

Conquering Insomnia

A Five Session CBT-I Program



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Session 1

Understanding Insomnia



Lesson 1: Introduction to the Conquering Insomnia Program

What Is Insomnia?



Insomnia is defined as one or more of the following:

- difficulty falling asleep
- difficulty staying asleep during the night
- waking up too early in the morning

According to a study conducted by the National Sleep Foundation, one third of adults report insomnia on most nights and half experience this problem at least a few nights per week.

Why Sleeping Pills are Not the Answer

Sleep medications are the most common treatment for insomnia. However, they are only moderately effective. They only increase total sleep time by 10-30 minutes and become less effective with regular use. They are also used for too long and in too high a dose. For example, 90% of female and elderly patients exceed the recommended dose of Ambien 5 mg. Additionally, two-thirds of patients use them for more than a year and one-third use them for more than five years, often nightly, despite not being tested or approved for long-term use. And because they do not treat the causes of insomnia, insomnia returns when the medications are discontinued.

All sleep medications can have side effects such as a morning “hangover”; impairment of alertness, learning and memory, and driving; and, dependency. Ambien and Sonata have fewer hangover effects due to short half-lives, which is how long it takes to metabolize half of the sleeping pill. Since it takes six half-lives to fully eliminate a sleeping pill (half-lives are longer in women, the elderly, and obese individuals due to slower metabolization), and almost all sleeping pills except Sonata and Ambien have half-lives ranging from six hours to several days, they are never fully eliminated from the brain if used daily. Benzodiazepine sleeping pills such as Klonopin, Ativan, and Xanax also reduce deep sleep and dream sleep.

The key to minimizing side effects is to use sleep medications with a short half-life in the smallest possible dose intermittently (no more than three or four times per week). And it is important to understand that a significant placebo effect exists with sleep medications as evidenced by the fact

that many people fall asleep before sleep medications are ever absorbed in the gastrointestinal tract.

CBT-I (Cognitive-Behavioral Therapy for Insomnia)

The good news is there is something that works well to treat insomnia. It's called Cognitive Behavioral Therapy for Insomnia, or CBT-I for short. CBT-I is based on the idea that chronic insomnia is due to learned thoughts and behaviors that can be unlearned. CBT-I teaches poor sleepers how to:

- Modify stressful, inaccurate thoughts about sleep
- Modify disruptive or negative sleep behaviors
- Improve relaxation skills
- Improve lifestyle practices that affect sleep

A significant amount of research now suggests that CBT-I is highly effective for insomnia, and more effective than sleeping pills:

- In all three studies (two of which were funded by the National Institutes of Health) that directly compared CBT-I to sleeping pills, CBT-I was more effective.
- 75% of people with insomnia experience clinically significant improvement after CBT-I without the side effects of sleeping pills.
- Unlike sleeping pills, the improvements from CBT-I are maintained long after treatment is terminated.
- CBT-I improves six co-morbidities as a result of improved sleep: menopausal hot flashes, pain, fibromyalgia, depression, PTSD, and substance abuse. It also doubles the significant improvement rates in depressed patients with co-morbid insomnia compared to anti-depressant medication alone.
- CBT-I is now recommended as the preferred first line treatment for chronic insomnia by the National Institutes of Health; in reviews in major scientific journals such as the [New England Journal of Medicine](#) and the [Lancet](#); and, by [Consumer Reports](#) and the American College of Physicians.

CBT-I achieves these results because it is based on a simple yet powerful concept: insomnia is caused by learned thoughts and behaviors that can be unlearned, or changed. The Conquering Insomnia program will show you how to overcome your insomnia with CBT-I.

The Conquering Insomnia Program: A Proven Solution

The Conquering Insomnia Program is based on:

- The same CBT-I program that was developed and tested at Harvard Medical School and the University of Massachusetts Medical School over the past 30 years with over ten thousand patients.
- A major study conducted at Harvard Medical School that was funded by the National Institutes of Health. This study, which was published in the [Archives of Internal Medicine](#), directly compared the same CBT-I intervention used in this program to Ambien, the most frequently prescribed sleeping pill worldwide. The study showed that this CBT-I program was more effective than Ambien for insomnia.
- The same program described in an article published in the [American Journal of Medicine](#) showing that 90% of patients who were treated with this intervention reported improved sleep. Additionally, 90% of sleep medication users reduced or eliminated their sleep medication because of this intervention.

The five sessions of the Conquering Insomnia program are organized over a five-week period as follows:

Session 1: Basic facts about sleep and understanding your own insomnia

Session 2: Sleep scheduling and stimulus control techniques

Session 3: Changing your thoughts and learning how to stop using sleeping pills

Session 4: Daytime relaxation techniques and stress-reducing attitudes and beliefs

Session 5: Bedtime relaxation techniques and lifestyle practices for improving sleep

This program is designed to be a sequential five-week program. You should begin with session 1, then proceed to session 2 and so on through session 5 over a 5-week period. You should spend a week implementing the techniques learned in each session before you move on to the next session. Therefore, it will typically take you five weeks to complete the program.

Lesson 2: Basic Facts About Sleep



Understanding Sleep

Before you can implement CBT-I, it is necessary to understand some basic facts about sleep that are a prerequisite to understanding the techniques you will learn in this program.

The Five Stages of Sleep

Let's begin by reviewing the five stages of sleep:

Stage 1: A drowsy, relaxed state between waking and sleeping in which respiration slows, muscles relax, and heart rate drops. Most people who are awakened from this stage will report that they were "drifting off" but were not really asleep.

Stage 2: Deeper than stage 1 but still a light stage of sleep. Insomnia patients are more likely to perceive stage 2 sleep as being awake. This means that, on many nights, you may be asleep and not realize it.

Stages 3 and Stage 4, or Deep Sleep: The lowest levels of physiological activity during the 24-hour day occur in deep sleep. As a result, it is harder to wake up from deep sleep. After deep sleep, we revert back to stage 2 for a few minutes, and then enter dream sleep.

Dream Sleep (also called REM sleep): This stage is characterized by rapid eye movements (REM), dreams, and significant physiological activity such as increased heart rate. Because REM sleep is such an active period for the brain and body, we are more likely to awaken from this sleep stage and feel more alert than awakenings from deep sleep. Brain wave patterns during REM sleep resemble wakefulness.

Sleep Cycles

During one sleep cycle, we progress from Stage 1 to Stage 4 and then through dream sleep in about ninety minutes. Therefore, a six-hour sleeper will move through four sleep cycles during the night. We spend about 5% of the night in Stage 1, 50% in Stage 2, 20% in deep sleep, and 25% in dream sleep.

Early in the night, deep sleep periods are longer (sometimes lasting up to one hour) whereas dream periods last only a few minutes. Later in the night, deep sleep periods grow shorter and the duration of dream periods increase so that, by the final dream period of the early morning, dream sleep may persist for an hour.

As a result, we obtain most of our deep sleep during the first half of the night and most of our dream sleep during the last half of the night. It is normal to wake briefly a half-dozen times during the night but we usually don't recall these awakenings in the morning. However, sleep specialists consider waking during the night more than two or three times, and being awake for more than a

few minutes each time, abnormal. Because sleep grows lighter in the second half of the night, awakenings are more prone to occur in the second half of the night.

As we move past age 60, we wake more frequently and for longer intervals. We also sleep less at night and nap more during the day, partly due to reduced sleep need as we age and reduced deep sleep, particularly in men. However, older adults do not experience as much impairment from sleep loss as younger sleepers.

The Functions of Sleep

Now let's review the functions of the various stages of sleep:

Deep sleep (Stages 3 & 4)

- Provides the brain and body with significant rest.
- Renews physical and mental energy.
- The most important stage of sleep. If we are deprived of sleep, the brain will try to recover or "make up" the lost deep sleep the next time we sleep. Furthermore, loss of deep sleep produces the greatest impairments in daytime functioning compared to the other stages of sleep.

Dream sleep

- Involves processing and saving newly learned emotional information into memory.
- Like deep sleep, dream sleep is very important. The brain will try to make up for dream sleep deprivation the next time we sleep, though the brain will only attempt to recover half of the dream sleep we lose as opposed to recovering all the deep sleep we lose.

Stage 2

- A milder form of deep sleep.
- Involved with energy restoration.

Stage 1

- More of a deep relaxation state than a true sleep state.
- Prepares the mind and body for the entry into sleep.



Sleep Control Mechanisms in the Brain

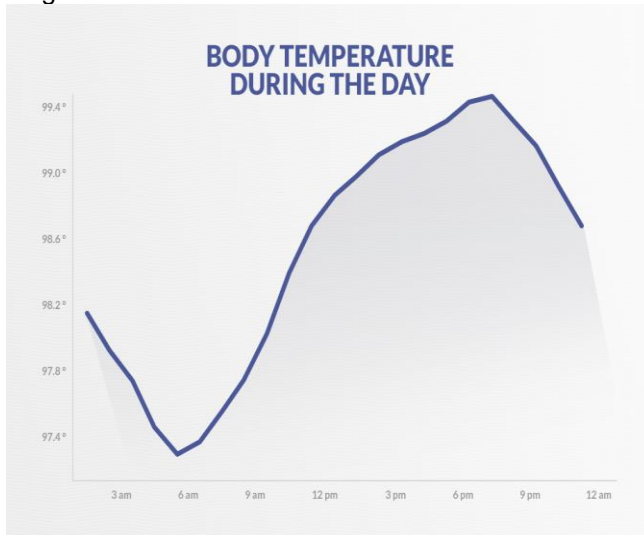
Next, let's talk about the brain's wake system and sleep system:

- The wake system promotes alertness during the day.
- The sleep system promotes sleep at night.
- The wake system is dominant for about 16 hours a day, while the sleep system is dominant for the remaining eight hours of the day.

- The longer the wake system is "on" during the day (that is, the more waking time we accumulate during the day, which is called prior wakefulness), the greater the drive or pressure for nocturnal sleep and the better we sleep. This is the result of the build-up of a sleep neurotransmitter called adenosine in the brain for each hour of wakefulness during the day. Because adenosine builds up as a result of energy expenditure, and we expend more energy with greater prior wakefulness during the day, we create more sleep drive- and will sleep better- the longer we are awake during the day.

The Brain's Internal 24-hour Clock

Your brain has a 24-hour clock. This clock regulates body temperature by controlling the release of a naturally occurring hormone in the brain called "melatonin". When sunlight enters the eyes, melatonin concentrations decrease, which promotes wakefulness and increased alertness by signaling body temperature to rise. Body temperature generally rises during the day except for a brief period in the afternoon, and then hits its daily peak around 6:00 p.m. as can be seen in the diagram below:



- We are most alert in the late morning and early evening when body temperature is highest.
- At nighttime, light ceases to enter the eyes, which triggers the secretion of melatonin. Body temperature drops, alertness wanes, and we get sleepy.
- Body temperature continues to decline and reaches its daily low in the pre-dawn hours. It then prepares us for waking by beginning to rise before sunrise. Once we awaken, the cycle of increasing body temperature during the day and falling temperature at night repeats itself.

You can read more in-depth information about the physiology of sleep in the focus article titled "The Mind and Body During Sleep" in the focus article library you received as part of this program.

Lesson 3: The Various Types of Insomnia

There are two types of insomnia. The first is difficulty falling asleep at bedtime, which is called sleep-onset insomnia. This is typically defined as requiring at least a half hour on average to fall asleep. The second is waking up and lying awake during the night, which is called sleep-maintenance insomnia. This is usually defined as lying awake during the night for at least a half hour on average.

To meet most definitions of insomnia, you must usually report sleeping less than six hours per night and also experience negative consequences (e.g., fatigue, impaired performance) during the day from your disturbed sleep.

No matter which type of insomnia you have, research on insomnia suggests that insomnia patients have a wake system that is too strong and a sleep system that is too weak.



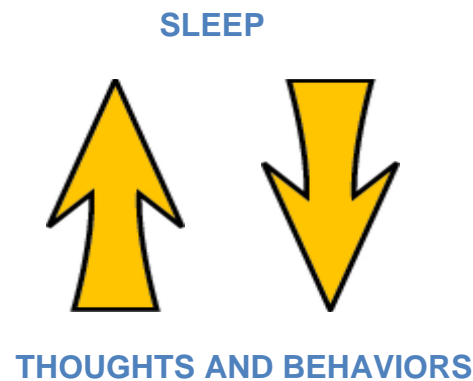
Key Concept: CBT-I teaches you to strengthen your sleep system and weaken your wake system so that you fall asleep and stay asleep more easily.

Lesson 4: How Chronic Insomnia Evolves

How do you get chronic insomnia? It starts as short-term insomnia. Difficulty sleeping for a few days or weeks is normal, especially in response to stressful life events. Insomnia that persists for a month or longer is termed chronic insomnia, which can affect you a few nights per week or most nights, and can occur weekly or in a cyclical fashion.

Short-term insomnia develops into chronic insomnia as a result of:

- worrying about sleep loss
- associating the bed with wakefulness
- spending excessive time in bed
- trying to “force” sleep
- engaging in other disruptive or negative sleep behaviors, such as arising at irregular times
- stress exacerbating insomnia



Although medical and mental health problems can disturb sleep, they do not play a primary role in most cases of chronic insomnia. If you suspect you have a medical or mental health problem contributing to your insomnia, or if you have not seen your doctor in a while, schedule a thorough medical evaluation.

Lesson 5: Sleeping Pills



Because sleeping pills are such a common treatment for insomnia, let's review some important facts about them.

There are three types of sleeping pills:

- Benzodiazepine sedative hypnotics (BZDs) or similar pills
- Sedating antidepressants
- Over-the-counter medications

Regular use of sleeping pills – particularly BZDs – can lead to these side effects:

- Reduced deep sleep and REM sleep, and increased Stage 2 sleep.
- A "hangover" effect the following day that can impair coordination, alertness, memory, and thinking.
- Physical or psychological dependency and withdrawal symptoms if one attempts to abruptly stop taking the medication.
- Tolerance (larger doses may be required for the drug to work).

Sleeping pills can be appropriate for:

- Occasional, intermittent use in chronic insomnia.
- Short-term insomnia.

It is important to realize that the effects of sleeping pills are partly due to a "placebo" effect. This means that the effect of a sleeping pill is due, in part, to your belief that the pill will work.

Lesson 6: Insomnia Self-Assessment

Your Own Insomnia Self-Assessment

Now that you understand some basic facts about sleep and insomnia, you are ready to conduct your own insomnia self-assessment. This assessment is necessary before you begin CBT-I because it will enable you to establish your baseline sleep pattern and identify medical and mental health problems that may be contributing to your insomnia. After completing this self-assessment, you will be ready to begin CBT-I.

Determining Your Baseline Sleep Pattern

To determine your baseline sleep pattern, you will need to complete a sleep diary for one week. Use the sleep diary that is included with this program and record the information on the diary each morning upon arising for one week. You will use your baseline sleep pattern to begin sleep scheduling techniques in Session 2.

Keep in mind that the sleep diary is not meant to promote clock-watching since it is based on general estimates about your sleep. Keep the diary somewhere other than your bedroom and make sure that any clocks in your room are facing away from you or are across the room, so that you do not watch the clock at night. Clock-watching only serves to increase stress about your sleep.

CBT-I does not use commercially available sleep trackers. Objective sleep trackers used in insomnia research studies, called wrist actigraphs, contain sophisticated sleep algorithms specifically for sleep research and are about 80% accurate for poor sleepers. Fitbits and other commercially available sleep trackers are probably less accurate. They often underestimate total sleep time and don't assess the subjective perception of sleep that is crucial for improving insomnia.

Medical Problems and Drugs that Can Affect Sleep



Although medical problems are not typically the primary cause of chronic insomnia, the following is a list of medical problems and drugs that can disturb sleep. Make a note of those that may apply to you and make sure your doctor has thoroughly evaluated whether these problems may be affecting your sleep.

- Angina, asthma, bronchitis, and emphysema
- Allergies, indigestion, reflux, or ulcers
- Bladder problems, arthritis, chronic pain, headaches
- Epilepsy, hyperthyroidism, kidney disease, diabetes, dementia
- Menopausal hot flashes, premenstrual syndrome
- Analgesics that contain caffeine, prescription diet pills, steroids
- Beta blockers, nasal decongestants that contain stimulants
- Asthma medications that have stimulating effects

Mental Health Problems That Can Affect Sleep

Although mental health problems are not the primary cause of the majority of cases of chronic insomnia, insomnia is a common symptom of disorders such as depression. If you think you have any of the following mental health problems, you should see your doctor for further evaluation.

- Depression: common symptoms include depressed mood or loss of interest or pleasure in daily activities nearly every day of a two-week period.
- Anxiety: symptoms include persistent, excessive, uncontrollable worry that causes one to feel on edge regularly.
- Post-Traumatic Stress Disorder: a traumatic event is continually re-experienced emotionally, resulting in fear and anxiety.

Underlying Sleep Disorders That Can Cause Insomnia



Like medical and mental health problems, underlying sleep disorders are not the primary cause of the majority of cases of chronic insomnia. However, these disorders can contribute to insomnia. If you think you have any of the following disorders, you should see your doctor or a sleep clinic for further evaluation.

- Sleep Apnea: characterized by pauses in breathing that can occur hundreds of times per night. Symptoms include loud snoring, gasping for air, snorting, excessive daytime sleepiness.
- Periodic Limb Movements: episodes lasting from a few minutes to several hours that involve the legs or arms twitching, jerking, or kicking.
- Delayed Phase Disorder: not being able to fall asleep until 3:00 or 4:00 A.M. and then sleeping seven or eight hours until 10:00 or 11:00 A.M.

Sleep Apnea

This sleep disorder, which causes breathing to stop during sleep anywhere from 10 seconds to several minutes, is more prevalent in older individuals, men, and overweight people. The pauses in breathing, called apneas, can occur several hundred times per night and cause a drop in blood oxygen levels. This forces the heart to work harder to keep the blood oxygenated, which explains why sleep apnea is a risk factor for cardiovascular problems. Sleep apnea can leave the person feeling exhausted because the apneas constantly interrupt sleep. If you exhibit loud snoring, pauses in your breathing, snorting or gasping sounds, you should seek an evaluation from your physician or a sleep disorders center.

Periodic Limb Movements

Periodic Limb movements (PLMs) are episodes lasting from a few minutes to several hours during sleep that involve the arms or legs twitching, jerking, or kicking repeatedly. Like sleep apnea, the interruptions in sleep caused by PLMs can leave the person feeling exhausted. If you wake up with your bedcovers in disarray, or if a bed partner has told you that you jerk or kick during sleep, you should be evaluated by your physician or a sleep disorders center.

Delayed Phase Disorder

Individuals with this disorder cannot fall asleep until very late (often 3:00 or 4:00 a.m.) but, once asleep, usually sleep well for 7 or 8 hours. This disorder is caused by a body temperature rhythm that falls too late at night and is treated with artificial bright light boxes at sleep clinics to normalize the body temperature rhythm.

Lesson 7: Week #1 Goals



Week #1 Goals

Your goal this week is to complete the sleep diary each morning upon arising using the sleep diary that you received with this program as a Word document. When you have completed all seven nights on your sleep diary, e-mail it to Dr. Jacobs at info@cbtforinsomnia.com to receive individualized sleep scheduling guidelines that you will learn about in Session 2. Then go on to Session 2.