Sleeping with PD
Jean Tsai, MD PhD
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Evaluation of sleep

- Assessment at least annually recommended by Agency for Healthcare Research and Quality (AHRQ) of the US Dept of Health and Human Services
- Daytime sleepiness: Epworth sleepiness scale, Inappropriate sleep composite score (ISCS)
- Pittsburgh sleep quality index (PSQI)
- Medical outcomes study sleep scale (MOS)
- SCOPA-sleep
- Parkinson’s disease sleep scale (PDSS)
Common sleep problems in PD

- Insomnia (sleep fragmentation – 80%)
- Excessive daytime sleepiness - 50%
- REM sleep behavior disorder - > 40%
- Restless leg syndrome/Willis-Ekbom Disease – 20%
- Periodic limb movements of sleep
- Sleep apnea
- Circadian rhythm disorder
Insomnia – prolonged sleep onset

- Pain
- Medication effect
- Depression
- Treatment is multifactorial. Avoid over the counter sleep aids which often contain anti-histamine
Insomnia – sleep fragmentation

- Motor symptoms
- Hallucinations
- Nocturia (frequent night time urination)
- Medication effect
- Other sleep disorders like sleep apnea, restless leg syndrome, and periodic limb movements of sleep
Fatigue/Excessive daytime sleepiness

- Quality of life
- Age
- Female sex
- Duration and severity of disease
- Depression
- Social and psychological dysfunction
- Sleep disorders
- Sleep attack/narcolepsy
REM sleep behavior disorder

- A dissociated state characterized by violent dream-enacting behavior during REM sleep
- Also associated with other neuro-degenerative disorders
- Thought to be an early, pre-motor manifestation of PD
- Up to 65% of patients with REM behavior disorder later develop a Parkinsonian disorder
- Some medications can worsen symptoms: antidepressants, beta-blockers
Restless leg syndrome/Willis-Ekbom disease

- An awake sensory phenomenon with a volitional motor response
- 1. Discomfort described as a crawling sensation and urge to move
- 2. Symptom worse towards the end of the day
- 3. Symptom exacerbated by rest
- 4. Symptom eased by movement of legs
- 5. No other process could account for the symptoms above
- Potential mechanism is impaired central dopaminergic function
Periodic limb movements of sleep

- An involuntary sleep-related motor phenomenon
- Stereotyped limb movements during sleep
- Legs > >arms involved
Sleep apnea

- Mechanism is intermittent collapse of upper airway during sleep
- Snoring, waking up gasping, headache, and dry mouth
- Diagnosis made by sleep study
- Primary treatments are continuous positive airway pressure (CPAP) and weight loss
Circadian rhythm disorder

- Normal patterns of biological rhythm throughout the day are disturbed in PD
  - Flattened motor activity pattern
  - Blunted blood pressure and heart rate
- Animal models of PD demonstrate parkinsonism, sleep disruption, and circadian abnormality
- Dopamine
  - Promotes wakefulness, sometimes rebound sleepiness
  - Regulation of circadian rhythm
- Circadian genes: effect on dopamine in brain stem
Tips to sleeping well with PD

- Maintain a regular sleep-wake schedule.
- Schedule alerting medications earlier in the day and sedating medications close to bedtime.
- If changing body position is difficult in bed, use satin sheets and pajamas to help with getting in and out of bed.
- Minimize beverages before bedtime to help avoid
- Aerobic exercise and exposure to light early in the day. Avoid them in the evening.
- If needed, schedule naps earlier in the day and limit duration to 30 minutes.
Care-giver’s sleep

- Care-giver burden increased by PD motor impairment, depression, and sleep disturbance
- Michael J Fox Foundation: Guide for loved ones and care givers, edited by care givers contains resources on everything, from marriage to elder care to grief support.
- National Sleep Foundation: This organization offers information on the factors that can affect the quality of sleep. To find information on PD-related sleep problems, treatments and coping strategies, visit the 'Sleep Topics'.
“Look at the choices you have, not the choices that have been taken away from you. In them, there are whole worlds of strength and new ways to look at things.”

- Michael J Fox interviewed in Good Housekeeping, October 2013