

REST HUB

Sleep Ready

Youth Athletes & Sleep

- > Youths (14-25 years) are considered an at-risk population who may be more likely to experience short sleep durations and reduced sleep quality, compared to youth non-athletes or adults.
- > Youth athletes are exposed to normal societal demands related to schooling, social activity, social media, gaming, and physiological development. These demands are compounded by high training loads, competition schedules, and travel, often resulting in youth athletes requiring more sleep.
- > Evidence suggests that youth athletes who obtain <8 hours of sleep per night are at a higher risk of musculoskeletal injury^{1,2}.
- > Youth athletes often have an 'evening' chronotype (i.e., an individual's natural preference for when they feel most alert and active during the day), meaning they have a tendency for later bed and wake times.

Considerations to optimise sleep



Education

Upskill youth athletes on the impact of sleep on short- and long-term wellbeing and performance.



Training plans

Schedule training to accommodate individual chronotype to maximise sleep opportunity (e.g., if training once per day aim for an afternoon session).



Sleep routine

To help prepare the body for sleep, aim to go to bed and wake up at a similar time each day (± 30 minutes).



Napping

Naps can be used to increase the total amount of daily sleep. Naps should be between 20-90 minutes in duration, ideally take place between 1-4 pm, and finish ≥ 60 minutes before exercise^{3,4}. Daytime naps should not interfere with either falling asleep or staying asleep at nighttime



Caffeine

Can be an effective supplement to improve sports performance. To avoid negative impacts on sleep, aim for morning or early afternoon caffeine consumption with dosage under 100 mg/day for adolescents (12-18 years), and 2.5 mg/kg/day in healthy children (<12 years)^{5,6}.



Electronic devices

Establish a consistent routine, avoiding excessive device use while preparing for, and in bed. Consider the content youth athletes are engaging with (e.g., gaming, social media) prior to bed.



Organisation

Use a to-do list to assist with organisation, winding down, and reducing overthinking when trying to sleep.



Sleep environment

Maintain a dark, quiet, cool (18-21 °C), and comfortable sleeping environment to minimise sleep disturbance.



Artificial light

Evening bright light exposure can impact the natural wind down for sleep. Youth athletes may have increased sensitivity to evening light; aim to minimise exposure by dimming lights or using warm rather than bright lighting.

Recommended Reading

¹ Fox J, Scanlan A, Stanton R, Sargent C. Insufficient sleep in young athletes? Causes, consequences, and potential treatments. *Sports Med.* 2020 Mar;50(3):461-470. doi: 10.1007/s40279-019-01220-8.

² Milewski M, Skaggs D, Bishop G, et al. Chronic lack of sleep is associated with increased sports injuries in adolescent athletes. *J Pediatr Orthop.* 2014 Mar;34(2):129-33. doi: 10.1097/BPO.0000000000000151.

³ Lastella M, Halson S, Vitale J, Memon A, Vincent G. To nap or not to nap? A systematic review evaluating napping behavior in athletes and the impact on various measures of athletic performance. *Nat Sci Sleep.* 2021 Jun 24;13:841-862. doi: 10.2147/NSS.S315556.

⁴ Romyn G, Roach G, Lastella M, Miller D, Versey N, Sargent C. The impact of sleep inertia on physical, cognitive, and subjective performance following a 1- or 2-hour afternoon nap in semiprofessional athletes. *Int J Sports Physiol Perform.* 2022 May 23;17(7):1140-1150. doi: 10.1123/ijsp.2021-0414.

⁵ Temple J. Review: Trends, safety, and recommendations for caffeine use in children and adolescents. *J Am Acad Child Adolesc Psychiatry.* 2019 Jan;58(1):36-45. doi: 10.1016/j.jaac.2018.06.030.

⁶ Temple J, Bernard C, Lipshultz S, Czachor J, Westphal J, Mestre M. The safety of ingested caffeine: A comprehensive review. *Front Psychiatry.* 2017 May 26;8:80. doi: 10.3389/fpsy.2017.00080.

Coel R, Pujalte G, Applewhite A, et al. Sleep and the young athlete. *Sports Health.* 2023 Jul-Aug;15(4):537-546. doi: 10.1177/19417381221108732.

Ohayon M, Carskadon M, Guilleminault C, Vitiello M. Meta-analysis of quantitative sleep parameters from childhood to old age in healthy individuals: Developing normative sleep values across the human lifespan. *Sleep.* 2004 Nov 1;27(7):1255-73. doi: 10.1093/sleep/27.7.1255.

