Understanding Sleep

An Evidence-Based Guide to Better Rest

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1. What Is Sleep?

Sleep is a biological necessity, not a luxury. It is a reversible state marked by reduced awareness, lower muscle activity, and predictable changes in brain activity.

During sleep, the brain consolidates memories, regulates emotion, restores metabolic balance, and repairs cellular damage. There are two primary types of sleep:

- NREM (Non-Rapid Eye Movement) – includes Stages 1–3; essential for physical restoration and immune functioning.
- REM (Rapid Eye Movement) – crucial for memory, emotional regulation, and cognitive integration.

Both are vital. You cannot "train yourself" to get by on less sleep without cost.

2. The Sleep Cycle

A typical sleep cycle lasts 90–120 minutes and repeats 4–6 times per night.

Each cycle includes:

- Stage 1 (light sleep) – transition stage
- Stage 2 (stabilising sleep) – body temperature drops, heart rate slows
- Stage 3 (deep sleep) – cell repair, growth hormone release, immune restoration
- REM sleep – dreaming, memory processing, emotional integration

Disruptions to any stage can impair mood, concentration, and physical well-being.

3. What Makes Us Sleepy?

Two biological systems regulate sleep:

A. The Circadian Rhythm (Body Clock)
This internal 24-hour rhythm is controlled by the brain's suprachiasmatic nucleus (SCN). It is strongly influenced by:

- Light exposure
- Daily routines
- Eating times
- Work schedule
- Exercise patterns

B. The Sleep–Wake Homeostat ("Sleep Pressure")
The longer you are awake, the more adenosine builds in the brain, increasing "sleep pressure."

Caffeine blocks adenosine, delaying sleepiness.

Sleepiness is strongest when:

- Adenosine levels are high
- The circadian rhythm dips (usually mid-afternoon and late evening)

4. Sleeplessness and Sleep Loss

Poor sleep can stem from:

- Stress or mental load
- Irregular routines
- Excessive screen use
- Substance use (caffeine, nicotine, alcohol)
- Medical or psychiatric conditions
- Chronic pain
- Sleep disorders (insomnia, sleep apnoea, restless legs syndrome)

Short-term effects include irritability, concentration problems, slower reaction time, and reduced coping skills.

Long-term sleep loss is linked to:
- Anxiety and depression
- Weight gain
- Lowered immunity
- Cardiovascular disease
- Cognitive decline
- Higher risk of accidents

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5. Evidence-Based Strategies for Better Sleep

A. Establish a Consistent Routine
This is the single strongest behavioural predictor of sleep quality.
1. Set a fixed wake-up time every day, even on weekends.
2. Establish a standard bedtime.
    - If you can't fall asleep, move bedtime later, not earlier.
    - Once falling asleep reliably, shift bedtime back by 15-minute intervals.
3. Avoid daytime napping.
    - If essential, limit to 20 minutes before 3pm.

A regular routine resets your circadian rhythm.

B. Create an Optimal Sleep Environment
The Two S's Rule:
- Your bed is for only two things: sleep and sex.

A healthy sleep environment includes:
- A cool room (16–19°C is ideal)
- Darkness (block-out curtains, eye mask)
- Quiet (white noise if needed)
- Proper airflow
- Comfortable mattress and pillows
- No screens in bed

If you lie awake for more than 20 minutes, get up, do something quiet, and return to bed only when sleepy.

C. Evening Wind-Down Routine
A structured pre-sleep routine signals the brain to prepare for sleep.

A strong wind-down includes:
- Warm shower (reduces core body temperature afterwards, promoting sleep)
- Dim lights
- Light stretching or gentle yoga
- Calming music
- Journalling to clear the mental load
- Reading something non-stimulating

Avoid:
- Work, study, high-conflict conversations
- Emotional discussions
- Bright screens (blue light suppresses melatonin production)

D. Diet, Hydration, and Substances
Hydration
- Drink consistently throughout the day.
- Avoid large fluid intake within 2–3 hours of bedtime.

Food
- Avoid going to bed hungry.
- Avoid heavy meals 2–3 hours before sleep.
- Avoid spicy or gas-producing foods (they activate the gut and diaphragm).
- Consider a light protein snack if needed (protein supports neurotransmitter balance).

Carbs, Sugar, and Cortisol
- High-carbohydrate or sugary foods spike blood sugar.
- This can cause a blood sugar crash and release adrenaline/cortisol, leading to night-time waking.
- Aim for slow-release carbohydrates earlier in the day; lean proteins later.

Caffeine
- Avoid caffeine after 12pm.
- Caffeine hides fatigue and disrupts sleep pressure.

Nicotine

- Nicotine is a stimulant; it disrupts REM and increases nocturnal arousals.

Alcohol

- Alcohol helps you fall asleep but destroys sleep quality.
- It fragments the sleep cycle, suppresses REM, and increases early morning waking.

Medications

- Speak with your GP if sleep problems arise after starting or changing medications.
- Avoid long-term sleeping tablets—tolerance develops quickly, and they impair sleep architecture.

E. Exercise

- Exercise improves sleep quality.
- Avoid vigorous exercise within 3 hours of bedtime.
- Morning or early-afternoon exercise best supports circadian rhythm regulation.

F. Light Exposure

- Bright morning light helps anchor your body clock.
- Avoid bright light and screens 1–2 hours before sleep.
- If using devices, activate blue-light filters or use amber glasses.

G. Managing Stress and Worry

Don't take your worries to bed. If your mind is busy:

- Use scheduled "worry time" earlier in the day.
- Write concerns on paper to externalise them.
- Practice relaxation strategies.
- Discuss ongoing concerns with your Counselling Psychologist.

Rumination is one of the strongest predictors of insomnia.

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6. Relaxation and Sleep Induction Techniques

A. Progressive Muscle Relaxation (PMR)

This calms the sympathetic nervous system and reduces physiological arousal.

B. Breathwork

Slow diaphragmatic breathing reduces heart rate and activates the vagus nerve.

C. Guided Imagery

Imagining calming scenes reduces cognitive activation.

D. Visual Countdown Sleep Induction

(Evidence-Supported Imagery Distraction Technique)

Sleep Induction Sequence
(iflow Psychology Technique)

1. Prepare the room (cool, dark, quiet).
2. Lie in a neutral position, uncrossed limbs.
3. Three quick breaths, then slow diaphragmatic breathing.
4. Perform progressive muscle relaxation.
5. Visualise black-and-white countdown numbers from 20 to 0.
6. Shift to a calming nature scene and gradually "still" the environment.

Critical rule:

Use this only in bed. This strengthens the psychological association between "technique" and "sleep."

If not asleep in 10 minutes:

- Get up
- Engage in something quiet
- Return to bed only when sleepy

This prevents conditioning the bed with frustration.

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7. Additional Helpful Strategies

- Keep a sleep diary if patterns are unclear.
- Maintain consistent daytime activity (helps circadian rhythm).
- Limit screen use before bed (melatonin suppression).
- Use relaxation apps if helpful (evidence supports Headspace, Calm, Insight Timer).
- Ensure regular medical check-ups (thyroid, sleep apnoea risk, prostate issues for nocturia).

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8. When to Seek Help

Seek professional support when:

- Sleep difficulties persist beyond 4 weeks
- You wake unrefreshed despite adequate hours
- Your snoring is loud, gasping, or witnessed apnoeas
- You experience restless legs, nightmares, or significant worry at bedtime
- Sleep problems affect mood, work, or relationships

Book an appointment with iflow Psychology in Gladesville for personalised assessment, therapy, and practical strategies to improve your sleep and emotional well-being.
