FIRSTBEAT

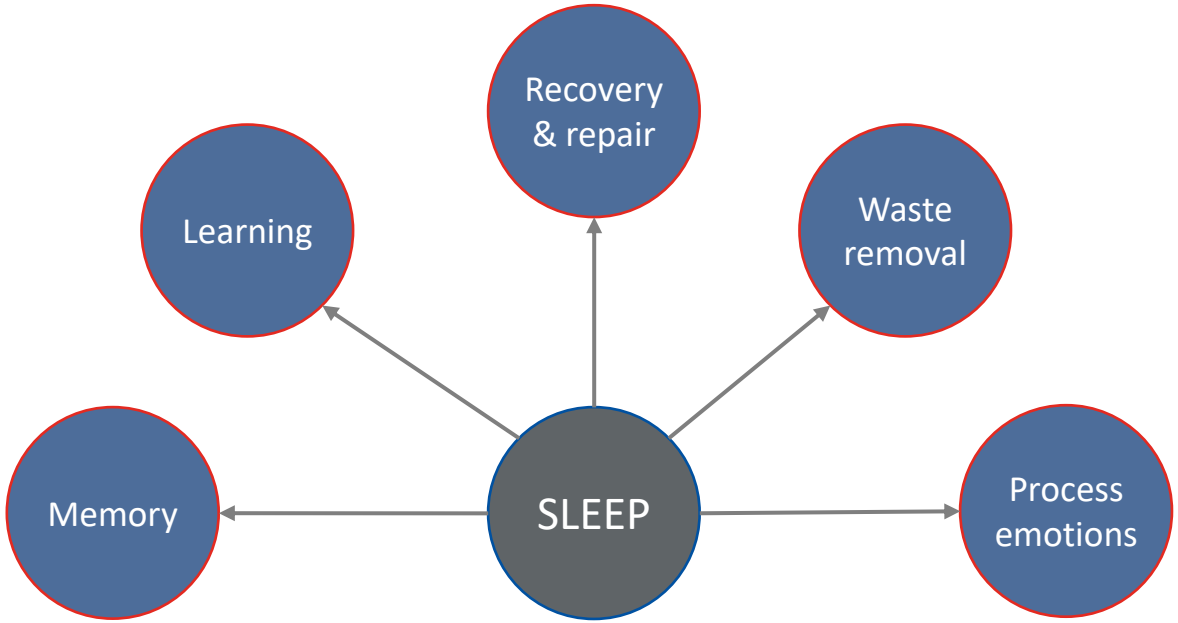
FIRSTBEAT WELLNESS PROGRAMME

RESTORATIVE SLEEP SEMINAR

TOP TIPS

- Experimental measurements
- Accountability partnership focus
- Book an individual follow-up session
- Deeper dive on learning platform

Why invest in good quality sleep?



Consequences of insufficient or poor quality sleep

- Cancer x 4
- Obesity ↑ 56%
- Metabolic syndrome x 2
- Faster cognitive aging
- Immune system ↓
- Executive functioning ↓
- Mood / self-regulation ↓
- Productivity ↓
- Resilience ↓
- Energy / vitality ↓

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Poor self-assessment

Suppressed cognitive control

flowoneffect

Heightened emotional reactivity

Heightened effort discounting

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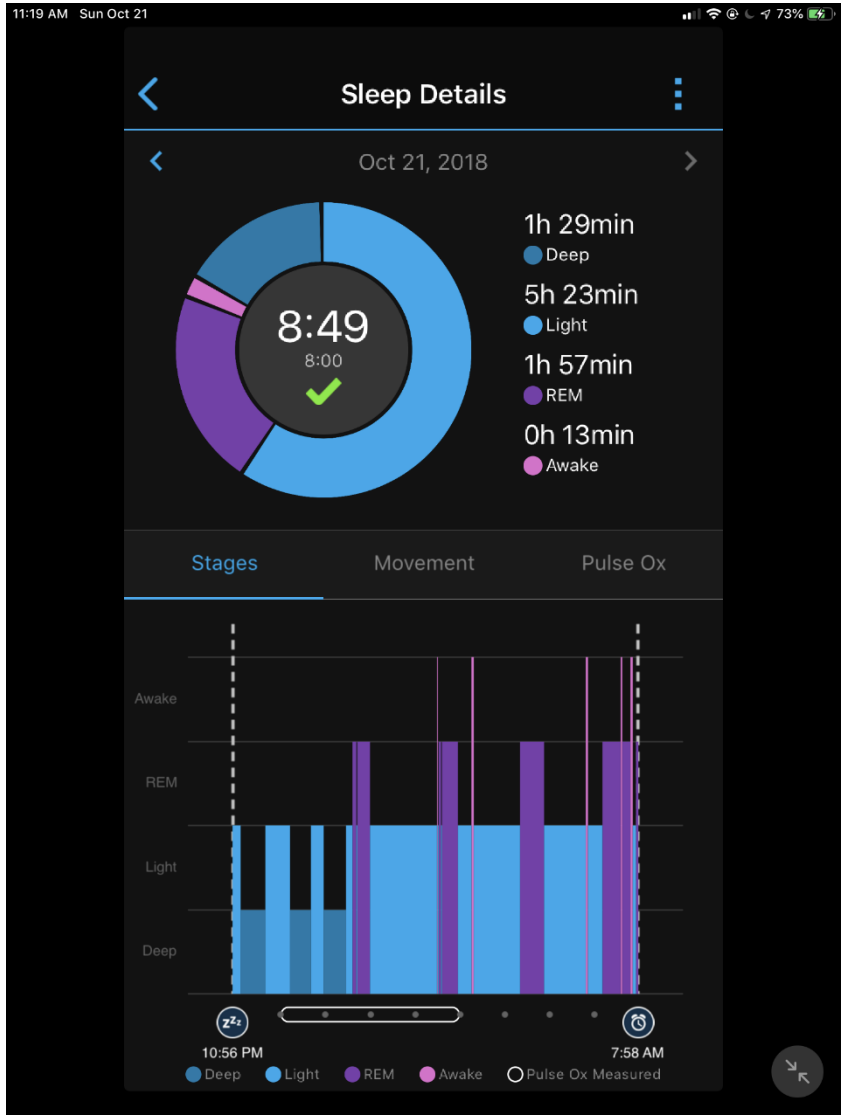
“Good quality sleep is defined as sleeping for at least **85%** of the total time in bed, falling asleep in **under 20 minutes**, understanding that awakenings are **normal and perfectly fine** provided you fall asleep again within a few minutes, being in a physiological recovery state for **at least 70%** of the time while making sure that reading definitions like this does not create sleep anxiety or performance pressure.”

- Adapted from The Sleep Foundation and Firstbeat

Physiological data to determine sleep quality and stages

There is a distinction between **measuring and estimating** something. Wearable devices use HRV and other signals (temperature, cardiac activity, breathing) to **guess** sleep quality and sleep stages.



An estimate will always have a degree of error, and in case of sleep staging, getting it right about 60–70% of the time seems to be as good as it gets.

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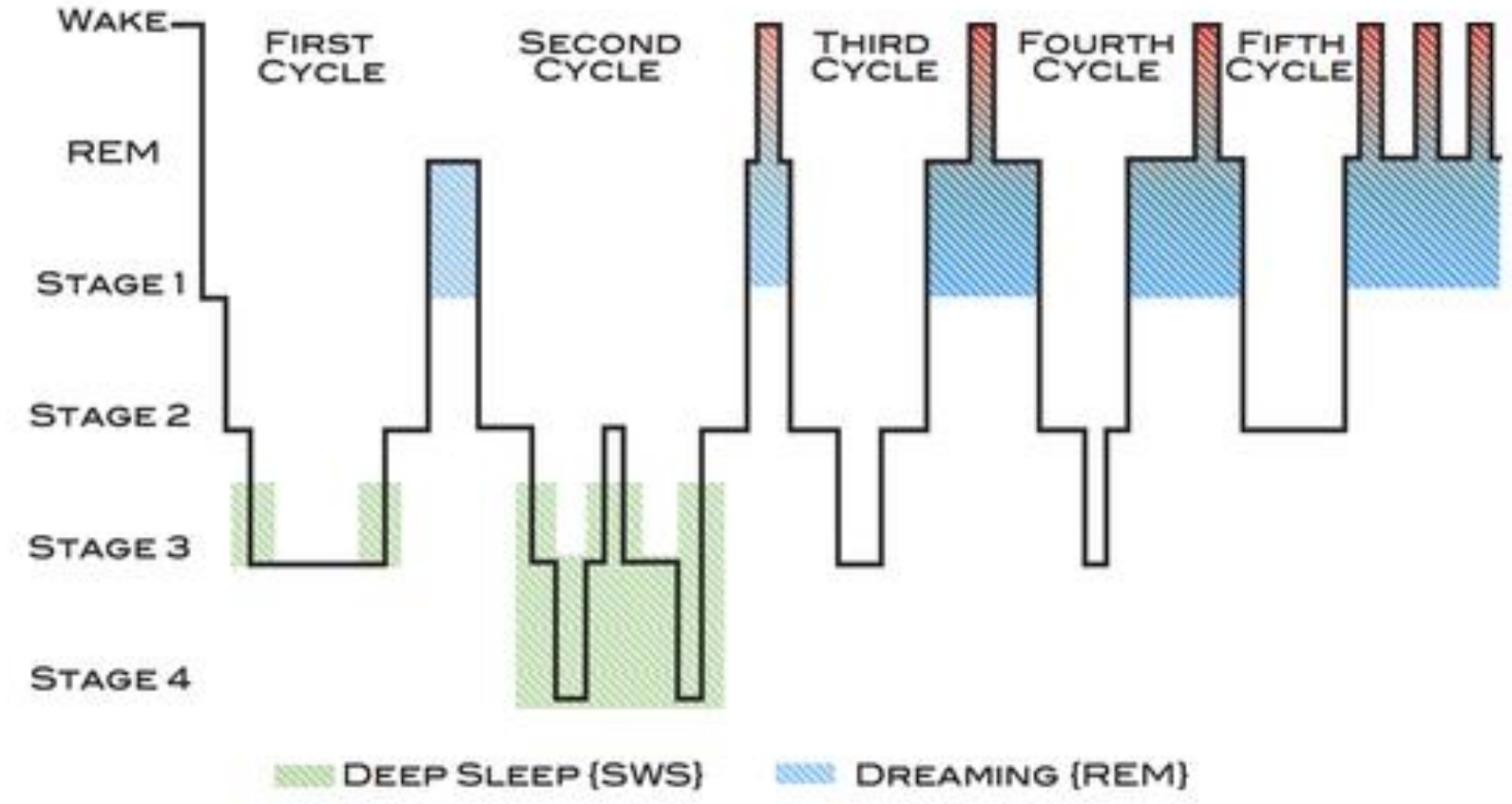
Sleep stages



Broadly speaking there are two halves to our sleep which operate on the "use it or lose it" principle

The optimum is 5 sleep cycles, with each sleep cycle lasting approx. 90 minutes

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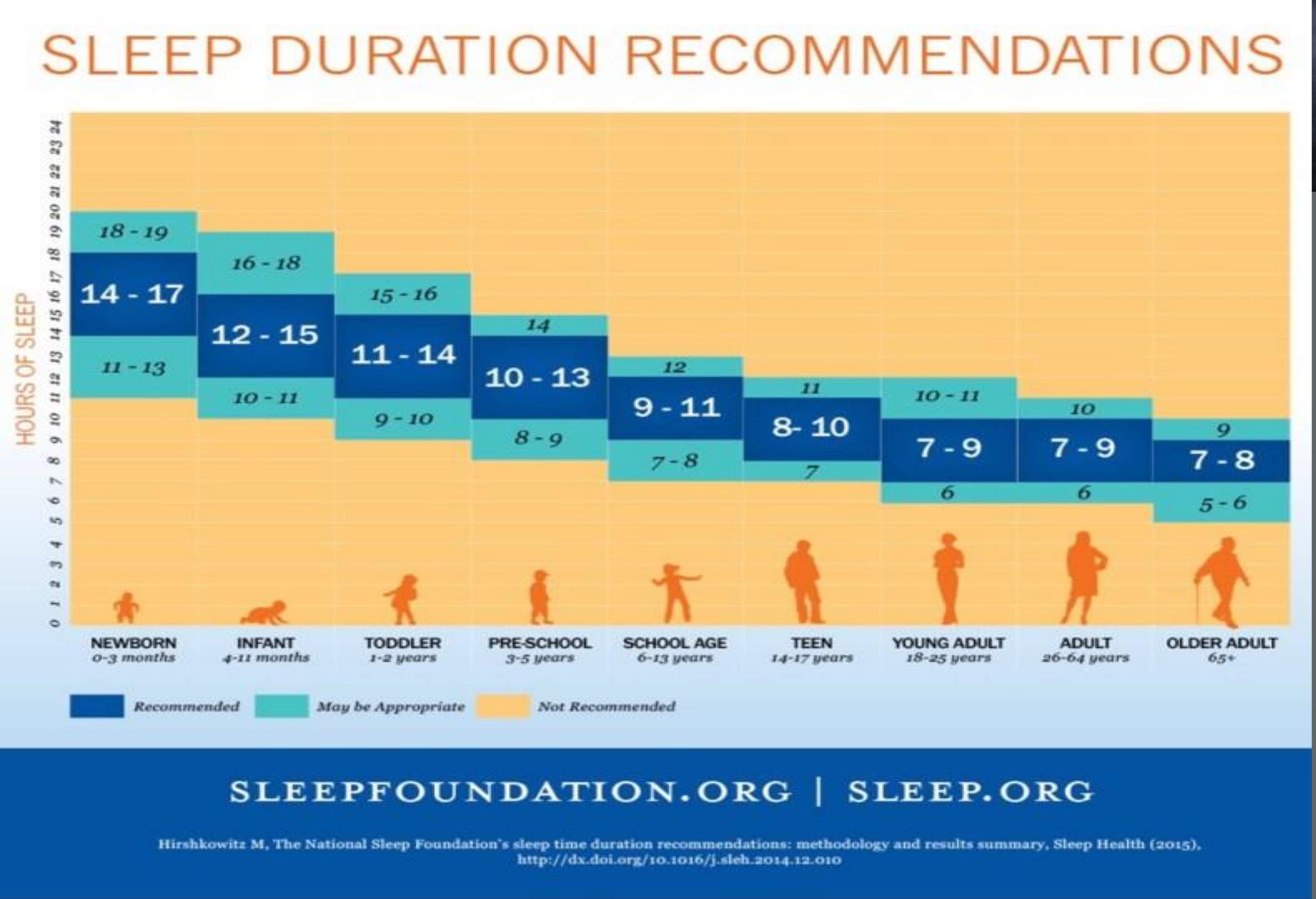
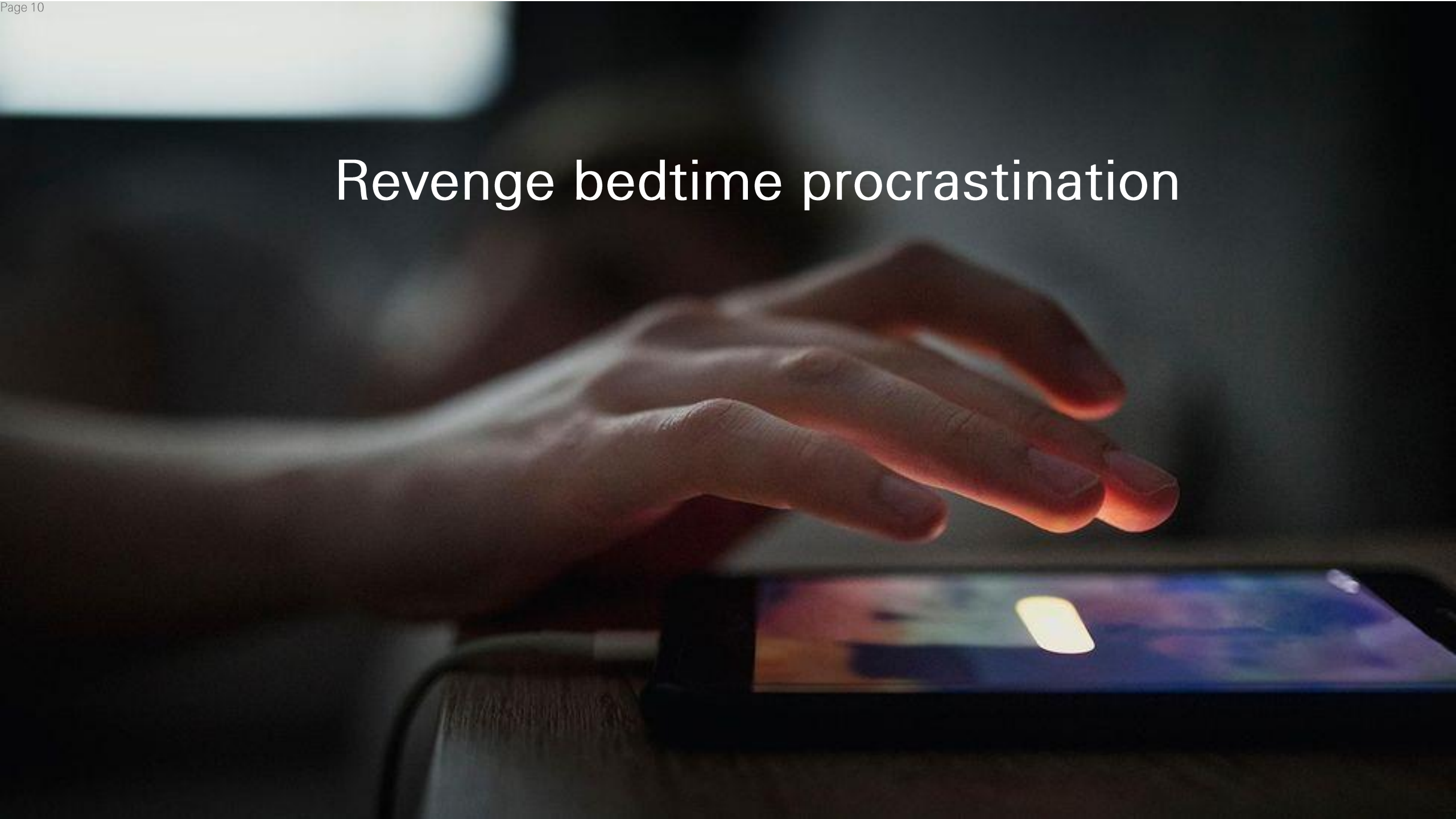


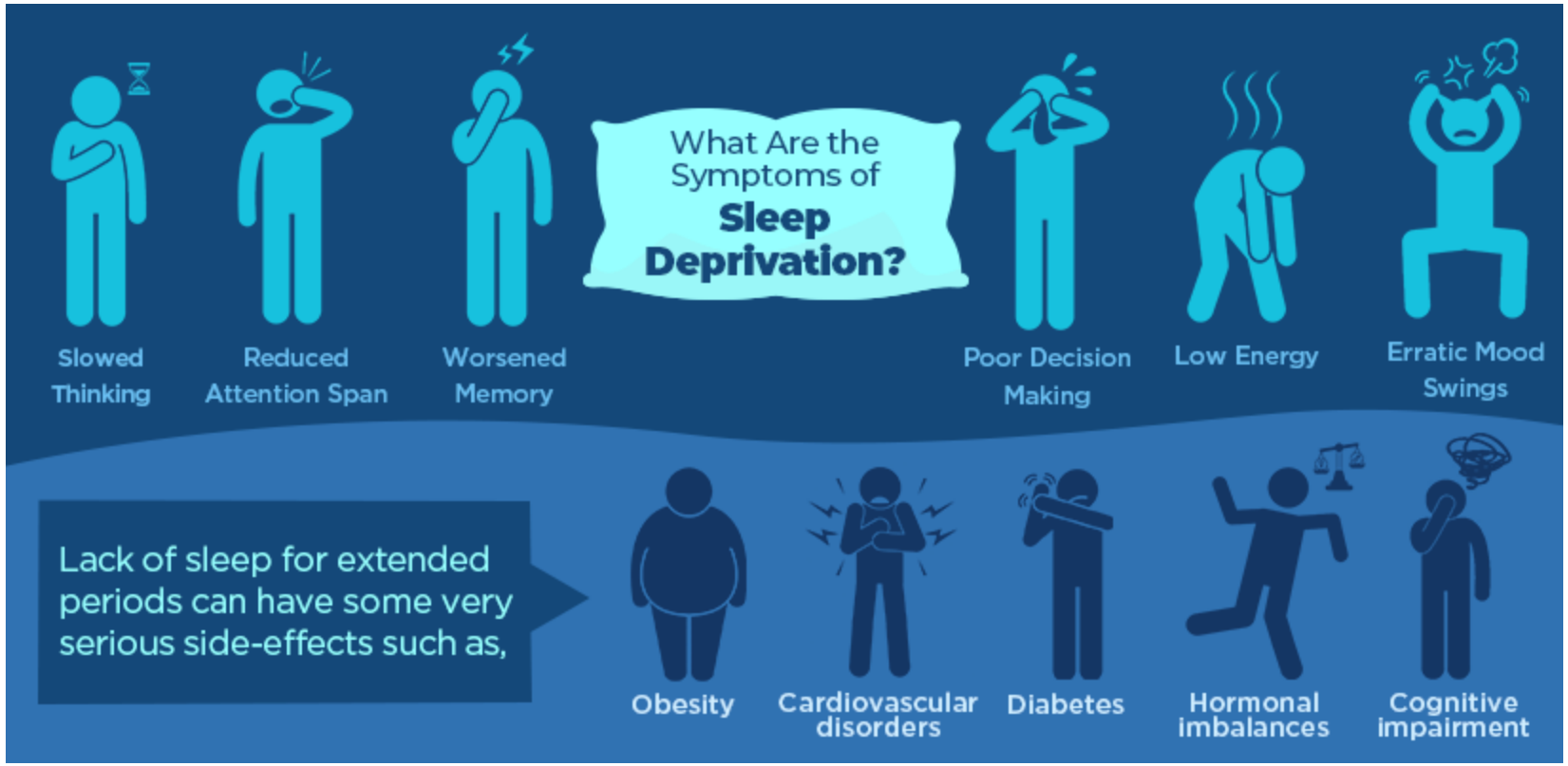
Most people need between **7 and 9 hours**

8% of people can genuinely get away with 5 hours

and 2% of people need more than 10 hours


Revenge bedtime procrastination

Sleep debt and social jetlag



A recent study showed that 4 recovery nights (12 hours of sleep) failed to fully reverse the effects of sleep debt.

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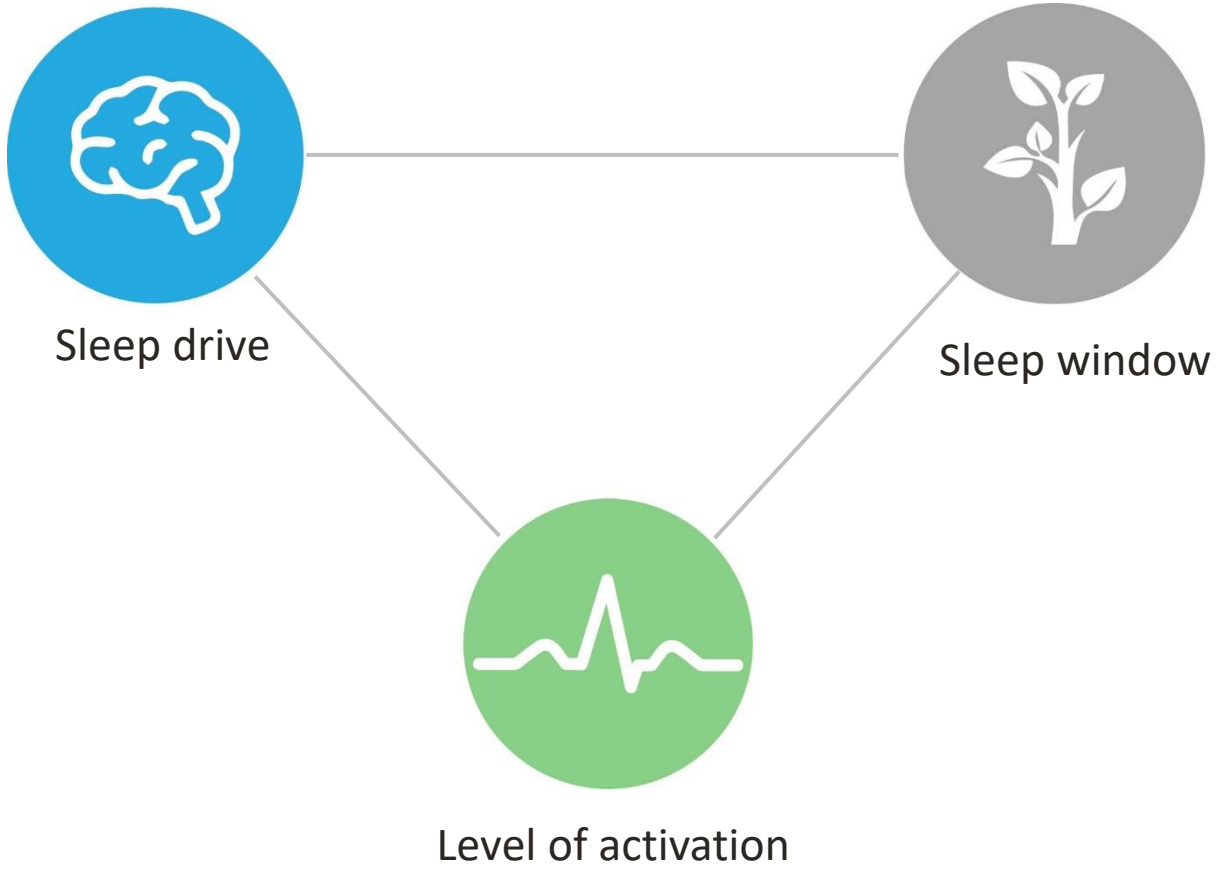
Source: Erika M Yamazaki, Caroline A Antler, Charlotte R Lasek, Namni Goel, Residual, differential neurobehavioral deficits linger after multiple recovery nights following chronic sleep restriction or acute total sleep deprivation, *Sleep*, Volume 44, Issue 4, April 2021, zsaa224, https://doi.org/10.1093/sleep/zsaa224

Natural sleep processes



Good sleep naturally follows when **we allow** these processes to function optimally

What we **do and don't do during our awake time** determines the quality of our sleep

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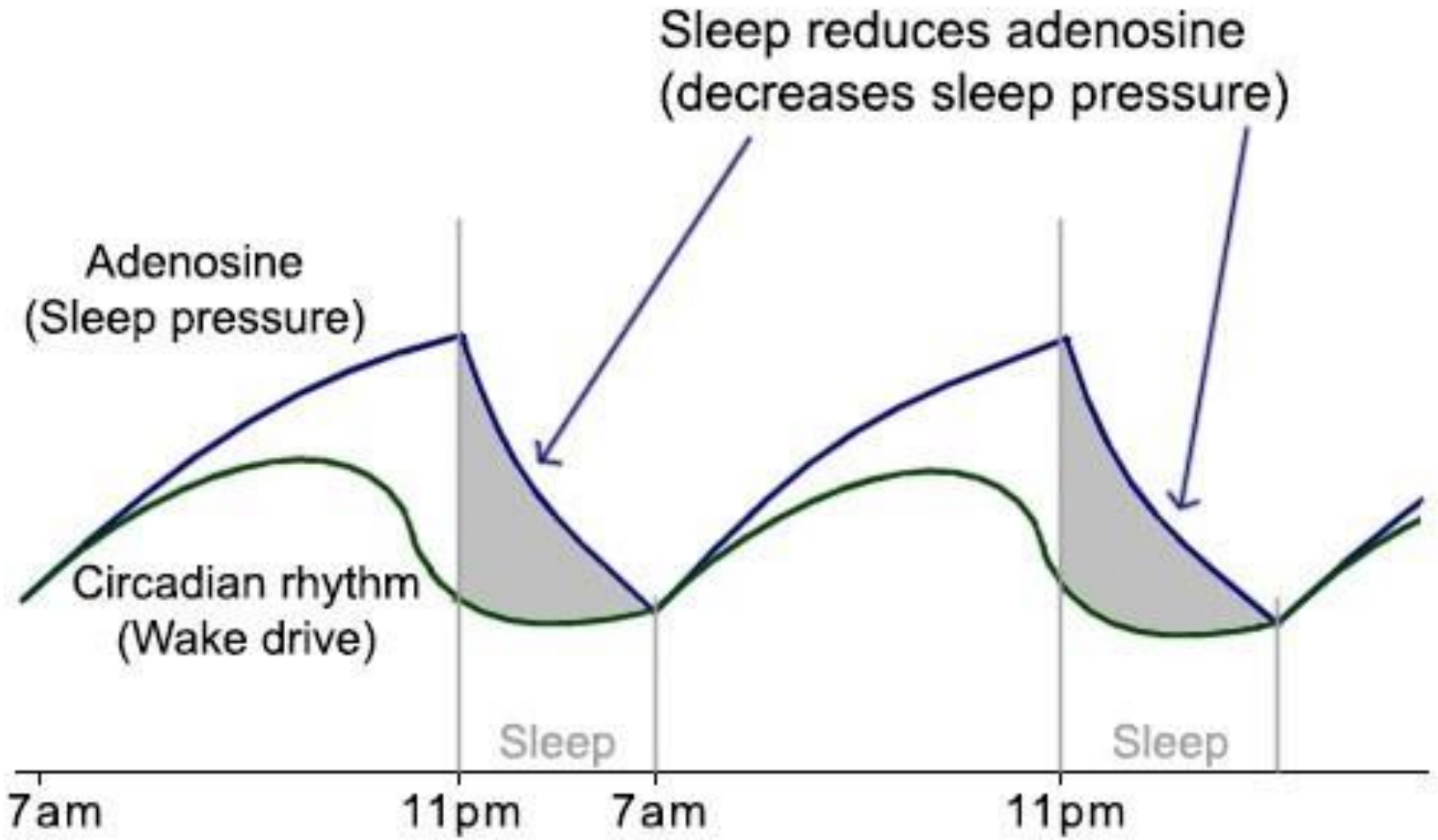
Sleep drive



We build up **one** hour of sleep drive for every **two** hours awake

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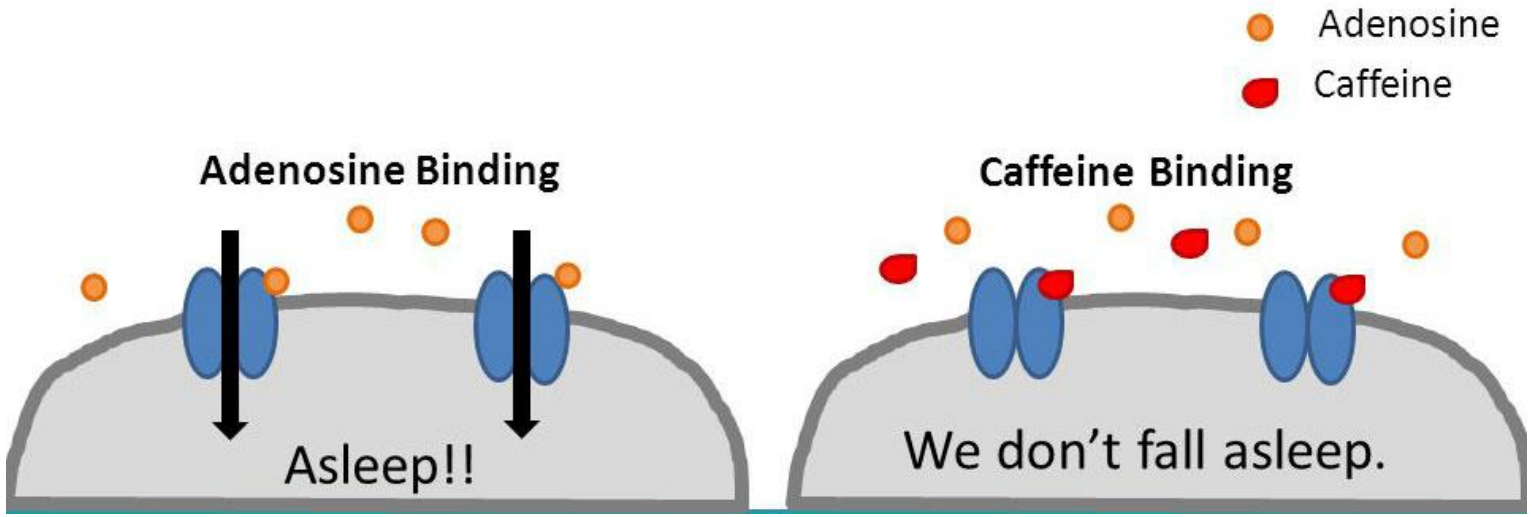
Caffeine impairs sleep drive

Caffeine binds to the receptors for adenosine, but has no effect on the receptors.

When caffeine is bound, adenosine can't bind.



Even if we do fall asleep the quality of sleep is affected.

Caffeine **reduces** the amount of **deep and REM sleep**

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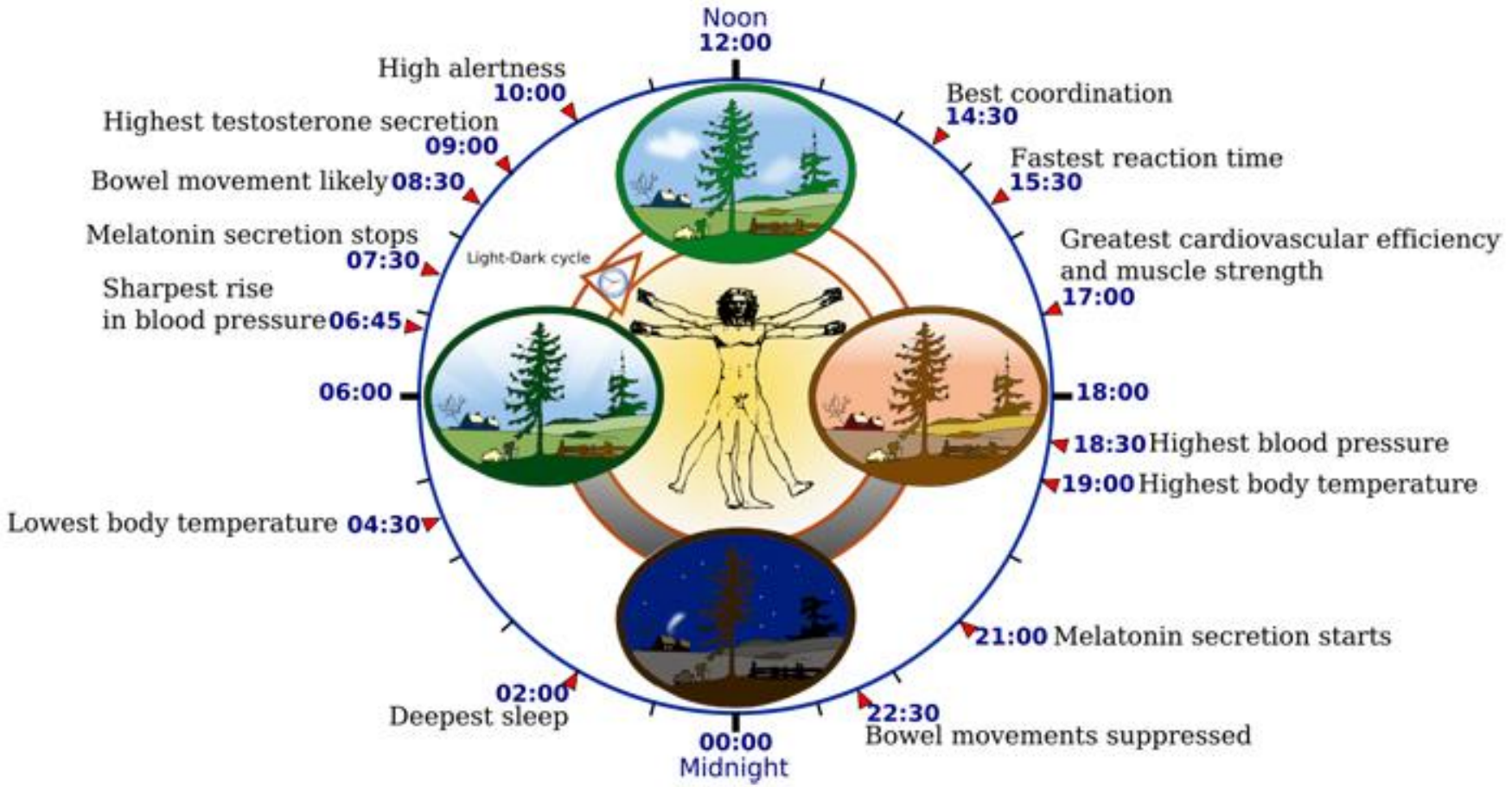
Reality check: Maximum level of alertness is reached after two cups of regular coffee. Any additional coffee will **not boost attention**, but **will impair sleep**.

Sleep window



The times between which we **should** sleep is regulated by our natural circadian rhythm

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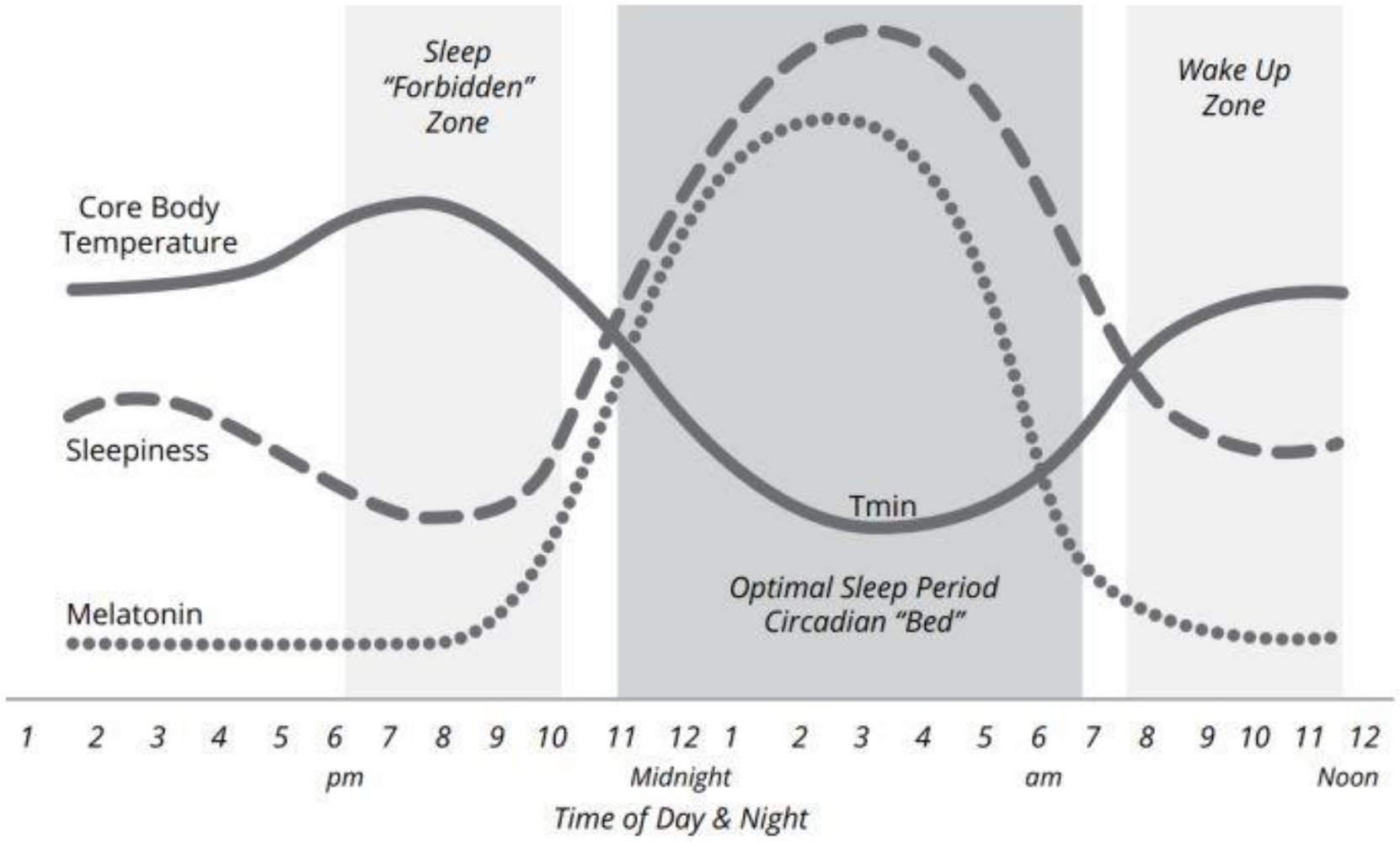
Master clock and clock cells



We all have a biological clock situated in our brain that influences the timing of all our bodily rhythms.

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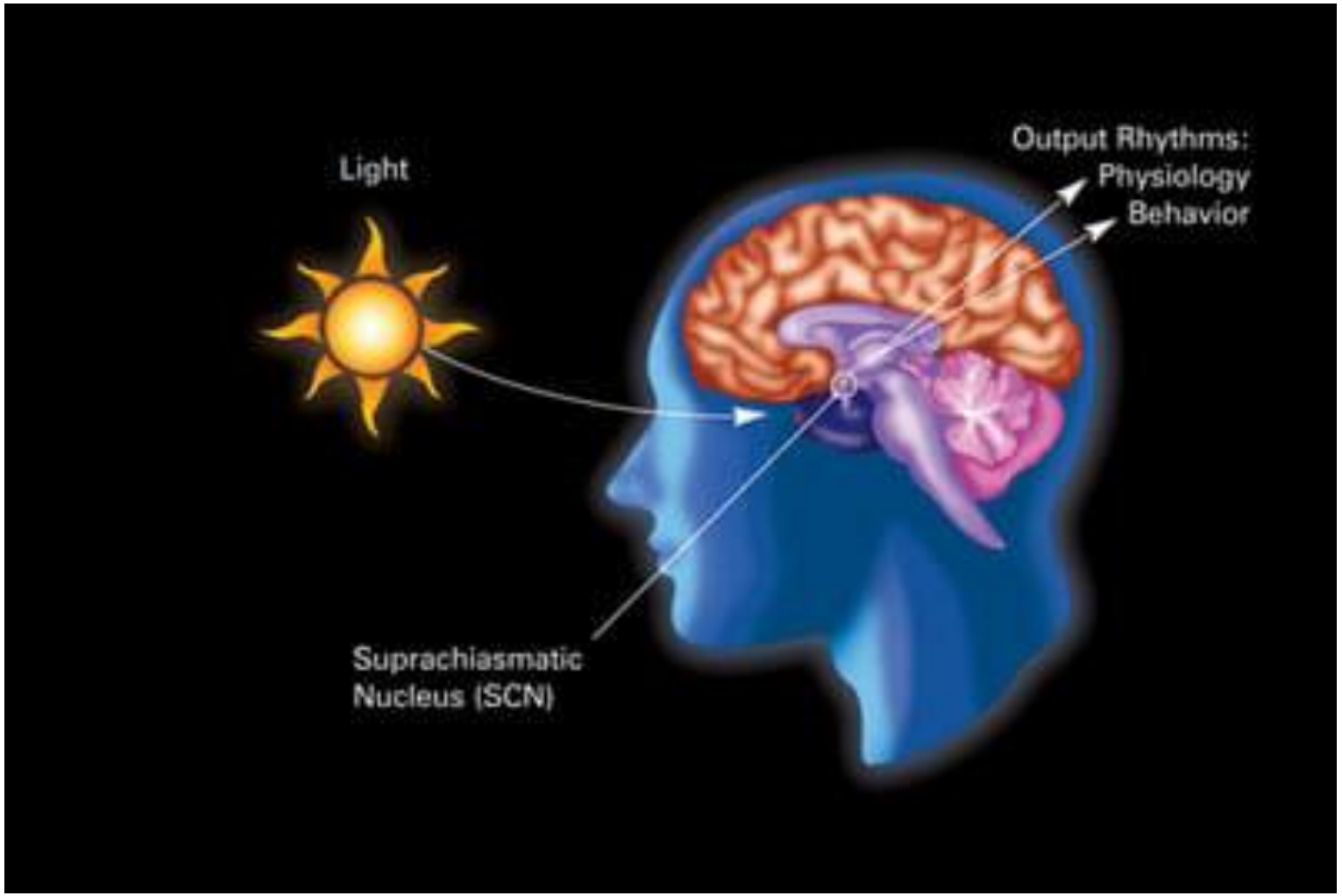
Master clock and clock cells



About
15%
of the genes
in our body
are
turned
on/off by the
SCN

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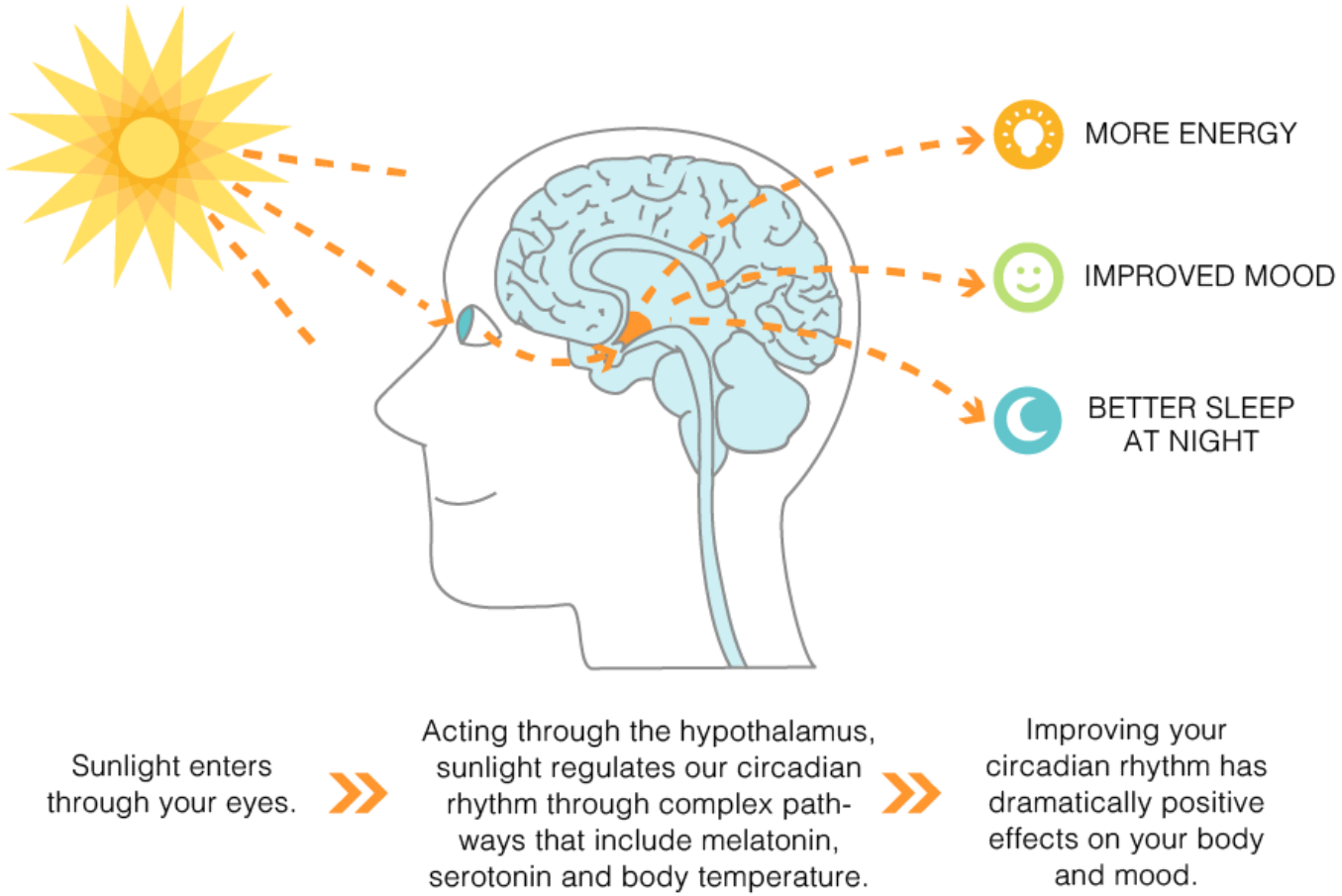
Light anchoring



BUT

We spend

90%

of our time indoors

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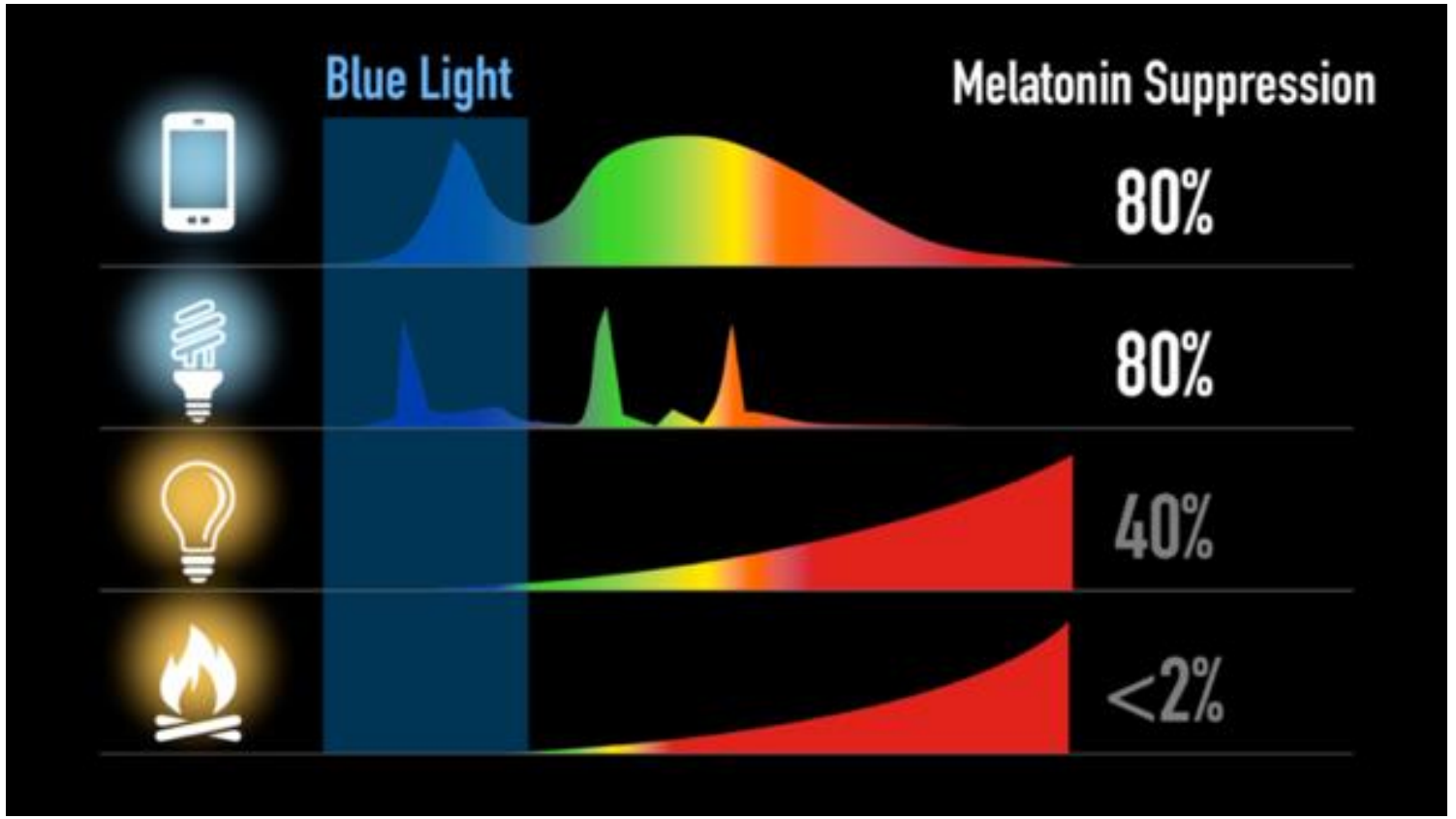
Dim-light melatonin onset

The hormone melatonin is produced in the pineal gland and "directs" 500 genes throughout our body to let them know it is dark outside and time to start "shutting" down.



BUT

We get massive ***exposure*** *to blue-light* ***after*** *sunset*

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Level of activation

Sympathetic nervous system

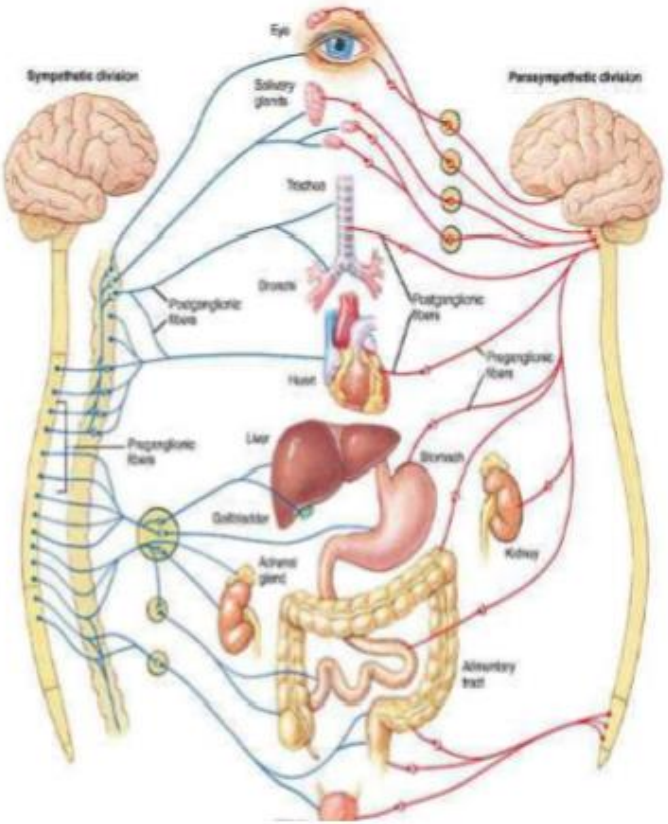
= Fight-flight

Dominant during a feeling of threat: prepares for fight of flight

"Accelerator"

Release of energy

Autonomic nervous system



Parasympathetic nervous system

= Rest/recovery

Dominant during a feeling of safety and comfort

"Brake"

Recovery of energy, healing and growth

Our body & brain needs to be in a **downregulated** state in order for sleep to have a ***restorative*** **effect**

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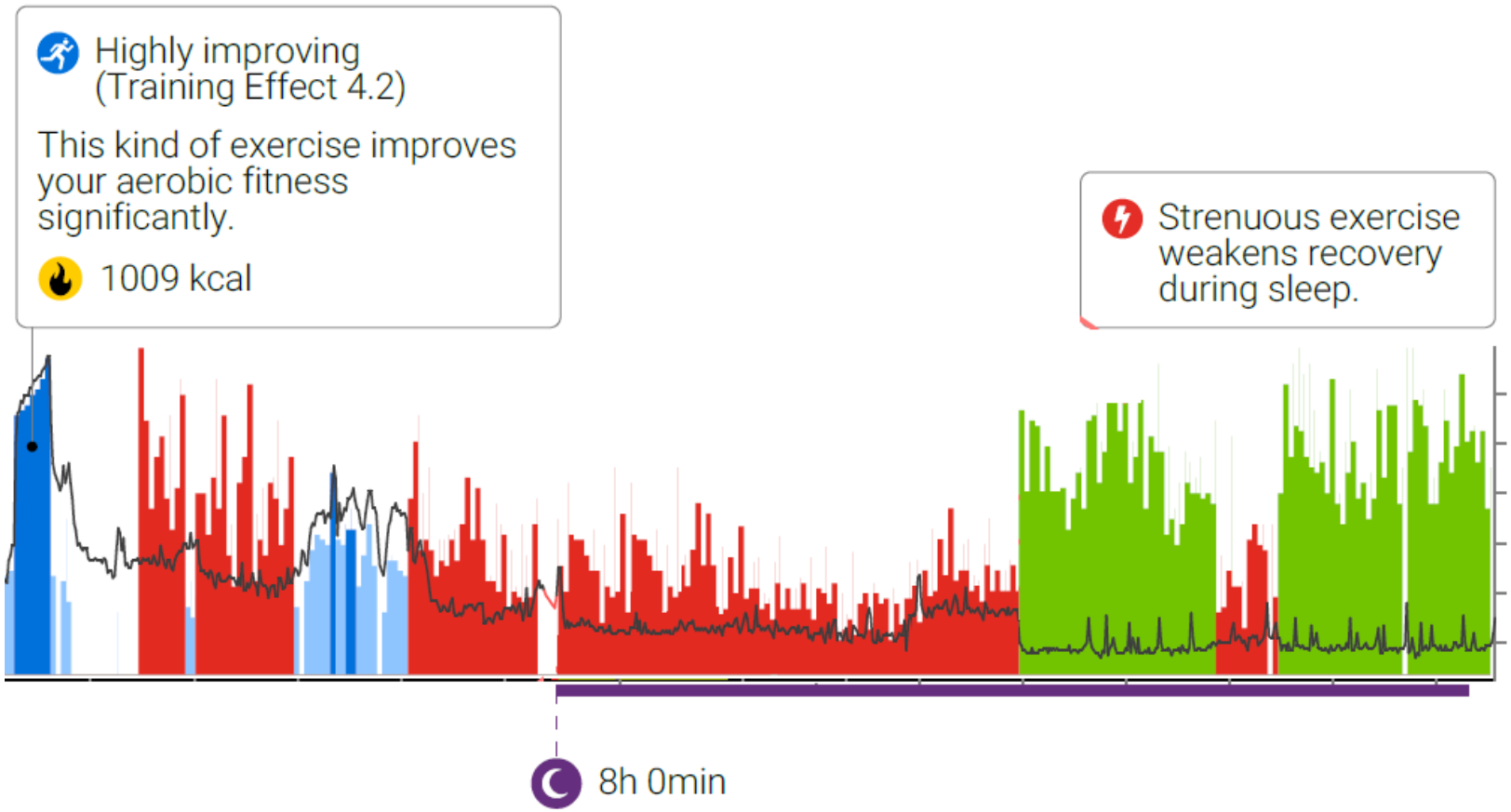
Our nervous system is not like a light switch



We need to allow for a *gradual winding down in the evening* to **ease** our nervous system into recovery mode

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The BAD news: our modern way of living has a nasty side-effect of interrupting and dysregulating these natural processes.

When this happens, no amount of will-power, medication, gadgets or effort is going to bring us good sleep.

The GOOD news: we have the inherent capacity for really good sleep and “all” we need to do is allow the natural processes to do the job, they already know so well how to do.

12 Practices for good sleep

- Get outside in the morning ★★★★★
- Power down in the evening ★★★★★
- Adopt a consistent schedule ★★★★☆
- Reduce the temperature ★★★½☆

- Eat between sunrise-sunset (avoid substances) ★★★★☆
- Prevent revenge bedtime procrastination ★★★½☆
- Find a good wind-down routine ★★★★★
- Use bedroom for sleep only ★★★½☆

- Give yourself permission to sleep ★★★☆☆
- Replenish the nutritional building blocks ★★☆☆☆
- Be active and exercise (at the right time) ★★★★★
- Put the clocks away ★★☆☆☆

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The top 5 = a perfect starting point

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Questions & Answers

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THANK YOU

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