

# **Parkinson's disease: & related sleep disorders**

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# Sleep:



- Decreased awareness of environmental Stimuli
- Universal behavior, demonstrated in all animals
- SLEEP IS NOT A LUXURY, IT IS A NECESSITY  
for SURVIVAL

# Non-motor Symptoms:

## Sleep disorders in Parkinson:

REM behavior disorder

Insomnia, Hypersomnia

Sleep Apnea

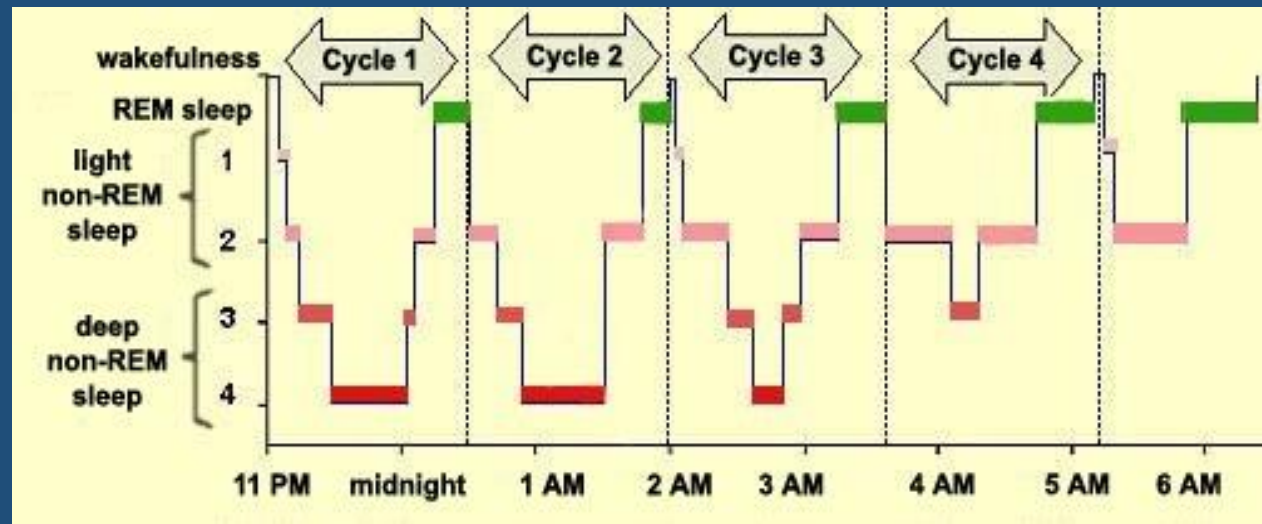
Difficulty turning in bed

Urinary and Erektion problem

Restless Legs

# Rapid eye movement sleep (REM sleep)

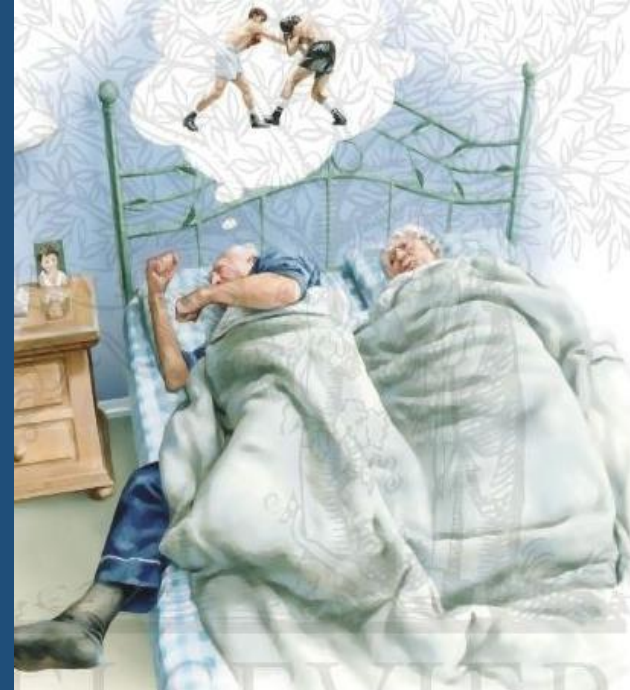
- Unique phase of sleep only (in mammals & birds)
- Low muscle tone throughout the body (like being paralyzed!)
- Dreaming stage
- Heart rate, Blood pressure, Breathing rate increase; body temperature decreases.
- REM & non-REM sleep alternate within 1 sleep cycle: about 90 minutes



- Lack of REM sleep lack of muscle tone: causes REM Behavior disorder (RBD)

# REM sleep behavior disorder (RBD)

- Acting out dreams
- Complex movements
- Fighting
- Usually early in the morning
- Typically in men
- Patient-bed partner injury



# RBD Treatment



- Make sleeping environment safer
- Moderate: Melatonin 3 - 12 mg nightly
- Severe: Clonazepam 0.25mg–1.0 mg nightly
- Treat any underlying conditions: **Obstructive sleep apnea, nightly urination**

# Obstructive Sleep Apnea



- Parkinson patients, even with normal body weight, are at risk
- How it presents:
  - » Snoring
  - » Daytime somnolence and naps
  - » Daytime fatigue
  - » Nighttime frequent awakenings
- Please see your sleep doctor for evaluation: CPAP



# Insomnia: difficulty falling or staying asleep

## Various reasons:

- Brain chemical disturbances
- Motor symptoms of PD:
  - Tremor
  - Stiffness
  - Difficulties rolling
  - Wearing-off phenomenon
  - Early morning dystonia
- Restless legs
- Musculoskeletal pain



# What to do:



- Sleep hygiene
- Review Medication list (**Amantadine, selegiline**)
- Nighttime motor symptoms
- USE CPAP for Obstructive sleep apnea
- Depression
- Treatment : **Melatonin**  
**Trazodone**  
**Mirtazapine**  
**Clonazepam (if RBD)**

# Sleep hygiene

- Get proper light exposure during the daytime
- Exercise daily but not 3 hours before sleep
  - Avoid naps after 3 PM
- Avoid stimulant, coffee or tea after lunch
  - Avoid spicy food for dinner
  - Take a hot bath before bed
- Avoid electronics in the bedroom
- Keep bedroom dark, quiet & cool
- Bed time routine 7-8 hours daily
  - Don't lie in bed if awake

# Restless Leg Syndrome

- Irresistible urge to move the legs
- Tingling or creepy-crawly feelings
- At rest or not moving
- Only occur in the evening and night



# Suggestions:

- Gently massage the area
- Gently stretch the muscles in your legs
- Apply a hot or cold pack to the area
- **Take a warm bath in the evening**
- **Avoid alcohol, caffeine and smoking**
- **Avoid foods that seem to trigger restless legs**
- **Practice relaxation exercises before bedtime**
- **Participate in regular exercise during the daytime**



# Treatment:

- Pramipexole, Ropinirole
- Clonazepam
- Baclofen
- Clonidine
- Gabapentine, Pragabaline

## Nocturia:

- Waking up from sleep more than once to pass urine
- Common in Parkinson disease
- Reasons: Reduced nightly bladder capacity due to bladder overactivity



## What to do:

- See your urologist (Evaluation : urinalysis, ultrasound, concomitant urological problem: Prostate enlargement or Infection)
- **Restriction of fluids in the evening** (at least 4 h prior to bedtime)
- **Avoid Caffeine and/or alcohol near bed time**
- **Diuretics act within 2 h of administration** (Taking late in the evening exacerbate bed time urination)
- **Compression stockings and Elevation of the legs above the heart level in the afternoon**
- **Emptying the bladder before going to bed**

# Treatment :



- Antidiuretic hormone: **desmopressin** nasal spray (Noctiva)
- Benign prostatic enlargement: **melatonin**
- Medications: **solifenacin (Vesicare), Oxybutinin**
- **Botox** injection can be effective (risk of urinary retention)
- For patients in whom pharmacotherapy has failed: minimal invasive surgical procedure
- Erectile dysfunction is commonly reported and can be treated with Cialis.

# Caution!

- Reduce the risk for falls at night
- The path to the toilet should be well-lit
- Room with falls safety
- Using a bedside commode or urinal

# Hypersomnia: excessive sleepiness

- Poor sleep at night (Obstructive sleep apnea)
- Medications:
  - Pramipexole, ropinirole
  - Artane
  - Oxybutynin,
  - Benadryl
  - Dextromethorphan
  - Bupropion
  - Nortriptyline
  - Benzodiazepines (xanax, librium, clonazepam, diazepam)





# Conclusions

- Sleep is significantly impaired in Parkinson's disease
- Treatments are available: IT IS A TEAM WORK!
- Improvement of the nightly Parkinsonism & reducing bathroom awakenings can reduce the sleep difficulties and improves Parkinson symptoms
- Recognize the drugs that may be contribute to sleep problem
- MUST: Strict adherence to principles of Sleep Hygiene

Thank you and wish you a good night sleep tonight!



Courtesy of lovablefrenchie

