Diagnosis and Treatment of Insomnia in Primary Care

September 18, 2015

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Learning Objectives

- Discuss causes and diagnosis of insomnia
- Identify signs of fatigue
- Discuss the impact of sleep loss
  - on health including cognitive functions
  - on health professionals
- Discuss efficacy and application of medical and cognitive behavioral therapy for insomnia
  - Identify treatment recommendations of American Academy of Sleep Medicine
Scope and Burden of Sleep Problems

- One-third of US adults report inadequate sleep \(^1\)
- Sleep problems are associated with cardiovascular disease \(^2\), mental health problems \(^3\), motor vehicle accidents \(^4\), and overall poor quality of life \(^5\).
- The direct and indirect costs of sleep problems are substantial. 80-160 billion dollars \(^6\)
- Most sleep problems (80%-90%) remain undiagnosed\(^1\)

## Prevalence of Selected Sleep Problems Among US Adults

<table>
<thead>
<tr>
<th>Problem</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any problem</td>
<td>92.6</td>
</tr>
<tr>
<td>Leg symptoms</td>
<td>41.1</td>
</tr>
<tr>
<td>Inadequate sleep</td>
<td>37.0</td>
</tr>
<tr>
<td>Severe sleep deprivation</td>
<td>28.7</td>
</tr>
<tr>
<td>Nocturia</td>
<td>24.5</td>
</tr>
<tr>
<td>Frequent daytime sleepiness</td>
<td>18.6</td>
</tr>
<tr>
<td>Frequent sleeping pill use</td>
<td>9.1</td>
</tr>
<tr>
<td>Apnea</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Prevalence of Insomnia

Sleep problems up to 90%

Prevalence estimates of insomnia disorder in the US range between 6% and 10%.

Sleep “problems” are not insomnia.

Implication: Diagnose carefully.

### Sleep Questionnaire Tool

**Sleep Questionnaire**

Answer all of the questions in the top three columns. Total your answers at the end of each section. If total "check"s in any column(s) are two or more, or if you checked any starred (*) question(s) in a column(s), also answer the questions in the same column(s) below. Bring this questionnaire with you when you see your doctor. Be sure to discuss your answers with your doctor.

<table>
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<th>1: Sleep Loss</th>
<th>2: Daytime Sleepiness</th>
<th>3: Nighttime Disturbances</th>
</tr>
</thead>
<tbody>
<tr>
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<td><em>13. Do you often have disturbing nightmares?</em></td>
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<td>9. Do you snore heavily most nights?</td>
<td><em>14. Do you sometimes wet the bed at night?</em></td>
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<td>5. Does sleep loss affect your mood during the day, making you test tense, irritable, or depressed?</td>
<td>10. Have you been told you have long pauses in your breathing during sleep?</td>
<td><em>15. Have you recently fallen out of bed?</em></td>
</tr>
<tr>
<td>(✓) or 2 or more (✓), then = Total (✓);</td>
<td>If (✓) or 2 or more (✓), then = Total (✓);</td>
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### Sleep Loss

**Check (✓) only if YES**

- 1. Do you go to sleep and wake up at different times each day?
- 2. Is your sleep disturbed due to frequent travel?
- 3. Do you have trouble sleeping because of shift work?
- 4. Is there light in your bedroom at night?
- 5. Do you sleep in a noisy environment?
- 6. Are you disturbed by your bed partner at night?
- 7. Do you exercise within 2 hours of bedtime?
- 8. Do you drink beverages with caffeine in the afternoon or evening?

### Daytime Sleepiness

**Check (✓) only if YES**

- 1. Have you had any accidents or near accidents because of excessive sleepiness?
- 2. Do you fall asleep unintentionally during the day?
- 3. Are you irritable during the day?
- 4. Do you nap intentionally?
- 5. Do you awaken in the morning with a headache?
- 6. Do you awaken in the morning with a dry mouth?
- 7. Do you snore loudly and have pauses in your breathing at night?
- 8. Do your muscles feel very weak when you are laughing, excited, or angry?
- 9. Do you have trouble concentrating or remembering things during the day?

### Nighttime Disturbances

**Check (✓) only if YES**

- 1. Have you worn down your teeth as a result of teeth grinding at night?
- 2. Do you awaken with pain in your jaw?
- 3. Do you know if you have seizures in your sleep?
- 4. Do you sleepwalk frequently?
- 5. Has it been dangerous?
- 6. Do you thrash in your sleep?
- 7. Do you fall out of bed?

Please provide:
Clinical Signs of Excessive Sleepiness

- Motor: Awkward, postural sway (Romberg test)
- Irritability, moodiness, and disinhibition
- Frontal lobe signs
  - Apathy, flattened affect
  - Impaired memory
    - Dynsnomia, slowed recall, impaired recognition
  - Inflexible thinking and impaired planning—an inability to be novel or to multitask
    - Serial 7s
- Impaired speech
- Intrusive sleepiness
  - Microsleeps (5 to 10 seconds) cause lapses in attention
  - Nodding off when sedentary
  - REM phenomena (hypnagogic hallucinations)
Relative Risk of Fatigue Crash by Hours Driving

Effects of Sleep Deprivation on Functioning

Sleep Deprivation Studies: Medical Residents

Residents were often working 95 (and up to 136!) hours a week\(^1\)

The obvious result?

**Sleep deprivation** and **fatigue**

Petition Requesting Medical Residents Work Hour Limits

April 30, 2001

Honorable R. David Layne
Acting Assistant Secretary for Occupational Safety and Health
U.S. Department of Labor
Occupational Safety and Health Administration - Room S2315
200 Constitution Avenue, N.W.
Washington, D.C. 20210
(202) 693-2000

Dear Mr. Layne:

Public Citizen, a consumer and health advocacy group with 150,000 members, the Committee of Interns and Residents (CIR), a housestaff union representing over 11,000 medical residents, the American Medical Student Association (AMSA), a national organization representing over 30,000 physicians-in-training, Bertrand Bell, M.D., Professor of Medicine at Albert Einstein College of Medicine and author of New York State Health Code 405 restricting resident work hours, and Kingman P. Strotl, M.D., Professor of Medicine and Director of the Center for Sleep Disorders Research at Case Western Reserve University, hereby petition the Occupational Safety and Health Administration (OSHA) to implement the following regulations on medical resident and fellow work hours, with the primary intent of providing more humane and safe working conditions for medical residents and fellows, which will result in a better standard of care for all patients:

1. a limit of 80 hours of work per week,
2. a limit of 24 consecutive hours worked in one shift,
3. a limit of on-call shifts to every 3rd night,
4. a minimum of 10 hours off-duty time between shifts,
5. at least one 24-hour period of off-duty time per week, and
6. a limit of 12 consecutive hours on-duty per day for emergency medicine residents working in hospitals receiving more than 15,000 unscheduled patient visits per year.

The petitioners request the Acting Assistant Secretary for Occupational Safety and Health to exercise his authority under section 1903 of the Occupational Safety and Health Act[1] on the grounds that work hours in excess of the requested limits are physically and mentally harmful to medical residents and fellows, and that a federal work hour standard is necessary to provide them with safe employment. Research has connected the typical resident work schedule to harms in three specific areas: motor vehicle accidents, mental health, and pregnancy.

More Information on Medical Resident Work Hours
1. Letter Responding to OSHA’s Denial of Resident Work Hours Petition, November 3, 2011
2. Petition to Reduce Resident Work Hours, September 2, 2010
4. Article in BMC Medicine on Public Support of Reducing
Effect of Sleep Deprivation: Resident Health

Increased risk of obstetrical complications for pregnant residents versus other working women\(^1\)
- Premature labor is twice as common
- Preeclampsia is twice as likely

High rates of depression occur among residents
- 30% of first-year residents report depressive symptoms for an average of 5 months
- Some reported to have suicidal ideation with plan
- Among married residents, 46% in depressed group versus 7% in the non-depressed group had marital problems (none of the depressed individuals had ever had marital problems prior to depression onset)\(^2\)

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Effects of Sleep Deprivation: Functioning

- 84% of residents scored at a level consistent with clinical sleep disorders on the Epworth Sleepiness Scale.¹
- Daytime sleepiness levels for post-call anesthesia residents are similar to those experienced in narcolepsy.²

Effects of Sleep Deprivation: Medical Errors

Interns working reduced schedules (63 and 64.5 hours/week, respectively):

- Made significantly fewer serious medical errors\(^1\)

- Slept 5.8 hours more per week, more in the 24 hours before each shift, and had less than half the rate of attentional failures during on-call nights\(^2\)


How Much Sleep Is Enough?

- High variation in sleep obtained: 5-11 hours.
- Less variation in sleep need among individuals. Median: 8.2 hours.
- One night with 2 hours less than usual sleep is sufficient to produce significant decrements in waking performance.
- After several nights of 5-hour sleep, most adults do not realize they are pathologically sleepy.
- The amount that allows you to feel alert when rested and relaxed (e.g., this presentation).

Effects of Sleep Deprivation: Self-Appraisal

- Sleep deprivation impairs subjective perception of cognitive deficits
- Can one say “I’m really tired but I’m still performing okay?”

Self Monitoring of Performance

- With one-two nights’ loss of sleep, individuals can accurately report impact of sleep loss on cognitive performance.
- With three or more nights loss of sleep, individuals can only moderately predict cognitive performance.
- Self-ratings are tied to subjective alertness rather than performance.

Dorrian J; Lamond N; Holmes AL et al. The ability to self-monitor performance during a week of simulated night shifts. *SLEEP 2003; 26(7):871-7.*
Specific Sleep Agents

- Benzodiazepine GABA agonists
- Nonbenzo GABA agonists
  - Ambien (zolpidem)
  - Sonata (zaleplon)
  - Lunesta
- Melatonin
  - Rozerem
- Orexin antagonist
  - Belsomra
Sleep Agents: Side and Adverse Effects

Next day drowsiness
Sleep paralysis
Anterograde amnesia
  Sleep driving
  Sleep Eating
Hallucinations
Rebound Insomnia
Withdrawal

Significant interactions w/ ETOH
Diversion
Crimes against persons

Consumer Reports Best Buy Drugs Analysis:
http://www.consumerreports.org/cro/2015/03/the-truth-about-sleeping-pills/index.htm
Specific Sleep Agents

- Benzodiazepine GABA agonists
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  - Rozerem
- Orexin antagonist
  - Belsomra
Medications: Mortality and Cancer

- Groups by doses prescribed per year:
  - 0.4-18, 18-132 and >132
  - RR=3.60 (2.92 to 4.44), 4.43 (3.67 to 5.36) and 5.32 (4.50 to 6.30), (95% CIs)
- Demonstrates a dose-response association.
- Does not demonstrate causality

Insomnia Defined

- Characterized by:
  - Night-time symptoms (difficulties initiating and/or maintaining sleep, or non-restorative sleep)
  - Daytime symptoms (distress and/or impairment in daytime functioning, such as difficulty with concentration, memory, fatigue, and/or mood).
  - Types: Transient, short-term or chronic.
  - For diagnosis, symptoms are present for at least 1 month.

# Sleep Log

**D A Y**

<table>
<thead>
<tr>
<th>Date:</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Did you take a nap? a) For how long? b) At what time?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>2) Did you have any caffeine* after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>3) Did you have any alcohol after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>4) Did you use nicotine after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>5) Did you exercise?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>6) Did you eat a heavy meal or snack after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>7) Did you take any sleeping medication? a) What medication? b) Amount? c) At what time?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>8) Were you sleepy during the day?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
</tbody>
</table>

**N I G H T**

1) At what time did you turn off your lights to go to sleep?
2) At what time did you wake up?
3) How many total hours did you sleep?
4) How many times did you wake up or get up during the night?
5) Rate the quality of your sleep: 1 = poor 5 = excellent
6) Do you feel that you got an adequate amount of sleep? Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐ Yes☐ No☐

*Caffeine = coffee, tea, caffeinated soda, chocolate, certain medications
What Causes Insomnia?

- Not perfectly understood.
- Current status is models, none of which completely explain insomnia.
- Definitely multifactorial.
- Insomnia almost always involves physiological arousal that interferes with sleep initiation or maintenance.
Physiologic Factors associated with Arousal

- Whole-body metabolic activation
- Abnormal hormone secretion
- Variable heart rate
- Increased high-frequency electroencephalography activation
- Sympathetic nervous system activation
Cognitive Model of Insomnia

- Pertains to maintenance of sleep
- Acute sleep loss from stressor or work
- Daytime consequences of sleep loss manifest. Anxiety triggers emotional distress and autonomic activation.
- Followed by selective attention to sleep related threats: internal and external; misperceptions.
- Behaviors that perpetuate problem

Cognitive Behavioral Model

- Predisposing factors
  - Lower threshold; physiological and psychological characteristics
  - EX: Tendency for excessive worry. Increases basal sympathetic activation

- Precipitating events
  - 75% can identify trigger for episode
  - EX: Distress. Job loss, illness, death of loved one

- Perpetuating attitudes and practices
  - Responding to sleep disruptions dysfunctionally
  - EX: Staying in bed longer

Mean Sleep Latency: Healthy Adults

Mean sleep latencies for zolpidem 10 mg and placebo groups were 14.0 and 15.8 minutes, respectively (overall $p = .727$).

Total sleep time for zolpidem 10 mg and placebo groups was 440.9 and 437.4 minutes, respectively (overall $p = .290$).

REM sleep for zolpidem 10 mg and placebo groups was 93.7 and 104.2 minutes, respectively (overall $p = .036$).

Bruner et al. 1991 Psychopharmacology. Effect of zolpidem on sleep and EEG
Mean Sleep Latency: Patients with Insomnia

Mean sleep latencies for patients for zaleplon 10 mg, zolpidem 10 mg, and placebo groups were 21.5, 26.91, and 19.6 minutes, respectively (overall $p = .393$).

Cognitive Behavioral Therapy

- First Line Treatment for Insomnia
- NIH State-of-the-Science Conference statement on manifestations and management of chronic insomnia in adults. ¹
- British Association for Psychopharmacology consensus statement on evidence-based treatment of insomnia, parasomnias and circadian rhythm disorders. ²

Research on CBT for Insomnia

- RCTs of CBT vs. sleep medications: comparable efficacy
- CBT has significantly more durable effects after treatment is discontinued

CBT leads to significant improvements in insomnia complaints (sleep initiation and/or maintenance) with sustained improvement seen for 6–24 months post-treatment.


CBT Outcomes: Younger vs. Older Adults

<table>
<thead>
<tr>
<th>Measure</th>
<th>Younger adults</th>
<th>Older adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep latency</td>
<td>-0.52</td>
<td>-0.51</td>
</tr>
<tr>
<td>Sleep quality</td>
<td>0.89</td>
<td>0.60</td>
</tr>
<tr>
<td>Wakefulness</td>
<td>-0.57</td>
<td>-0.73</td>
</tr>
<tr>
<td>Sleep efficiency</td>
<td>1.00</td>
<td>0.38</td>
</tr>
</tbody>
</table>

• Effective for both groups on all measures
• Sleep efficiency significantly better in young adults

### CBT Outcomes: CBT vs. Short term Medications

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pharmacotherapy</th>
<th>CBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep latency</td>
<td>0.45</td>
<td>1.05</td>
</tr>
<tr>
<td>Sleep quality</td>
<td>1.20</td>
<td>1.44</td>
</tr>
<tr>
<td>Wakefulness</td>
<td>0.89</td>
<td>1.03</td>
</tr>
</tbody>
</table>

- Both treatments effective on all measures
- Sleep latency significantly more improved with CBT

## Components of Cognitive Behavioral Therapy for Insomnia

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<tr>
<th>Component</th>
<th>Description</th>
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<tr>
<td>Stimulus control</td>
<td>Set of instructions aimed at breaking conditioned arousal and strengthening the bed and bedroom as stimuli for sleep</td>
</tr>
<tr>
<td>Sleep restriction</td>
<td>Limiting the time allowed in bed to the patient’s average reported actual sleep time and subsequently slowly increasing the time allowed in bed as sleep improves</td>
</tr>
<tr>
<td>Cognitive therapy</td>
<td>Targets beliefs and thoughts that interfere with sleep by increasing arousal in bed or indirectly by interfering with adherence to stimulus control and sleep restriction</td>
</tr>
<tr>
<td>Relaxation techniques</td>
<td>Diaphragmatic breathing, progressive muscle relaxation, and visual imagery to reduce psychic and somatic anxiety related to sleep</td>
</tr>
<tr>
<td>Sleep hygiene education</td>
<td>Limiting caffeine intake, avoiding alcohol before bed, incorporating daily exercise, and keeping the bedroom quiet, dark, and at a comfortable temperature</td>
</tr>
</tbody>
</table>

A CBT Consultation

http://healthysleep.med.harvard.edu/chapter/consultation/2/wm-hi
Insomnia and Treatment of Depression, PTSD

- Insomnia symptoms often remain even when other symptoms of depression improve.
- SSRI’s reduce REM
- “Added” treatment of insomnia produces further reduction of all symptoms
- Sleep medications also reduce REM
- May be better to offer CBT
- Similar results for PTSD

Stepped Treatment for Sleep Problems

- Screen or identify when taking history for sleep problems.
- Establish type of sleep problem using interview or Sleep Questionnaire tool.
- If brief stress reaction, reassure or brief treatment.
- If insomnia associated with mental disorder, treat/refer appropriately.
- If primary insomnia, use sleep log before starting any treatment.
- Have patient return, finish evaluation and treat/refer.
Learning Objectives

- Discuss causes and diagnosis of insomnia
- Identify signs of fatigue
- Discuss the impact of sleep loss
  - on health including cognitive functions
  - on health professionals
- Discuss efficacy and application of medical and cognitive behavioral therapy for insomnia
  - Identify treatment recommendations of American Academy of Sleep Medicine
Sleep Questionnaire

Answer all of the questions in the top three columns. Total your answers at the end of each section. If total "checks" in any column(s) are two or more, or if you checked any starred (*) question(s) in a column(s), also answer the questions in the same column(s) below. Bring this questionnaire with you when you see your doctor. Be sure to discuss your answers with your doctor.

1: Sleep Loss
Check (√) only if YES
1. Do you often have difficulty falling asleep?
2. Do you awaken too early in the morning?
3. If you frequently awaken during the night, do you have difficulty going back to sleep?
4. Do you often feel tired when you awaken in the morning?
5. Does sleep loss affect your mood during the day, making you feel tense, irritable, or depressed?

If (*) or 2 or more (√), then ⇒ Total (√): ___

Sleep Loss Check (√) only if YES
1. Do you go to sleep and wake up at different times each day?
2. Is your sleep disturbed due to frequent travel?
3. Do you have trouble sleeping because of shift work?
4. Is there light in your bedroom at night?
5. Do you sleep in a noisy environment?
6. Are you disturbed by your bed partner at night?
7. Do you exercise within 2 hours of bedtime?
8. Do you drink beverages with caffeine in the afternoon or evening?
9. Do you smoke before going to sleep or when you awaken during the night?
10. Do you have trouble falling or staying asleep because of worry?
11. Have there been recent stressful events in your life?
12. During the past month, have you had trouble sleeping because of:
   A. coughing, gasping, or choking
   B. frequent need to urinate
   C. feeling too hot
   D. having pain
13. Are you taking prescribed medication to help you sleep?
14. Are you taking over-the-counter medication to help you sleep?
15. Do you regularly drink alcohol in the evening?
16. Are you keyed up and having trouble relaxing at night?
17. Do you usually sleep better away from your own bed?

2: Daytime Sleepiness
Check (√) only if YES
6. Do you often find yourself falling asleep when you don't intend to, such as while driving, viewing television, or watching movies?
7. Does excessive sleepiness often interfere with your work or social life?
8. During a 24-hour period, do you usually sleep more than 9 hours?
9. Do you snore heavily most nights?
10. Have you been told you have long pauses in your breathing during sleep?

If (*) or 2 or more (√), then ⇒ Total (√): ___

Daytime Sleepiness Check (√) only if YES
1. Have you had any accidents or near-accidents because of excessive sleepiness?
2. Do you fall asleep unintentionally during the day?
3. Are you irritable during the day?
4. Do you nap intentionally?
5. Do you awaken in the morning with a headache?
6. Do you awaken in the morning with a dry mouth?
7. Do you snore loudly and have pauses in your breathing at night?
8. Do your muscles feel very weak when you are laughing, excited, or angry?
9. Do you have trouble concentrating or remembering things during the day?
10. Do you awaken from sleep feeling paralyzed?
11. Do you see or hear or feel things when you are falling asleep or awakening?
12. Do you have night sweats?
13. Are you a restless sleeper?

3: Nighttime Disturbances
Check (√) only if YES
11. Do your legs jerk frequently or feel uncomfortable or restless before or during sleep?
12. Have you recently walked in your sleep?
13. Do you often have disturbing nightmares?
14. Do you sometimes wet the bed at night?
15. Have you recently fallen out of bed?

If (*) or 2 or more (√), then ⇒ Total (√): ___

Nighttime Disturbances Check (√) only if YES
1. Have you worn down your teeth as a result of teeth grinding at night?
2. Do you awaken with pain in your jaws?
3. Do you know if you have seizures in your sleep?
4. Do you sleepwalk frequently?
4a. Has it been dangerous?
5. Do you thrash in your sleep?
6. Do you awaken from sleep screaming, violent, or confused?
7. Do you fall out of bed?

Please provide:

Your Name __________________________

Today's Date __________________________

Are you taking any medications prescribed by another doctor or any over-the-counter medicines? __________

If yes, please specify __________________________

Congratulations! YOU HAVE COMPLETED THE QUESTIONNAIRE.

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11/93 A83A88820M Printed in USA
Sleep Log

Sleep logs can be helpful for diagnosing sleep disorders. They are the most efficient way for you and your doctor to evaluate your sleep difficulties. Any patient of a sleep disorder clinic is required to keep a sleep log. More than likely, your doctor will ask you to complete a sleep log for a period of several weeks; already completing this log may expedite your diagnosis and treatment. Most sleep specialists recommend maintaining a sleep log for 2-4 consecutive weeks. Bring this sleep log to your doctor or sleep specialist at the time of your appointment.

Please fill out this Sleep Log for the previous day and night no more than 3 hours after waking up. Estimate approximate times for each of the questions. Detailed accuracy is not essential.

This sleep log provided by Talk About Sleep, www.talkaboutsleep.com

<table>
<thead>
<tr>
<th>Name:</th>
<th>Week of:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>DAY</th>
<th></th>
<th></th>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Did you take a nap?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>a)</td>
<td>For how long?</td>
<td>____ mins.</td>
<td>____ mins.</td>
<td>____ mins.</td>
<td>____ mins.</td>
<td>____ mins.</td>
<td>____ mins.</td>
</tr>
<tr>
<td>b)</td>
<td>At what time?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2)</td>
<td>Did you have any caffeine* after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>3)</td>
<td>Did you have any alcohol after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>4)</td>
<td>Did you use nicotine after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>5)</td>
<td>Did you exercise?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>6)</td>
<td>Did you eat a heavy meal or snack after 6 p.m.?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>7)</td>
<td>Did you take any sleeping medication?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
<tr>
<td>a)</td>
<td>What medication?</td>
<td></td>
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<tr>
<td>b)</td>
<td>Amount?</td>
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<td>c)</td>
<td>At what time?</td>
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<tr>
<td>8)</td>
<td>Were you sleepy during the day?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NIGHT</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>At what time did you turn off your lights to go to sleep?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2)</td>
<td>At what time did you wake up?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3)</td>
<td>How many total hours did you sleep?</td>
<td></td>
<td></td>
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<tr>
<td>4)</td>
<td>How many times did you wake up or get up during the night?</td>
<td></td>
<td></td>
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<tr>
<td>5)</td>
<td>Rate the quality of your sleep:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1 = poor</td>
<td>5 = excellent</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6)</td>
<td>Do you feel that you got an adequate amount of sleep?</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
<td>Yes☐ No☐</td>
</tr>
</tbody>
</table>

*Caffeine = coffee, tea, caffeinated soda, chocolate, certain medications
**Epworth Sleepiness Scale**

Use the following scale to choose the most appropriate number for each situation:

0 = would *never* doze or sleep.
1 = *slight* chance of dozing or sleeping
2 = *moderate* chance of dozing or sleeping
3 = *high* chance of dozing or sleeping

**Please answer every question.**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Chance of Dozing or Sleeping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and reading</td>
<td></td>
</tr>
<tr>
<td>Watching TV</td>
<td></td>
</tr>
<tr>
<td>Sitting inactive in a public place</td>
<td></td>
</tr>
<tr>
<td>Being a passenger in a motor vehicle for an hour or more</td>
<td></td>
</tr>
<tr>
<td>Lying down in the afternoon</td>
<td></td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td></td>
</tr>
<tr>
<td>Sitting quietly after lunch (no alcohol)</td>
<td></td>
</tr>
<tr>
<td>Stopped for a few minutes in traffic while driving</td>
<td></td>
</tr>
</tbody>
</table>

**Total score (add the scores up)**