

WHY WE SLEEP (book 2017, Scribner:NY)
by Matthew Walker PhD



Sleeping Sunset Nap

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Why We Sleep

One Third of our Lives!

Rich List of Functions

- To recover our strength and health
- To allow information in the brain to shift to long term areas, thus to learn, memorize, and make logical decisions.
- Sleep recalibrates our emotional brain circuits.
- Restocks the armory of our immune system
- Refreshes your ability to absorb and create energy (metabolic state by fine-tuning the balance of insulin and circulating glucose)
- To dream and be creative through mixing our past memories, with our present, and imagined futures with our knowledge.

Significant Quotes from Walker

- P161: Phrased differently and perhaps more simply, wakefulness is low level brain damage, while sleep is neurological sanitation.
- P164 ...the shorter your sleep, the shorter your life
- P175: Inadequate sleep is the perfect recipe for obesity...

Morning Larks / Night Owls

“FOR THE COLLECTIVE GOOD”

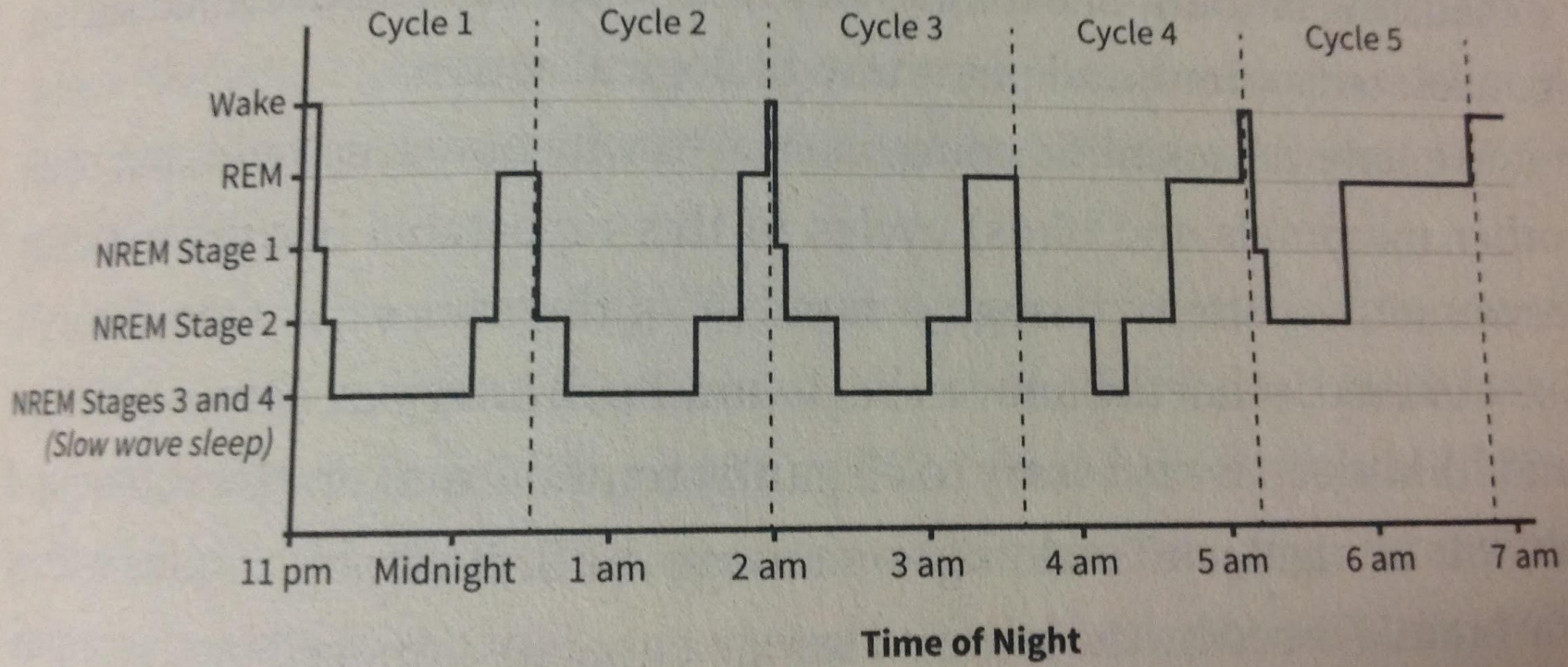
- Morning Larks sleep 9 pm to 5 am (8 hrs)
- Night Owls 1 a.m. – 9 a.m. (8 hrs)
- The “tribe” (or family) composed of both types as a whole is only collectively vulnerable for 4 hours, rather than 8 hours in the middle of the night.
- p. 22

Rapid Eye Movement: REM Sleep

- REM sleep is correlated with better health, decision-making, etc.
- “NREM sleep helps transfer and make safe newly learned information into long-term storage sites of the brain.”
- We typically go through 4 or 5 cycles of **Wake** to **REM** to 4 stages of **NREM** each night. P.43

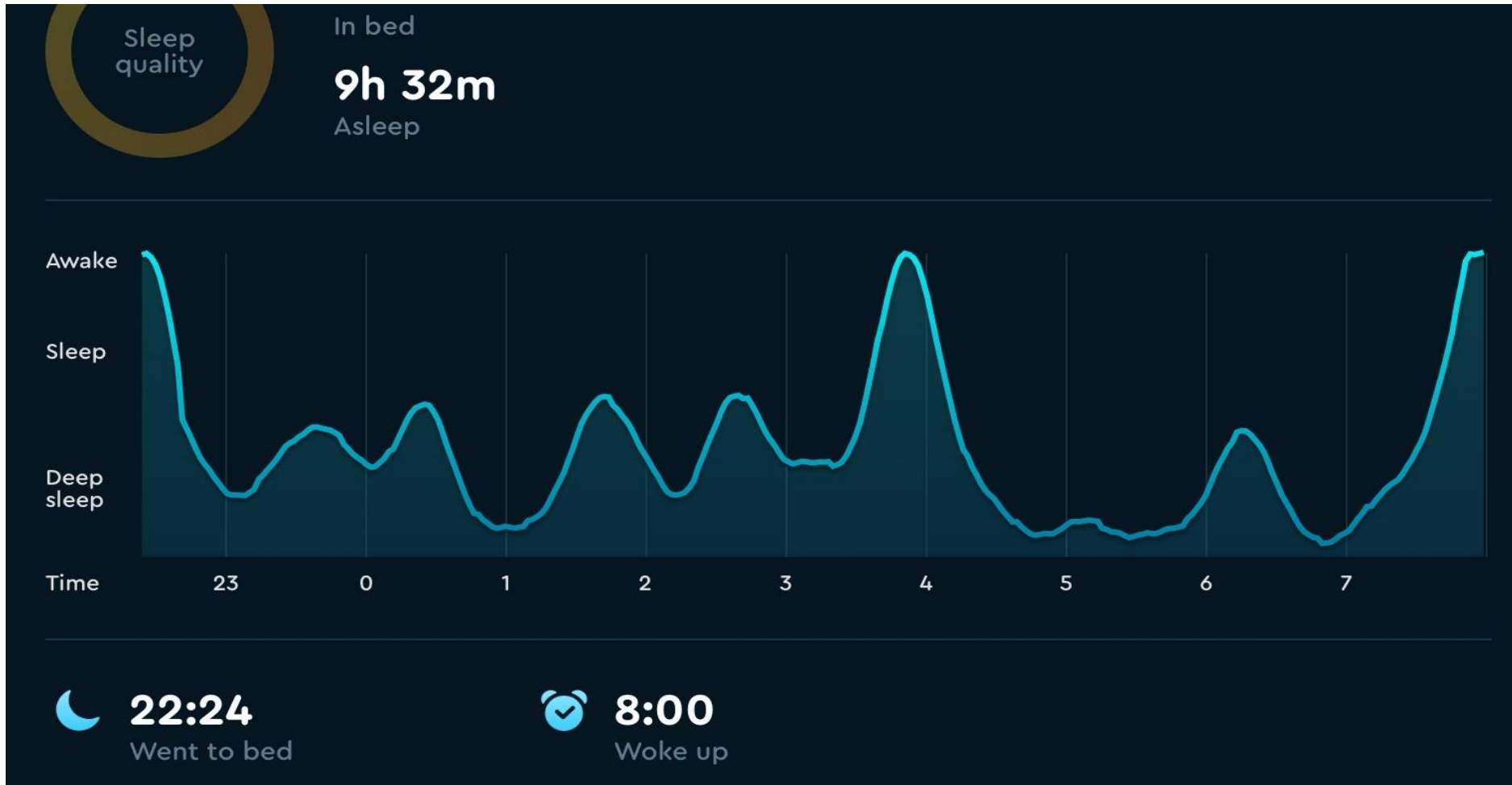
top, then REM sleep, and then the descending stages of NREM sleep, stages 1 to 4. On the horizontal axis is time of night, starting on the left at about eleven p.m. through until seven a.m. on the right. The technical name for this graphic is a hypnogram (a sleep graph).

Figure 8: The Architecture of Sleep



*Different species have different NREM-REM cycle lengths. Most are shorter than that of humans. The mystery of sleep. To date,

Tim's Sleep on Nov4-5 by Sleep Cycle App



- Awake>REM>4 stages of NREM

Use of Rapid Eye Movement sleep

- “Two features define human beings relative to other primates, both shaped by the hand of sleep and our intense use of REM sleep relative to other mammals:
 - 1) our degree of sociocultural complexity and
 - 2) our cognitive intelligence.
- REM sleep, and the the act of dreaming itself, lubricates both of these human traits”

The TREE TO GROUND re-engineering

- If you accept for a moment that we evolved from monkeys, you might understand that sleeping in trees is not ideal. You are always at risk of falling and hurting yourself.
- Shifting to the ground, and better still to a cave would offer more safety. Walker suggests that this change gave us the advantage of better sleep which allowed our brains to grow bigger and better over time.

Siesta Cultures

Biphasic Sleep Patterns

- ...few of us enjoy a full afternoon nap, further contributing to our state of sleep bankruptcy. p. 69
- (Harvard Study in Greece): ...”those that abandoned regular siestas went on to suffer a 37 percent increased risk of death from heart disease across a six-year period, relative to those who maintained regular daytime naps.” p. 71
- Take a 30-minute nap after lunch or mid afternoon.

Naps

- P.115 Sleep is constantly modifying the information architecture of the brain at night. Even day time naps as short as twenty minutes can offer a memory consolidation advantage, so long as they contain enough NREM sleep.

Inemuri (sleep while being present)

- Such findings may offer cognitive justification for the common incidence or unintended napping in public in Japanese culture, termed *inemuri* (“sleep while being present”).
- G. Martin-Ordas and J. Call, “Memory processing in great apes: the effect of time and sleep.” *Biology Letters* 7, No 8 (2011): 829-32. (in Walker p.115)
- From a friend *inemuri*: “Dosing off when you shouldn’t!”

Bright Light Effects/Circadian Rhythm

- While in the morning, a bright sun can get us going naturally, artificial light at night can damage the natural circadian twenty-four hour rhythm (~~bright lights at night~~) and keep us from sleep.

12 Tips from Walker for Healthy Sleep:

Tip One

1. Stick to a **sleep schedule**. Go to bed and wake up at the same time each day. As creatures of habit, people have a hard time adjusting to changes in sleep patterns. Sleeping later on weekends won't fully make up for a lack of sleep during the week and will make it harder to wake up early on Monday morning. **Set an alarm for bedtime**. Often we set an alarm for when it's time to wake up but fail to do so for when it's time to go to sleep. If there is only one piece of advice you remember and take from these twelve tips, this should be it.

Tip Two

- Exercise is great, but not too late in the day. Try to exercise at least thirty minutes on most days but not later than two to three hours before your bedtime.

Tip Three

- Avoid caffeine and nicotine. Coffee, colas, certain teas, and chocolate contain the stimulant *caffeine*, and its effects can take as long as eight hours to wear off fully. Therefore, a cup of coffee in the late afternoon can make it hard for you to fall asleep at night. Nicotine is also a stimulant, often causing smokers to sleep only very lightly. In addition, smokers often wake up too early in the morning because of nicotine withdrawal.

Tip Four

- Avoid alcoholic drinks before bed. Having a nightcap or alcoholic beverage before sleep may help you relax, but heavy use robs you of REM sleep, keeping in the lighter stages of sleep. Heavy alcohol ingestion also may contribute to impairment in breathing at night. You also tend to wake up in the middle of the night when the effects of the alcohol have worn off.

Tip Five

- Avoid large meals and beverages late at night. A light snack is okay, but a large meal can cause indigestion, which interferes with sleep. Drinking too many fluids at night can cause frequent awakenings to urinate.

Tip Six

- If possible avoid medicines that delay or disrupt your sleep. Some commonly prescribed heart, blood pressure, or asthma medications, as well as some over-the-counter and herbal remedies for coughs, colds, or allergies, can disrupt sleep patterns. If you have trouble sleeping talk to your health care provider or pharmacist to see whether any drugs you are taking might be contributing to your insomnia and ask whether they can be taken at other times during the day or early in the evening.

Tip 7, 8, & 9

7. Don't take naps after 3 pm. Naps can help make up for lost sleep, but late afternoon naps can make it harder to fall asleep at night.
8. Relax before bed. Don't overschedule your day so that no time is left for unwinding. A relaxing activity, such as reading or listening to music, should be part of your bedtime ritual.
9. Take a hot bath before bed (ofuro!). The drop in body temperature after getting out of the bath may help you feel sleepy, and the bath can help you relax and slow down so you're more ready to sleep.

Tip 10

- 10. Dark bedroom, cool bedroom, gadget-free bedroom. Get rid of anything in your bedroom that might distract you from sleep, such as noises, bright lights, an uncomfortable bed, or warm temperatures . You sleep better if the temperature in the room is kept on the cool side. A TV, cellphone, or computer in the bedroom can be a distraction and deprive you of needed sleep. Having a comfortable mattress and pillow can help promote a good night's sleep. Individuals who have insomnia often watch the clock. Turn the clock's face out of view so you don't worry about the time while trying to fall asleep.

Tip 11

- Have the right sunlight exposure. Daylight is key to regulating daily sleep patterns. Try to get outside in natural sunlight for at least thirty minutes each day. If possible, wake up with the sun or use very bright lights in the morning. Sleep experts recommend that, if you have problems falling asleep, you should get an hour of exposure to morning sunlight and turn down the lights before bedtime.

Tip 12

- Don't lie in bed awake. If you find yourself still awake after staying in bed for more than twenty minutes or if you are starting to feel anxious or worried, get up and do some relaxing activity until you feel sleepy. The anxiety of not being able to sleep can make it harder to fall asleep.

Walker's Conclusion

- “Within the space of a mere hundred years, human beings have abandoned their biologically mandated need for adequate sleep—one that evolution spent 3,400,000 years perfecting in service of life-support functions. As a result, the decimation of sleep throughout industrialized nations is having a catastrophic impact on our health, our life expectancy, our safety, our productivity, and the education of our children.

- This silent sleep loss epidemic is the greatest public health challenge we face in the twenty-first century in developed nations. If we wish to avoid the suffocating noose of sleep neglect, the premature death it inflicts, and the sickening health it invites, a radical shift in our personal, cultural, professional, and societal appreciation of sleep must occur.
- I believe it is time for us to reclaim our right to a full night of sleep, without embarrassment or the damaging stigma of laziness. In doing so, we can be reunited with that most powerful elixir of wellness and vitality, dispensed through every conceivable biological pathway. Then we may remember what it feels like to be truly awake during the day, infused with the very deepest plenitude of being.” p. 340

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Hope you sleep well! Tim



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Pulling “All-Nighters” for Exams

- “While at Harvard...I pointed a scolding finger (in an op-ed article) directly at the faculty, myself included, ...end-loading exams in the final days of the semester was an asinine decision. It forced a behavior in our students—that of short sleeping or pulling all-nighters leading up to the exam—that was in direct opposition to the goals of nurturing scholarly minds...It was long past time for us to rethink our evaluation methods, their contra-educational impact, and the unhealthy behavior coerced from our students.

He got a lot negative impact and eventually changed universities. (now at UC Berkeley)

- In truth, I never believed that one op-ed column would trigger a U-turn in poor educational examination methods at that or any other higher institute of learning. As many have said about such stoic institutions: theories, beliefs, and practices die one generation at a time. But the conversation and battle must start somewhere. (He goes on to say he has no "final" exams but has 3 tests spread out over a semester.)

Tim' Social Testing and Self Grading

- Students take a quiz for 20 minutes alone and give themselves their own grades at the bottom. Then they can ask classmates for answers they don't have (no copying only talking and then writing down new answers).

- Score one (alone) _____ %
- Score two (after talking to others and helping others _____ %
- Who helped you (WHY) _____
- Who did you help _____
- What do you think of this test _____

Perspectives on Language Assessment Literacy, Sahbi Hidri (ed. Tunisia) 2021

**Testing abilities to understand, not
ignorance or intelligence: Social
interactive assessment: Receive,
appreciate, summarize, ask!**

Tim Murphey TA-TUNISIISIA-RASA

Also see **Hattie** – books –

Self evaluation – Self Grading –Reciprocal Learning

All highly rated in meta analyses!!!

RASA

- 05:55 ‘...RASA, which is the Sanskrit word for ‘juice’ or ‘essence’ ... stands for ‘Receive’, which means pay attention to the person; ‘Appreciate’, making little noises like ‘hmm’, ‘oh’, ‘OK’; ‘Summarize’ – the word ‘so’ is very important in communication; and ‘Ask’, ask questions afterwards’.
- (Julian Treasure, 2011, TED-talk, 5 ways to listen better)

Time for Health Talks

Andre Iguodala (NBA) & Dr. Cheri Mah

[← BACK TO HOME](#)

5 Ways to Get the Most From Your Sleep



Sleep Advice

https://time.com/5866724/sleep-tips-andre-iguodala-cheri-mah/?utm_source=newsletter&utm_medium=email&utm_campaign=the-brief-pm&utm_content=20200715&et rid=31583510

Andre Iguadala (NBA - BB star) suggests

1. No TV, No cell-phone – turn off,--

2. Cool sheets, temp down, --

3. Comfortable Pajamas –

Start at 7:40 -- sleep

What are the top 3 ways to get better sleep? (advised by Dr. Cheri Mah)

1. Calm down (10-20 minutes) before going to bed, think calmly and go to sleep. (meditate)

have a Wind-down ROUTINE

2. Physical – **Dark, cave Sound-quiet sounds,** white noise machine 15-19.5 cel. (**TM-Relax App.** ocean waves, rivers, and birds.)

3. **Do it as a team** – Next breakout Room person call them up tonight and ask them how they will go to sleep well. (Tim shares sleep data with a friend each day – if you know you are going to share, you tend to want to do better.)

Hard Data on Sleep Effects

- Sleep is under-rated in our society.
- NBA – National Basketball Association – Time zone, sleep effects even on teams. Individual BB performance success tied to sleep effect. Better sleep = better BB performance! Directly correlated. 3 pt shot % doubled with more sleep -
- Andre Iguodala (NBA player).
- 40 years of NFL (National Football League) East and West coast games. Traveling distance counts (disrupts sleep) lower performance when sleep change.

What is good and bad?



Breakout Room

- Do you think sleep is important in your life?
- How many hours sleep did you have last night?
- Have you ever talked about sleep with other co-workers, co-students?
- How would you like to change your sleeping habits?
- Have you ever used a sleep App?
- Would you like to try an App? Goggle search **Relax Melodies** and **Cycle Sleep** (free at low level)