

# Sleep Recover Perform

$$\text{Sleep Power} = \frac{\text{Quantity} \times \text{Quality}}{\text{Variability}}$$

## Maximum sleep power enhances recovery and improves performance<sup>1</sup>

- **Quantity** is impaired by light, activity, nicotine, caffeine, late sleep, irregular sleep, eating or drinking, insomnia
- **Quality** is impaired by heat, pain, noise, light, alcohol, snoring, sleep apnea, restlessness
- **Variability** is impaired by jet lag, travel, alcohol, irregular wake, awakenings

## Bedtime Blues<sup>2</sup>

The most common sleeping disorders for athletes are insomnia and Circadian Rhythm Disorder, which impact sleep quality and quantity

- **Insomnia:** difficulty falling asleep or staying asleep. Side effects: extreme fatigue, low energy, difficulty concentrating, mood disturbances, and decreased performance in sports or school
- **Sleep-Wake Cycle (CRD):** sleep-wake cycle is out of sync changing your body's natural sleep rhythm making it hard to keep up with the demands of your daily life

## The More the Merrier<sup>3,4,6</sup>

Metabolic demands are much higher for athletes meaning they need more sleep to successfully recover and compete.

- Doctors recommend **8-10 hours** of sleep per night for collegiate athletes
- NCAA Student-Athletes reported sleeping an average of 6 hours and 16 minutes on a typical in-season weeknight.

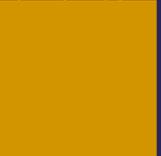
**Thai Kwiatkowski:**  
hrs/night



**London Perrantes:**  
hrs/night



**Georgia Ratcliff:**  
hrs/night



**Leah Smith:**  
hrs/night



**Henry Wynne:**  
hrs/night



## Benefit Your Body<sup>1, 3</sup>

The benefits of accumulating regular, good and restful sleep include:



Faster Recovery



Improved Strength/Power



Sustained High Athletic Performance



Better Concentration



Fewer Injuries

## How Knew?

### Good sleep is cumulative<sup>2, 5</sup>

Athletes with irregular sleeping patterns perform worse in athletic competitions and are more prone to injury during the season.



**Associate your bed with sleep:**  
Pre-bedtime activities (Working & TV) should be done anywhere but the bedroom so that when its time to go to bed your body takes it as a signal to sleep



**Power down digital devices:**  
Electronic screens stimulate the brain telling it to stop melatonin production causing the brain to stay active longer



**Keep out of the kitchen:**  
Eating within 3 hours of bedtime keeps you awake because your stomach has not completed digesting causing you to experience a sugar/caffeine fueled energy surge, gas, or heartburn



**Sleep Standards:**  
Not keeping a consistent sleep schedule disrupts bodily rhythms and causes insomnia

## RESOURCES at UVA:

### Sports Psychologists:

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<sup>1</sup>Sleep in elite athletes and nutritional interventions to enhance sleep. (2011) *Hanson SL Sports Med Compendium of physical activities*. Retrieved from Fusion Health Official Sleep Performance Program of the Atlanta Falcons.

<sup>2</sup>Zee, P., Lu, B. (2008). Inomnia and circadian rhythm sleep disorders. *Psychiatric Annals*.

<sup>3</sup>Michelson, M. (2016, February 22). How elite athletes use sleep routines to boost their confidence and win medals. *Van Winckle's*.

<sup>4</sup>Pickering, C. (2014). Sleep and the athlete: Time to wake up to the need for sleep. *Freelap*.

<sup>5</sup>Orma, S. (n.d). 10 Bedtime rituals for better sleep. *Men's Journal*.

<sup>6</sup> NCAA 2015 GOALS Study of 21,233 student-athletes