

Nutrition for better sleep

A practical guide to eating to support sleep



Eating to support sleep

Meal timing

Finish your main meal 2-3 hours before bed and keep meal times consistent to support your body clock.



Tryptophan-rich foods

Turkey, chicken, eggs, dairy, oats, nuts and seeds are sources of tryptophan, a building block for serotonin and melatonin which support sleep onset and quality.



Kiwi fruit

Two kiwis around an hour before bed have improve sleep onset, duration and efficiency.



Tart cherries

Tart cherry juice is a natural melatonin source linked to longer, more efficient sleep.



Magnesium-rich foods

Leafy greens, nuts, seeds, beans and wholegrains support magnesium status, an important mineral supporting sleep quality.



Oily fish

Salmon, mackerel and sardines provide omega-3 and vitamin D, both associated with improved sleep quality.



Limit or avoid before bed

Caffeine

Caffeine is a stimulant and takes time to disappear from your body, and can disturb sleep. Avoid from mid-afternoon onwards.



Alcohol

Can help you fall asleep but fragments and lightens sleep later in the night.



Calorie restriction

Going to bed hungry or in a large energy deficit is linked to lighter, more fragmented sleep, especially relevant when losing weight.



Large, late meals

Big meals close to bedtime can delay sleep onset and increase acid reflux disturbing sleep.



Is stress or anxiety disturbing your sleep?

A warm cup of saffron milk before bed can be a useful tonic - saffron has emerging evidence for reducing anxiety and improving sleep quality when stress is part of the picture.

Caution: saffron can increase serotonin activity. If you take an SSRI antidepressant, check with your GP before using saffron due to a theoretical risk of serotonin syndrome.

Remember: pair nutrition with good sleep hygiene

Nutrition is most effective alongside good sleep hygiene. Combine these strategies with consistent sleep and wake times, a dark, cool bedroom, reduced screen use before bed, and a calming wind-down routine.

Eating to support sleep



Meal timing

Finish your main meal **2-3 hours before bed** and keep meal times consistent to support your body clock. Late-night eating disrupts circadian clock genes and raises core body temperature at the wrong time, delaying sleep onset. For athletes in heavy training, a small protein-based pre-sleep snack e.g. cottage cheese or Greek yoghurt, can support overnight muscle protein synthesis without compromising sleep quality.

Tryptophan-rich foods

Turkey, chicken, eggs, dairy, oats, nuts and seeds supply tryptophan, the amino acid **precursor to serotonin and melatonin which are key to sleep**. Pairing these foods with a small carbohydrate portion improves tryptophan transport across the blood-brain barrier. Dairy is a particularly useful source, also supplying calcium, which is required for melatonin synthesis in the pineal gland (your internal body clock manager).

Kiwi fruit

Two kiwis eaten around an hour before bed have improved sleep onset, duration and efficiency in clinical trials. A 4-week study found sleep onset reduced by ~35% and total sleep time increased by approximately 13%. Proposed mechanisms include serotonin precursors, folate and high antioxidant content (vitamin C), which may counter the oxidative stress load that builds during high-volume training blocks. Kiwis also provide gut health benefit, and are particularly helpful to ease constipation.

Tart cherries

Montmorency tart cherry juice is a natural melatonin source linked to longer, more efficient sleep. Trials using **30ml concentrate twice daily** have reported increases in total sleep time of up to 84 minutes. Anti-inflammatory anthocyanins make this particularly relevant during periods of high training load, where recovery and inflammation management are both priorities.

A vibrant collage of various foods and drinks associated with sleep, arranged around a central sign that reads "FOODS FOR SLEEP". The items include kiwi fruit slices, almonds, salmon, a green alarm clock, a glass of red wine, a bowl of dark chocolate, a bowl of white chocolate, a bowl of nuts, a bowl of seeds, a bowl of fruit, and a bowl of honey. The background is a light green color with a subtle pattern of small white dots.

Limit or avoid before bed



Caffeine

Has a half-life of roughly 5-7 hours, so aim to avoid it for at least 6-8 hours before bed. Caffeine blocks adenosine receptors, preventing the natural build-up of sleep pressure and even when it doesn't delay sleep onset, it measurably reduces slow-wave (deep) sleep, where much of physical recovery takes place. Hidden sources include pre-workouts, energy drinks, soft drinks, dark chocolate, cold medicines and some recovery supplements.

Alcohol

May help you fall asleep initially, but fragments and lightens sleep in the second half of the night as it metabolises. Alcohol suppresses REM sleep and relaxes upper airway muscles, increasing breathing disruption. Critically for athletes, growth hormone, predominantly released during deep slow-wave sleep, is directly suppressed by alcohol, undermining overnight recovery and training adaptation.

Calorie restriction

Going to bed hungry or in a significant energy deficit is linked to lighter, more fragmented sleep particularly relevant when managing weight or energy availability. Glycogen depletion at bedtime elevates nocturnal cortisol and impairs sleep architecture, adding some sources of carbohydrates to your evening meal can support sleep onset. Also pre-sleep snack of 30-40g casein protein (e.g. cottage cheese) supports overnight muscle protein synthesis while keeping calorie intake controlled.

Large, late meals

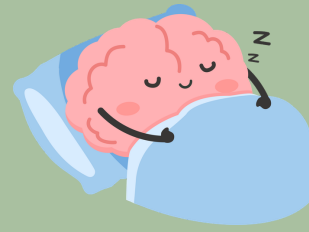
Big meals close to bedtime slow gastric emptying increase the risk of reflux, both directly disrupting sleep quality. A high glycaemic load late in the evening can also trigger reactive hypoglycaemia during the night, causing early waking. If evening training makes a late meal unavoidable, prioritise lean protein and easily digestible carbohydrate over heavy, high-fat options.

Feeling stressed or anxious at bedtime?

A warm cup of saffron milk before bed can be a useful tonic. Saffron's bioactive compounds (safranal, crocin) inhibit serotonin reuptake and activate GABA receptors, with emerging evidence comparable to SSRIs for anxiety and stress-related sleep disruption. A pinch (~30mg) in warm milk, 30-60 minutes before bed, delivers a practical therapeutic dose.

Caution: saffron increases serotonin activity. If you are taking an SSRI antidepressant, check with your GP before use — there is a theoretical risk of serotonin syndrome.

Sleep hygiene



Environment and habits

Prioritise sleep duration

Athletes typically require 8-10 hours per night, more than the 7-9 hours recommended for the general population. Treat sleep as a non-negotiable component of training, not optional recovery.

Consistent sleep and wake times

Going to bed and waking at the same time every day, including weekends, anchors the circadian clock and optimises the timing of cortisol, testosterone and growth hormone release critical for adaptation. Irregular schedules create 'social jetlag', linked to impaired performance and metabolic health even without reducing total sleep duration.

Cool, dark bedroom environment

Core body temperature must drop by $\sim 1-2^{\circ}\text{C}$ to initiate sleep; a cool room ($16-18^{\circ}\text{C}$) supports this process. Even low ambient light (above ~ 10 lux) suppresses melatonin production so blackout blinds or a sleep mask are simple, high-impact fixes. Keep electronic devices out of the bedroom where possible.

Reduce screen exposure before bed

Blue wavelength light ($\sim 480\text{nm}$) from screens activates melanopsin receptors in the retina, suppressing melatonin release and delaying the circadian phase. Aim for 60-90 minutes screen-free before bed. Blue-light-blocking glasses or warm, dim night mode offer partial mitigation when screen use is unavoidable.

Establish a wind-down routine

A consistent pre-sleep routine activates the parasympathetic ("rest and digest") nervous system and trains the brain to associate the routine with sleep onset. Breathwork (box breathing: 4 seconds in, hold, out, hold), progressive muscle relaxation and journalling are all evidence-supported strategies. Avoid tactical review, training analysis and social media scrolling in this window.



Scheduling and recovery

Manage exercise timing

Vigorous training within 2-3 hours of bed can delay sleep onset via elevated core temperature, cortisol and adrenaline. Morning or afternoon sessions are preferable where possible. For evening competitions or training, post-session cooling (cold shower, ventilated room) and a structured wind-down protocol help offset the arousal response.

Use naps strategically

Shortnaps (10-20 minutes) can improve alertness, cognitive performance and physical output without significantly affecting night-time sleep. The 'caffeine nap' — drink caffeine immediately before a 20-minute nap — amplifies post-nap performance. Avoid naps longer than 30 minutes (sleep inertia risk) or after 3pm to protect night sleep pressure.

Manage cognitive and emotional arousal

Reviewing training data, competition footage and social media before bed activates the sympathetic nervous system ("fight or flight") and is one of the most common causes of delayed sleep onset in athletes. Schedule high-stimulation mental work earlier in the day. 'Worry time' journalling (10-15 minutes writing concerns earlier in the evening) is an evidence-supported approach for reducing sleep onset latency.

Manage travel and competition disruption

Long-haul travel, early competition starts and time zone shifts disrupt the circadian clock and impair sleep. Prioritise morning light exposure (to advance the clock) or evening light avoidance (to delay it), and align meal timing with the target time zone where possible. Timed low-dose melatonin, in consultation with a practitioner, can accelerate circadian adjustment.

Monitor your sleep

Consumer wearables (Oura Ring, WHOOP, Garmin) provide useful data on sleep duration, stages, HRV and respiratory rate to inform training load decisions, but be mindful if these generate sleep anxiety for you. For clinical-grade assessment, the Pittsburgh Sleep Quality Index (PSQI) and Insomnia Severity Index (ISI) are validated screening tools. If problems persist despite lifestyle change, seek a sports medicine or sleep specialist.

When to seek further support

If sleep quality remains poor despite consistent nutrition and sleep hygiene strategies, seek assessment from a sports medicine physician or sleep specialist. Common underlying conditions such as sleep apnoea, restless legs syndrome, and anxiety disorders are frequently undiagnosed in athletes and are highly treatable when properly identified.

Supplements that can help



Nutrition and sleep hygiene always come first

The food and sleep habit strategies are the foundation of any sleep support plan. The supplements below have good evidence as options in specific situations such as circadian disruption, high training loads, travel. Always discuss supplementation with your nutritionist or GP before starting.

Melatonin

Circadian phase regulator

MELATONIN

What it does:

Signals darkness to the brain and shifts the circadian clock earlier. Most effective as a phase-advancer eg for jet lag, shift work, unusual competition start times and delayed sleep phase rather than as a general sleep sedative.

Dose:

0.5–3mg, taken 30–60 minutes before target sleep time. Lower doses (0.5–1mg) are often as effective as higher doses, with less risk of next-day grogginess or receptor downregulation over time.

Note: prescription-only in UK (2mg Circadin); OTC supplement quality varies — seek practitioner guidance.

Magnesium

GABA activator · cortisol regulator

MAGNESIUM

What it does:

Supports sleep by activating GABA-A receptors, reducing neural excitability and lowering evening cortisol modulation. Athletes can have marginal magnesium deficiency due to sweat losses and high training demand, making this particularly relevant.

Dose:

200–400mg elemental magnesium, 30–60 minutes before bed.

Check the label for elemental magnesium content, rather than total compound weight. Many high street capsules provide 50–100mg elemental per capsule; always check the 'of which magnesium' figure.

Whilst Magnesium Glycinate and Threonate are popularly linked with sleep improvements, the source is not critical as it is the elemental magnesium that is the active ingredient linked to sleep improvement. That said avoid Mg Oxide as this can cause GI distress and is often used to treat constipation.

Supplements that can help



Ashwaganda

Standardised root extract

ASHWAGANDA

What it does:

An adaptogenic herb that reduces stress-axis (HPA) activity and lowers cortisol, which in turn improves sleep onset and quality, best understood as working through stress/anxiety reduction rather than as a direct sedative like melatonin..

Dose:

300-600mg/day, taken for a minimum of 8 weeks, effects are dose- and duration-dependent, and shorter/lower- dose use shows weaker results but may be more tolerable.

Note: Not recommended for clients who are pregnant, have thyroid disorders, or have existing liver/kidney conditions

Glycine

Core temperature regulator · connective tissue repair

GLYCINE

What it does:

Inhibitory neurotransmitter that lowers core body temperature via vasodilation aiding sleep onset. Also acts as a collagen precursor, offering a potential dual benefit for athletes managing connective tissue recovery.

Dose:

3g dissolved in water, 30–60 minutes before bed. Inexpensive, well-tolerated and safe for long-term use.

