



Sleep

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Do dolphins sleep?

Conscious breathers

Not fish



**Dolphins sleeps
8 hours per day!**



How do dolphins sleep?

- Rest on the surface of the water
- Rest half of the brain at a time
- The awake half keep them swimming, surfacing
- Can wake up instantly



Unihemisphere sleep

Unihemisphere Sleep

- Sea creatures
- Flying creatures
- Reptiles



Who don't?

Us!

Terrestrial mammals

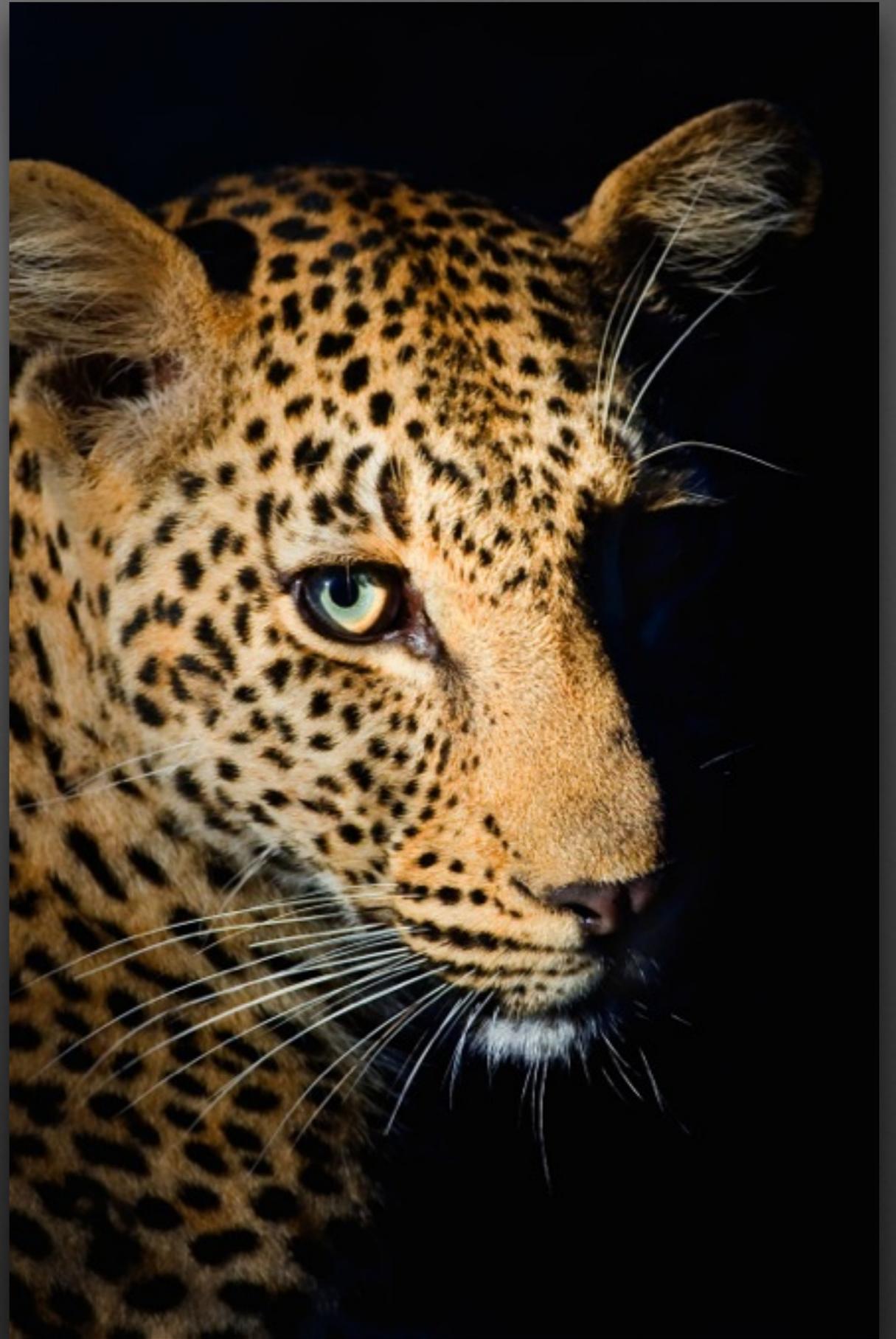


Predation risk

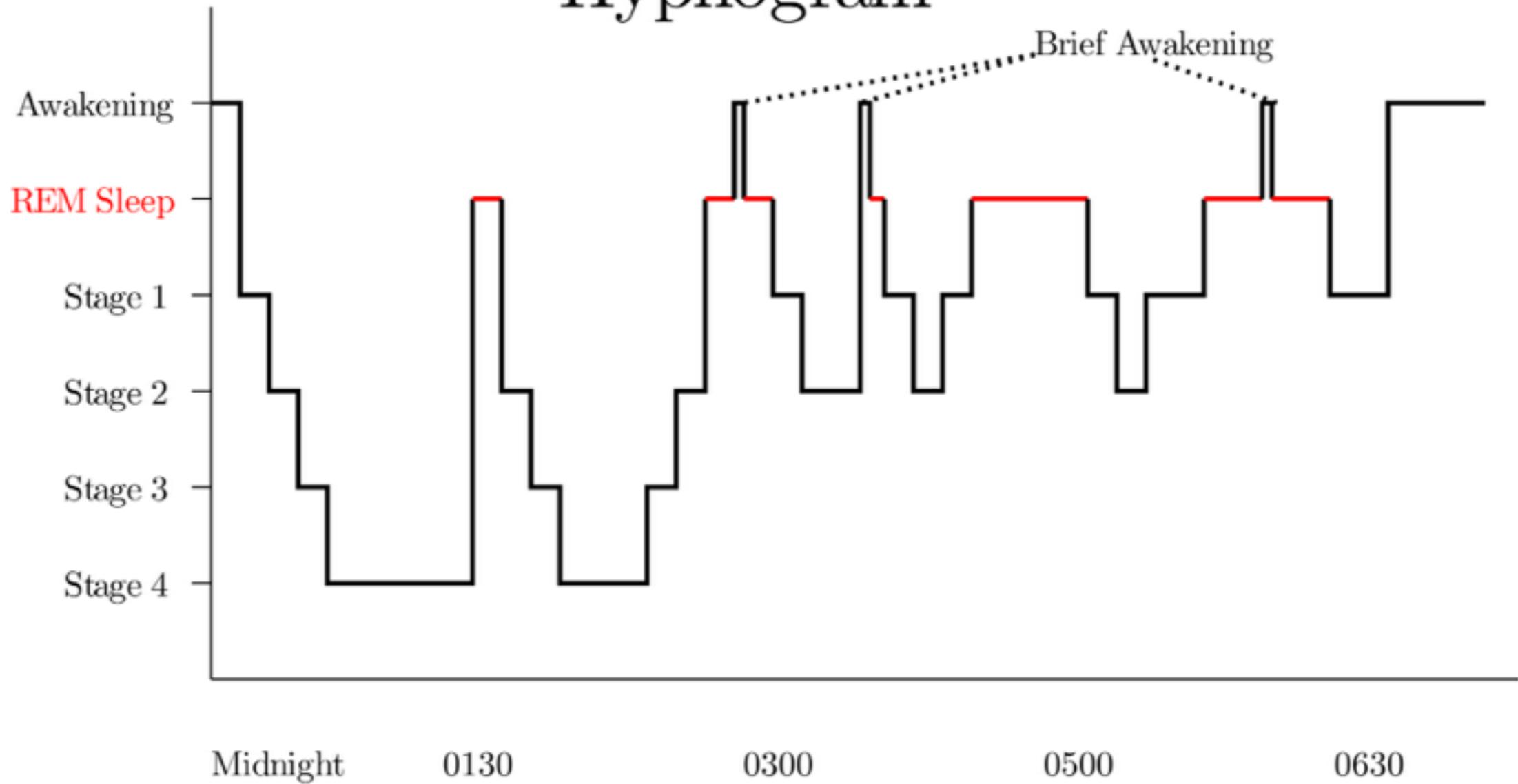
- Live at home
 - locked door
 - + safe community
 - = close both eyes!
- First night in a hotel room
- Lower quality sleep



**Sleep is
dangerous.**



Hypnogram



How do we sleep?

**Are you getting
enough sleep?**



 BOREDPANDA.COM - the only magazine for pandas.

- **If you need an alarm clock to get you out of bed in the morning**
- **If you are taking a long time to get up**
- **If you need lots of stimulants**
- **If you're grumpy**
- **If you're irritable**

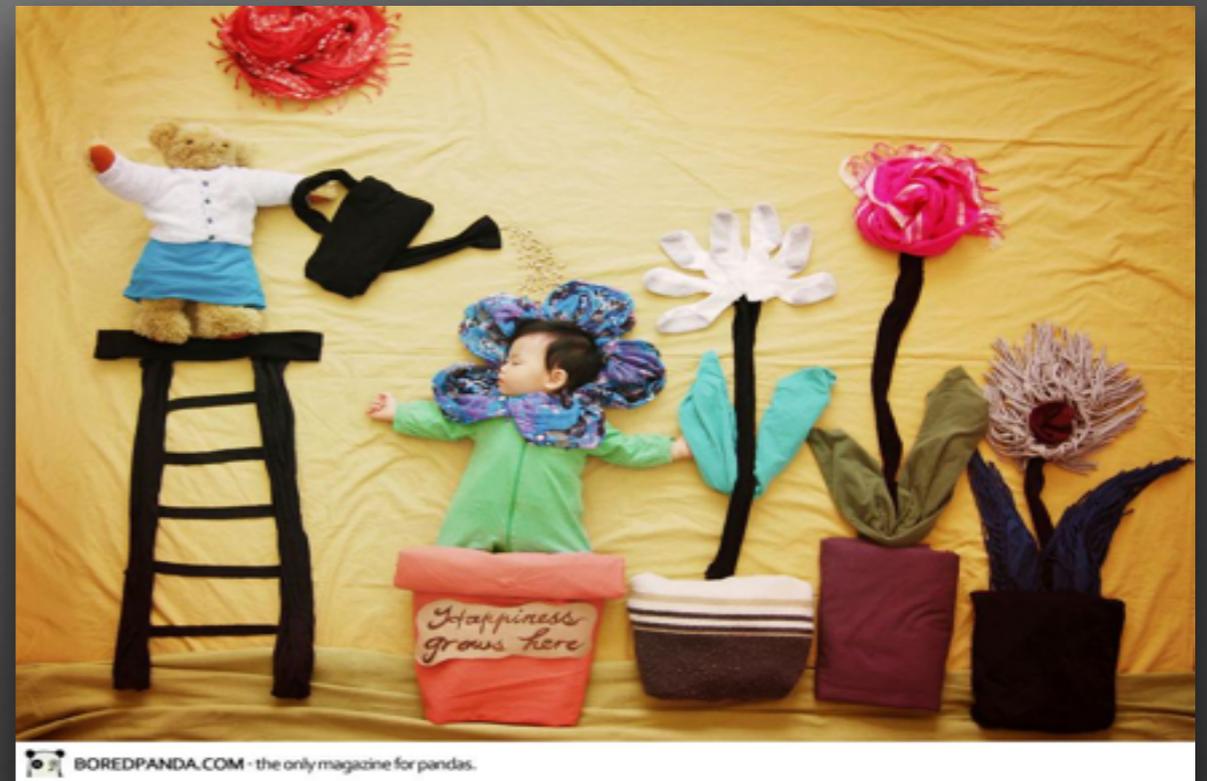
Chances are you are sleep-deprived

A good night of sleep

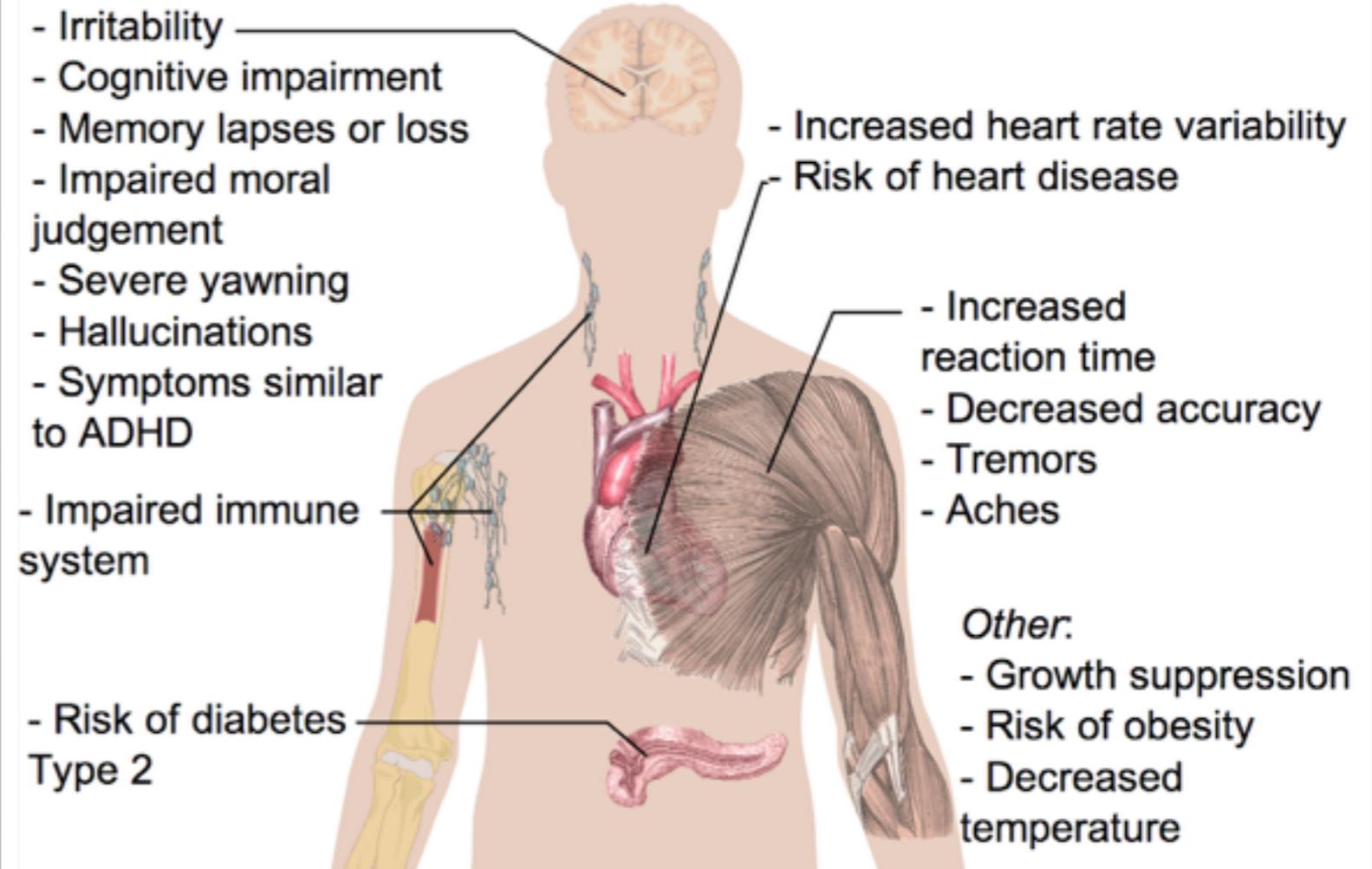
- Not just the amount
- Quality!
 - e.g. right timing according to your circadian rhythms
 - Daylight saving shift...
- More tips later



What if we don't
get enough
sleep?



Effects of Sleep deprivation



- **Weight gain**

- **Sleep loss**

→ release of the hormone ghrelin, “the hunger hormone”

→ the brain says, “I need carbohydrates!”

→ seek out sugars

Growth and Rejuvenation

- Heightened anabolic state
- Immune, nervous, skeletal, and muscular systems
- Flushing out harmful toxins in the brain.



Memory, Learning, Creativity

- Consolidation of memory
 - Stage 3: deep/slow-wave sleep
- Sleep helps you remember by forgetting
- Insightful behaviour and flexible reasoning
 - Creative insomnia?



If you get good sleep,

- Increases your concentration, attention, decision-making, creativity, social skills, health
- Reduces your mood changes, your stress, your levels of anger, your impulsivity



Make your bedroom a haven for sleep

- Make it as dark as you can
- Make it slightly cool
- Reduce your amount of light exposure at least half an hour before you go to bed
- Turn off phones, computers, all of those things that excite the brain
- Try not to drink caffeine too late in the day, ideally not after lunch





Seek out morning light

The purposes and mechanisms of sleep are only partially clear and the subject of substantial ongoing research.

-Wikipedia

References

- Radiolab. <http://www.radiolab.org/story/91528-sleep/>
- Wikipedia. <http://en.wikipedia.org/wiki/Sleep>
- Ted Talk. http://www.ted.com/talks/russell_foster_why_do_we_sleep.html
- Images courtesy of wengenninwonderland.com