



Introduction to Sleep Health



**Sleep Better
Live Better**

DANIELWHITE
HEALTH 



British Sleep Society

UK Multidisciplinary Sleep Professionals



I coach people to improve their sleep naturally so that they can wake up feeling energised, refreshed and fully alive.



**Sleep Better
Live Better**

World Sleep Day

Introduction to Sleep

- How sleep impacts our health
- The basics of sleep science
- How we slept throughout evolution
- An introduction to your circadian rhythms
- How light exposure impacts your sleep and circadian rhythms
- 3 key steps to supporting healthy circadian rhythms

“Sleep is the single most effective thing we can do to reset our brain and body health each day - Mother Nature's best effort yet at contra-death.”

Professor Matthew Walker - Why We Sleep

How does sleep impact health?



Heart Health

Sleep deprivation increases stress, heart rate, vasoconstriction, blood pressure and cortisol – increasing the risk of heart disease

Metabolism

Sleep controls hormonal hunger & satiety signals, blood sugar levels and insulin resistance

Detoxification

When you sleep, the *glymphatic* system is clearing your brain of neurotoxic substances that have accumulated throughout the day

Memory & Learning

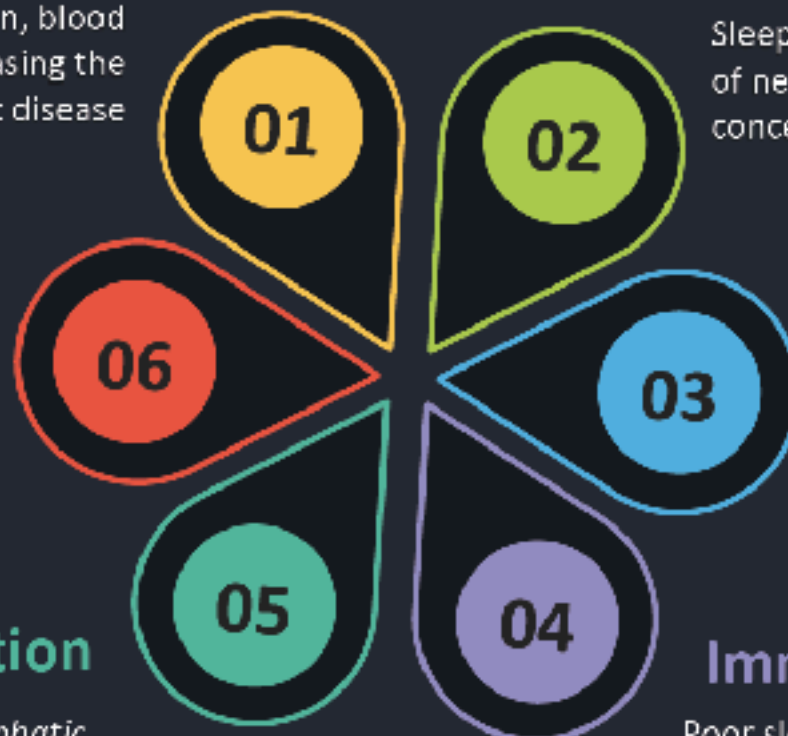
Sleep is required for the creation of new memories, attention, concentration & learning

Mental Health

Sleep regulates hormones and neurotransmitters that influence **all mood disorders**

Immune Function

Poor sleep = increased chronic inflammation, decreased activation of NKC (natural killer cells), increased risk of illness and autoimmunity



**Why should you take the
time to learn how to
sleep better?**

**Think about 3 of your
top priorities in life**

Quick examples;

Career, family, fitness

**Search in Google
or Pubmed**

“Sleep + priority”

About 1,020,000,000 results (0.57 seconds)

www.ncbi.nlm.nih.gov › [pmc](#) › [articles](#) › [PMC3100541](#) ▾

Sleep in the Family - NCBI - NIH

by LJ Meltzer · 2011 · Cited by 128 — When children have sleep problems, they often awaken a parent, impacting parent sleep and subsequent parent daytime functioning. Parent ...

[Toddlers, Preschoolers, and...](#) · [Adolescents](#) · [Chronic Illness](#) · [Conclusions](#)

vanierinstitute.ca › [sleep-families](#)

Sleep and Families – The Vanier Institute of the Family / L ...

19 May 2020 — How sleep (and lack of sleep) affects families. Our sleeping patterns and family lives share a complex relationship, and deprivation affects not just ...

www.washington.edu › [howdoilearn](#) › [healthy-sleep-ha...](#) ▾

Creating healthy sleep habits for your family | How do I learn

Sleep is a valuable part of everyday health. Your body and your brain need sleep in order to develop and function properly. Sleeping is busy time for your brain as ...

www.sleepandfamily.com

Sleep and Family Medicine: Home

Sleep & Family Medicine believes in listening to you then tailoring your ... Our team works to develop long-term partnerships with patients and families; Our ...

[Staff](#) · [Services](#) · [Our Services](#)



sleep and performance [X] Search

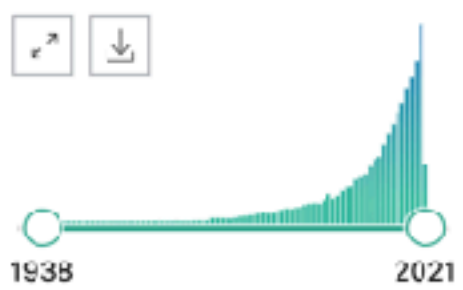
Advanced Create alert Create RSS User Guide

Save Email Send to Sorted by: Best match Display options

MY NCBI FILTERS

36,750 results

RESULTS BY YEAR



- Sleep and athletic performance: the effects of sleep loss on exercise performance, and physiological and cognitive responses to exercise.**
1
Cite Fullagar HH, Skorski S, Duffield R, Hammes D, Coutts AJ, Meyer T. Sports Med. 2015 Feb;45(2):161-86. doi: 10.1007/s40279-014-0260-0. PMID: 25315456 Review.
Share For instance, research indicates some maximal physical efforts and gross motor performances can be maintained. In comparison, the few published studies investigating the effect of sleep loss on performance in athletes report a reduction in sport-specific p ...

TEXT AVAILABILITY

- Abstract
- Free full text
- Full text

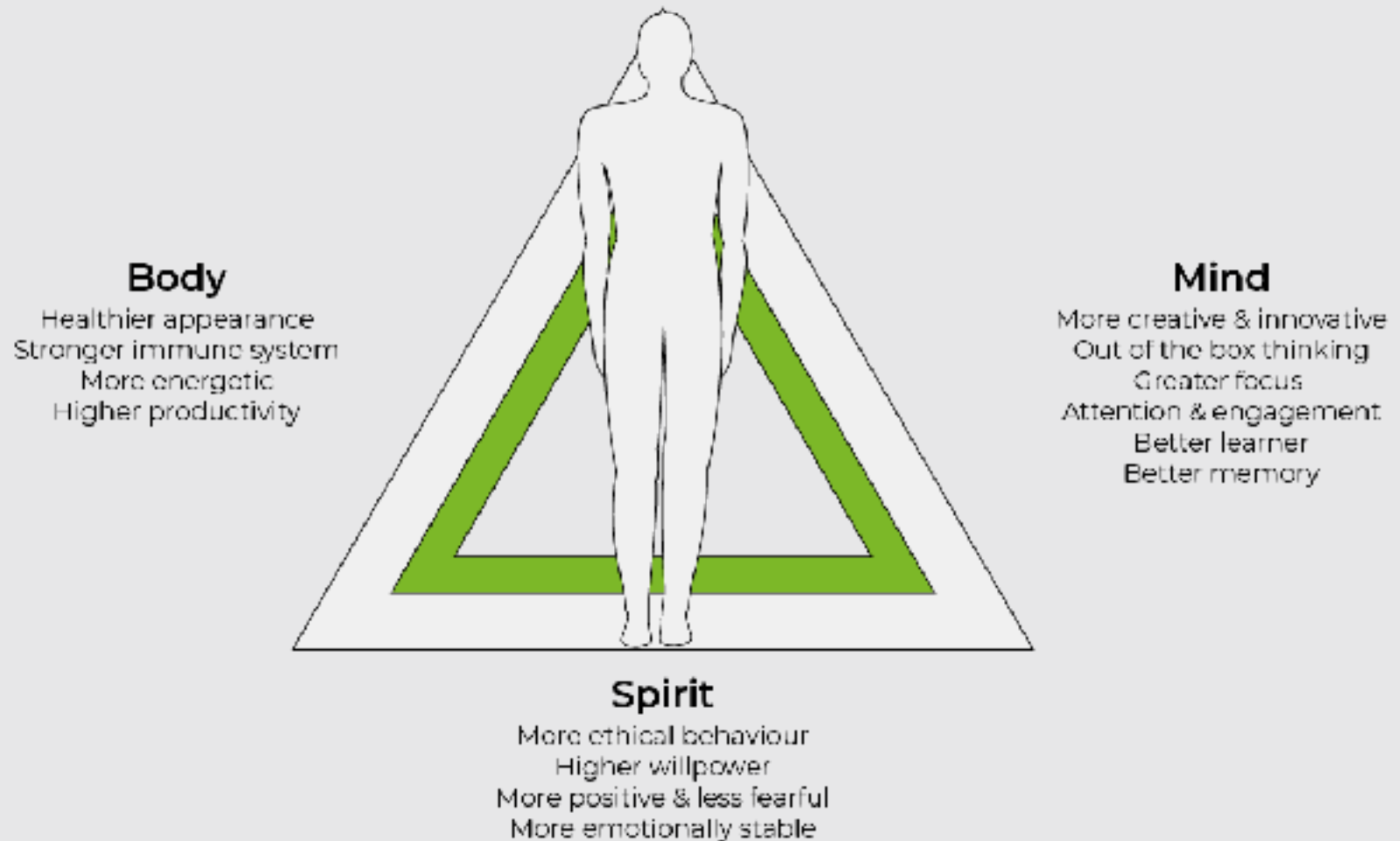
- Sleep and Athletic Performance: Impacts on Physical Performance, Mental Performance, Injury Risk and Recovery, and Mental Health.**
2
Cite Charest J, Grandner MA. Sleep Med Clin. 2020 Mar;15(1):41-57. doi: 10.1016/j.jsmc.2019.11.005. PMID: 32005349 Review.
Share Research has characterized the sleep of elite athletes and attempted to identify factors associated with athletic performance, cognition, health, and mental well-being. ...Sleep plays a crucial role in physical and cognitive performance and is an impor ...

ARTICLE ATTRIBUTE

- Associated data

**You quickly learn that
everything you value in
life is tied to your ability
to get good sleep.**

Why learn how to sleep well?



*Source: Adapted from Matthew Walker, *Why We Sleep* (New York: Scribner/Simon & Schuster, 2017)*



“Nothing in biology makes sense except in the light of evolution”

- Theodosius Dobzhansky

“The idea is to learn from evolution and marry it with science”

- Valter Longo

Sleeping throughout evolution

Every evening...

- The sun set and the temperature dropped
- The tribe built a fire, cooked and ate
- They socialised through storytelling, dancing, music and intimacy
- They stargazed, rolled over one by one and fell asleep...



Every day...

- The birds began to sing, the sun reached the horizon, the temperature rose and the light intensity increased
- The tribe emptied their bladder or bowels, ate and drank any leftovers from the previous day
- They spent daytime hunting, gathering, fishing or carrying out any other activities that required daylight
- The sun set, the temperature dropped, they built a fire...



This whole process is governed by our natural environment

Timing is everything



Every living thing on planet earth undergoes an unescapable and predictable 24-hour change in its daily environment - where day turns into night.

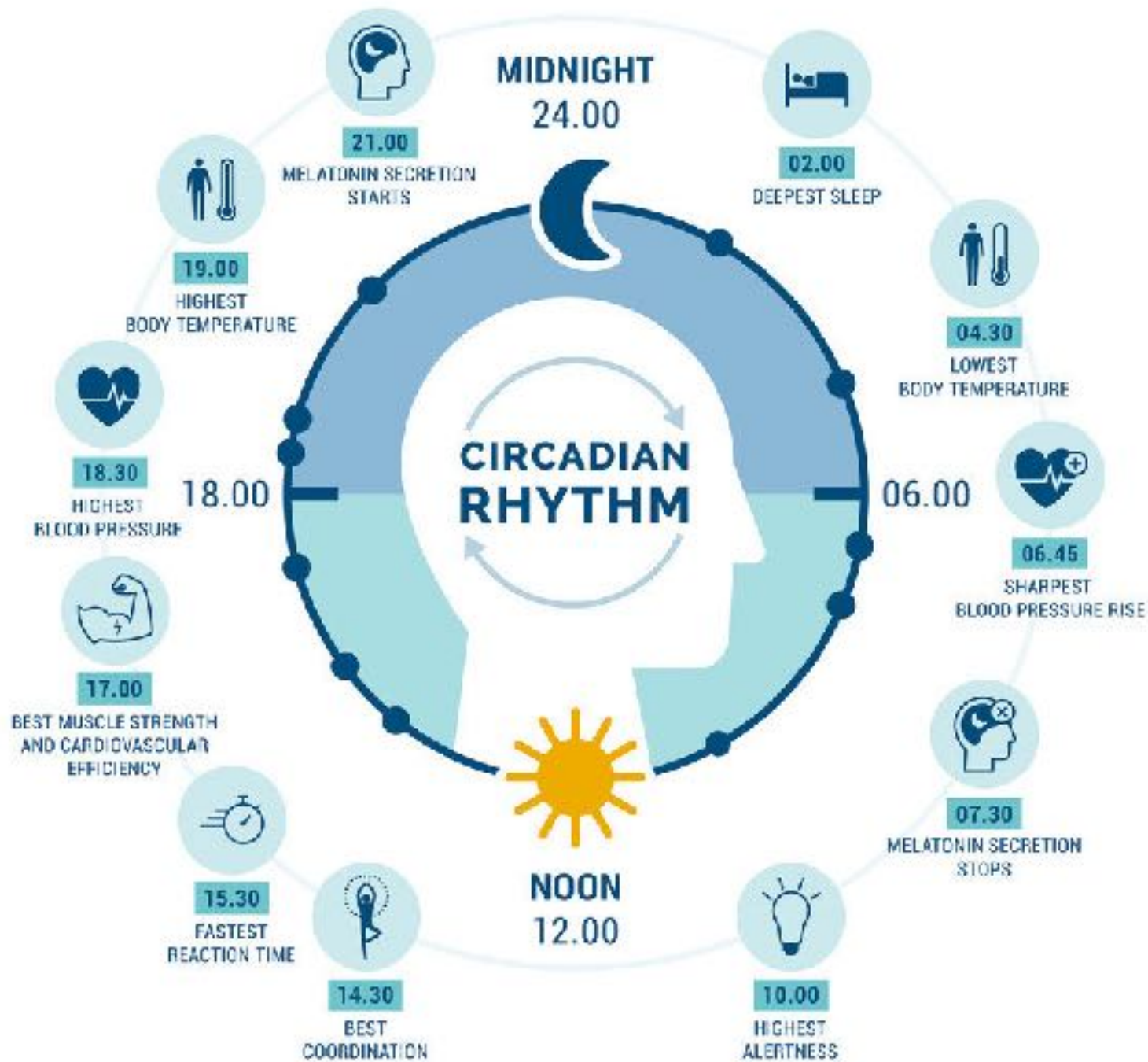
Each living organism spends its 24-hour day:

- Finding energy
- Using and storing energy
- Protecting itself from harmful agents and predators
- Repairing or growing
- Reproducing

All of these functions are guided by an internal 24-hour system.

This that optimises our ability to carry out these essential tasks by assigning each to an optimum time of the day or night.





What is your circadian rhythm?

Circadian comes from the Latin **circa**, meaning "**approximately**" and **diēm**, meaning "**day**"

Brain's internal 24-hour clock which controls how your body functions

The **suprachiasmatic nucleus (SCN)** controls how your circadian rhythm functions by interpreting external cues from your environment (**zeitgebers**) which are relayed to your brain's **hypothalamus ('the master clock')**.

Every living species on earth has a circadian rhythm.

It's the product of millions of years of evolution.

Before anything else... in order to sleep well and thrive mentally and physically we need our body's 24 hour rhythm to be functioning correctly!



Why is circadian health important?



“Everything cannot happen at once” - Dr Sachin Panda

“Circadian health is really about getting your body accustomed to doing the **RIGHT things** at the **RIGHT time of day.**”

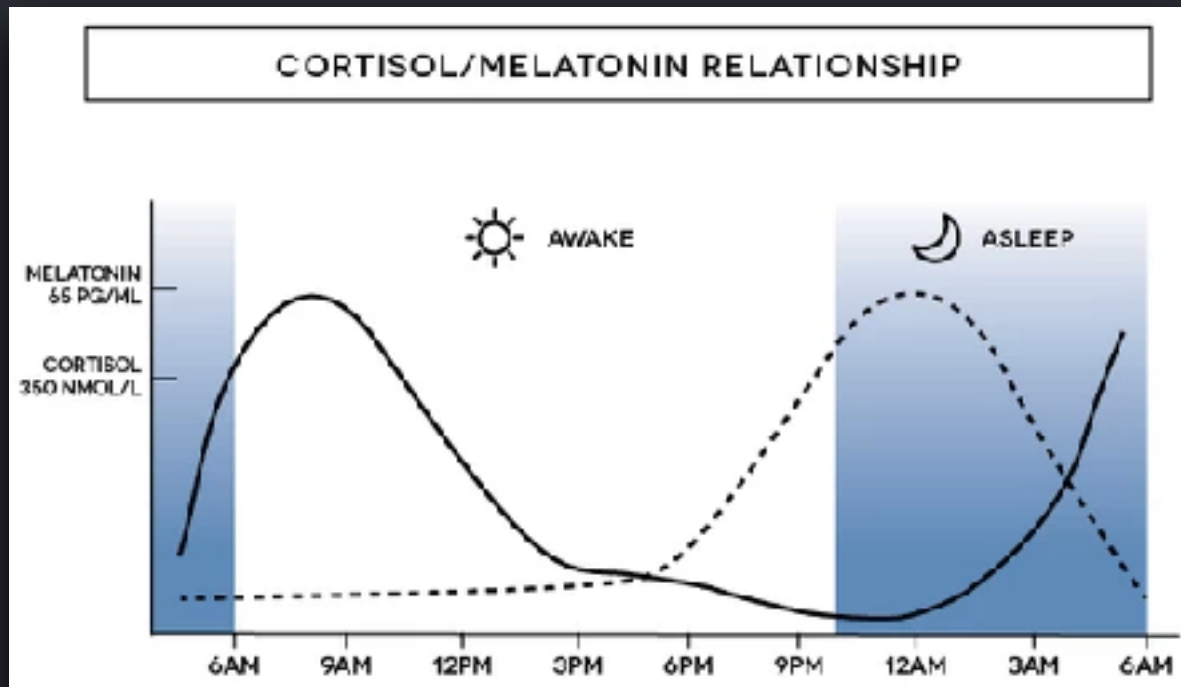


Your circadian rhythm impacts your mood, alertness, energy, cognitive performance, appetite, digestion, metabolism, immune system, libido, muscle growth, cellular repair, recovery, sleep and more.

Cortisol & melatonin



To achieve healthy circadian rhythms and high quality sleep, you must understand how your daily lifestyle choices impact the function of these two crucial hormones.



How each of your daily choices impact sleep can be traced back to how it influenced the production and function of these two key hormones.

Higher cortisol =
greater arousal

Higher melatonin =
greater relaxation

Light - your “master zeitgeber”



**DAYTIME
SUNLIGHT**

You body needs natural light exposure every morning

This boosts alertness, focus and mood whilst balancing your cortisol and melatonin rhythms to optimise your sleep



**NATURAL
DARKNESS**

You brain requires darkness after sunset

Sunset and darkness are signals to your brain to produce melatonin and prepare for sleep and recovery...

**ARTIFICIAL
LIGHT**



Artificial light exposure destroys sleep!

Exposure to artificial light after sunset increases cortisol and suppresses melatonin, sending a signal to your brain saying “it’s still daytime”

How artificial light destroys sleep

Healthy adults lived in a controlled laboratory environment for 2 weeks. They spent 5 nights reading on a blue-lit iPad for 2 hours before bed and 5 nights reading a paper book.

iPad reading led to (1) reduced sleep quality (2) longer time taken to fall asleep and (3) feeling less rested and sleepier for the following DAYS!



★ 50% LESS MELATONIN

★ DELAYED CIRCADIAN RHYTHM

★ "DIGITAL HANGOVER EFFECT"

Harvard university's blue light research



Confirmed that “**Artificial Light At Night**” (**ALAN**) suppresses melatonin and disrupts our circadian rhythm

Discovered that **not all colours** have the same effect!

They found that for each hour of exposure to **BLUE LIGHT...**

1 hour exposure = 30 mins melatonin suppression

2 hours = 60 mins melatonin suppression

3 hours = 90 mins melatonin suppression

ASK YOURSELF ...

How long are you exposed to artificial light between sunset & sleep?

Is this delaying and disrupting your sleep and circadian rhythm?

3 key steps to start improving sleep



1. Get natural light exposure first thing in the morning

Your body needs 15-30 minutes light exposure 2 hours after sunrise to set your circadian rhythm. Getting yourself into natural light as soon as possible after you wake up is the best thing you can do for your circadian rhythm.

2. Get outside into natural light during the daytime

This will help to strengthen your circadian rhythm, boost your mood, energy, alertness and sleep the following night.

See time spent in sunlight as “recharging your brain’s battery”!

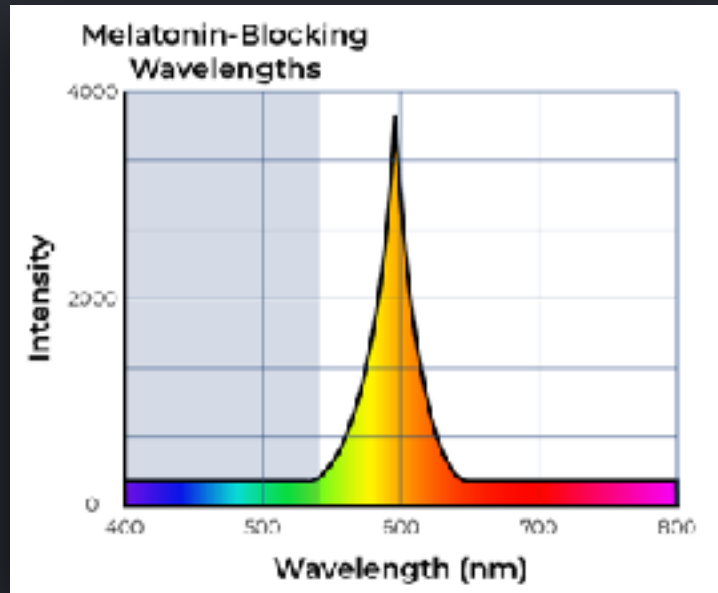
3. Remove or filter all artificial light at night

Turn off bright LED bulbs, use light filtering programmes for your devices, wear amber blue light blocking glasses and use sleep-friendly lighting (candles, amber or red bulbs) in your home after sunset.

How to filter harmful blue light

Reduce blue light exposure at night to protect your sleep

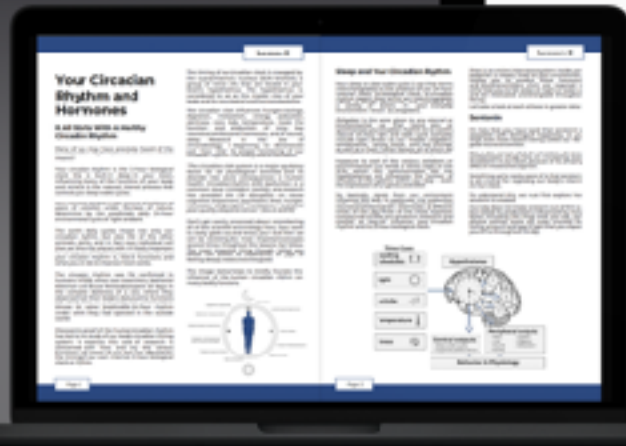
- Wear amber or red lens blue light blocking glasses
- Change the settings on your devices settings to reduce/remove blue light
- Download Iris Technology for PCs and Laptop
- Download Iris Mini for Android



Want to learn more about sleep?

1. Download my free guides
2. Check out the blogs, articles and online programme on our website www.sleepbetterlivebetter.co.uk
3. Get in touch with me directly to discuss how I can help you or your organisation to sleep better dan@danielwhitehealth.com





Staring into blue light all day and night?

Our blue-blocking glasses eliminate eyestrain, headaches, migraines and daytime fatigue. They also support evening relaxation and improve sleep quality.

Throughout lockdown, anyone who invests in a pair of our blue light blocking glasses will receive complimentary access to the Sleep Better Live Better programme.



**Sleep Better
Live Better**





Thank you



**Sleep Better
Live Better**

www.sleepbetterlivebetter.co.uk