A Wellness Approach to Addressing Insomnia
Learning Objectives

▪ To understand the clinical aspects of insomnia.
▪ To differentiate insomnia from related sleep disorders.
▪ To discuss treatment options for the management of insomnia.
▪ To emphasize the non-pharmacological approach to the management of insomnia.
What percentage of faculty are NOT getting 7 or more hours of sleep a night?

- 23% (1 vote)
- 67% (2 votes)
- 50% (4 votes)
- 42% (1 vote)

Total Results: 6
The Impact of SARS-COV-2 on Sleep

1. Insomnia - with or without history of insomnia

2. Reasons for insomnia include increased anxiety levels, caffeine use, alcohol consumption and increased screen time (blue light exposure).

3. Circadian pattern changes (especially sleep phase delays).
   - Also, increased daytime napping leading to altered nocturnal sleep cycle.

4. Increased drug usage

Source: Javaheris and Javaherish. 2020
Insufficient Sleep and Dementia

- A study of nearly 8,000 people used a 25 year follow-up
- Individuals ages 50, 60 or 70 were 30% more likely to be diagnosed with dementia in later life if they reported sleeping 6 hrs. or less compared to those who regularly slept 7 hrs.

1. Insomnia is commonly associated with medical, neurological or psychiatric co-morbidity (cardiovascular disease, GI disorders, Parkinson’s, chronic pain, breathing problems, depression, and anxiety disorders, to name a few). (Sarsour K, et al., Sleep Medicine, 2008)

2. Likely relationship with dysregulation of the HPA, increased sympathetic nervous system activity and increased inflammation. (Javaheri S., Redline S., Chest. 2017)
Recent study in Current Biology compared 3 groups of healthy normal weight adults (18-39 yrs.).

Control group slept up to 9 hours per night for 9 nights.

Sleep restriction group without weekend recovery sleep had up to 5 hrs. sleep per 9 nights.

Sleep restriction group with weekend recovery sleep had 5 hrs. of sleep per week night, unrestricted sleep on weekend, followed by another 2 week nights of sleep restriction.

Notable findings included rapid diet and metabolic changes in the sleep deprived groups (decreased insulin sensitivity, increased caloric intake and weight gain).

Assessment: Sleep debt consequences probably cannot be fully corrected by weekend compensation.

Ref: Rubin, R. JAMA. 2019
Sleep Loss and Aversive Processing

What is Insomnia?
Insomnia

1. Subjective complaints: Difficulty in initiating and/or maintaining sleep (DIMS)

2. Association with the day time sx., including fatigue, decreased work performance, decreased interest in socialization and depressed mood.

3. Poor quality of life at least 3x/week for a minimum of 3 months.

Source: International Classification of Sleep Disorders (3rd ed.) 2014
Dr. T is a 45 yr. old physician with a productive work and family life, with no medical or psychiatric problems. After a particularly difficult set of calls about 8 months ago, Dr. T soon developed problems falling asleep and waking up several times per night, most days of the week. Dr. T usually tossed and turned for about an hour before falling asleep, and woke up 2-3 times during the night, again tossing in bed for more than 30 minutes before falling asleep. Hours of sleep became erratic, and work productivity was decreased with reduced concentration ability and daytime fatigue.
# Insomnia Severity Index

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

How SATISFIED/DISSATISFed 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>

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>

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>

To what extend to 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, 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>

Add the scores for all seven items

<table>
<thead>
<tr>
<th>Total Score Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-7</td>
</tr>
<tr>
<td>8-14</td>
</tr>
<tr>
<td>15-21</td>
</tr>
<tr>
<td>22-28</td>
</tr>
</tbody>
</table>

Source: [www.myhealth.va.gov](http://www.myhealth.va.gov) with permission from Charles M. Morin, Ph.D. Universite’ Laval
How did you score on the Insomnia Severity Index?

- (0-7) No clinically significant insomnia: 8
- (8-14) Sub threshold insomnia: 5
- (15-21) Clinical insomnia (moderate severity): 2
- (22-28) Clinical Insomnia (severe): 1

Total Results: 16
What are the three P’s of Chronic Insomnia?

- Predisposition
- Precipitation
- Perpetuation

Which of the following is a true statement?

- Taking daytime naps is effective treatment for chronic insomnia.
- Loss of sleep due to chronic insomnia is best done by catching up on weekends.
- Strict adherence to sleep hygiene rules is a key part of insomnia management.
- Drinking warm milk before the hour of sleep is an evidence-based therapy for insomnia.

Total Results: 1
Myths about Sleep

- “I can get by with 5 hours of sleep”.
- “Snoring is not harmful, as long as it doesn’t wake you or others up”.
- “I recover (sleep deficit) by sleeping in on weekends”.
- “Women sleep better than men”.
- “All I need is a cup of coffee and I’ll be fine”.
- “A two hour nap will solve everything”.
- “Melatonin is a good hypnotic”.
- “Over the counter sleeping pills are effective”.
Finan and coworkers referenced the literature supporting a biopsychosocial approach to insomnia, even when associated with complex interfering factors, such as chronic pain.

A Biopsychosocial Approach to the Treatment of Insomnia

“If you have trouble falling asleep, lick your feet for a few minutes. It works for my cat!”
Diagnosis of Chronic Insomnia

- History and physical, including drug/alcohol use history.

- Diagnosis and treatment of underlying contributing conditions (medical – neurological – psychiatric)

- Breathing related sleep disorders – especially obstructive sleep apnea – and periodic limb movement disorder (nocturnal myoclonus) are common and require polysonnography (PSG) in a sleep lab.

- Circadian Rhythm Disorders can mimic insomnia
A Biopsychosocial Approach to Insomnia Management

- Treatment underlying comorbidities 1st (e.g., chronic pain conditions)

- Consider medication as adjunctive or alternative to gold standard – CBT-I

- Pharmacological management (not the focus of our discussion) can be useful to help initiate the sleep cycle and provide guidance in the behavioral management of insomnia
Cognitive behavioral therapy for insomnia (CBT-I) is the gold standard for the treatment of insomnia.

- CBT-I utilizes a foundation of healthy behaviors, such as:
  - Enhancing good coping skills by identification and awareness of unhealthy practices or a sleep disruptive environment.
  - Enhancing resilience by strengthening stress management tools.
  - Sleep hygiene and its biopsychosocial underpinnings, including diet and exercise.
Management of Chronic Insomnia Disorder in Adults: A Clinical Practice Guideline From the American College of Physicians

Amir Qaseem, MD, PhD, MHA; Devan Kansagara, MD, MCR; Mary Ann Forciea, MD; Molly Cooke, MD; and Thomas D. Denberg, MD, PhD; for the Clinical Guidelines Committee of the American College of Physicians*

Description: The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on the management of chronic insomnia disorder in adults.

Methods: This guideline is based on a systematic review of randomized, controlled trials published in English from 2004 through September 2015. Evaluated outcomes included global outcomes assessed by questionnaires, patient-reported sleep outcomes, and harms. The target audience for this guideline includes all clinicians, and the target patient population includes adults with chronic insomnia disorder. This guideline grades the evidence and recommendations by using the ACP grading system, which is based on the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach.

Recommendation 1: ACP recommends that all adult patients receive cognitive behavioral therapy for insomnia (CBT-I) as the initial treatment for chronic insomnia disorder. (Grade: strong recommendation, moderate-quality evidence)

Recommendation 2: ACP recommends that clinicians use a shared decision-making approach, including a discussion of the benefits, harms, and costs of short-term use of medications, to decide whether to add pharmacological therapy in adults with chronic insomnia disorder in whom cognitive behavioral therapy for insomnia (CBT-I) alone was unsuccessful. (Grade: weak recommendation, low-quality evidence)

For author affiliations, see end of text.
This article was published at www.annals.org on 3 May 2016.
CBT-I combines the following techniques:

- Sleep hygiene/education of chronophysiolog
- Relaxation therapy
- Stimulus control therapy
- Cognitive therapy
- Sleep restriction therapy

Source: Morin CM, Benca R., Lancet, 2012
### Good Sleep Hygiene

**DO:**

1. Go to bed and get up at the same time. Try to maintain something close to this on weekends.
2. Get regular exercise each day, preferably in the morning (evidence that exercise (including stretching/aerobic) improves restful sleep.
3. Get regular exposure to outdoor or bright light, especially in the afternoon.
4. Keep temperature in your bedroom comfortable.
5. Keep bedroom quiet and dark enough to facilitate sleep.
6. Use your bed only for sleep (and sexual activity).
7. Establish a regular, relaxing bedtime routine. (ex: warm bath/shower, aromatherapy, reading, music).
8. Use a relaxation exercise before going to sleep or relaxing imagery.
9. Keep your feet and hands warm. Wear warm socks to bed.
10. Designate another time to write down problems and possible solutions (ex: late afternoon/early evening).
### Poor Sleep Hygiene

#### DONT:

1. Exercise before going to bed.
2. Engage in stimulating activities just before bed.
3. Have caffeine in the evening (coffee, teas, etc.)
4. Read or watch television in bed.
5. Use alcohol to help you sleep.
6. Go to bed to hungry or to full.
7. Take another persons sleeping pills.
8. Take daytime naps (No longer than 20 minutes).
9. Command yourself to go to sleep.
10. Watch the clock or count minutes.
11. Lie in bed awake more than 20-30 minutes.
12. Succumb to maladaptive thoughts.
13. Change your daytime routine the next day if you didn’t sleep well.
14. Increase caffeine intakes the next day.
Sleep Hygiene

**Environmental bedroom control:**
- Allow body temperature to drop: lower the thermostat
- Dark bedroom helps rising melatonin
- Quiet environment- can be helped with sleep inducing sounds/music (free android and IPhone apps available)

**Daytime Habits:**
- Exercise and diet: not to close to bedtime!
- Avoid stimulants (coffee, tea, alcohol) after 2:00pm
- NAPS – avoid at 1st, then take circadian (short) naps between 1-4:00pm
- Winding down activities before sleep, beginning 2 hrs. before bedtime

Modified from: Morin CM, Benca R., Lancet, 2012
CBT-I Tools

- **Cognitive therapy**: Restructure thought patterns that put pressure on yourself to sleep “I’ll feel terrible tomorrow and I have a busy day.” Using paradoxical intention is one tool used in this regard.

- **Relaxation methods** (most people with insomnia are overstimulated at bedtime.)

- **Enhance coping tools like:**
  - Deep muscle relaxation
  - Mindful meditation
  - Stress management
  - Reinforcing progress with sleep diary

Modified from: Morin CM, Benca R., Lancet, 2012
Stimulus Control: Use bed only for sleep (exception – sex)

- No TV in the bedroom
- Bed is not the place for problem solving, negative memories, tasks, or planning for tomorrow
- Connect bed with sleep: This is the key to a critical physiological signaling.
- No tossing and turning in bed

Modified from: Morin CM, Benca R., Lancet, 2012
Sleep Restriction

- Unlike other CBT-I techniques, this more often requires the assistance of a trained professional
- Helps the patient to spend less time awake in bed
- Makes sleep cycle deeper and more regular
- Requires initial limitation of time in bed, with increasing time in bed as sleep becomes more efficient.

"No wonder you have insomnia... lying there awake all night."

Modified from: Morin CM, Benca R., Lancet, 2012
CBT-I can be self taught, especially

- Sleep hygiene
- Chronophysiology education
- Relaxation Techniques
- Stimulus control
- Various apps are available for self learning or assistance from professionals.

Modified from: Morin CM, Benca R., Lancet, 2012
Chronophysiology of Sleep

Circadian Balance and Rhythm

- Stimulating Factors
- Environment comfort: noise, Temperature & light
- Stress Prevention & Management
- Diet and metabolic disruptors
- Exercise
Circadian Physiology

- **Pineal gland**
- **Autonomic nervous system**
- **Adrenal gland**

**Graphs**
- **Plasma melatonin (pmol/l)**
- **Core body temperature (°C)**
- **Plasma cortisol (nmol/l)**

**Time (h)**

- 0
- 24
Dr. T is a 45 yr. old physician with a productive work and family life, with no medical or psychiatric problems. After a particularly difficult set of calls about 8 months ago, Dr. T soon developed problems falling asleep and waking up several times per night, most days of the week. Dr. T usually tossed and turned for about an hour before falling asleep, and woke up 2-3 times during the night, again tossing in bed for more than 30 minutes before falling asleep. Hours of sleep became erratic, and work productivity was decreased with reduced concentration ability and daytime fatigue.
Wellness Prescription for Dr. T

**Education** regarding chronophyllology

**Strict sleep hygiene**, emphasizing:
- Wake up at the same time, 7 days a week
- No daytime naps until sleep cycle is corrected
- Pre-sleep routine, including doing work/conflict task prioritization (finishing 2 hrs. before sleep) and doing relaxing rituals before sleep
- Strict environment control, including quiet, dark bedroom with no TV
- Enhance lowering body temperature: turn thermostat down
- No stimulants after 2pm

**Stimulus Control**
- No tossing and turning for long periods in bed → get up, go into another quiet, dark room and meditate/listen to soft music until asleep.
- No clock watching: face of clock out of sight
- Train body: when in bed I'm actually sleepy or asleep

**Cognitive restructuring and reinforcement** (like sleep log).
# Sleep Diary: Positive Reinforcement for Improvement

**TWO WEEK SLEEP DIARY**

INSTRUCTIONS:
1. Write the date, day of the week, and type of day: Work, School, Day Off, or Vacation. (2) Put the letter “C” in the box when you have coffee, cola or tea. Put “M” when you take any medicine. Put “A” when you drink alcohol. Put “E” when you exercise. (3) Put a “B” in the box to show when you go to bed. Put a “Z” in the box that shows when you think you fell asleep. (4) Put a “Z” in all the boxes that show when you are asleep at night or when you take a nap during the day. (6) Leave boxes empty to show when you wake up at night and when you are awake during the day.

**SAMPLE ENTRY BELOW:** On a Monday when I worked, I jogged on my lunch break at 1 PM, had a glass of wine with dinner at 6 PM, fell asleep watching TV from 7 to 8 PM, went to bed at 10:30 PM, fell asleep around Midnight, woke up and couldn’t go back to sleep at about 4 AM, went back to sleep from 5 to 7 AM, and had coffee and medicine at 7 AM.

<table>
<thead>
<tr>
<th>Date</th>
<th>Day of the week</th>
<th>Type of Day</th>
<th>12 AM</th>
<th>1 AM</th>
<th>2 AM</th>
<th>3 AM</th>
<th>4 AM</th>
<th>5 AM</th>
<th>6 AM</th>
<th>7 AM</th>
<th>8 AM</th>
<th>9 AM</th>
<th>10 AM</th>
<th>11 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Work</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>sample</td>
<td>Mon.</td>
<td>E</td>
<td>A</td>
<td>Z</td>
<td>B</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td>Z</td>
<td></td>
<td>C/M</td>
</tr>
</tbody>
</table>

**Week 1**

**Week 2**

- Easy to read, excellent for both healthcare professionals and patients
- Covers basics physiology, sleep hygiene, different types of sleep disorders (including sleep apnea, shift work disorder tips, jet lag, etc.)
- Covers sleep myths, treatment options, detailed sleep hygiene, sleep diary.

Your Guide to Healthy Sleep (nih.gov)
• **American College of Physicians (Insomnia):**
  https://www.acponline.org/acp-newsroom/cognitive-behavior-therapy-effective-for-chronic-insomnia

• **Dr. Christine Korol** “What is Insomnia and how to cure it with Cognitive Behavior Therapy” (YouTube video)

• **Your Guide to Healthy Sleep (nih.gov)**
QUESTIONS

COMMENTS

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