake schedule regardless of nightly variations in the quantity or quality of your sleep.
Key Strategies

- Sleep restriction
- Relaxation training
- Cognitive restructuring
- Sleep hygiene education.