

WHY CARE - CIRCADIAN RHYTHM (CR) FOR MORE THAN SLEEP AND FEELING RESTED

Living in opposition to our Circadian Rhythm has direct immediate and long term health impacts. Dr. Panda lists 64 related conditions including the most common big ones:

- Alzheimer's or Parkinson's
- Depression and Anxiety
- Weight Gain and Obesity
- Stroke and Heart Attacks
- Cancer (colon, liver, lung)
- Inflammation & Inflammaging
- Insomnia
- Decreased energy, memory, and focus

GOAL - SYNCHRONIZE WITH OUR NATURAL CIRCADIAN RHYTHM (CR)

#1 SLEEP TIMING (bidirectional – CR also influence Sleep Timing and quality)

- Aligned with day/night cycle
- Best start of day (waking hours) varies by individual chronotype
- Regularity: Same bed time/wake time (most days, including weekends)

#2 LIGHT EXPOSURE TIMING

- AM light within 1 hour waking; outdoor ideal
- PM low light- avoid bright light of any color (not just bright blue light)

#3 FOOD & DRINK START/STOP TIME

- Regular breakfast time
- Stop eating 2-3 hours before bedtime (anything requiring digestion)
- 10-12 hour eating window (Ex. 7am to 7pm or 9am to 7pm)
- *Caffeine, Alcohol: enough time to clear system before bed (sleep onset & quality issues)*

#4 MOVEMENT - EXERCISE TIMING

- Avoid Vigorous 60-90 minutes for bed (need lower heart rate & cooler body temp for quality sleep)
 - One exception: consensual sex OK – proven beneficial for sleep!
- BUT...any exercise better than none! And timed right helps for good sleep!

ASSESSING OUR RHYTHM REFINEMENT POTENTIAL

Perfection not required. Any improvement in timing has a positive impact.

Experiment. Identify what timing and behavior intervals work best for me!

Find My Chrono Type: <https://sleepdoctor.com/pages/chronotypes/chronotype-quiz>

HIGH IMPACT CR DISRUPTION MECHANISMS

PM Brights Lights

- Master Brain Clock = Suprachiasmatic Nucleus (SCN)
- SCN sends AM synchronization message to all cells
- Triggered by light → AM light sets the timing for day & night processes! (ex. AM light triggers release for melatonin for falling asleep)
- PM Bright lights = wake up signal to SCN → wakeup signal to body cells / organs. Confusion follows

Example: Expose eyes to bright indoor overhead evening lights? Brain resets clocks. Body stops producing the hormone melatonin (sleep initiator).

Late Night Eating

- Food takes 2-4 hours for digestion (takes longer when preparing for sleep)
- Digestion will always take priority - overrides scheduled sleep processes
- Critical rest, repair, restore and detox processes get bypassed.

Example: Eat too close to bed time? Digestion take priority for next 2-4 hours. Deep sleep's rest, repair and brain detox processes don't have time to complete their job.

Eating Window

- Body needs downtime for daily renewal.
- If always eating, the body's daily rest, repair and renewal needs get short changed.

Example: Out mitochondria, essential for the energy live and thrive, need us to stop eating long enough to clean up, repair, and renew. As we age, decreasing numbers and quality of mitochondria directly impact our health, vitality and resilience. Need extra support!

Caffeine and Alcohol

- Cut-off times (for impacts on sleep quantity and quality)
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OVERLAP WITH SLEEP HYGIENE

Almost everything that's good for sufficient quality sleep is good for strengthening our Circadian Rhythm. The two are bi-directional! Good Sleep Habits = Stronger CR.

NOTES SOURCE AND RECOMMENDED PRIMER ON CIRCADIAN RHYTHM

[The Circadian Code by Dr. Satchin Panda \(2018\)](#)