



Dear players and parents,

I hope this newsletter finds you all well with the holiday season approaching! Over the winter break I came across this interesting systematic review which discusses the effects of training and competition on the sleep of elite athletes. In the scientific community, a systematic review summarizes the results of carefully designed research studies to provide the highest level of evidence for a given topic. I found that some of the findings may be relevant to the players during the basketball season. I have included the reference for the systematic review at the end of the newsletter.

What were the researchers’ objective? – The researchers compiled data from 54 studies that objectively measured reported total sleep time (TST) and/or sleep efficiency (SE) in elite athletes.¹

Total Sleep Time: Total time spent sleeping (measure of sleep quantity).

Sleep Efficiency: The total time spent sleeping compared to total time spent in bed (measure of sleep quality).

Why is sleep important? – Sleep is associated with many physiological processes that may facilitate recovery from training and competition. Some examples include the upregulation of growth factors, the consolidation of procedural memories, and the augmentation of immune responses.¹

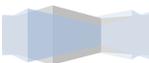
What are current sleep recommendations? – 8-10 hours (13-18 years old). This is according to the Canadian Paediatric Society (CPS).

What were the major findings?

- athletes are often unable to meet current sleep recommendations during training periods or on the night of competition¹.

- Rationale: Factors like increased stress, elevated core body temperature, or muscle pain leading to a delay in TST.

- TST and SE were reduced following large increases (>25%) in training load¹.



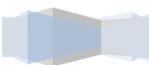


- Rationale: Heavy training can lead to an increased stress response, which prevents the normal downregulation of the human stress system required for healthy sleep.
- TST reduced on nights prior to early morning training (before 7AM)¹.
- Rationale: Difficult for athletes to go to bed earlier to prevent reductions in TST.
- Interestingly, the review found no evidence that electronic device use in the evening affects the sleep of athletes¹. However, these findings are based on 2 small studies.
- Note: Blue light (emitted from electronic devices) have been shown to reduce slow-wave sleep, which is the type of sleep believed to promote recovery in athletes.

What are some recommendations for better sleep?

1. **Amount of sleep:** Ensure that you are meeting sleep recommendations (8-10 hours), however the amount may vary between individuals². A rule of thumb for athletes is to sleep the amount of time needed to feel wakeful and alert throughout the day.
2. **Regular sleep routine:** Ensure you are going to bed at night and waking up in the morning around the same time each day to help form a regular sleep routine². Avoid forming negative sleep habits (watching TV, using phone immediately before bed).
3. **Napping:** Napping can be beneficial for reducing the “postlunch dip” in performance and repaying sleep debt². Try to limit naps to around 30 minutes and avoid napping in the late afternoon/evening².
4. **Recovery from training/competition:** As mentioned earlier, sleep plays an important role in facilitating recovery from training/competition, both physiologically and psychologically^{1,2}.
5. **Worry and anxiety before sleep:** Excessive worry/anxiety can lead to emotional reactions that decrease sleep quality and quantity². Relaxation techniques, goal setting, or imagery are strategies that may help an athlete feel calm before bed².

Thank you for your hard-work and dedication, you have been a pleasure to train and work with. Enjoy the holiday season!

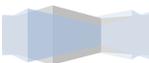




- (1) Roberts SSH, Teo W, Warmington SA. Effects of training and competition on the sleep of elite athletes: a systematic review and meta-analysis. Br J Sports Med 2018;bjsports-2018-099322.
- (2) Bird SP. Sleep, Recovery, and Athletic Performance: A Brief Review and Recommendations. Strength and Conditioning Journal 2013;35(5):43-47.

Cheers,

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Happy Holidays to our entire FORM Family!

With the Holidays upon us, it calls for an opportunity to reflect on the effects of technology on our personal well-being. Our constant activity on social media, our smartphones, and video-game consoles have turned into an addiction we may be blind to. While it's easy to dismiss this claim as hyperbole, platforms like Facebook, Snapchat, and Instagram leverage the very same neural circuitry used by slot machines to keep us using their products as much as possible. Though there is nothing addictive that is associated with the smartphone or console, there is a true attachment to the interactive platforms within the devices. The average person spends 2-4 hours tapping, typing, and swiping on their smartphone. Most of us have become so intimately entwined with our digital lives that we sometimes feel our phones vibrating in our pockets when they aren't even there.

The technology around us has brought an immense benefit to our society, but the cost is becoming more and more apparent. Studies are beginning to show a positive correlation between smartphone usage and increased levels of anxiety, depression and poor sleep quality.

Many of us are aware of the negative effects yet we struggle with disconnecting from our phones.

Dopamine is a chemical produced by our brains that plays a starring role in motivating behaviour. It is released after a bite of delicious food, after we exercise and especially when we have successful social interactions. It rewards us for beneficial behaviours and motivates us to repeat them. This is what makes our smartphones so difficult to ignore. Cognitive neuroscientists have shown that rewarding social stimuli (laughing faces, positive recognition by our peers, messages from loved ones) activate dopaminergic reward pathways. These pathways reinforce the association between a particular stimulus and the feel-good reward that follows. Social media provides us with an endless virtual supply of social stimuli. Every notification, “like”, interaction, has the potential to be a positive social stimulus and dopamine releaser.

Social media, smartphones, and video-game consoles are not going to disappear anytime soon, so it is up to us as users to decide how much of our time we want to dedicate to them. Social media companies use specific algorithms to keep your eyes glued to the screen as often as possible and they know how to manipulate our dopamine-driven reward system. Here are a few strategies to spend less time on your screens:

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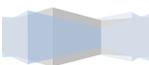
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1. Disable your notifications for social media apps
2. Keep your display in black and white - it will reduce your phone’s ability to grab and hold your attention
3. Mindful use of technology - next time you pick up your phone, ask yourself, “Is this really worth my time?” or “Why am I checking my phone?”

Thanks for taking the time to read this. I believe we can all benefit from reducing our screen-time and looking up from our devices. Let’s work towards staying connected with our environment, surrounding, and those around us.

Haynes, Trevor. (2018). Dopamine, smartphones & you: A battle for your time. Science in the News: The Harvard University. Retrieved from:
<http://sitn.hms.harvard.edu/flash/2018/dopamine-smartphones-battle-time/>

Elmore, Tim. (2016). Should we ask our athletes to give up their phones? Growing Leaders. Retrieved from: <https://growingleaders.com/blog/ask-athletes-give-phones/>

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