

Brief Behavioral Treatment for Insomnia (BBTI)

Quick Facts:

Insomnia is a condition characterized by difficulty falling asleep, difficulty in maintaining sleep, or waking up too early despite adequate opportunity to sleep. Insomnia often results in some type of daytime impairment such as symptoms of fatigue, mood disturbance, daytime sleepiness, reduced energy, difficulty with attention or concentration, as well as impairment in social, family or occupational performance.

Chronic insomnia is defined as the presence of symptoms three nights or more a week for more than three months. It is a highly prevalent condition, seen in about 10% of the population.

Once insomnia starts, a negative and maladaptive response develops that associates the bed with wakefulness. Frustration and worry become connected with the bed and bedtime, and this conditioned cortical arousal perpetuates wakefulness. There are two modalities for treatment of chronic insomnia: psychological and pharmacological treatments.

Cognitive Behavioral Therapy for Insomnia (CBT-I) is a type of psychological treatment that utilizes stimulus control, sleep restriction, relaxation training and education about healthy sleep practices.

Unfortunately, access to CBT-I is limited due to a shortage of trained clinicians. In addition, CBT-I is typically delivered over six to 10 sessions of about an hour each, over a six to 20-week period, which may be too frequent or too long for some patients.



What is Brief Behavioral Treatment for Insomnia (BBTI)?:

BBTI is a psychological treatment modality, derived from CBT-I, which is delivered over four consecutive weeks (total of four sessions), and focuses on altering behaviors in order to improve sleep. In comparison to CBT-I, this treatment is shorter in duration, can be delivered by a range of clinicians who are familiar with health promotion and health coaching, and thus can potentially reach many more patients.

BBTI, like CBT-I, utilizes two critical behavioral principles: sleep restriction and stimulus control that enable the patient to produce sleep predictably and reliably.

One of the two key components of BBTI is sleep restriction. Patients with insomnia typically spend several more hours in bed than the time they spend sleeping, thus exhibiting poor sleep efficiency (< 85%). This perpetuates the insomnia as it strengthens the association of the bed with wakefulness rather than sleep and weakens the sleep drive. Patients are instructed to limit the time they spend in bed, which serves to increase their sleep efficiency. Based on review of sleep

diaries, a “sleep prescription” is formulated to limit time in bed to the total sleep time plus about 30 minutes (accounting for time taken to fall asleep and nocturnal awakenings).

The second key component of BBTI is development of stimulus control. The rationale of this treatment is to form a clear and positive association between the bed and sleep. The patient is instructed to go to bed only when feeling sleepy and reserve the bed for sleep and intimacy (avoid activities such as watching TV and using the phone in bed). If the patient is unable to fall asleep within about 20 minutes (perceived time, rather than clock watching), then he/she should get out of bed, engage in a relaxing activity, and return to bed when feeling sleepy again. A fixed rise time is set for the morning.

BBTI is comprised of four weekly sessions, of which the first one is in-person and the following three are in-person or telephone based.

What You Can Do

- Identify and eliminate barriers to sleep (e.g., stimulating prescription drugs, caffeine, nicotine, long naps, excessive screen time right before bed, stimulating activities at night).
- Reduce time in bed to increase sleepiness. Patients should stay up later and reduce their total hours in bed. A typical starting point is limiting time in bed to just 6 hours per night. Once time to fall asleep is <30 minutes, time in bed can be extended by making bedtime gradually earlier.
- Set a fixed wake up time. Waking up at the same time (or earlier) and ideally exposing oneself to natural light is more important than having a fixed bedtime and helps reset the homeostatic sleep clock. Sleeping late or lingering in bed is deleterious to falling asleep well that night. Patients should not go to bed just because “it’s bedtime,” but rather when they are sleepy enough to fall asleep quickly even if that means a short period of sleep that night.
- Instruct patients to reduce time spent awake in bed. Limit time in bed to sleep and intimate activity. Getting into bed for other purposes rehearses being awake in bed and sabotages sleep.
- Limit patients from “trying” to sleep for more than approximately 20 minutes both at bedtime and if they awaken during the night. They should get out of bed if not asleep in about 20 minutes and return to bed when they become sleepy.
- Weekly checkups for three weeks (in-person or by phone) are valuable for reinforcing behavioral changes.
 - If patient is falling asleep in less than 30 minutes AND spending less than 30 minutes awake during night, THEN increase time in bed by 15 minutes the next week
 - If patient is taking more than 30 minutes to fall asleep OR spending more than 30 minutes awake during the night, THEN reduce time in bed by 15 minutes the next week

When to Refer?

- Sleep restriction therapy is not recommended for patients with conditions such as bipolar disorder, psychotic disorders or seizures, as restricting sleep hours can exacerbate these conditions. These patients may be considered for cognitive behavioral therapy with a behavioral sleep medicine provider.
- If sleep has not improved after four weeks, consider referring for a full course of cognitive-behavioral therapy.
- Patients should be referred for a sleep medicine evaluation if there are co-morbid sleep disorders such as obstructive sleep apnea, restless leg syndrome or parasomnias that are contributing to poor sleep.
- Circadian rhythm disorders can mimic insomnia. If patients can sleep well on their own schedules but not on the schedule required for work or school, a referral to sleep medicine or behavioral sleep medicine to evaluate for a circadian disorder is recommended.

One example of the BBT-I approach is found in materials licensed by the University of Pittsburgh and is available for non-commercial use from Dr. Daniel Buysse at buyssejd@upmc.edu.

References:

1. American Academy of Sleep Medicine. *International Classification of Sleep Disorders*. 3rd ed, text revision. Darien, IL: American Academy of Sleep Medicine; 2023.
2. Troxel WM, Germain A, Buysse DJ. Clinical management of insomnia with brief behavioral treatment (BBTI). *Behav Sleep Med*. 2012;10(4):266–279.
3. Germain A, Buysse DJ. Brief behavioral treatment of insomnia. In: Perlis M, Alioa M, Kuhn B, eds. *Behavioral Treatments for Sleep Disorders: A Comprehensive Primer of Behavioral Sleep Medicine Treatment Protocols*. 1st ed. Cambridge, MA: Academic Press; 2011:143-149.
4. Edinger JD, Arnedt JT, Bertisch SM, et al. Behavioral and psychological treatments for chronic insomnia disorder in adults: an American Academy of Sleep Medicine clinical practice guideline. *J Clin Sleep Med*. 2021;17(2):255–262.