



Boost  
performance  
and support  
faster recovery

# Biocentric lighting in sports

Better sleep quality and recovery are important factors in overall sports performance. These are also two performance enhancing benefits of using Biocentric lighting, both as an individual athlete and as a professional sports team.

Daylight is the most important synchronizer of the circadian rhythm, a strong factor for human performance. Biocentric lighting brings daylight indoors and benefits sports performance by synchronizing the circadian rhythm.

Regular exposure to Biocentric lighting, for example a few hours every few days while keeping to your current training and preparation schedule, will provide both short- and long term benefits.

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## How can Biocentric lighting be used in sports?

- ✓ Support rest & recovery through better sleep
- ✓ Align peak performance times amongst players
- ✓ Alleviate jet lag by gradually shifting the sleep schedule

Biocentric lighting is a lighting system that simulates the most important aspects of daylight indoors. The light is designed to support a stable circadian rhythm with many benefits for our health and well-being, including better sleep which leads to faster recovery and improved performance. It is a passive technology from the user perspective, with no interruption of the training and preparation schedule.

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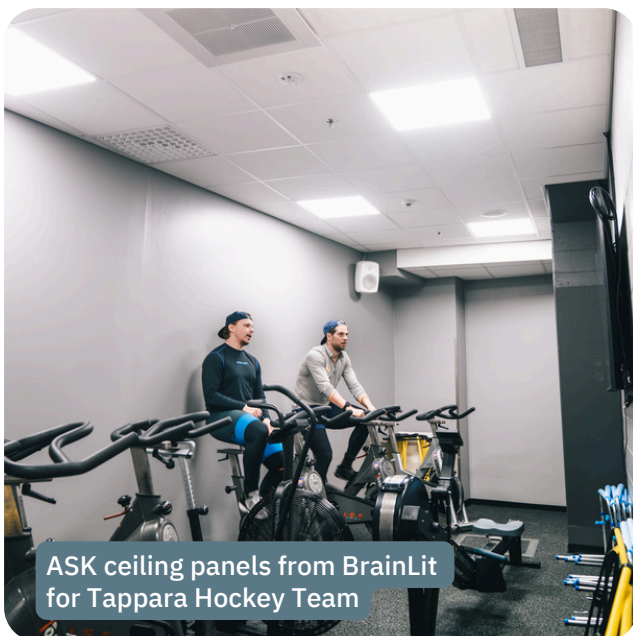
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## Align peak performance times

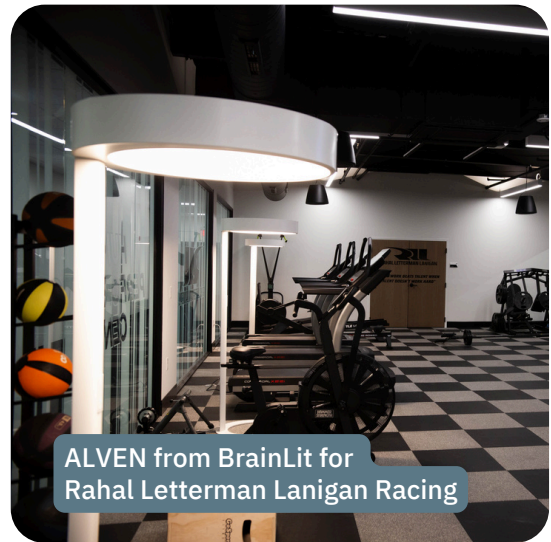
Balancing training, work commitments, family and personal life is a difficult challenge for an elite athlete and many times sleep pay the price. Studies report a decrease in endurance performance, where diminished motivation due to sleep deprivation is thought to be part of the explanation.<sup>1</sup> With Biocentric lighting the training environment can help athletes entrain their bodies to their natural circadian rhythm to avoid sleep disruptions.

Good sleep, and even sleep extension, can deliver performance improvements, as seen in improved reaction times, turn times, and overall sprint times among swimmers<sup>2</sup>.

Furthermore, there are many varieties for sleep- and wake time amongst the population. For elite athletes, Biocentric lighting can help to unify when during the day a team's peak physical performance is reached, so that all individuals can excel together.



1. Thun E, Bjorvatn B, Flo E, Harris A, Pallesen S. Sleep, circadian rhythms, and athletic performance. *Sleep Med Rev.* 2015. doi:10.1016/j.smrv.2014.11.003
2. Halson SL, Juliff LE. Sleep, sport, and the brain 2. 234:13-31
3. FIMS Position Statement: Air Travel and Performance in Sports. March 2004.



## Game time

Timing of light exposure is a crucial factor to have the desired effect. This is automatically controlled through the use of tailored Biocentric recipes to synchronize the circadian rhythm and the performance peak for each activity. Users can choose among day game evening game, pre-game and post-game to match the schedule. Pre-game is designed to boost alertness and energy in addition to the impact on the circadian rhythm.

## Jet lag

In elite sports, frequent travel and schedule changes can affect performance. Traveling across time zones leads to a de-synchronization of circadian rhythms, where the human body tries to adapt to the time change. Players can use Biocentric light as a tool to adapt to their new time zone before travelling.

The International Federation of Sports Medicine recommends to gradually shift the sleep schedule (30 to 60 minutes per day) toward the destination time zone for a few days prior to departure.<sup>3</sup>