

Sleep Practices for Injury and Performance



Sleep is an essential tool for injury recovery, pain management, and athletic performance. Anecdotally it is often considered the most effective recovery tool for athletes and those in pain. It provides a multitude of physiological and psychological benefits. Current evidence suggests however that populations such as athletes and those in pain find it hard to maintain effective sleep patterns to most efficiently recover.

Impact of sleep deprivation

People that have a building sleep debt will experience a multitude of impairments to recovery, including:

- Reduced muscle energy repletion
- Impaired muscle damage repair
- Increased mental fatigue/mood impairments
- Impaired cognitive function including decision making
- Poor motor performance and reaction times in a sporting capacity

Sleep extension

Recommendations for hours of sleep generally sit around 7-9 hours per night, but this will vary between individuals. This is relevant for

athletes and those in pain who need increased hours to optimise recovery (anywhere from 10 to 12 hours may be beneficial).

Studies have shown that extending your sleep hours over a period of 5-7 weeks can optimise performance in your chosen sport, reduce fatigue and increase alertness. Sleep extension is thought to be the most effective form of sleep strategy.

Table
Sleep hygiene strategies

General sleep hygiene strategies
Maintain a regular schedule of going to bed and waking up
If you cannot sleep within 15 min, get out of bed and try performing a mundane task
Eliminate the bedroom clock
Avoid coffee, alcohol, and nicotine in the hours before bed
Avoid watching television, eating, working, or reading in bed
Be conscious of food and fluid intake before bedtime
Nap appropriately (30 min and not late in the afternoon)
Maintain a room temperature comfortable for sleeping (~18°C)
In-flight sleep hygiene strategies
Adjust watch to destination time zone as soon as you board
Create a comfortable environment using pillows
Eyeshades and earplugs should be used
Avoid coffee, alcohol, and nicotine
In-flight meals should be eaten on the destination schedule
Maintain proper hydration
Data adapted from Halson (8) and Stepanski and Wyatt (22).

Sleep hygiene refers to those techniques that promote better quality and quantity of sleep. They are generally quite simple yet those either in regular pain or perhaps training for athletic competition find it hard to maintain these habits regularly. The table lists some of the more common strategies used either before bed or in-flight.

Sleep hygiene strategies: Taken from Bird

Napping

People that exhibit signs of sleep debt/loss may find sleep supplementation in the form of napping an effective tool for recovery. Napping for thirty minutes can improve alertness and performance, provided the nap is not in the late afternoon/evening.

In a nutshell

The role of sleep in recovery is a complex issue. Sleep deprivation studies point to large effects on the neuroendocrine, immune and musculoskeletal systems, but every person will have different needs. The assessment of your sleep patterns and behaviours with a health professional may allow insight in to a faster recovery. Sleep extension, sleep hygiene and post-exercise recovery strategies should be considered to optimise recovery from injury and athletic performance.

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