

Keys to Good Sleep

Sleep Ergonomics

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17.1.2023

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Focus Sleep

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Conflicts of interests:
Firstbeat, Neurosonic, Resmed,
SomnoMedics, Somnomed, Oura



Sleeping time

It is individual

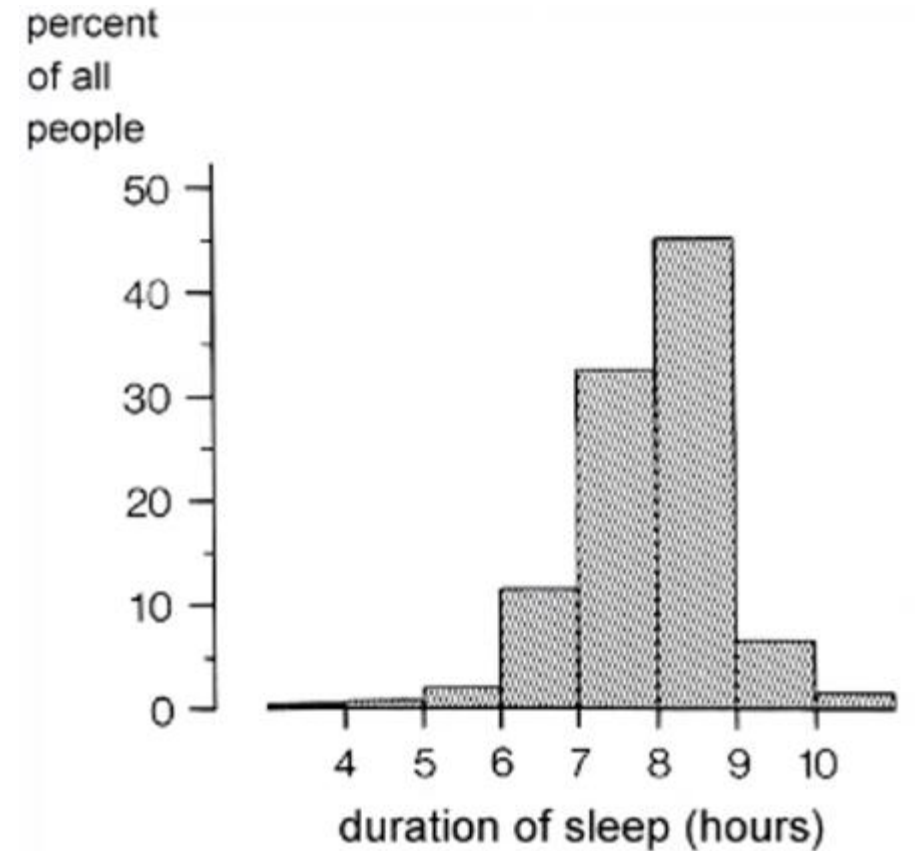
For adults, varies between 7-9 hours.

Short-sleepers less than 6-7 hours.

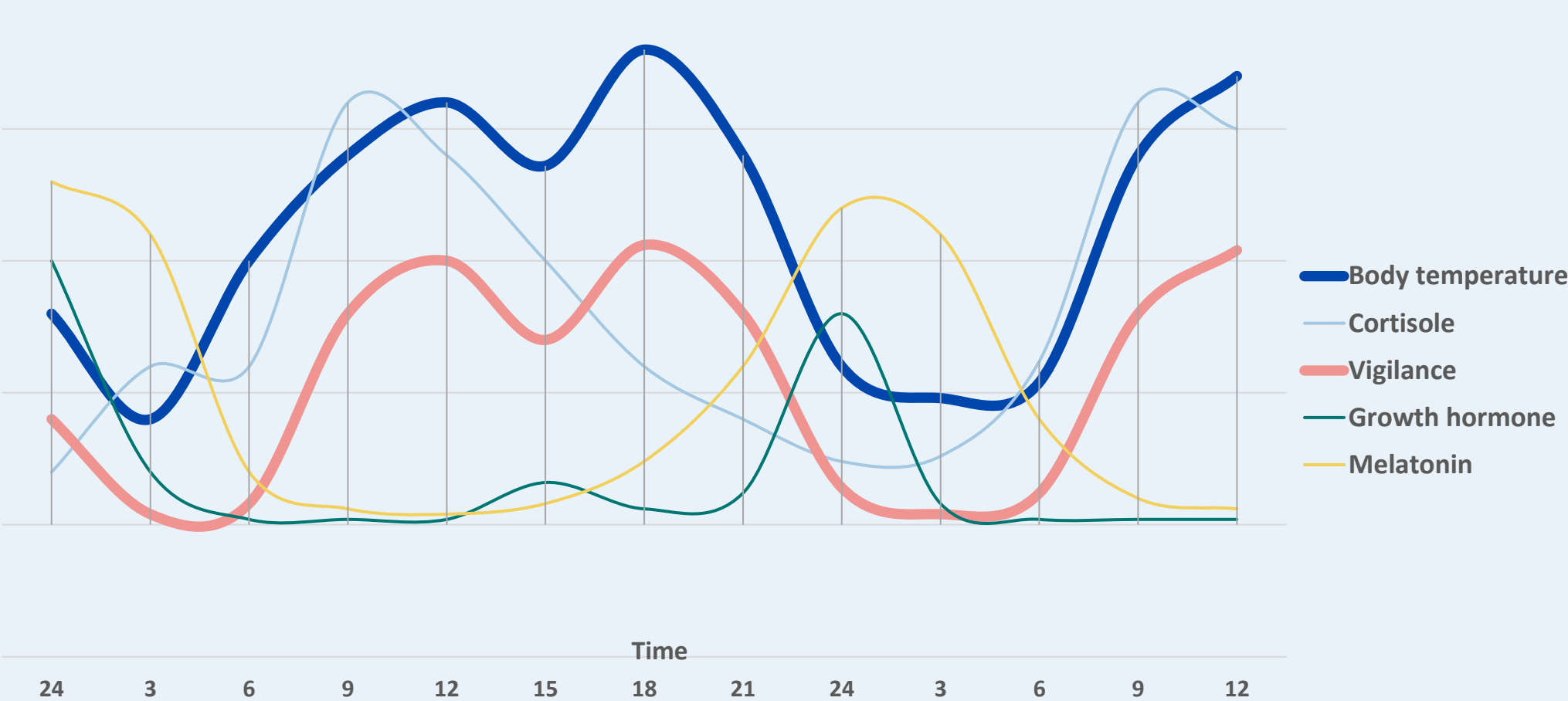
Naturally long-sleepers more than 9.5 hours.

Less than 7 hours, 14.5%,

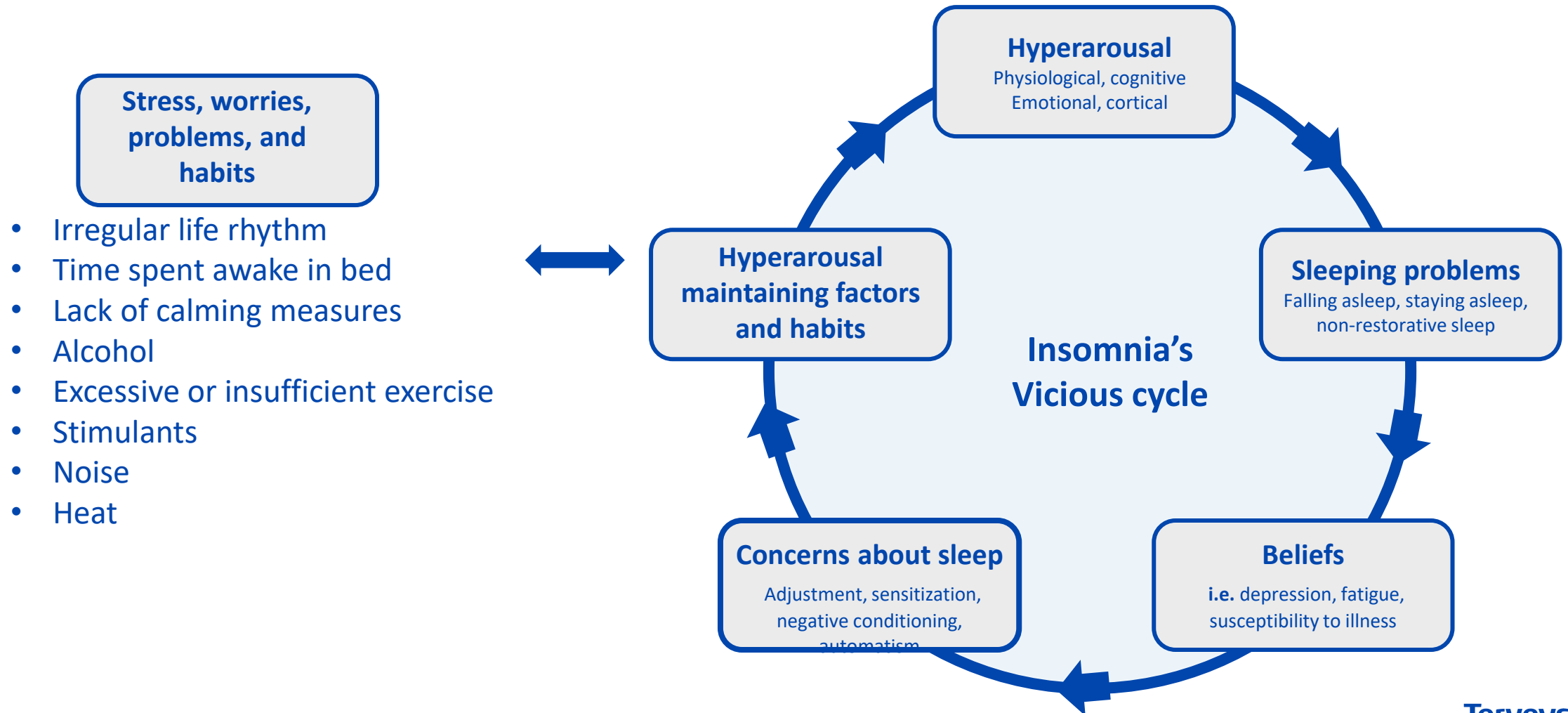
More than 9 hours, 13.5%.



Biological rhythms affecting our sleep-wake rhythm



The mechanism of insomnia is hyperarousal and conditioning









Bad Bed-sleep-association



Good Bed-sleep- association

Clean
Quite
Dark
Cool
Relaxing
No tech

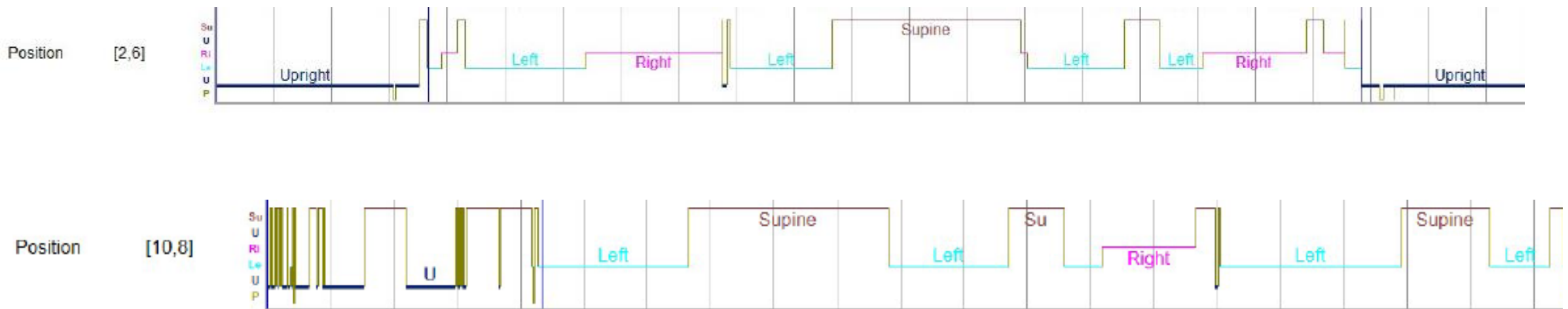


Bed

History



Sleep position



Bed

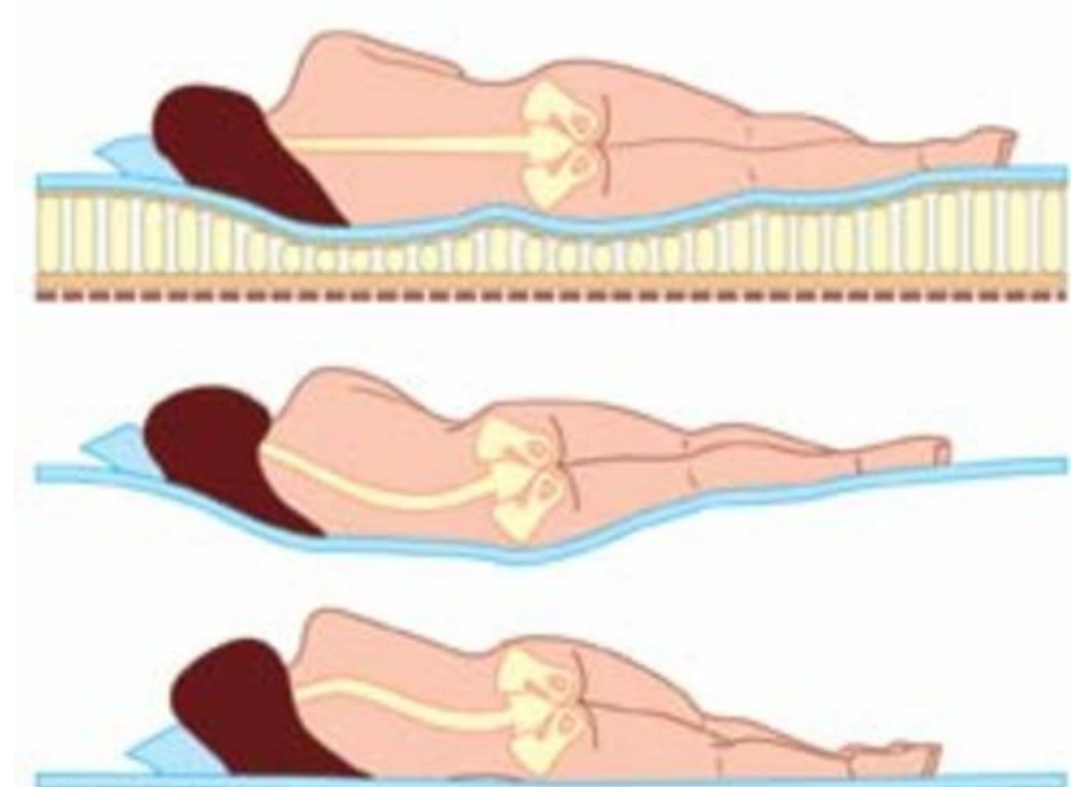
Sleep position affects to mattress stiffness.

The more we spent in supine or in stomach position, the more stiff the bed can be

Non-supine = shoulder position → Softer bed

Type varies:

1. Foam mattress
2. Natural gum
3. Spring
4. Visco elastic polyurethane foam = memory foam
5. Water and air



Pillows

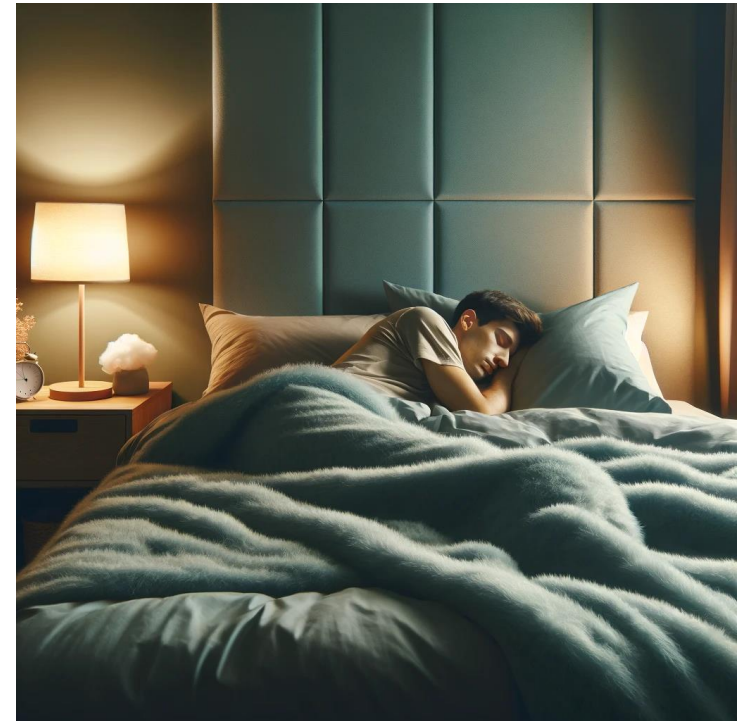
We tend to prefer too soft and big pillows.

Shoulder sized

Visco-elastic polyurethane foam pillows potentially benefit the treatment of chronic neck pain. Laura J. Soal et al Health SA 2019.

Materials varies:

1. Polyester
2. Feather and down
3. Visco elastic polyurethane foam = memory foam
4. Cotton
5. Bamboo



Size of the bed

Bed accessories

Sheets

Light

What regulates our sleep-wake cycle?

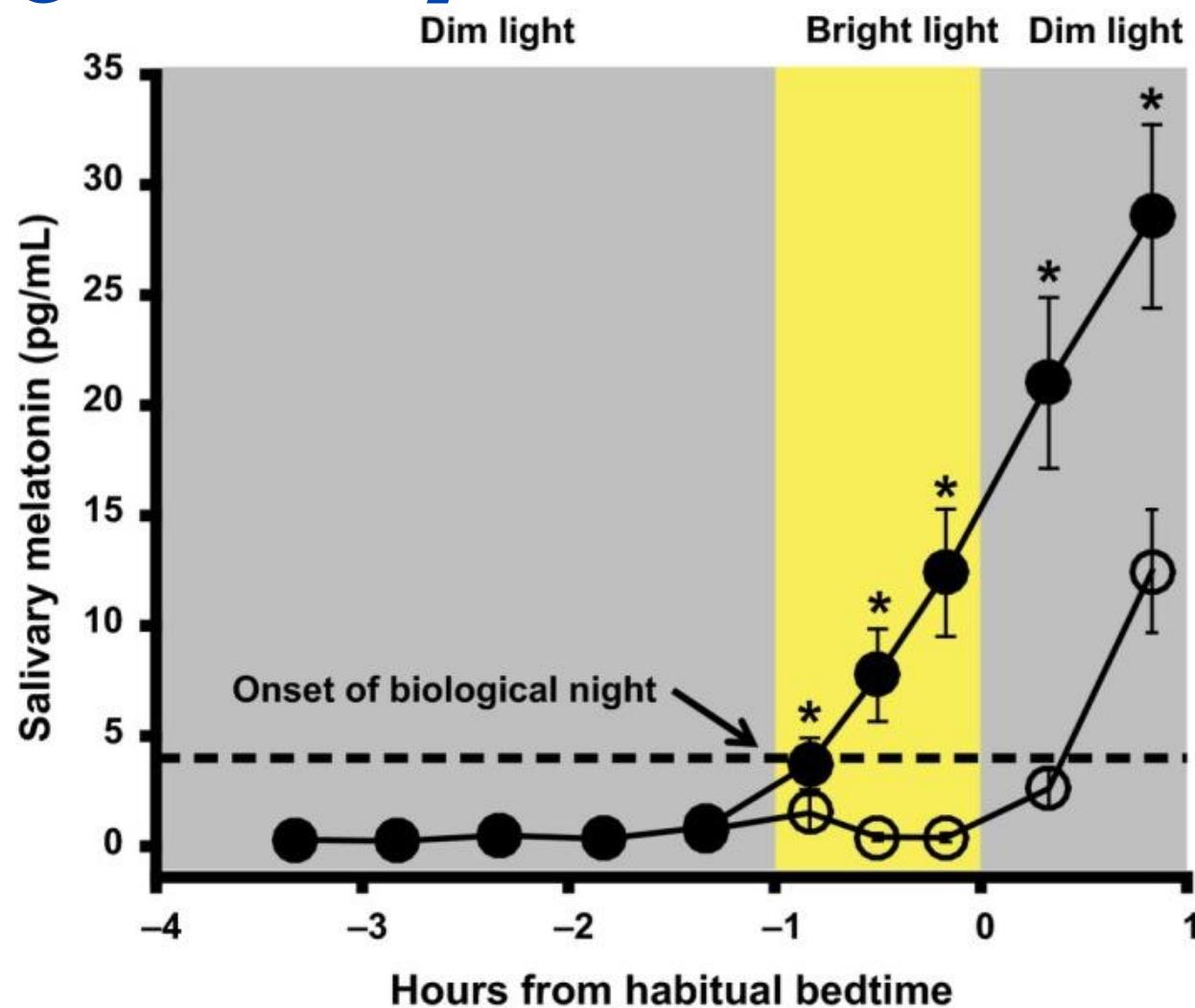
Light informs the suprachiasmatic nucleus through the retina, which regulates the sleep-wake cycle.

Through the suprachiasmatic nucleus, a signal is sent to the pineal gland for the secretion of melatonin.

Smart devices emit a lot of blue light, which sends a signal to the brain that it's daytime.

Approximately 50% of people's diurnal patterns are influenced by genetics. It regulates the secretion of hormones like melatonin and others. It also influences the functioning of organs such as digestion.

Artificial light delays melatonin onset



AKACEM ET AL. SENSITIVITY OF THE CIRCADIAN SYSTEM TO EVENING BRIGHT LIGHT IN PRESCHOOL-AGE CHILDREN. PHYSIOL REP. 2018 MAR;6(5):E13617 [SENSITIVITY OF THE CIRCADIAN SYSTEM TO EVENING BRIGHT LIGHT IN PRESCHOOL-AGE CHILDREN - PUBMED \(NIH.GOV\)](#)

Light in the morning

- Sun
- A bright light lamp with 8000-10000 lux (illuminance) helps with fatigue, regulating sleep-wake cycle, Seasonal Affective Disorder (SAD), sleep, and mood.
- Blue light better
- Cortisol levels ↑
- Melatonin ↓

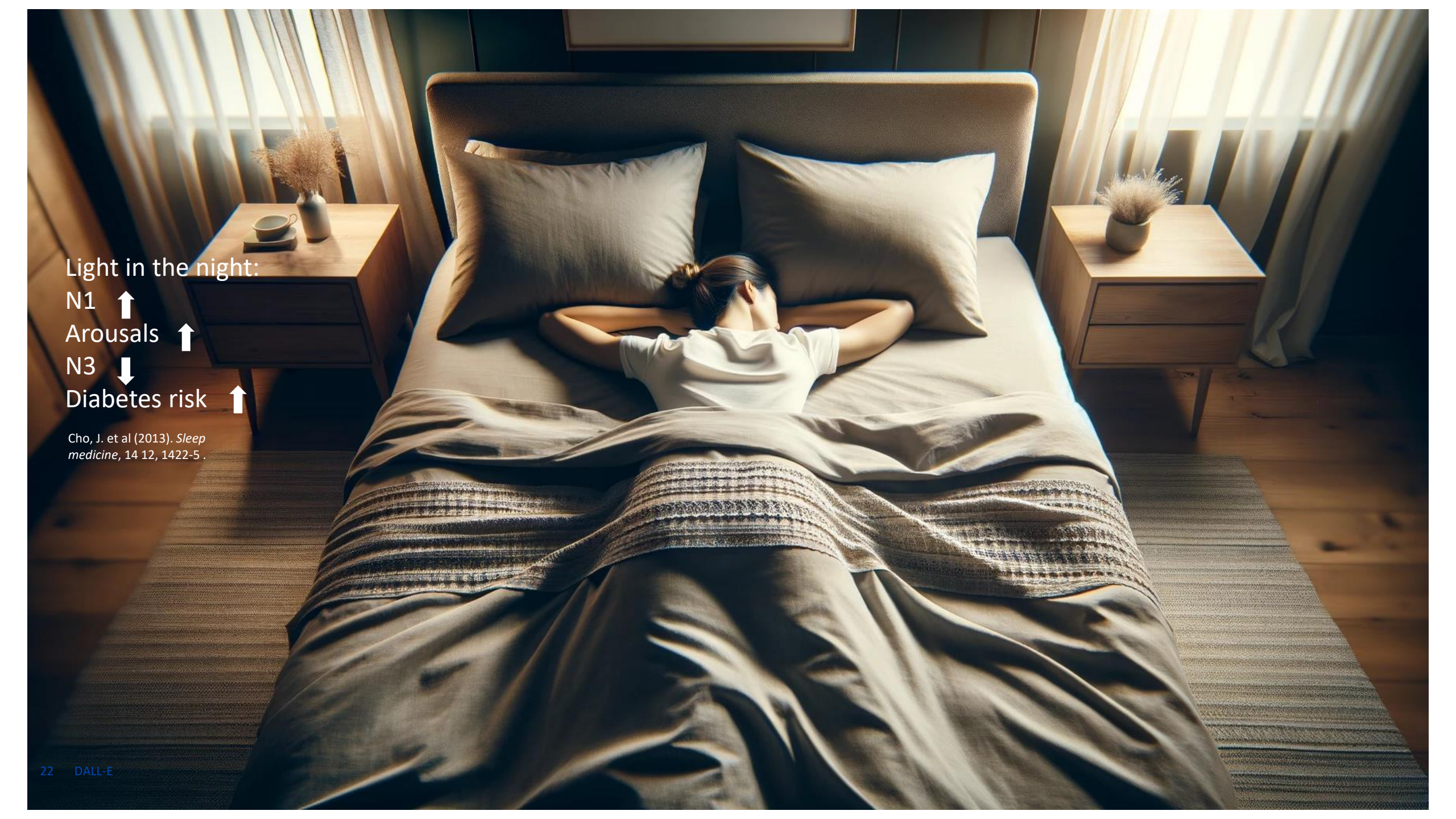
Light in the evening

Lower Kelvin (light temperature) values and fewer lux.

Red light ranges from 1500-3000 K.

Red light has a longer wavelength, approximately 600-700 nm.

Dimmer lights in the evening/night



Light in the night:

N1 ↑
Arousals ↑

N3 ↓
Diabetes risk ↑

Cho, J. et al (2013). *Sleep medicine*, 14 12, 1422-5 .

Other affecting factors?

Temperature

Regulating the mattress temperature might increase SWS. Moyen et al. Sleep 2023

Optimal room temperature is 18,3C (15-22C)

For elder 20-23C

Infants 20,5C

Humidity

Optimal humidity is 40-60%

Noise

Under 35dB, the less the better.

Good:

Nature sounds and might be louder

Nature and rhythmic sounds calm

Low frequency noise better than high

How to sleep better?

1. Remember to sleep

- Regular sleep cycle also on weekends. Morning is the best rhythm maker.
- Sleep time: know your required sleep amount 7–8 – 9 – 10 hours
- Go to bed sleepy, try to go between 21-24:00
- Get up if you haven't fallen asleep within 30min.
- If necessary, naps: they improve memory and performance



2. Lifestyle hacks

- Find ways to relax that are right for you: anxiety/stress → over-alertness → insomnia & fatigue
- Move and do sports
- Avoid fast-absorbing carbohydrates during the day and too heavy dinner
- Stop activating things (news, some) an hour before bedtime. If necessary, "alarm clock". Have moments for worries. Remember blue light and the effect of bright lights
- Enjoy family-dinners or suppers
- Reduce anxiety producing thoughts and worries by learning how to calm and relax the functioning of the mind.



3. Sleep well

- The best treatment results for insomnia disorder are obtained by drug-free methods. 2/3 get help from CBT-i
- Good sleep health is important for good brain function – there is no need to be left alone due to sleep problems
- Remove the watches from view in the bedroom to avoid anxiety caused by the nightly blinking of the clock.
- Learn the best ways for you how to improve sleep

