Diagnostic Criteria for Insomnia

- Difficulty initiating sleep.
- Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings.
- Early-morning awakening with inability to return to sleep.
- The sleep disturbance causes clinically significant distress or impairment in social, occupational, educational, academic, behavioral, or other important areas of functioning.

Diagnostic and Statistical Manual – Fifth Edition

Diagnostic Criteria for Insomnia

- The sleep difficulty occurs at least 3 nights per week.
- The sleep difficulty is present for at least 3 months.
- The sleep difficulty occurs despite adequate opportunity for sleep.
- The insomnia is not better explained by another sleep-wake disorder, physiological effects of a substance, or a coexisting mental disorders and medical conditions.

Diagnostic and Statistical Manual – Fifth Edition
How common is insomnia?

- About one third of adults in the U.S. said they experience at least one symptom of insomnia.
- About 10% report having insomnia symptoms associated with daytime consequences, (e.g., daytime fatigue, irritability, anxiety).
- About 6% of U.S. adults meet the full criteria for insomnia.
- Increases with age.
- Twice as common in women as in men.

Ohayon, MM. (2002). Epidemiology of insomnia: what we know and what we still need to learn. Sleep Medicine Reviews, 6, 97-111.

Conditions that can cause insomnia

- Hyperthyroidism
- Arthritis or any other painful condition
- Chronic lung or kidney disease
- Cardiovascular disease (heart failure, CAD)
- Heartburn (GERD)
- Neurological disorders (epilepsy, Alzheimer’s, headaches, stroke, tumors, Parkinson’s Disease)
- Diabetes
- Menopause

Common drugs that can cause insomnia

- Alcohol
- Caffeine/chocolate
- Nicotine/nicotine patch
- Beta blockers
- Calcium channel blockers
- Bronchodilators
- Corticosteroids
- Decongestants
- Antidepressants
- Thyroid hormones
- Anticonvulsants
- High blood pressure medications

- Bronchodilators
Additional Causes

- Psychiatric disorders
  - Phobias and panic attacks, bipolar disorder, depression, and schizophrenia
- Poor sleep habits
- Shift work
- Other sleep disorders
  - Circadian rhythm disorders
  - Restless leg syndrome
  - Periodic limb movement disorder
  - Sleep apnea

Sleep Medication

- The percentage of adults using a prescription sleep aid increases with age.
- During 2005–2010, about 4% of U.S. adults aged 20 and over reported that they took prescription sleep aids in the past 30 days.
- Prevalence of use was lowest among those aged 20–39 at about 2%, increased to 6% among those aged 50–59, and reached 7% among those aged 80 and over.
- More adult women (5.0%) reported using prescription sleep aids than adult men (3.1%).
- Non-Hispanic white adults reported higher use of sleep aids (4.7%) than non-Hispanic black (2.5%) and Mexican-American (2.0%) adults.
- No difference was shown between non-Hispanic black adults and Mexican-American adults in use of prescription sleep aids.


Sleeping Medication Concerns

- Most common treatment approach
  - Drowsiness common the next day
- NOT meant for chronic insomnia
  - Recommended for short-term insomnia only
- Tolerance and dependency may develop
- Withdrawal, rebound, relapse may occur
CBT-I: A behavioral approach

- Cognitive Behavioral Therapy for Insomnia (CBT-I)
- Five main components
  - Relaxation training
  - Cognitive restructuring or realistic thinking
  - Review of sleep hygiene or healthy sleep habits
  - Stimulus control
  - Sleep restriction

Relaxation Methods

- Diaphragmatic breathing
  - Learning how to breathe slowly, rhythmically, using the diaphragm.
  - Sometimes called “belly breathing”
- Progressive muscle relaxation
  - Usually guided via an audio tape
  - Systematically learn to relax all of your muscles from head to toe
- Meditation and mindfulness methods
  - Useful in patients that worry before bed

Cognitive Therapy

- Involves learning how to identify thoughts and beliefs about sleep that are incorrect
- Patients learn how challenge unrealistic thoughts and develop more reasonable attitudes about sleep.

| Unrealistic expectations re: sleep needs | “I must have 8 hours of sleep each night.” |
| Faulty beliefs about insomnia consequences | “Insomnia can make me sick or cause a mental breakdown.” |
| Misattributions of daytime impairments | “I’ve had a bad day because of my insomnia.” |
| | “I can’t have a normal day after a sleepless night.” |
Sleep Hygiene

- Maintain a consistent bed time and wake time
- Avoid all napping
- Avoid caffeine, nicotine, and sugary snacks 4-6 hours before sleep
- Keep bedroom comfortable and free from distracting noises or uncomfortable elements.
- Avoid drinking alcohol before bed
- Light snack before bedtime, such as protein or dairy may be helpful.
- For those with frequent urination concerns, restrict liquids 3 hrs before bed.

Stimulus Control

- Use the bed only for sleeping or intimacy
  - No watching TV, talking on the phone, eating, or doing work activities in bed
- If unable to sleep after 20min, then:
  - Go to another room
  - Engage in quiet activity, such as reading, watch non-stimulating TV program, meditation
  - Return to bed only when sleepy
- Repeat the above as often as necessary

Sleep Restriction – “The Hammer”

- An effective form of treatment and rarely implemented
- Should be guided by a trained sleep specialist
- Involves restricting time in bed to increase levels of fatigue and promote tiredness.
- Based on sleep log data, average total sleep time is estimated and BT and WTs are prescribed to the patient.
- Time in bed is gradually increased as sleep efficiency to improves.
Sleep Log: Keep track of your sleep

<table>
<thead>
<tr>
<th>Date</th>
<th>Bed Time</th>
<th>Time In Bed</th>
<th>Number of Arising</th>
<th>Wake Time</th>
<th>Time U/S B/Bed</th>
<th>Sleep Efficiency</th>
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Sleep Efficiency

- Sleep efficiency is a ratio

\[
\text{Sleep Efficiency} = \frac{\text{Total min asleep}}{\text{Total min in bed}}
\]

- Time in bed is increased by 15 minutes every 7-10 days if efficiency is >85%
- Time in bed remains unchanged if sleep efficiency is 80-84%

Effectiveness of CBT-I

- 85 clinical trials
- Comprising 4,194 participants
- 70% patients achieve sustained improvement
- On sleep and daytime reports
- Reflecting moderate to large effect sizes
- Including 12 trials on insomnia associated with medical/psychiatric disorders

Morin et al. (AASM taskforce reviews): Sleep 1999; 22; 1134-56, Sleep 2006: 29; 1398-1414
Evidence Base for CBT

- “CBT has been found to be as effective as prescription medications for short-term treatment of chronic insomnia. Moreover, there are indications that the beneficial effects of CBT, in contrast to those produced by medications, may last well beyond the termination of active treatment” (p.14)

NIH Consensus and State-of-the-Science Statement
Volume 22, Number 2
June 13-15, 2005

Case Example: Mr. Sleepy

- 69yo Caucasian, married male with history of Afib, but otherwise healthy.
- Works as a university professor. Reports increased stress associated with teaching and writing grants.
- Feels tired most mornings due to maintenance insomnia
- Despite increased stress denies other relevant mental health history.
- Uses Sonata 5mg prn

Case Example: Mr. Sleepy

- Sleep Pattern:
  - BT: 10-11PM
  - SOL: 5 min
  - WASO: 2 awakenings per night/1-2 hrs per awakening
  - WT: 6:15-7AM
  - TST: 5-6hrs
Case Example: Mr. Sleepy

- **Session 1:**
  - Review sleep hygiene and stimulus control procedures
  - Teach relaxation method to reduce stress and worry at night
  - Introduce sleep log

- **Session 2:**
  - Review relaxation
  - Review sleep log and calculate sleep efficiency
  - Prescribe BT: 11PM and WT: 5AM

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Case Example: Mr. Sleepy

- **Session 3**
  - Review sleep log
  - Sleep efficiency – 90%. TST: 5.6 hrs
  - Discuss bed times. Maintain BT: 11PM WT: 5AM
  - Reports daytime tired is better. Reports few awakenings. No meds.

- **Session 4**
  - Review sleep log. Sleep efficiency – 90%
  - Very few awakenings. No meds.