

Sleep Science & Better Sleep — Workbook

This workbook turns the course into your own measured, repeatable sleep-repair system. Each section maps to a course module: first you understand how your sleep works, then you measure it honestly with a diary and a sleep-efficiency calculator, then you apply the same CBT-I techniques clinicians use, and finally you lock in a routine that survives caffeine, travel, and shift work. Use the included spreadsheets to track real numbers instead of impressions, and change one variable at a time so you always know what worked. This is education, not medical advice; if you have loud snoring with gasping, crushing daytime sleepiness, or insomnia that persists despite good habits, see a clinician.

How Sleep Actually Works

Put the core sleep machinery into your own words so every later technique has a reason behind it.

Exercise: Explain the Two-Process Model in Your Own Words

Without copying the course, answer each prompt in one or two plain sentences. If you cannot answer clearly, re-read module one before continuing rather than skipping ahead.

- What is Process S (sleep pressure), what molecule drives it, and how does it reset?

- What is Process C (the circadian rhythm), and why might you get a second wind late at night even when tired?

- Why does a long afternoon nap often wreck that night's sleep, in terms of the two processes?

- How does caffeine relate to Process S, and why does it hide tiredness without removing it?

Worksheet: Map Your Own Day Against the Two Processes

Fill in honest details about a typical day. The goal is to see where your habits fight your sleep system, not to judge yourself.

My usual wake time and bedtime on weekdays

My usual wake time and bedtime on weekends (note the gap)

When I have my last caffeine of the day, and what source

Whether and when I nap, and for how long

When I get my brightest light of the day (indoor or outdoor)

The time I feel my worst afternoon dip and my late-evening second wind

Checklist: Concept Readiness Check

- I can explain that sleepiness is two systems (pressure and clock) adding together
- I understand that deep N3 sleep front-loads the night and REM back-loads it
- I know that waking from deep sleep causes grogginess (sleep inertia) for up to 30 minutes
- I can state that light is the master signal that resets my body clock
- I accept that most adults need 7 to 9 hours and that I cannot micromanage individual stages

Measure Before You Fix

Build an honest two-week baseline and calculate the one number, sleep efficiency, that drives everything next.

Worksheet: Set Up Your Sleep Diary Rules

Before you start tracking, commit to how you will do it so the data stays honest. Fill the diary once each morning from memory, never during the night.

The exact time each morning I will fill in last night's diary

My rule for NOT clock-watching during night awakenings (write it as a sentence)

Where I will keep the diary or spreadsheet so it is easy to fill in

The two-week start and end dates for my baseline

The extra notes I will track: caffeine, alcohol, naps, exercise

Exercise: Calculate Your Sleep Efficiency

Using one night from your diary, work through the calculation by hand so you understand the number before the spreadsheet does it for you.

- Total time in bed last night (from getting in to getting out), in hours and minutes?

- Estimated total sleep time (time in bed minus time to fall asleep minus minutes awake during the night)?

- Sleep efficiency = total sleep time divided by total time in bed, times 100. What is your percentage?

- Is it at or above 85 percent, and what does that tell you about whether you are spending too long in bed awake?

Checklist: Red-Flag Screen Before You Self-Treat

- I do NOT have loud chronic snoring with gasping, choking, or breathing pauses (else screen for apnea)
- I do NOT have crushing daytime sleepiness despite enough time in bed (else get evaluated)
- I do NOT have an irresistible night-time urge to move my legs (else consider restless legs syndrome)
- I do NOT fall asleep suddenly in the day or have sudden muscle weakness with emotion (else consider narcolepsy)
- If insomnia has lasted 3+ nights a week for 3+ months despite good habits, I will discuss CBT-I with a clinician

The CBT-I Toolkit That Fixes Insomnia

Run the core CBT-I techniques, stimulus control and sleep restriction, safely and track your weekly progress.

Checklist: Stimulus Control Rules I Will Follow

- I go to bed only when sleepy, not merely tired or because of the clock
- I use the bed only for sleep and sex, no scrolling, working, or worrying
- If awake about 20 minutes, I get up, leave the room, and do something calm in dim light
- I get up at the same time every morning, including weekends, no matter how I slept
- I do not nap during the day while repairing my sleep

Worksheet: Design Your Sleep Restriction Window

Use your two-week diary averages to set a safe starting window. Never set time in bed below 5 hours, and pick your wake time first, then count backward to bedtime.

My average actual total sleep time over the past 1-2 weeks (hours)

My fixed wake time (the anchor of the whole plan)

My starting time-in-bed window (= average sleep time, but never below 5 hours)

My resulting bedtime (wake time minus the window)

The safety note: am I doing heavy driving or safety-critical work this week? (if yes, delay starting)

Any condition needing professional guidance first (bipolar, seizures, untreated apnea)?

Exercise: Quiet the Racing Mind

Practice the cognitive tools and write down what you notice. These calm arousal; they work alongside, not instead of, the behavioral techniques.

- Write a catastrophic night-time thought you have (e.g. if I do not sleep now, tomorrow is ruined), then rewrite it as a calmer, more accurate statement.

- Do 15 minutes of scheduled worry time this evening: list your top three worries and one next action for each.

- Try paradoxical intention tonight: lie comfortably and gently try to stay quietly awake. What happened to the pressure to sleep?

- Which relaxation tool fit you best: slow breathing, progressive muscle relaxation, the cognitive shuffle, or a body scan?

Build Your Lasting Sleep Routine

Dial in the controllable inputs, work with your chronotype, and prepare for jet lag and shift work.

Worksheet: Set Your Controllable-Inputs Rules

Decide your specific cutoffs and environment targets in numbers, not vague intentions, so you can actually follow them.

My caffeine cutoff time (aim 8-10 hours before bedtime) and my target bedtime

My alcohol rule (finish 3+ hours before bed; moderate amount)

My bedroom temperature target (around 18 C / 65 F) and how I will reach it

How I will make the room dark (blackout curtains, eye mask) and quiet (earplugs, fan, white noise)

When I will get my 10+ minutes of outdoor morning light

My wind-down start time and how I will dim lights and screens in the last 2-3 hours

Exercise: Identify Your Chronotype and Plan Around It

Work out whether you lean morning or evening, then decide how to align your day or nudge your clock.

- On free days with no alarm, what is your natural sleep midpoint (halfway between falling asleep and waking)? Does that make you a lark, an owl, or in between?
 - Where in your day is your natural alertness peak, and what demanding task could you move into it?
 - If you need to shift your clock earlier, list the three signals you will change (light, exercise, meal timing) and how.
 - What gap exists between your weekday and weekend sleep times (your social jet lag), and how will you shrink it gradually?
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Checklist: Travel and Shift-Work Readiness

- For eastward travel I will seek bright morning light and avoid evening light; for westward travel, bright evening light
- I will use low-dose melatonin (about 0.5 to 3 mg) near target local bedtime as a timing cue, not a sleeping pill
- On arrival I will immediately adopt local meal and sleep times
- For night shifts I will use bright light at work, dark sunglasses on the commute home, and a blacked-out bedroom
- Where shifts rotate, I will favour forward rotation (day to evening to night) and use a 20-minute strategic nap

Your Action Plan

1. Choose one fixed wake time you can keep every day, including weekends, and write it down as the anchor of your plan.
2. Keep the sleep diary spreadsheet every morning for two weeks to build an honest baseline.
3. Calculate your average sleep efficiency from week one; this is the number you will watch improve.
4. Run the red-flag screen; if any medical flag fits, book a clinician before self-treating.
5. If efficiency is below 85 percent, start stimulus control and set a sleep-restriction window (never below 5 hours) anchored to your wake time.
6. Each week, recalculate efficiency: above 90 percent add 15-30 minutes in bed, below 85 percent hold or trim the window.
7. Get 10+ minutes of outdoor morning light daily and dim lights and screens in the last 2-3 hours before bed.
8. Apply your caffeine cutoff (8-10 hours before bed) and finish any alcohol at least 3 hours before bed.
9. Make the bedroom cool (~18 C), dark, and quiet, and reserve the bed for sleep and sex only.
10. Review your diary monthly, change one variable at a time, and use timed light plus low-dose melatonin to handle travel or shift work.

