



# HUMAN PERFORMANCE PROJECT

Illinois

CHOOSE OPTIMAL • TAKE THE LEAD • ACHIEVE TOGETHER

# SLEEP



## BE A STUDENT COMMITTED

Hold yourself and others accountable to making optimal decisions about health and wellness, being role models for positive behaviors and attitudes, and being dedicated to the process of establishing a culture of excellence and living high standards.



SCAN FOR SLEEP  
WEBPAGE

# THE IMPORTANCE OF SLEEP

**Students Committed** recognize that getting optimal sleep is critical to their performance. Sleep is so essential that we spend about one-third of our lives doing it.<sup>1</sup> Sleep affects almost every type of tissue and system in the body including the brain, heart, lungs, metabolism, immune function, mood, and disease resistance. Research shows that a chronic lack of sleep, or getting poor quality sleep, increases the risk of disorders including high blood pressure, cardiovascular disease, diabetes, depression, and obesity.<sup>1</sup> The amount of time we allow our bodies to rest and recover at night directly impacts our ability to perform in the following days.

## THE POWER OF SLEEP



### MAINTAINS IMMUNE SYSTEM FUNCTION AND HEALTH

Sleep deprivation can lead to an increase in the stress hormone "cortisol," which can weaken the immune system and make you more prone to illness.<sup>2</sup>



### HELPS YOU RECOVER FROM DAILY ACTIVITIES

During sleep, growth hormones are released to stimulate muscle growth, repair, and overall recovery. Adolescents who consistently sleep less than 8 hours each night are at a higher risk for athletic injuries, specifically muscular and skeletal injuries.<sup>2</sup>



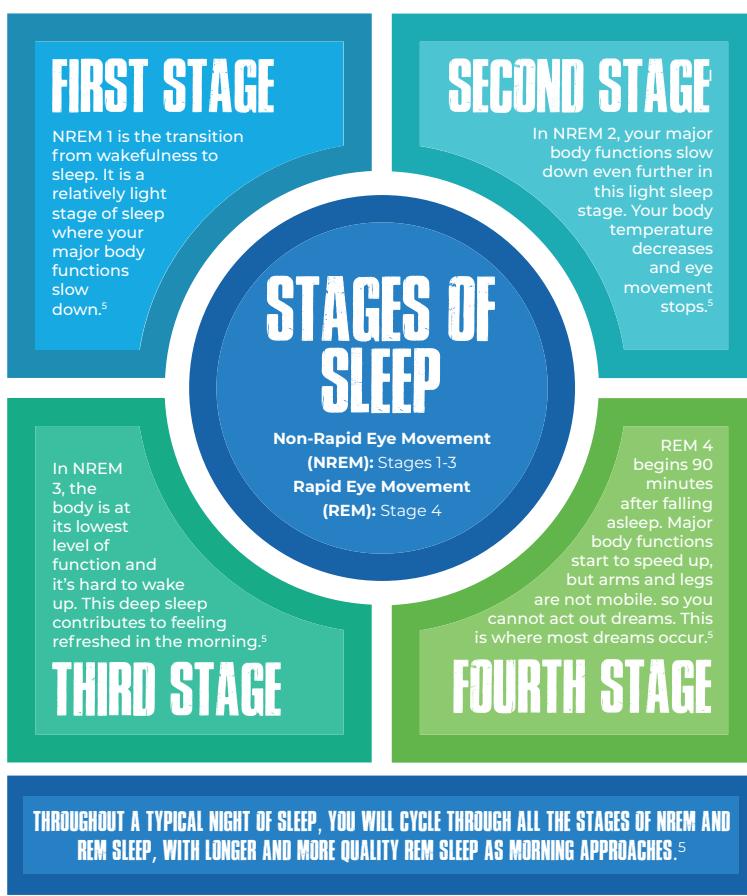
### INCREASES BRAIN HEALTH, COGNITIVE FUNCTION, AND CENTRAL NERVOUS SYSTEM (CNS) READINESS

REM (Rapid Eye Movement) sleep supports optimal brain development, specifically focusing on dreaming, emotional processing, and building capacity for memory recall.<sup>3</sup>



### IMPROVES OVERALL SENSE OF WELL-BEING

Getting enough quality sleep can help protect your mental health, physical health, and lead to better decision making.<sup>4</sup>



## SLEEP ON IT SLEEP AND LEARNING



"We've learned that **sleep before learning** helps prepare your brain for the initial formation of memories. **Sleep after learning** is essential to help save and cement that new information into the architecture of the brain, meaning that you're less likely to forget it."

- Matthew Walker, Scientist and Professor at UC Berkeley

# SLEEP DISTURBANCES

## LATE NIGHTS

During puberty, teens experience a shift in their circadian rhythms driven by hormones, which naturally enable them to stay up later and sleep in longer. The challenge is that adolescents still need 8-10 hours of sleep each night. Knowing this information provides teens with an understanding that establishing sleep routines is something they have control over.<sup>6</sup>

**Tip: Advocate for yourself and create a manageable schedule that allows for the best quality sleep.**

## BLUE LIGHT



Blue light is a color in the “visible light spectrum” that can be seen by the human eye. Natural blue light comes from the sun, while artificial blue light includes electronic devices (i.e.; cell phones, laptop computers). During the day, natural and artificial sources of blue light can increase energy levels and concentration. At night, blue light can affect the levels of the sleep-inducing hormone “melatonin,” and disrupt our ability to fall asleep.<sup>7</sup>

**Tip: Turn off your blue light devices at minimum an hour before you go to bed.**

## EVERYDAY TIPS TO IMPROVE YOUR SLEEP

- Adjust your phone settings to dim the brightness and use Night Mode settings in the evening.
- Stick to a consistent sleep schedule. Try to wake up and go to bed at the same time each day of the week, including the weekends.
- Establish a sleep routine that allows you to relax, unwind, and settle your mind. Consider adjusting your sleep environment for optimal sleep (room temperature, darkness, noise, and elements of comfort such as pillows, blankets, pajamas, etc.).
- If napping, keep it under 30 minutes to prevent yourself from entering REM sleep. Late naps can keep you awake at night when you’re trying to fall asleep.
- Sufficient sunlight exposure and movement during the day helps support a healthy circadian rhythm.
- Try not to consume more than 10 mg of caffeine a day, and avoid consuming caffeine less than 6 hours before bedtime.

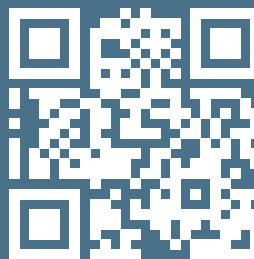


## SLEEP AND OTHER MODULES

<b>NUTRITION</b>	During sleep, the body regulates the production of your hunger hormones. Be aware that late-night beverages and meals can impact your quality of sleep.
<b>MOOD AND MINDSET</b>	Poor or inadequate sleep can cause irritability and stress. Chronic sleep loss may increase an individual’s risk of developing mood disorders.
<b>CHEMICAL HEALTH</b>	Caffeine before bed can disrupt your circadian rhythms and reduce total sleep time. Alcohol, marijuana, and nicotine products (cigarettes and vapes) can also disrupt the sleep stages and impact our ability to maintain a healthy sleep routine.

## References

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6. Troxel, W.M. (2020) Teens are driven to stay up late, but why?, RAND Corporation. Available at: <https://www.rand.org/blog/2020/01/teens-are-driven-to-stay-up-late-but-why.html> (Accessed: February 7, 2023).
7. How does blue light affect children's sleep? (2022) Sleep Foundation. Available at: <https://www.sleepfoundation.org/children-and-sleep/how-blue-light-affects-kids-sleep> (Accessed: February 7, 2023).



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## Life of an Athlete Human Performance Project