

## Athlete Performance and Sleep

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### Editorial

Sleep is an important part of one's health and well-being, affecting physical growth, emotional control, cognitive efficiency, and overall quality of life. A body of evidence indicates that increased sleep duration and improved sleep quality in athletes are linked to improved performance and competitive success. Furthermore, better sleep could lower the risk of injury and illness in athletes, not only improving health but also potentially improving performance through increased training participation.

### Barriers to sleep in athletes

When attempting to maximize sleep and enhance results, there are a range of barriers to proper sleep in athletes that should be considered. Importantly, athletes have been shown to have a low self-perception of their sleep needs, length, and consistency, which could make them less likely to seek advice or medical support when necessary. Competition can disrupt sleep in athletes, not just because of the potentially elevated physiologic loads, but also because of the effects of long-distance travel and the associated mood, stress, and anxiety disruptions. Athletes have shown elevated levels of stress and anxiety around competition in studies, which is thought to affect sleep quality and length.

Traveling for competition may also have a direct impact on success due to changes in sleep patterns and disconnection from circadian rhythms. In addition to the anxiety and stress associated

with flight, trans meridian travel and the resulting jet lag are linked to exhaustion, disorientation, poor sleep, and general discomfort, all of which may affect athletic efficiency. As a result of concurrent academic stresses, youth and college athletes can face additional threats to sleep duration and efficiency. Although academic challenges are not specific to athletes, they must be handled in conjunction with the additional time constraints imposed by competing and practicing at the same time. Athletes may also be more susceptible to medical problems linked to sleep deprivation. Sleep-disordered breathing is estimated to affect 14 percent of professional football players, despite the fact that it affects just 4% of the general population.

### Anaerobic power and endurance performance

The exact mechanisms underlying the connection between sleep and performance are unknown, but the consequences can differ depending on the task at hand. In terms of endurance capacity, the majority of previous research has shown that sleep deprivation reduces performance, possibly due to an increase in perceived exertion.

After sleep deprivation, pre exercise muscle glycogen stores were found to be lower, implying a change in substrate supply that could lead to decreased endurance efficiency. Sleep deprivation and even minor sleep restrictions have repeatedly been shown to reduce accuracy in sporting activities, while accuracy improves after sleep extension. Dart throwing accuracy was found to be slightly lower after a single night of 4 to 5 hours of sleep compared to after a full night's sleep.

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