

Sleep and the Adolescent Athlete

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Why is sleep important?

Sleep is one of the basic and essential human needs, and the average person spends about 1/3 of their life sleeping (Lee, 1997). During sleep, the body recovers and restores. Sleep impacts cognitive function, memory consolidation, emotion regulation, brain growth, and function. Despite its importance, sleep is often the first thing sacrificed when schedules get busy. Recommended sleep duration for adolescent athletes is 8-10 hours for optimal health and athletic performance (Fox et al., 2020; Hirshkowitz et al., 2015). With this in mind, getting enough sleep shouldn't be seen as a luxury, but rather a vital tool for athletes to be at their best (Fong-Isariyawongse & Schwabenbauer, 2025).

Negative Side Effects:

When athletes consistently fail to meet sleep needs, the consequences can be significant. Research continues to evolve; however, current evidence suggests that aspects like physiological growth and repair, neuromuscular performance, cognitive functioning and memory, emotional well-being, and immune functioning are impacted by lack of sleep (Venter, 2012). Additionally, nutrition is impacted; increased hunger, disrupted appetite regulation, poor food choices, delayed recovery and greater injury risk (Mason et al., 2023; MSSE, 2019). This may negatively affect training quality, body composition goals, and overall performance.

Sleep Prevalence Among Athletes:

The Centers for Disease Control and Prevention (2021) report that around 73% of high school students sleep less than eight hours on school nights. For high school athletes specifically, average sleep time drops to just 6.3 hours (Fox et al., 2020). As stated previously, this may impact the athlete's ability to perform well in practice and competition, as well as in their academics. It can be understandably difficult to get sufficient sleep when athletes are juggling many competing demands but striving to get at least 8 hours can improve their ability to function and reduce potential for negative side effects associated with consistent lack of sleep.

Ideas to improve sleep in youth athletes:

Sleep schedule habits:

- Consistent bedtimes and wake times to establish circadian rhythm: The circadian rhythm is what makes the body feel awake in the morning and sleepy at night. It's essentially your body's clock and as you follow a routine, it helps the clock operate better. Having similar wake and sleep times each day helps the body adapt and be ready to perform its best (Lo et al., 2017). Have athletes start by taking note of their bedtime and wake time for a few days. Many of them will wake up at similar times, but bedtime is less consistent. Adjusting bedtime by 10-15 minutes every few days until they reach their desired bedtime can be a good start.
- Avoid late-night training: While exercise is normally a go-to, it's not best to do it within 2-3 hours before sleep. Exercising in that window can cause a delay sleep onset, which lessens the amount of time actually asleep and letting the body recover. (Lo et al., 2017).
- Keep training times consistent: Like the circadian rhythm of the body, training at similar times day to day helps the body be more prepared to give that workout its best effort (Lo et al., 2017). In general, practice times should be kept fairly consistent, and while competition times aren't fully in our control, they should be kept similar as well.

Environment:

Extrinsic factors impact the quality of sleep, such as the temperature, light, and noise in the room you are sleeping in (Lo et al., 2017).

- Cooler temperature: Having a set temperature (typically cooler) will help the body continue to sleep without disruption. Most households already have this set, but in the changing seasons it's something to be aware of.
- Low light: Light also impacts both falling asleep and staying asleep. There's a reason turning a light on wakes you up rather than staying in the dark. Eliminating bright lights (including screens) before you fall asleep and during sleep can help out. Avoiding your phone and other screens 60-90 minutes before bed can also help you fall asleep earlier, sleep longer and better (Bartel et al., 2018).

- Low noise: Another thing to be aware of is the noise around you. If you have loud neighbors, or a dog that barks, it wakes you up. Obviously, there are times that are unavoidable, but try to mitigate noise that interrupts your sleep cycle. Noise can also be helpful if you struggle falling asleep, such as having a fan going or soothing music.

Behavioral:

- Limit caffeine: Caffeine consumption has multiple negative impacts on sleep onset latency and quality, since it suppresses melatonin. Caffeine stimulates your central nervous system and having 100 mg or more, 2 hours or less within bedtime impacts how quickly you can fall asleep, the quality of sleep, and how long you are asleep (Lo et al., 2017).
- Strategic naps: While naps aren't the top recommendation for improving sleep, they can be beneficial depending on when and how long. It has been suggested that napping for 20 to 90 min in between 1 and 4 pm can be beneficial, provided the athlete allows at least 30 minutes before activity after waking (Lastella et al., 2021). This may not be ideal for student athletes as they may be in class or practice during those times, but worth consideration when possible.

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