

WIRED AND TIRED

THE MIND-BODY COST OF AN EVOLVING SPORT LANDSCAPE

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4 November 2026

TRUESPORT TALKS

Athlete Mental Wellness, **Digital Pressures,** and Performance

DID YOU DO YOUR SURVEY YET?

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BY THE END OF THIS TALK, YOU SHOULD BE ABLE TO:

- Use strategies to help YOU get YOUR best night's sleep
  - Working with your chronotype is important
- Know how to use sleep to benefit your performance
  - Napping
  - Sleep banking
- Adjust your sleep for travel and different sleeping environments
  - Quantity and quality are both important

SLEEP IS A KEY DRIVER OF HEALTH AND PERFOR

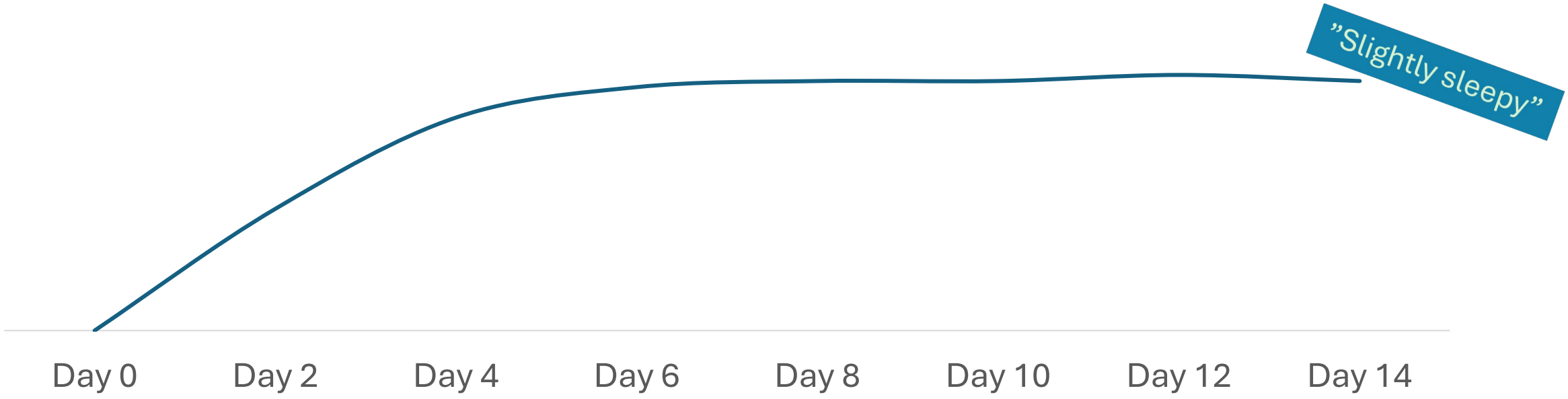
I am exhausted all the time!

gh school students in the
amounts of sleep

I don't need that much sleep

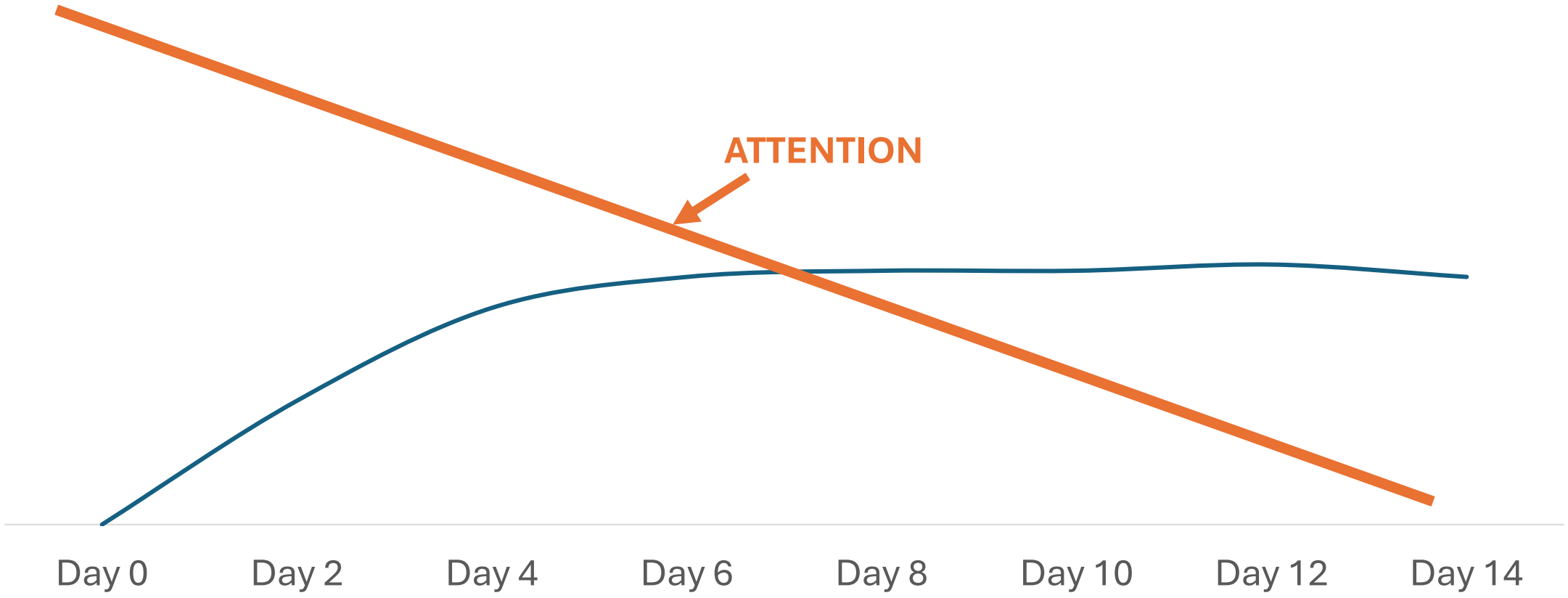
Centers for Disease Control and Prevention Sleep and Health; 2024 Available online: https://www.cdc.gov/physical-activity-education/staying-healthy/sleep.html

SLEEPINESS IS A TRICKSTER



Van Dongen HP, Maislin G, Mullington JM, et al. *Sleep*. 2003;26(2):117-126. doi:10.1093/sleep/26.2.117

ATTENTION WITH RESTRICTED SLEEP



TRUESPORT TALKS

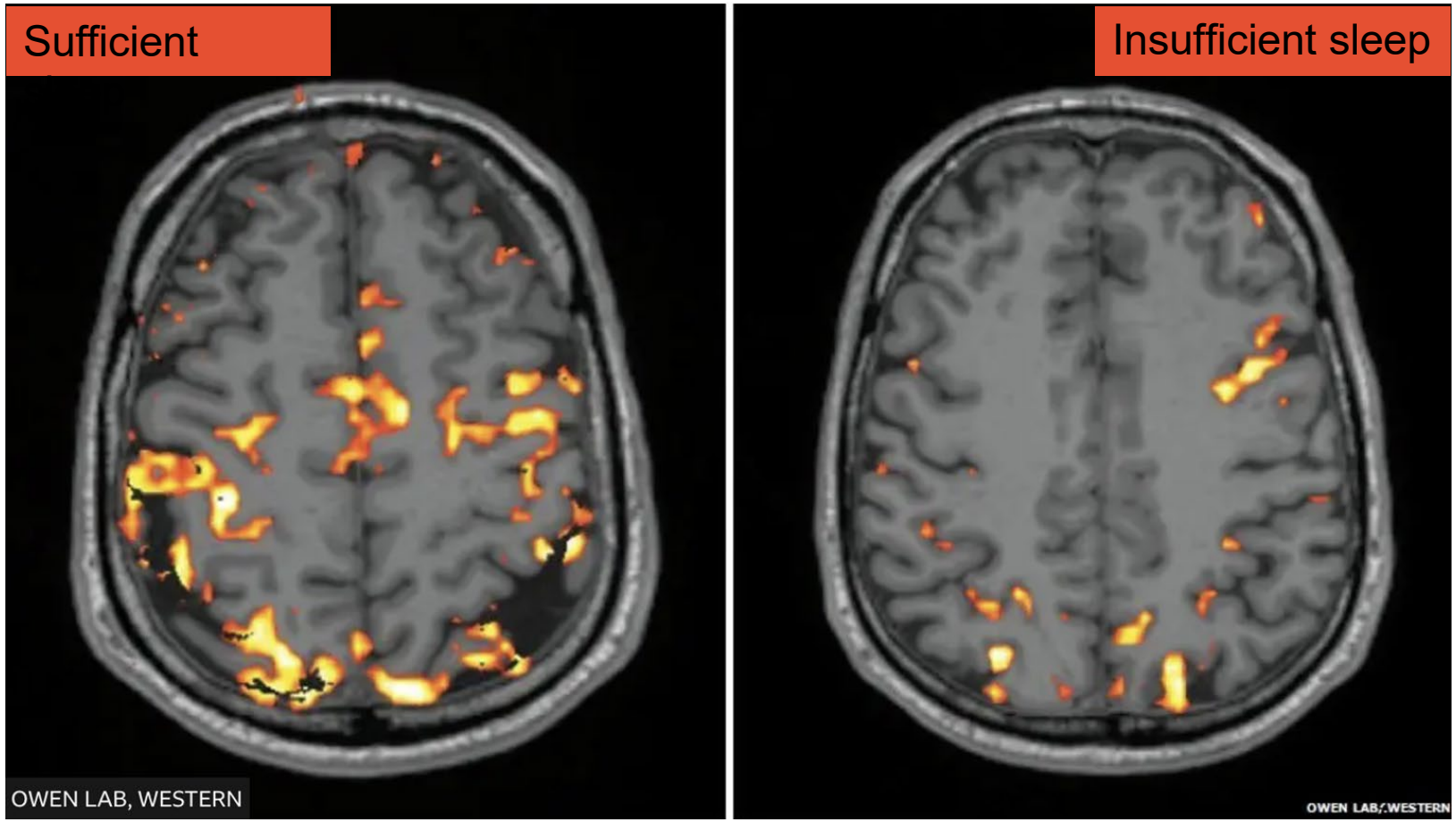
Athlete Mental Wellness, **Digital Pressures,** and Performance

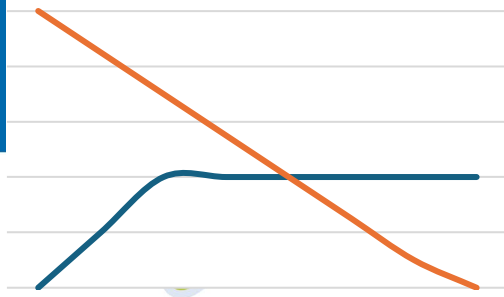






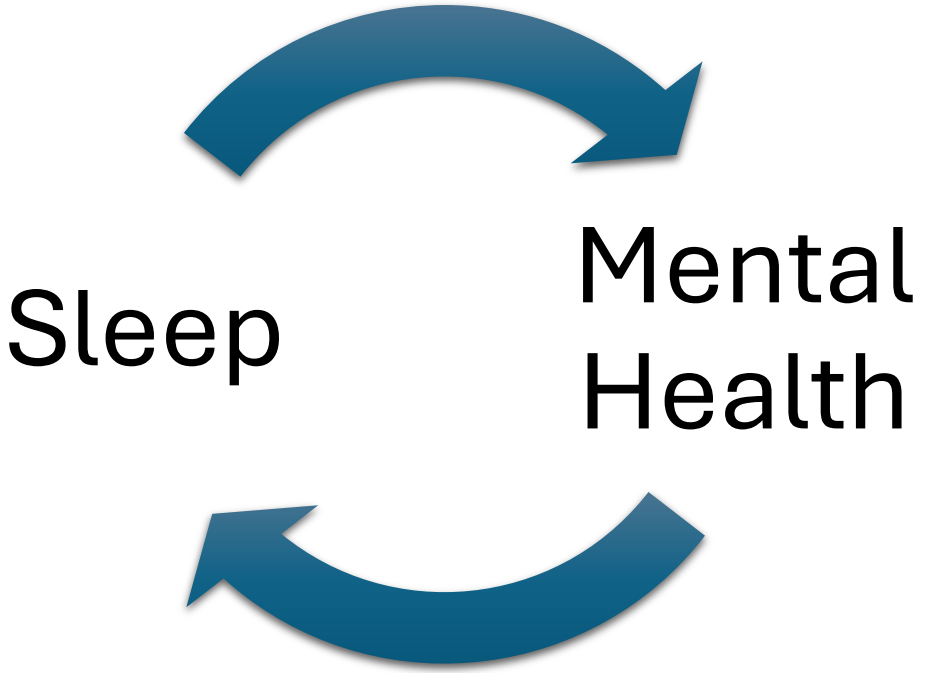
LACK OF SLEEP CHANGES THE BRAIN

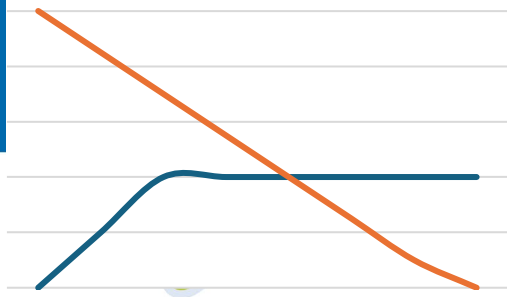




SLEEP AND THE BRAIN

- Impacts brain development
  - Executive function
  - New learning
  - Memory consolidation
- Impairs mental well-being
  - Almost universal effects on emotional/psychological health





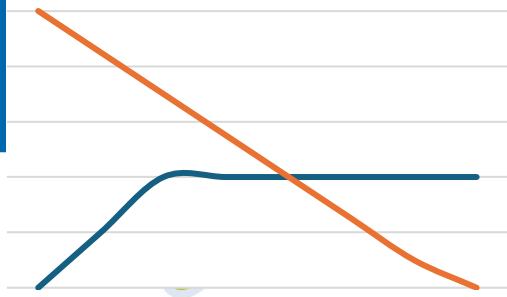
SLEEP DEBT AND HEALTH

- Impairs physical well-being
  - Cardiometabolic health
    - Blood pressure
    - Obesity/insulin resistance
  - Immune function
    - Respiratory infection risk
      - ~2x higher in athletes

Sleeping less than 7-9 hours /night associated with 31% increased odds of respiratory infection

In middle school athletes, each additional hour of sleep *per week*, associated with 21% reduced odds of illness

Robinson CH, Albury C, McCartney D, et al. *Fam Pract*. 2021;38(6):802-810. doi:10.1093/fampra/cmab033
Watson A, Post E, Biese K, Kliethermes S, Brooks MA, Bell D. *Sports Health*. 2021;13(1):25-30. doi:10.1177/1941738120927599
Grönroos W, Uhari M, Ruuskanen O. *Exerc Immunol Rev*. 2025;31:6-18.



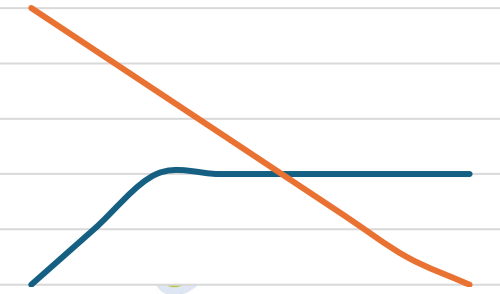
SLEEP DEBT AND PERFORMANCE

- Increased reaction time
- Reduced coordination and motor control
- Impaired skill learning and muscle memory
- Reduced attention and judgement

😟 Reduced tennis accuracy after one night of restricted sleep (5 hrs): Serve ↓ 18%, Backhand ↓24%

😃 Free throw and 3-point accuracy increased 9% with increased sleep in collegiate basketball players

Vitale JA, Bonato M, Petrucci L, et al. *Int J Sports Physiol Perform*. 2021;16(8):1154–1159. doi:10.1123/ijspp.2020-0390
Mah CD, Mah KE, Kezirian EJ, Dement WC. *Sleep*. 2011;34(7):943-950. Published 2011 Jul 1. doi:10.5665/SLEEP.1132



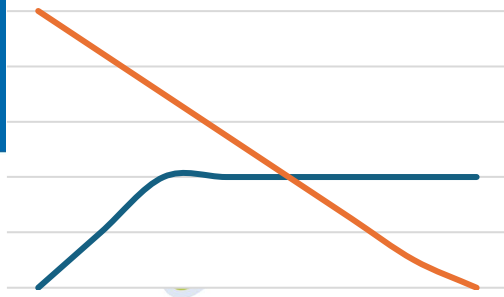
SLEEP DEPRIVATION AND PERFORMANCE

- Reduced recovery
  - Physical
    - Reduced growth hormone secretion
  - Mental
- Increased injury risk



Injury 1.7x more likely in adolescent athletes <8 hrs sleep/night
Athletes who reduced sleep while increasing training intensity >2x as likely to get injured.

Milewski MD, Skaggs DL, Bishop GA, et al. *J Pediatr Orthop*. 2014;34(2):129-133. doi:10.1097/BPO.0000000000000151



SLEEP DEBT AND HEALTH: IT'S A LOT!!

- Impacts brain development
  - Executive function
  - New learning
  - Memory consolidation
- Impairs mental well-being
- Impairs physical well-being
  - Cardiometabolic health
    - Blood pressure
    - Obesity/insulin resistance
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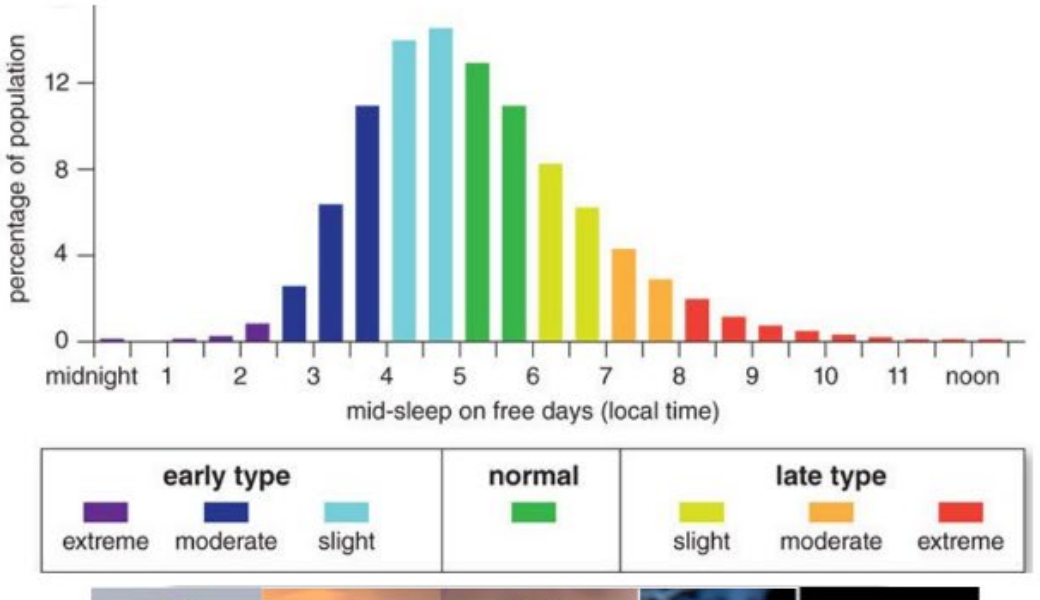


You can’t always trust how tired you feel

Sleep is not just something you do
after everything else is done

Make sleep a priority in your training and performance plan

Chronotypes





- Your natural sleep window is **largely genetic** (larks, owls, and everyone in between)
- Working against it **costs you** when it comes to performance
- During **adolescence**
  - **Chronotypes shift** toward night owls
  - **Sleep & wake drive** flattens (amplitude shift)



The elements of sleep

Duration

Are you getting enough?

Skills: Sleep banking, strategic naps

Timing

Is it at the right, regular time?

Skills: Chronotype, social jet lag, travel

Quality

Is it uninterrupted and restorative?

Skills: Sleep disorders, testing, wind-down



Measuring sleep with technology

Proven	Useful, with caveats	Mostly hype
• Home sleep apnea testing, reviewed by a sleep physician • FDA-cleared digital CBT-I (e.g., Somryst, SleepioRx) • Light therapy for shifting timing	• Wearables for duration, timing, and regularity trends • Watch apnea alerts (Apple, Samsung): a screen, not a diagnosis • Cooler bedrooms and temperature control	• Precise nightly sleep-stage breakdowns • Single-number "sleep scores" treated as truth • Blue-light glasses (evidence mixed)



Trends not individual metrics

Measures reasonably well

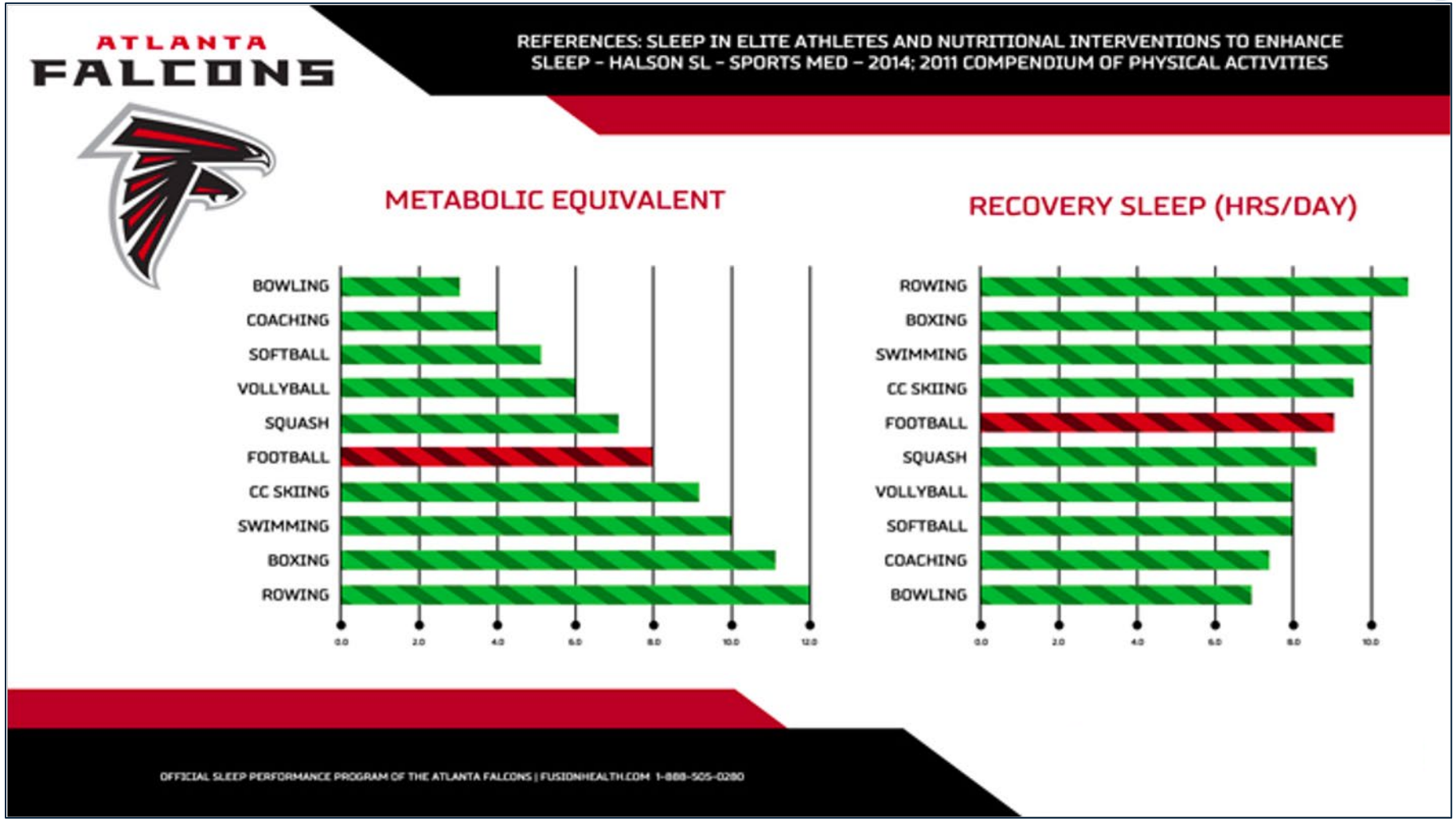
- When you fall asleep and wake up
- Total sleep time, as a trend over weeks
- Regularity from night to night
- Resting heart rate

Measures poorly

- Exact minutes of deep vs. light vs. REM sleep
- Any single night
- Composite "readiness" or "sleep scores"

Watch out for orthosomnia: chasing a perfect score can make sleep worse. **Pick one metric:** how consistent your wake time is. Using multiple metrics leads to **orthmetria**.

Athletes and sleep duration





Evidence-based strategies

Sleep Banking

Strategic napping

Travel preparedness



Sleep banking

US Army armored platoon

+2.5 h

of sleep a night for 10 days

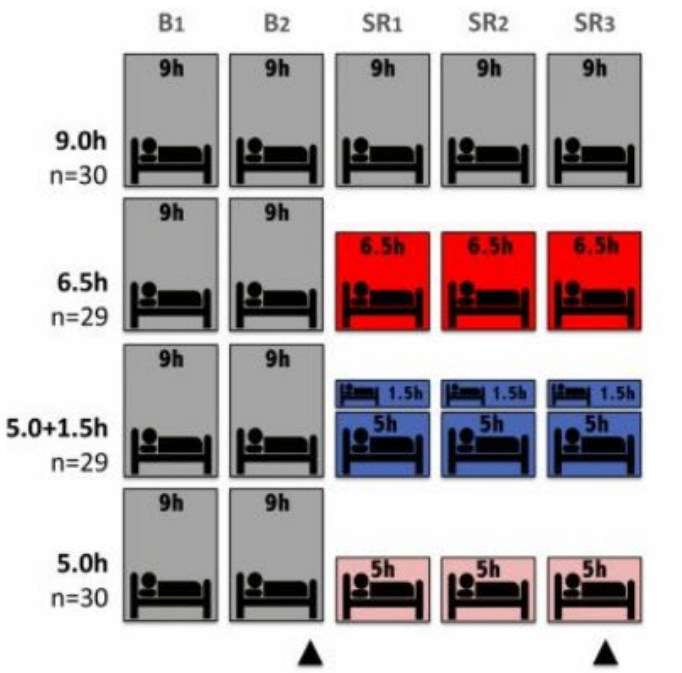
756 → 919

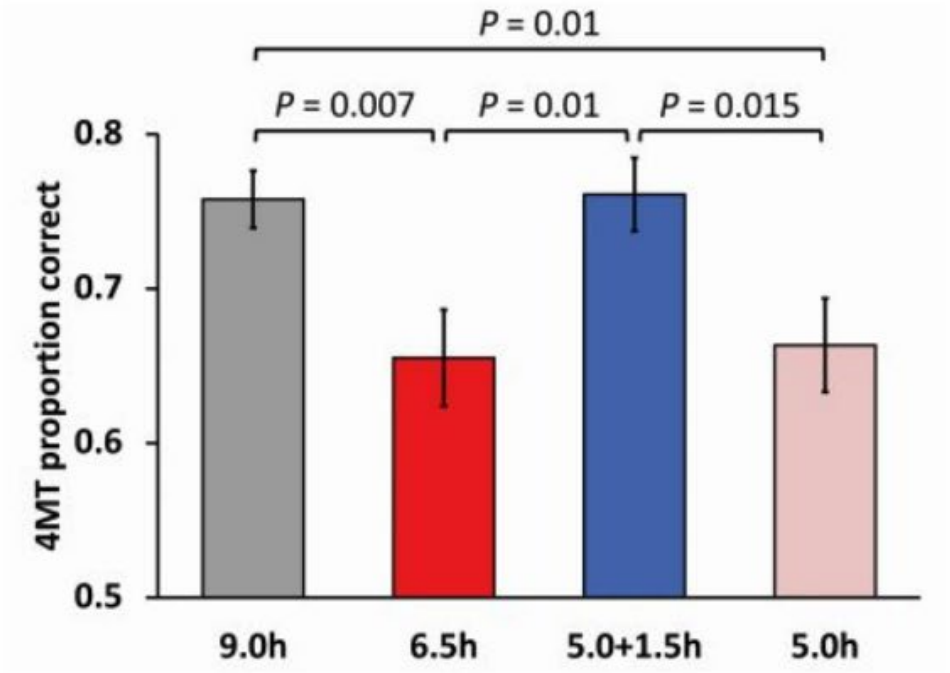
gunnery score (+22%), plus better mood, morale, and fewer errors

- **Go to bed 30 min to 2 h earlier** and/or wake later for the week before.
- **Add an early-afternoon nap** (20-90 min) in the post-lunch dip, and practice it before you need it.
- **Keep meal times consistent;** food is a timing signal for your body clock.
- **Banked sleep protects performance** during the short nights that follow and speeds recovery.

Strategic napping

Same total sleep, different outcome: a 5 h night plus a 1.5 h nap matched 9 h in bed on memory, while 6.5 h in one block did not.

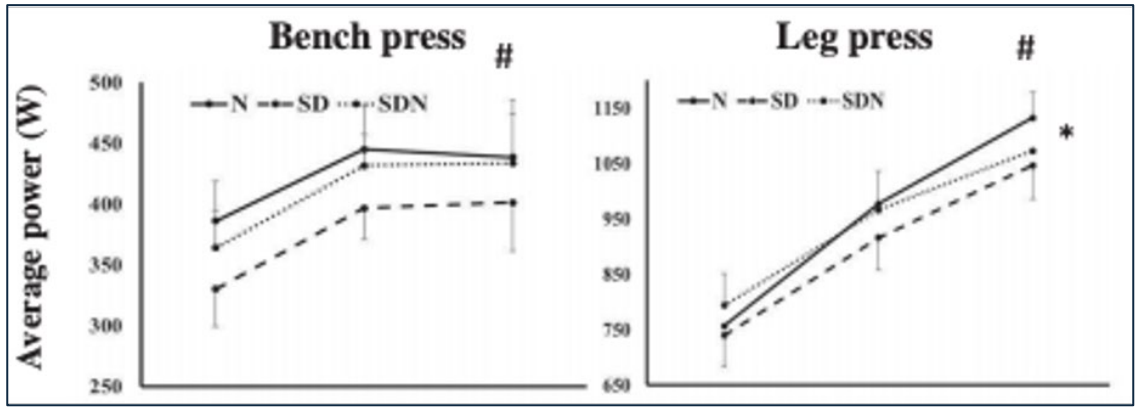


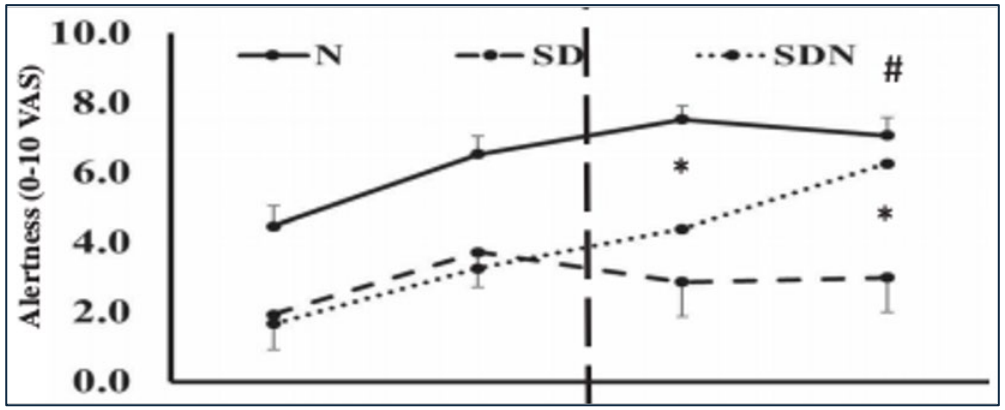


Why strategic napping helps SD athletes

Sleep deprivation causes:

- Grip strength ↓3% power
- Bench press ↓11% power
- Leg press ↓6% power
- Deadlift impaired ORM & submaximal lifts
- Increase in **perception of effort** that significantly limits performance





In SD athletes, a **1 hour nap** (SDN) 3 hours before an event can significantly improve **ORM, Fatigue, & Mood**

Travel strategies

Rule of thumb: about 1 day to adjust per time zone crossed. Flying east is harder than flying west.

Short trip (2-3 days)

- **Take earlier flights**, not red-eyes, to entrain your circadian system with light when you land (easier to stay awake than go to sleep)
- **Practice for competition** at the time it will be in the new time zone a week before you leave
- **Eat, sleep, train** in the new time zone during that week
- **Sleep bank** during the week before competition

Longer trip, e.g., SF → London (+8 h)

- **Get there as far ahead of competition as possible** to reduce the impact of travel, sleep deprivation, and circadian misalignment
- **Eastbound:** get morning light at your destination and avoid late-evening flights
- **Westbound:** seek evening light and stay up later to align with the clock time in your new time zone
- **Low dose melatonin** (0.5-1 mg) 5 hours before your new sleep time helps shift your rhythm

Athlete Mental Wellness, Digital Pressures, and Performance

A real-world experiment: NFL Week 1, 49ers vs. Rams

49ers

Arrived in Melbourne a week early and shifted body clocks gradually.

Rams

Landed about 28 hours before kickoff, with a 17-hour time shift.

Prediction markets: Rams favored, 64%



Result



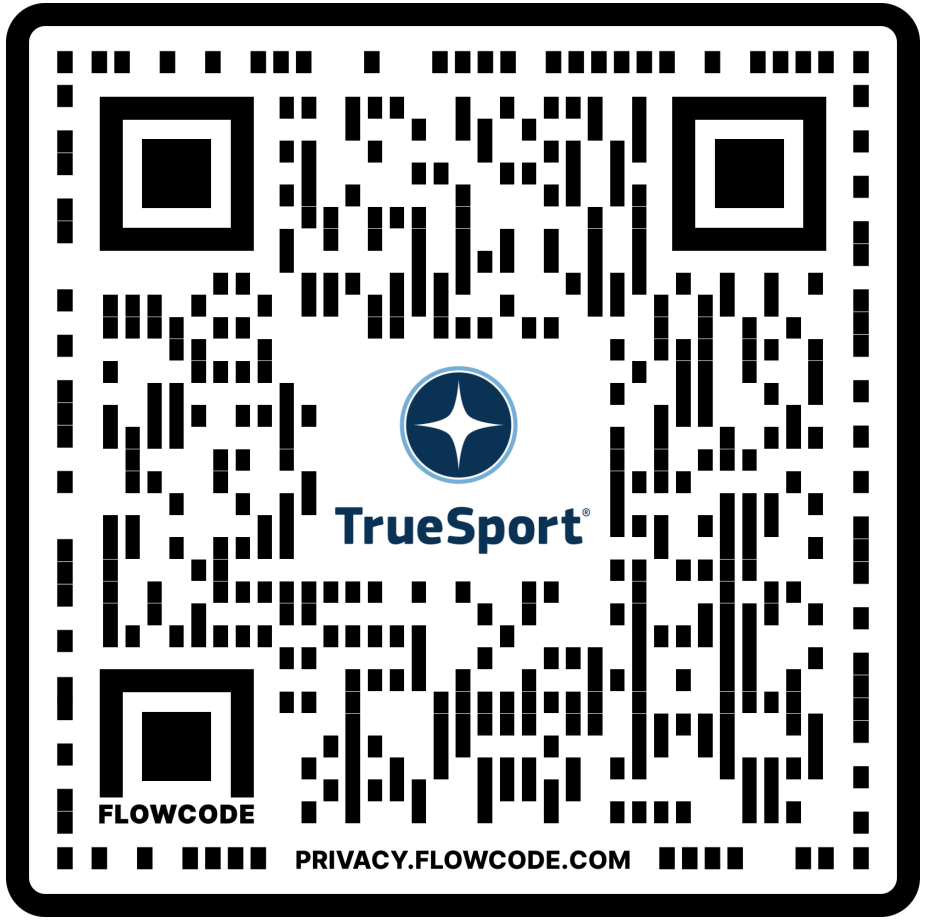


Summary of recommendations

- Manage sleep like you manage nutrition & training - **program it**
- Prioritize **Sleep Duration** - you need more than N.A.R.P.
- For Training Tests, use the ***The Night Before, The Night Before*** principle
- If your Sleep Quality is good (not snoring, experiencing RLS, insomnia…), but your
- **Sleep Duration** is insufficient, **implement strategic napping**
  - During the circadian lull
  - Limit nap from 30-90 min
- If your **Sleep Quality** is "suspect", let someone know - it will be *MUCH* better
- **Wake promoting substances** should be limited to first ½ of day
- **Use light** (especially during winter months) to stimulate Wake & Performance
- Go to **sleep "a little hungry"** and well hydrated - food is a stimulant
- **Practice meditation** or other **calming strategies** to reduce anxiety during the day

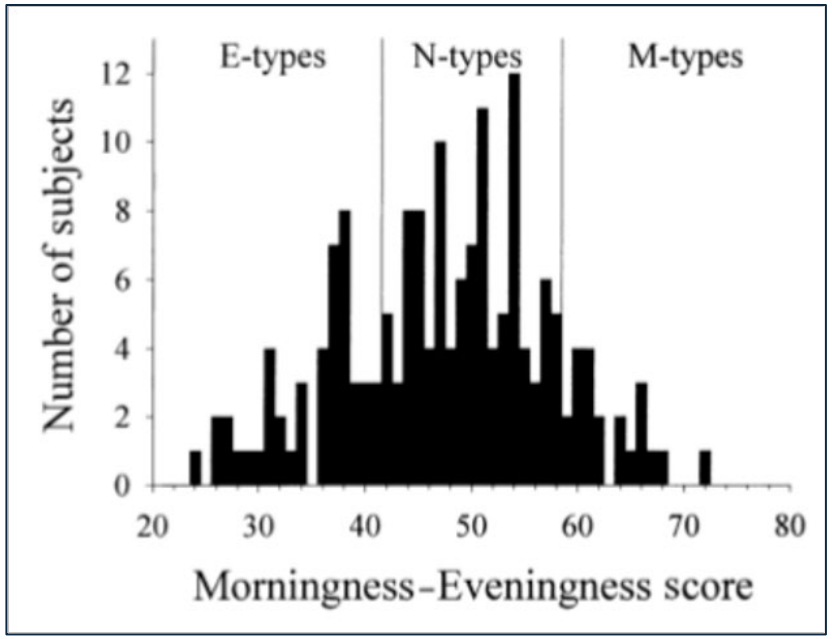
Resources

- Morningness-Eveningness Questionnaire (MEQ)
- Athlete Sleep Behavior Questionnaire (ASBQ)
- Common sleep disorders (Sleep apnea, Insomnia, RLS)
- USOPC Sleep Resources
  - Sleep journal



Morningness-Eveningness Questionnaire

Predicts performance peaks and valleys



Items
1. Approximately what would you get up if you were entirely free to plan your day?
2. Approximately what time would you go to bed if you were entirely free to plan your evening?
3. If you usually have to get up at a specific time in the morning, how much do you depend on an alarm clock?
4. How easy do you find it to get up in the morning (when you are not awakened unexpectedly)?
5. How alert do you feel during the first half hour after you wake up in the morning?
6. How hungry do you feel during the first half hour after you wake up?
7. During the first half hour after you wake up in the morning, how do you feel?
8. If you had no commitments the next day, what time would you go to bed compared to your usual bedtime?
9. You have decided to do physical exercise. A friend suggests that you do this for one hour twice a week, and the best time for him is between 7-8 A.M. Bearing in mind nothing but your own internal "clock," how do you think you would perform?
10. At approximately what time in the evening do you feel tired, and as a result, in need of sleep?
11. You want to be at your peak performance for a test that you know is going to be mentally exhausting and will last two hours. You are entirely free to plan your day. Considering only your "internal clock," which one of the four testing times would you choose?
12. If you got into bed at 11 P.M, how tired would you be?
13. For some reason you have gone to bed several hours later than usual, but there is no need to get up at any particular time the next morning. Which one of the following are you likely to do?
14. One night you have to remain awake between 4-6 A.M. in order to carry out a night watch. You have no commitments the next day. Which one of the alternatives would suit you best?
15. You have two hours of hard physical work. You are entirely free to plan your day. Considering only your internal "clock," which of the following times would you choose
16. You have decided to do physical exercise. A friend suggested that you do this for one hour twice a week. The best time for her is between 10-11 P.M. Bearing in mind only your internal "clock," how well do you think you would perform?
17. Suppose you can choose your own work hours. Assume that you work a five-hour day (including breaks), your job is interesting, and you are paid based on your performance. At approximately what time would you choose to begin?
18. At approximately what time of day do you usually feel your best?
19. One hears about "morning types" and "evening types." Which one of these types do you consider yourself to be?
Reliability Statistics Cronbach's Alpha 0.837

Athlete Sleep Behavior Questionnaire

No.	In recent times (over the last month)…	Never	Rarely	Sometimes	Frequently	Always
1	I take afternoon naps lasting two or more hours					
2	I use stimulants when I train/compete (e.g caffeine)					
3	I exercise (train or compete) late at night (after 7pm)					
4	I consume alcohol within 4 hours of going to bed					
5	I go to bed at different times each night (more than ±1 hour variation)					
6	I go to bed feeling thirsty					
7	I go to bed with sore muscles					
8	I use light-emitting technology in the hour leading up to bedtime (e.g laptop, phone, television, video games)					
9	I think, plan and worry about my sporting performance when I am in bed					
10	I think, plan and worry about issues not related to my sport when I am in bed					
11	I use sleeping pills/tablets to help me sleep					
12	I wake to go to the bathroom more than once per night					
13	I wake myself and/or my bed partner with my snoring					
14	I wake myself and/or my bed partner with my muscle twitching					
15	I get up at different times each morning (more than ±1 hour variation)					
16	At home, I sleep in a less than ideal environment (e.g too light, too noisy, uncomfortable bed/pillow, too hot/cold)					
17	I sleep in foreign environments (e.g hotel rooms)					
18	Travel gets in the way of building a consistent sleep-wake routine					

Scoring:
Never = 1, Rarely = 2, Sometimes = 3, Frequently = 4, Always = 5

Total Global Score: _____

- Quantifies sleep behavior relative to athletic behaviors & environments
- Provides a pre-post measure for interventions
- Allows focus on specific sleep-related problems that face athletes

Common sleep disorders

1 in 3 — **Insomnia**
have symptoms (about 1 in 10 meet criteria for the disorder)

1 in 4 — **Sleep apnea**
adults 30–70 (any severity)

1 in 10 — **Restless legs syndrome**
have symptoms

US adults with a sleep disorder

~13 million in care

~87 million in need of care

Quality varies night to night, which is why disorders go unnoticed for years.

THANK YOU

Jeff and Michele

