

Insomnia

Insomnia means your brain stays awake when your body needs to sleep.

THE ONE-LINE TRUTH

CBT-I (a short talk therapy that retrains your sleep habits) is the best first choice and keeps working long after you finish it.

The chain — how it unfolds

1. Stress, worry, or a big life change (like a job loss, illness, or grief) flips on your amygdala (your brain's alarm center) and turns on the fight-or-flight system (sympathetic nervous system). — why: The amygdala flags danger and sends signals to the hypothalamus and brainstem to release wake-up chemicals (cortisol, norepinephrine, orexin). Your heart rate rises, your breathing quickens, your muscles tense. This is meant to protect you during the day, but now it stays on at night too.
2. At bedtime, the arousal system stays on instead of shutting down. The sleep switch (ventrolateral preoptic nucleus releasing GABA) cannot override the wake signals. — why: High cortisol, norepinephrine, and orexin block the calming effect of GABA (your brain's main sleep chemical). The normal flip from 'awake' to 'asleep' does not happen. You lie in bed alert, heart pounding, mind racing.
3. Night after night of lying awake in bed teaches your brain that bed equals danger and frustration, not rest. This is called conditioned insomnia. — why: The amygdala (your alarm center) now associates the bed, the bedroom, and bedtime with the feeling of being awake and anxious. Just getting into bed triggers the arousal system, creating a vicious cycle. The prefrontal cortex (your brain's brake on worry) gets weaker from chronic stress and cannot calm the amygdala.
4. You develop habits that make it worse: going to bed too early, lying in bed awake for hours, napping during the day, drinking caffeine late, or using screens at night. — why: These behaviors lower your adenosine (sleep drive), confuse your master clock (suprachiasmatic nucleus), and keep the arousal system turned on. Blue light from screens suppresses melatonin (the hormone that signals darkness and sleep time), delaying the sleep switch even more.

5. After weeks of broken sleep, you feel exhausted, foggy, irritable, and anxious during the day. Your focus and memory suffer. — why: The prefrontal cortex, hippocampus (memory center), and other brain regions need deep sleep to clear out waste, repair connections, and recharge. Without it, they run on empty. The arousal system stays partly on even during the day, so you feel wired and tired at the same time. Mood-regulating chemicals like serotonin (which steadies mood and supports sleep) drop.
6. If insomnia continues for months, your risk of depression, anxiety, high blood pressure, heart disease, diabetes, weight gain, and accidents rises. — why: Chronic sleep loss keeps cortisol (stress hormone) high, raises inflammation, disrupts blood sugar control, and prevents the brain from processing emotions. The longer the insomnia lasts, the more the brain and body systems break down. Depression and insomnia feed each other in a loop.
7. The cycle breaks only when you retrain your brain with CBT-I (cognitive behavioral therapy for insomnia), treat any underlying condition (like depression or sleep pauses in breathing (apnea)), and restore healthy sleep habits. — why: CBT-I teaches you to rebuild sleep drive (by limiting time in bed and stopping naps), break the learned fear of bed (by getting out of bed if you cannot sleep), calm racing thoughts, and reset your body clock (with a consistent sleep schedule and morning light). It fixes the root cause — the broken sleep switch and the conditioned arousal — instead of just covering symptoms. It works better than pills and keeps working after you finish.

Spot it — what you see, and why

- Trouble falling asleep at bedtime (taking more than 30 minutes most nights): The brain's arousal system (driven by the locus coeruleus, which releases norepinephrine to keep you alert) stays too active at night, or the body's internal clock (the suprachiasmatic nucleus in the hypothalamus) is shifted so the natural surge of melatonin (the hormone that signals darkness and sleep time) comes too late.
- Waking up in the middle of the night and lying awake for a long time: The brain's sleep-maintenance circuits (involving GABA, the brain's main calming signal, and adenosine, which builds up during the day to create sleep pressure) are disrupted by stress hormones like cortisol, caffeine that blocks adenosine receptors, or a learned habit of worry that reactivates the prefrontal cortex (the thinking part of the brain) when you should stay asleep.
- Waking up too early in the morning and not being able to fall back asleep: Cortisol (the body's main stress hormone) rises too early in the morning, or the internal clock is shifted forward so the brain thinks it is time to wake even though the person needs more rest; depression can also cause this because low serotonin and disrupted REM sleep circuits lead to early-morning awakening.

- Feeling tired, foggy, or irritable during the day: The brain did not get enough deep (slow-wave) sleep or REM sleep during the night, so the hippocampus (the memory center) and prefrontal cortex (the part that plans and controls emotions) did not fully recharge, and adenosine (the fatigue signal) stays high during the day.
- Worry or frustration about sleep itself: The amygdala (the brain's alarm center) learns to associate the bed and bedtime with danger or failure, so lying down triggers a stress response that releases adrenaline and cortisol, which keeps the person awake and creates a vicious cycle.
- Needing sleeping pills or alcohol to fall asleep: The brain's natural GABA system (which quiets nerve activity and allows sleep) is no longer strong enough on its own, so the person relies on outside help like benzodiazepines or alcohol (both boost GABA receptors); over time the brain adapts and needs even more of the drug to achieve the same effect.

Red flags — act now

- Loud snoring with witnessed pauses in breathing or gasping (suggests obstructive sleep apnea), which needs a sleep study and treatment to prevent heart problems and stroke)
- Sudden extreme daytime sleepiness or falling asleep at unsafe times like driving (may signal narcolepsy or severe sleep pauses in breathing (apnea))
- New insomnia with chest pain, severe headache, confusion, or thoughts of suicide (could be a heart problem, brain issue, or severe depression needing urgent care)
- Uncontrollable leg movements or crawling sensations that will not let you lie still (suggests restless legs syndrome or periodic limb movement disorder, which need specific treatment)
- Insomnia starting after a new medication or sudden medication stop (some drugs disrupt sleep or cause rebound insomnia)

Treat it — in this order

1. Cognitive Behavioral Therapy for Insomnia (CBT-I) — delivered in person, by phone, or via a digital program over 4 to 8 sessions → CBT-I rewires the prefrontal cortex (the brain's brake on worry) and resets the brain's sleep-wake clock by teaching you to separate bed from stress, limit time in bed awake, and challenge catastrophic thoughts about sleep. It fixes the broken stress circuit by building new thought pathways and strengthening the link between bed and sleep.

2. Dual orexin receptor antagonist (suvorexant 10–20 mg, lemborexant 5–10 mg, or daridorexant 25–50 mg) taken 30 minutes before bedtime → These drugs block orexin (the brain chemical made by the hypothalamus that keeps you awake and alert). By turning down the wake-up system, they let the sleep system take over without knocking out your brain or causing next-day grogginess the way older sleeping pills do.
3. Low-dose doxepin 3–6 mg taken 30 minutes before bedtime → Doxepin blocks histamine-1 receptors in the brain that promote wakefulness. At low doses it helps you fall asleep and stay asleep without the heavy sedation, falls, or memory problems of benzodiazepines or Z-drugs (zolpidem, eszopiclone).
4. Two-week sleep diary (paper or app) started before and continued during treatment → Writing down bedtime, wake time, time awake during the night, and daytime symptoms reveals whether your insomnia is trouble falling asleep (sleep-onset), waking up in the middle of the night (sleep-maintenance), or waking too early (early-morning awakening). Each pattern points to a different brain circuit and a different fix.
5. Address housing instability, untreated substance use (with medication-assisted treatment if needed), access to mental health therapy, and sleep environment (dark, cool, quiet room) on the same treatment plan as medication or CBT-I → Homelessness, active substance use, untreated trauma, and a noisy or unsafe bedroom keep the amygdala (the brain's alarm center) and the hypothalamic-pituitary-adrenal axis (the body's stress system) jammed in high gear. Fixing these removes the upstream drivers that keep cortisol and norepinephrine flooding the brain at night.

Your top priorities at the bedside

1. Screen for obstructive sleep pauses in breathing (apnea) with the STOP-BANG questionnaire and refer for sleep study if score is 3 or higher before starting insomnia treatment — why: Sleep pauses in breathing (apnea) causes repeated drops in blood oxygen (hypoxemia) that trigger the brain to wake up; treating insomnia without fixing pauses in breathing leaves the patient at high risk for arrhythmias (irregular heartbeat), high blood pressure (hypertension) (high blood pressure), heart failure, and stroke
2. Ask about suicidal thoughts using a direct question like 'Have you thought about hurting yourself?' and activate crisis protocol if the answer is yes — why: Insomnia doubles suicide risk because sleep deprivation lowers serotonin (a mood chemical) and weakens the prefrontal cortex (the part of the brain that controls impulses); early intervention prevents completed suicide

3. Review all current medications, over-the-counter drugs, caffeine, and alcohol with times taken, and work with the provider to stop or retime any that disrupt sleep — why: Many common drugs block adenosine (the sleepiness chemical), increase norepinephrine (the alertness chemical), or fragment REM sleep (the dream stage needed for emotional regulation); removing these causes fixes insomnia in 20 to 30 percent of patients without other treatment