

FACT SHEET — LIFESTYLE / SELF-MANAGEMENT

Sleep and Back Pain

The two-way relationship between sleep quality and pain — and how to improve both

Sleep and back pain have a profound two-way relationship. Poor sleep amplifies pain sensitivity; pain disrupts sleep. This bidirectional cycle is one of the most important — and most commonly overlooked — factors in the persistence of back pain. Addressing sleep is not separate from treating back pain: it is part of it.

How poor sleep amplifies pain

During deep sleep, the body performs essential repair and maintenance functions. Growth hormone is released, tissues are restored, and the nervous system consolidates and processes experiences. Sleep deprivation disrupts these processes and directly increases pain sensitivity through several mechanisms:

- Increases levels of inflammatory cytokines, amplifying the inflammatory component of pain
- Reduces the efficiency of the descending pain inhibitory system — the brain's natural pain dampening
- Increases cortisol, which over time amplifies central sensitisation
- Impairs cognitive function, including the ability to manage pain psychologically
- Increases fatigue, which lowers pain threshold and reduces motivation for rehabilitation

Why back pain disrupts sleep

Night pain	Certain types of back pain — inflammatory conditions, nerve root irritation, and central sensitisation — are characteristically worse at night. Understanding why helps direct treatment appropriately.
Positional discomfort	Many people with back pain struggle to find a comfortable sleeping position. Appropriate mattress firmness, pillow arrangement, and sleep position guidance can help significantly.
Anxiety and hyperarousal	Pain causes hyperarousal of the nervous system, making it difficult to achieve the relaxation needed for sleep onset and deep sleep.
Medication effects	Some pain medications, particularly opioids, disrupt sleep architecture even when they provide pain relief.

Improving sleep with back pain

Sleep position	Side-lying with a pillow between the knees (for lower back pain) or under the knees when lying supine. Avoid prone (face-down) sleeping if it aggravates symptoms.
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Sleep hygiene	Consistent sleep and wake times, avoiding screens before bed, a cool dark room, avoiding caffeine after 2pm.
Exercise timing	Regular exercise improves sleep quality significantly — but avoid vigorous exercise within 2–3 hours of bedtime.
Pain management timing	Taking pain medication to coincide with the sleep period if night pain is the primary problem.
CBT for insomnia (CBT-I)	The gold standard treatment for chronic insomnia. More effective long-term than sleeping tablets. Available digitally.
Low-dose amitriptyline	Commonly prescribed for both nerve pain and sleep disturbance in back pain. Taken at night, it improves sleep quality and has analgesic properties.

Related fact sheets

Central sensitisation and chronic pain	How sleep deprivation amplifies central sensitisation.
Fear-avoidance and back pain	The anxiety component that disrupts sleep.
Fibromyalgia	Non-restorative sleep as a core feature.
Why self-management produces better long-term outcomes	Sleep as a component of active self-management.

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