

AGES 16 / 18 AND UNDER  
**Sleep and Its Effect  
on Performance**



**LESSON WORKBOOK**



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## Sleep and Its Effect on Performance

In this age group, players have in many ways reached their adult patterns of sleep. Furthermore, most players who remain in the sport have demonstrated a level of commitment to get them to this point. The degree of competition is high and that comes with changes that often include more significant travel and a more intense level of play. There will be players who continue to play hockey beyond this level and their development needs to be considered.

For these high level players, coaches need to understand how to elicit the most out of their teams. Coaches also need to be able to identify and neutralize aspects of sleep and travel and sleep disruption that could affect the way his or her team plays.

One unfortunate topic that usually surfaces at this time is that of alcohol and other drugs. Not only are these substances harmful from a health and behavioral perspective, they are extremely harmful in terms of sleep quality and athletic performance. This is ironic as some individuals use drugs like alcohol to help them fall asleep. What they do not understand is that alcohol and other substances actually worsen sleep quality. Coaches should talk about these issues with their players and let them know that elite hockey and alcohol use do not go together. The link between elite performance status and avoidance of substances and behaviors that impair performance should be clearly conveyed.

At this age, players may be more able and willing to play with injuries. Often, pain is more easily ignored on the ice than it is in the bed. Medications and treatments are often focused on pain alleviation during game and practice time and largely ignored at night. Coaches need to take into consideration how the discomfort might affect player sleep and the toll this may take on the individual's performance the following day. Furthermore, there is emerging research suggesting that sleep dysfunction might diminish a young player's recovery from an injury.

<sup>1</sup> Wong MM, Brower KJ, Nigg JT, Zucker RA. Childhood Sleep Problems, Response Inhibition, and Alcohol and Drug Outcomes in Adolescence and Young Adulthood. *Alcoholism Clinical and Experimental Research* (2010); April 5 Epub ahead of print.

<sup>2</sup> Wong MM, Brower KJ, Zucker RA. Childhood sleep problems, early onset of substance use and behavioral problems in adolescence. *Clinical Sleep Medicine* (2009); 10(7):787-96.

<sup>3</sup> Cooper AB, Hanley PJ. Sleep and recovery from critical illness and injury: a review of theory, current practice, and future directions. *Critical Care Medicine* (2008); 36(10): 2962-3.



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Travel will often start to become more of a factor in hockey for players of this age group, at times, perhaps, involving travel between time zones. It is important for coaches to know how travel will affect individual players and the team as a whole, especially since the ability to travel with enough time to allow players to acclimate to their new environment is often limited. When a team's ability to travel ahead of the game to allow for acclimation is limited, there are many methods that may be useful in preparing players to lay their best in the time zone. Adjusting practice times (and meal times/sleep time/light exposure) prior to travel can be useful strategies to 'trick' players brains into thinking that travel has already occurred. Careful planning of meal times during travel coupled with fasting during travel across time zones may hasten acclimation and improve performance.

Healthy insomnia treatment and prevention continues at this age group. Regular dialogue between coaches and players about the way they are feeling and the way they are sleeping should be established. Getting players into a routine off of the ice (sleeping, meals, etc.) is as important as their routine and rituals on the ice. Overdependence on pharmacological treatment of insomnia should be avoided.

<sup>4</sup> Anglem N, Lucus SJ, Rose EA, Cotter JD. Mood, illness and injury responses and recovery with adventure racing. *Wilderness and Environmental Medicine* (2008); 19(1): 30-8.

<sup>5</sup> Jürimäe J, Mäestu J, Purge P, Jürimäe T. Changes in stress and recovery after heavy training in rowers. *Journal of Science and Medicine in Sport* (2004); 7(3): 335-9.

<sup>6</sup> Perna FM, Antoni MH, Baum A, Gordon P, Schneiderman N. Cognitive behavioral stress management effects on injury and illness among competitive athletes: a randomized clinical trial. *Annals of Behavioral Medicine*(2003). 25(1): 66-73.

<sup>7</sup> Fuller PM, Lu J, Saper CB. Differential rescue of light- and food-entrainable circadian rhythms. *Science* (2008); 320(5879):1074-7.

