

# Getting Restful Sleep with Parkinson's

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January 5 2022



EMORY  
UNIVERSITY



Baylor  
College of  
Medicine

UCSF Health

SOUTH VALLEY  
NEUROLOGY

*A Multispecialty Neurology Practice*

# Why Neurology?

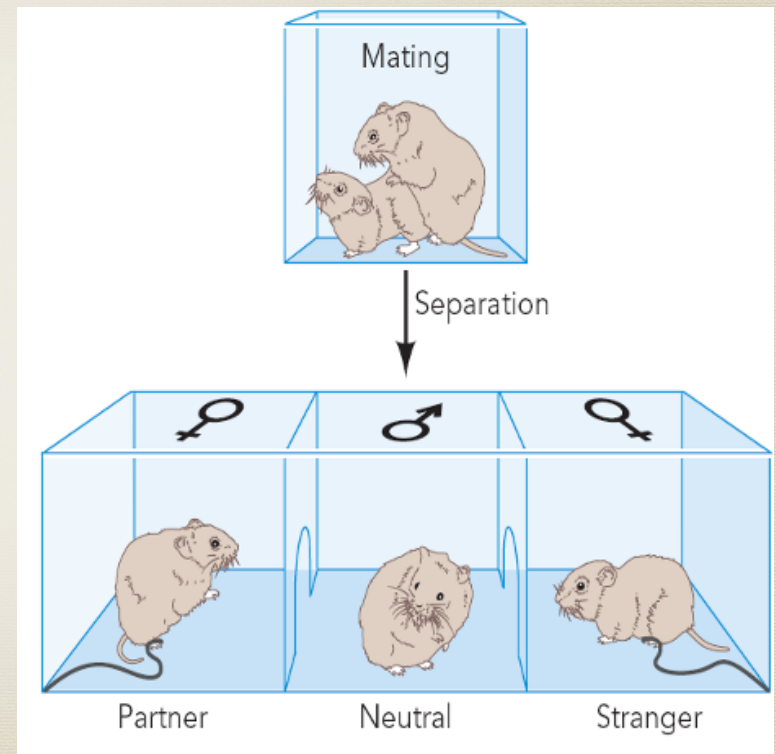
- \* Summer neuroscience course
- \* Mother had a stroke secondary to cancer
- \* Found a local college with a neuroscience major
- \* Researched in a lab investigating vole rodent monogamous attachment

# Research



EMORY

YERKES  
NATIONAL  
PRIMATE  
RESEARCH  
CENTER




# Why Movement Disorders?

- \* Opera singer who developed voice tremor
- \* Model train lover who developed hand tremor
- \* Excellent mentors
- \* Adoptive mother diagnosed with genetic form of Parkinson's Disease (GBA)



# Parkinson's Disease

| <b>MOTOR</b>   | <b>NONMOTOR</b>        |                                 |
|--|------------------------|---------------------------------|
| <b>REST TREMOR</b>   | <b>SLEEP</b>           | <b>LOSS OF SMELL</b>            |
| <b>BRADYKINESIA</b>  | <b>URINARY URGENCY</b> | <b>DROOLING</b>                 |
|  <b>MUSCLE TONE</b> | <b>CONSTIPATION</b>    | <b>ANXIETY /<br/>DEPRESSION</b> |
| <b>POSTURAL<br/>INSTABILITY</b>  | <b>PAIN, MELANOMA</b>  | <b>HALLUCINATIONS</b>           |

# SLEEP

- \* Disrupted sleep and alertness affects ~90% of patients with PD
- \* Sleep disturbance may precede motor symptoms

# Rapid Eye Movement (REM) sleep behavior disorder

- \* Vocal and motor behaviors during dreaming
- \* Yelling, Kicking, Screaming, or Punching



<https://www.youtube.com/watch?v=oXhcsZKa3jo>



# REM Behavior Disorder (RBD)

- \* Affects **80%** of patients with Parkinson's, Lewy body Parkinson's/Dementia, and Multiple Systems atrophy
- \* Affects **50%** of patients with Parkinson's Disease
- \* More likely in patients who begin with shuffling walking than with tremor
- \* Associated with increased risk of memory problems

# RBD Management

- \* Safety of the sleep environment for patient and bed-partner
- \* Sleep Study
- \* Stop certain medications if possible (Antidepressants)
- \* Melatonin (3 to 12mg)
- \* Clonazepam (Klonopin) (Up to 2mg)
- \* Rivastigmine / Donepezil



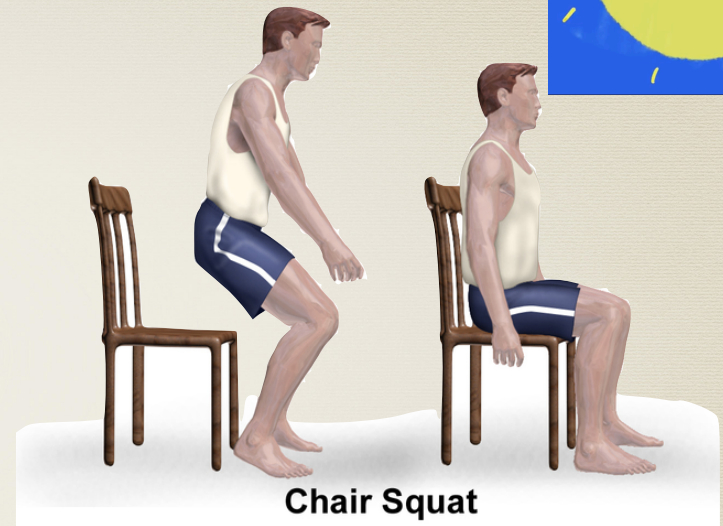
# Insomnia

- \* Most common sleep disorder for patients with PD
- \* Sleep fragmentation
- \* Early morning awakenings



# Insomnia Interventions

- \* Increased activity during the day
- \* Restriction of daytime napping
- \* Adequate sunlight exposure or 10,000 lux
- \* Sleep Hygiene
- \* Cognitive Behavioral Therapy for Insomnia (CBT-I)
- \* Sleep Study



# Insomnia Medications

- \* Trazodone
- \* Mirtazapine
- \* Dopaminergic (carbidopa-levodopa, ropinirole, rotigotine, pramipexole)
- \* Quetiapine (Seroquel)
- \* Lunesta
- \* Doxepin
- \* Sodium Oxybate (Xyrem) (must be seen by sleep medicine first)
- \* Deep Brain Stimulation Surgery

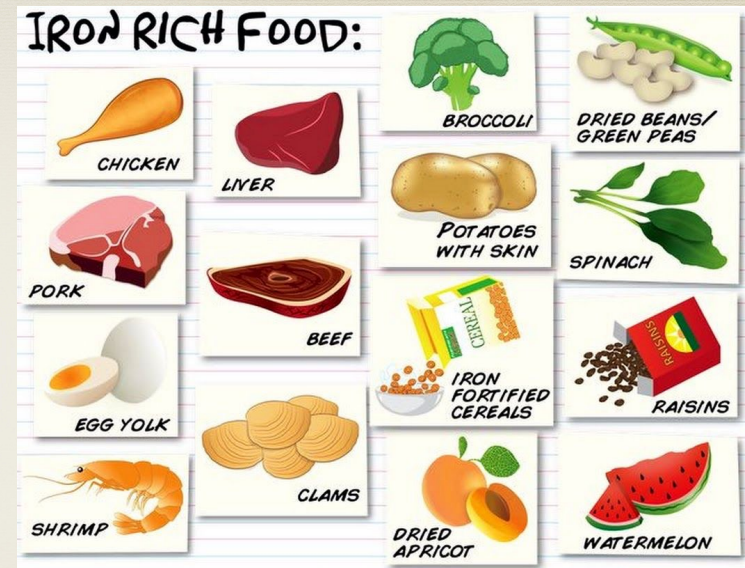
# Restless Leg Syndrome

- \* Affects 20% of patients with PD
- \* Risk factors: depression, iron deficiency, more severe Parkinson's
- \* There is no evidence that RLS progresses to Parkinson's Disease



# RLS Treatments

- \* Treat Iron deficiency (Ferritin goal > 75)
- \* Gabapentin / Pregabalin
- \* Dopamine agonists, Levodopa
- \* Opioids
- \* Deep Brain Stimulation (though can also increase risk of RLS)
- \* Avoid or reduce seroquel, anti-nausea meds, atropine, glycopyrrolate, Vesicare, tolterodine, trospium, oxybutynin, benadryl, loratadine, zantac, pepcid



# Vivid Dreams

- \* Caused by levodopa
- \* Treated by reducing evening levodopa



# Sleep Disordered Breathing

## Three types of **sleep apnea**

Obesity  
Hypertension  
Middle Age



OBSTRUCTIVE SLEEP  
APNEA



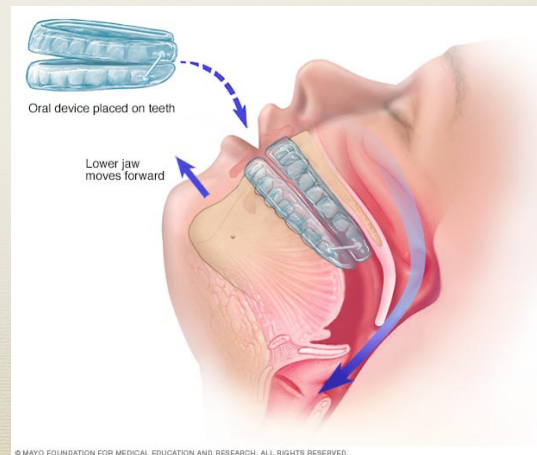
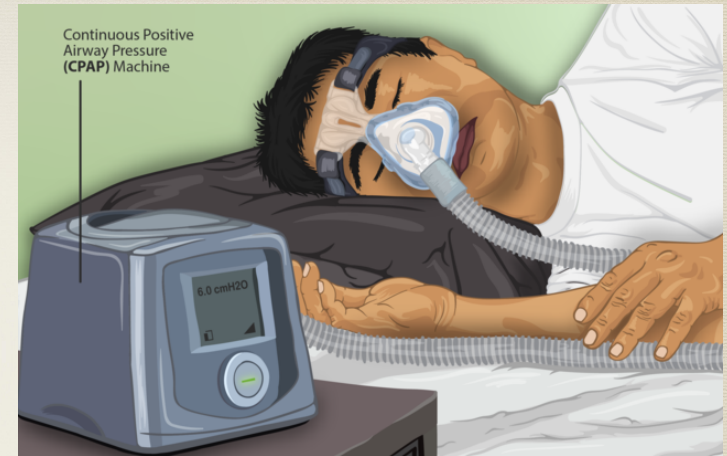
CENTRAL SLEEP  
APNEA

Parkinson's  
Stroke  
Heart Failure

COMPLEX SLEEP  
APNEA

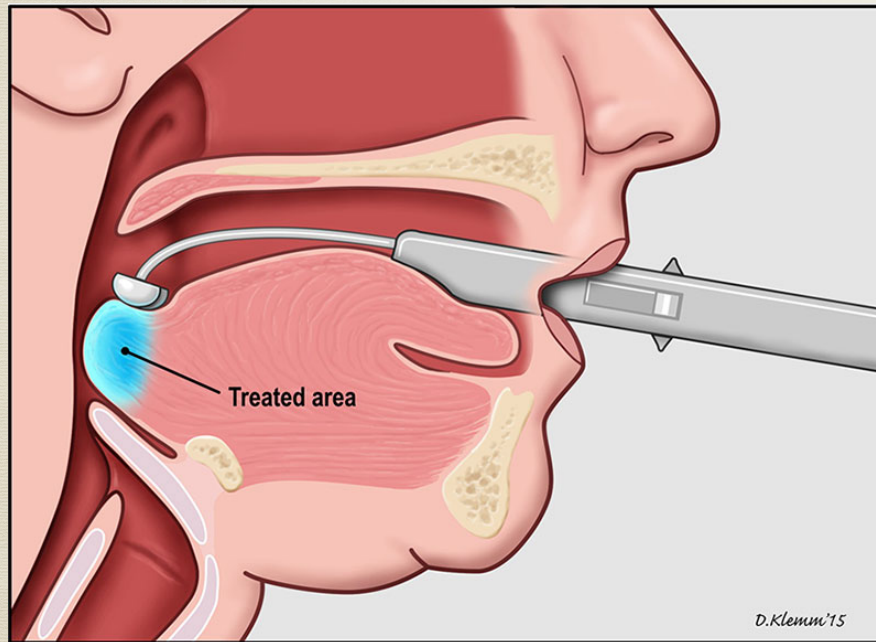
# Sleep Apnea Treatments

- \* CPAP / BIPAP
- \* Mandibular Advancement Device
- \* Weight Loss

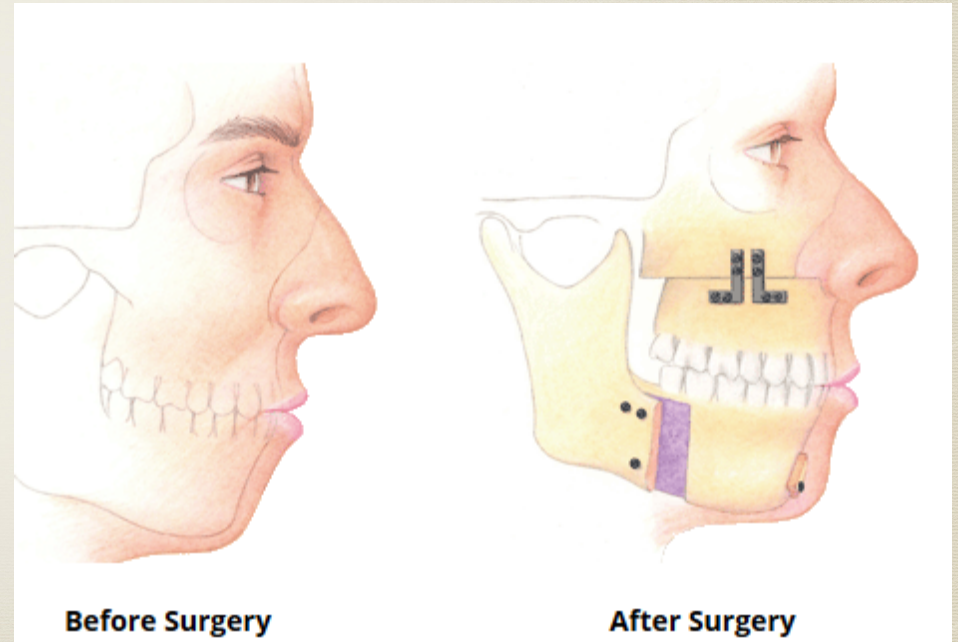


# Sleep Apnea Treatments

Radio-frequency ablation



Maxillomandibular Advancement



# Circadian disruption

- \* Awake too early, too late, or sleeping during the day
- \* Adequate sunlight exposure or 10,000 lux in the morning
- \* Bright Light Therapy (1000 to 1500 lux) 60 to 90 minutes prior to the habitual bedtime over a 2-week period resulted in self-reported improved sleep onset, latency, sleep continuity, and mood in 12 patients



# Excessive Daytime Sleepiness

- \* Affects 50% of patients with PD
- \* Risk factors:
  - \* Male gender
  - \* Duration and severity of PD
  - \* Cumulative dose of dopaminergic medications.
  - \* Sleep Apnea



# Consequences

- \* Sleep attacks
- \* Frequent naps
- \* Insomnia



\* Epworth Sleepiness Scale

- \* 0 = would never doze or sleep.
- 1 = slight chance of dozing or sleeping
- 2 = moderate chance of dozing or sleeping
- 3 = high chance of dozing or sleeping

|   |
|---|
| <b>Sitting and reading</b>                            |
| <b>Watching TV</b>                                    |
| <b>Sitting inactive in a public place</b>             |
| <b>Being a passenger in a car</b>                     |
| <b>Lying down in the afternoon</b>                    |
| <b>Sitting and talking to someone</b>                 |
| <b>Sitting quietly after lunch (no alcohol)</b>       |
| <b>Stopped a few minutes in traffic while driving</b> |

# Daytime Sleepiness Treatment

\* Reduce meds that cause sleepiness

\* Sleep hygiene

\* Increased physical activity

\* Adequate light exposure

\* Modafinil (100-400mg daily)

\* Selegiline

\* Caffeine

\* Sodium oxybate

\* Treat sleep apnea

\* Atomoxetine



# Difficulty turning over in bed

- \* Cause: Muscle stiffness
- \* Treatment: Silk sheets & Levodopa



# Bathroom trips

- \* Causes

- \* Prostate symptoms, Overactive bladder

- \* Treatments

- \* Mybetriq (mirabegron), Sanctura (trospium), Vesicare (solifenacin), Detrol (tolterodine), Desmopressin

- \* Chucks / Adult diapers

- \* Condom Catheter

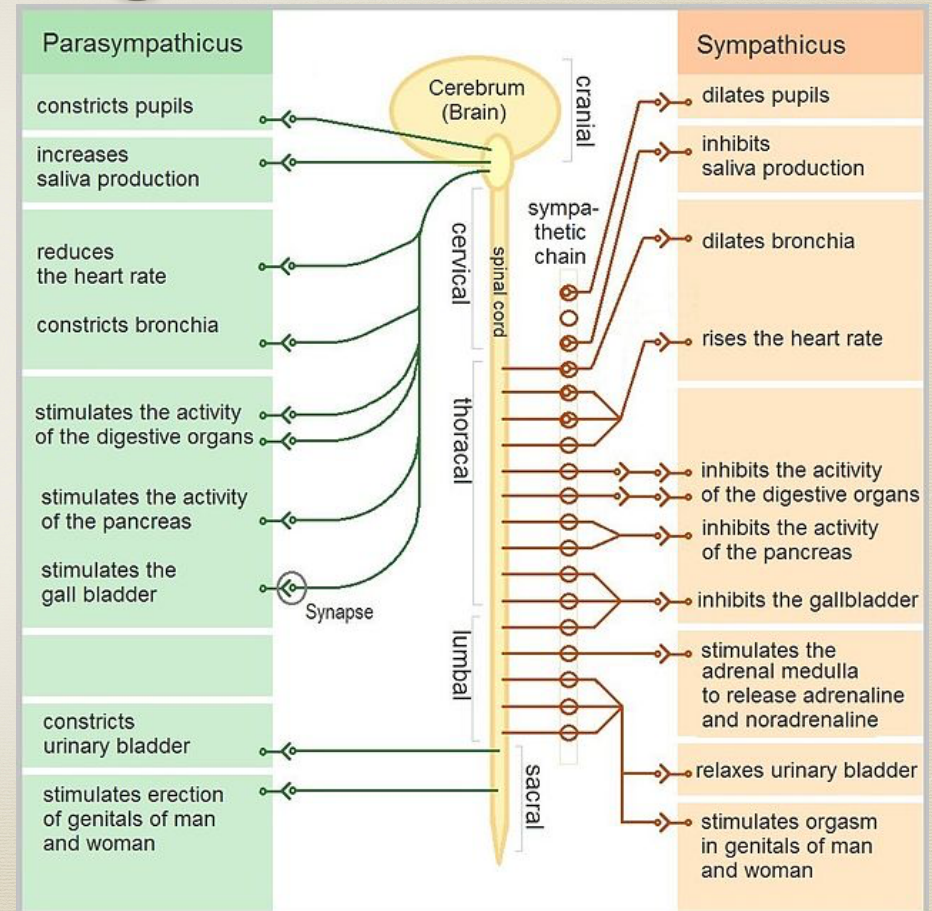
- \* Botox

- \* Avoid: Oxybutynin



# Drooling

- \* Causes: Autonomic dysfunction
- \* Treatment: Glycopyrrolate, atropine drops, botox injections



# Supine Hypertension

- \* Orthostatic hypotension (OH) is a sustained drop in BP after postural change
- \* Supine HTN as a systolic BP  $>150$ mm Hg while lying down
- \* Treatment
  - \* Midodrine, Fludrocortisone, Pyridostigmine
  - \* Stop lying flat



# Medications I avoid

- \* Zolpidem (makes Parkinson's symptoms worse)
- \* Benadryl / drugs with "PM" in their name (increases risk of dementia)

# Tips for better sleep

- \* Keep a regular sleep schedule.
- \* Make a bedtime routine — for example, snack, bath, tooth-brushing, toileting — and follow it every evening.
- \* Spend time outdoors and exercise every day, in the morning if possible. Avoid exercise after 8:00 p.m.
- \* If you can't get outdoors, consider light therapy — sitting or working near a light therapy box, available at drug stores and department stores.

# Tips for better sleep

- \* If you nap, try to do so at the same time every day, for no more than an hour, and not after 3:00 p.m.
- \* Sleep in a cool dark place and use the bed only for sleeping and intimacy
- \* Do not read or watch television in bed.
- \* Use satin sheets and pajamas to make moving in bed easier.

# Tips for better sleep

- \* Minimize drinking liquids for three hours before bedtime to avoid frequent nighttime urination.
- \* Treat urinary urgency or enlarged prostate symptoms with your doctor
- \* Go to the bathroom immediately before retiring.
- \* Place a commode next to the bed, to minimize the effort, and light to get up during the night.
- \* Hang a bedside urinal by your bed



# What to avoid?

- \* Alcohol, caffeine, and other stimulants such as nicotine
- \* Heavy late-night meals (although a light snack at bedtime may be helpful)
- \* Heavy exercise within six hours of bedtime
- \* Thoughts or discussions before bedtime about topics that cause anxiety, anger or frustration
- \* Clock watching
- \* “Screen time” — television, phones, tablets — one or two hours before bed.

Questions?

# References

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