Optimizing sleep:
Non-Pharmaceutical Approaches to Getting More Rest

Naoya Ogura, OTD, OTR/L
Introduction

Naoya Ogura
Doctor of Occupational Therapy
Lifestyle therapy specialist

Re+Active Physical Therapy and Wellness

11500 W. Olympic Blvd
Los Angeles, CA 90064

3848 W. Carson Street,
Torrance, CA 90503
Lifestyle Therapy

1) Learning about healthy habits
2) Analyzing your current habits
3) Planning how to get healthier
4) Executing your plan
5) Maintaining your plan

→ Becoming a healthier person
Sleep impacts & is impacted by other lifestyle factors

- Better sleep → More energy → Exercise more → Better sleep

- Better sleep → Better mood → Reduced depressive mood → Better sleep

- Better sleep → Better dietary hormone regulation → Healthier diet → Reduce sleep apnea/pain symptoms → Better sleep
Why healthy routines are important

1. **Improve Parkinson's Outcomes**
   Healthy habits, especially exercise, have been shown to slow disease progression in Parkinson's.

2. **Reduce risk for other diseases**
   Healthy habits will reduce risk for other diseases like diabetes, low back pain, chronic fatigue, depression, anxiety, etc.

3. **Promote general health**
   Many people with Parkinson's will experience age-related physical and cognitive changes, including weaker muscles, stiffer bodies, and difficulty remembering. Healthy habits can improve your QOL in old adulthood.
How Parkinson’s affects sleep

Up to 50~81% of people with Parkinson’s report sleep problems, including:

- Sleep fragmentation (Not getting consecutive sleep)
- Increased wakefulness after sleep onset (Being up at night)
- Frequently waking up at night (80% of PD pts report 2~5 awakenings)
- Impaired REM sleep (Mentally restorative stage of sleep)
- Sleep can also be impacted by PD medication
How do you treat sleep?

**MEDICATION**
- Managed by Doctors

**CPAP MACHINES**
- Managed by sleep study specialists

**COGNITIVE BEHAVIORAL STRATEGIES**
- CBT for insomnia
  - Sleep hygiene, stimulus control, sleep beliefs assessment, sleep restriction/compression

**CIRCADIAN INTERVENTIONS**
- Resetting your biological clock
  - Routine analysis, nap analysis, light therapy, exercise, energy management

**PAIN MANAGEMENT**
- Reducing pain
  - Sleep positioning, discussion on mattress, exercises, stretches, yoga, general pain management during the day
What happens during sleep?
4 Phases of Sleep

**Non-REM** (Approx 75% of your sleep)

**N1 (Stage 1)**
- Light sleep, lasts 1~5min in typical adults
- You may experience muscle jerks

**N2 (Stage 2)**
- Deeper sleep
- Heart rate and body temperature drop
- Gradually increase in duration over the course of the night, up to 50% of sleep time.

**N3 (formerly "stages 3 and 4")**
- Deepest and most restorative sleep
- Some will not wake even with loud noise
- Tissue growth and repair
- Bone and muscle repair
- Immune system strengthening
- Older adults spend less time in N3 sleep

**REM** (Approx 25% of your sleep)
- Occurs about 90 minutes after sleep onset, and recurs about every 90 minutes.
- Dreaming stage of sleep
- Muscles are relaxed (in healthy adults)
- Initially about 10min, can be as long as 1 hr
- Improves mood
- Memory consolidation occurs
Not sleeping adds up

“University of Chicago researchers followed a group of student volunteers who slept only four hours nightly for six consecutive days. The volunteers developed higher blood pressure and higher levels of the stress hormone cortisol, and they produced only half the usual number of antibodies to a flu vaccine. The sleep-deprived students also showed signs of insulin resistance — a condition that is the precursor of type 2 diabetes and metabolic slowdown. All the changes were reversed when the students made up the hours of sleep they had lost.” - Harvard Health
Benefits of sleep

- Helps control weight
- Reduces risk for health issues like heart disease, stroke, and diabetes.
- Improves focus
- Sharpens memory
- Improves mood and reduces risk for depressive illnesses
- “Washes” the brain
- Improves immune system
- Reduces inflammation
How do you treat sleep?

CBT for insomnia
Sleep hygiene, stimulus control, sleep beliefs assessment, sleep restriction/compression

Resetting your biological clock
Routine analysis, nap analysis, light therapy, exercise, energy management

Reducing pain
Sleep positioning, discussion on mattress, exercises, stretches, yoga, general pain management during the day

Managed by Doctors
MEDICATION

Managed by sleep study specialists
CPAP MACHINES

CIRCADIAN INTERVENTIONS

COGNITIVE BEHAVIORAL STRATEGIES

PAIN MANAGEMENT
Sleep positioning

**GOOD SLEEP POSITION**
- correct head position
- orthopedic mattress
- correct fetal position
- correct back position

**BAD SLEEP POSITION**
- the pillow is too low
- the pillow is too high
- sleeping on stomach
- the mattress is too firm
- the mattress is too soft
Exercises for pain management

- Stretches
- Strengthening
- Gentle ROM
- Stretching plan for at night
Pacing and ergonomics

- Keeping an eye on your pain threshold
- Incorporating rest breaks/stretches during the day
- Working on sitting posture
- Changing your chair/computer set-up
How do you treat sleep?

**Managed by Doctors**

**MEDICATION**

**CPAP MACHINES**

**CIRCADIAN INTERVENTIONS**

**PAIN MANAGEMENT**

**COGNITIVE BEHAVIORAL STRATEGIES**

**CBT for insomnia**

Sleep hygiene, stimulus control, sleep beliefs assessment, sleep restriction/compression

**Resetting your biological clock**

Routine analysis, nap analysis, light therapy, exercise, energy management

**Reducing pain**

Sleep positioning, discussion on mattress, exercises, stretches, yoga, general pain management during the day
Routine analysis

- How you are spending your time
- Analysis of naps
- Condensing nap time
- Creating regularity to wake-sleep cycle
- Incorporating stimulating activities
Exercise

- 150 min of moderate intensity exercise a week
- Aerobic exercise
- Timing of exercise may not matter for sleep
Light exposure therapy

- To shift your sleep drive
- Not sleepy at night without medication → Light in morning
- Waking up too early → Light before sleep
- Range of 1000 lux ~10,000 lux
- Indoor light can be as low as 100 lux or less
- Talk to your doctor if you have eye conditions (cataracts, light sensitivity, etc)
How do you treat sleep?

**Managed by Doctors**

- **MEDICATION**

**Managed by sleep study specialists**

- **CPAP MACHINES**

**Reducing pain**

- Sleep positioning, discussion on mattress, exercises, stretches, yoga, general pain management during the day

**CBT for insomnia**

- Sleep hygiene, stimulus control, sleep beliefs assessment, sleep restriction/compression

**Resetting your biological clock**

- Routine analysis, nap analysis, light therapy, exercise, energy management

**CIRCADIAN INTERVENTIONS**
Basic Sleep Hygiene and stimulus control

- Keep your room cool, dark, and quiet
- Limit day time naps
- Dedicate your bed to sleep
- Monitor caffeine/alcohol consumption
- Don’t eat too close to bedtime
- Limit electronics prior to bedtime (depending on light exposure plan)
- Establish a relaxing wind-down routine
- Practice sleep-inducing mindfulness techniques
- If you have a hard time sleeping after 20 min, get out of bed and engage in relaxing activities
Sleep beliefs & worrying

- Examples
  - Excessive or persistent worry about consequences of poor sleep
  - Worry over losing control over your ability to sleep
  - Worrying about the next day being “ruined” from a poor night’s sleep
  - Worrying about sleep being “perfect”
  - Believing that all changes to mood during the day is attributable to poor sleep
  - Believing that one night of poor sleep will significantly disturb your sleep schedule for the whole week

- It’s not that these statements are necessarily not based on fact. *It’s the associated worry and reduced sense of control that is harmful to sleep.*
Sleep logging

- Sleep logging: Keeping track of your wake-time and sleep-time with the intent of modifying when you get up and when you go to bed.
- With guidance:
  - Sleep restriction
  - Sleep compression

Caffeine = coffee, tea, caffeinated soda, chocolate, energy drinks, certain medications.
Mindfulness and Relaxation

Mind Full, or Mindful?
Autonomic Nervous System

“Rest-and-Digest”

“Fight, flight, or freeze”
Relaxation/mindfulness strategies

Emerging research show that mindfulness can lead to neurological changes in the brain, reduce pain symptoms, improve mood, and improve sleep

**Diaphragmatic breathing:** Breathing from your stomach

**Body scan:** Focus on sensations in one body part at a time

**Progressive muscle relaxation:** Squeeze your muscles as tight as you can for 5-10 seconds, then release

**Guided imagery:** The more vivid your imagery, the better

**Sleep stories:** Bedtime stories for adults
Intro to relaxation strategies

Diaphragmatic breathing

- Focus on slowing your breath
- Breathe into your stomach

When trying to sleep

- Choose a focus (counting, breath, sensation)
- Shift position every 1~2 min
Audio resources

- UCLA Health
- Headspace
- Calm
- YouTube
- Insight Timer
Questions?

Naoya Ogura, OTD, OTR/L
naoya@re-activept.com

*Occupational Therapist at*
*Re+Active Physical Therapy and Wellness*

Call us to schedule a free online OT consult
(424) 225-1845

Or contact our director Julie: julie@re-activept.com
Thanks!
References


