

# **Parkinson's Disease and Sleep Disorders**

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# Common Sleep Disorders

- Insomnia: wants to sleep but cannot
- Sleep Deprivation: does not want to sleep but can; problem of sleep **quantity**
- SLEEP APNEA: sleepy during day, snores at night because of obstruction in throat; problem of sleep **quality**
- Restless Legs Syndrome: leg discomfort, relieved by movement that hinders sleep
- Parasomnia: disruptive behavior of sleep

# Good Sleep Habits

- Regular times for sleeping and awakening
- Maintain bedroom dark, quiet, cool
- Use bed only for sleep and sex
- Avoid late daytime naps
- Avoid at night: alcohol, caffeine, nicotine
- Sleep around 7 to 8 hours every night
- Prudent exercise and eating
- Avoid stressful situations at bednight

# Parkinson's & Insomnia

- Insomnia due to Parkinson's: improves with better treatment of PD at night
- Depression: before or after Parkinson's
- Urge to urinate: bladder, prostate, etc.
- Medications: some antidepressants, selegiline (Deprenyl, Eldeprl)

# Insomnia Due to Parkinson's: Causes

- Lack of muscle and mental relaxation
- Stiffness, restlessness, and difficulty moving into comfortable positions
- Tremor can be bothersome
- Medications wear off during the night
- Insufficient medications during the night

# Insomnia Due to Parkinson's

- Stage 1: Difficulty falling asleep: need to take PD meds 1 to 3 hours before bedtime
- Stage 2: Waking up early part of night: take long acting medicine at bedtime
- Stage 3: Waking up latter part of the night : take medicine when wake up

# Restless Legs Syndrome (RLS)

- Leg discomfort, worse at night, relieved by movement, affects 5-10% of population
- Familial, begins in childhood
- Associated with iron deficiency, drugs, Periodic Limb Movement Disorder, PLMD
- Easily treatable with medicines
- Restless Legs Syndrome Foundation

# Treatment of RLS/PLMD

- Restless Legs Syndrome is diagnosed by history: exclude leg cramps
- Periodic Leg Movement Disorder is diagnosed by a sleep study
- Treatment is the same and effective
- Luckily the same medicines to treat PD: Mirapex and Requip, also sedatives, and narcotics, seizure drugs



# Frequent Urination

- Causes: light sleep, bladder problem, prostate problem, drugs, infections, other
- Light sleep: PD, Sleep Apnea, PLMD
- Consider urological evaluation
- Avoid too much fluids, salt, diuretics, alcohol, caffeine
- Control Parkinson's better; do sleep study
- Medicines for bladder or prostate

# Depression and Anxiety

- Anxiety: difficulty going to sleep, worries
- Depression: difficulty going or staying asleep, or waking up early; hopeless, helpless, no fun
- Depression: before or after Parkinson's; problem recognizing, admitting to illness
- Drugs are effective in treating both
- Beware: anti-anxiety drugs & sleepiness; anti-depressants & insomnia

# Disruptions During the Night

- Vivid dreams and nightmares
- ***REM Sleep Behavior Disorders***: unique to Parkinson's Disease: acting out dreams
- Hallucinations and Delusions at Night: patient is awake not asleep
- Confusion at night: Sundowning, part of dementia of advanced Parkinson's, reverse day/night cycle
- Sleep Apnea

# Disruptions During the Night

- Often disruptive to family
- Important cause of institutionalization
- Difficult to distinguish among: REM Sleep Behavior Disorder, Sleep Apnea, and Hallucinations
- Sleep study often indicated
- Medicines control REM Sleep Behavior Disorder, and Hallucinations
- Familiar surroundings, lighting for confusion

# Day Time Sleepiness

- Insomnia due to Parkinson's
- Drugs: all anti-PD drugs may cause sleepiness but not common
- Sleep Apnea
- Restless Legs Syndrome / Periodic Leg Movement Disorder
- Sleep deprivation

# Pseudo-Sleepiness

- Low blood pressure can mimic sleepiness
- Parkinson's and drugs to treat it can lead to low BP, especially in the morning
- Clue: patient feels faint when standing up
- May lose consciousness and mistakenly thought to be asleep
- Clue: after breakfast
- Confirm: take blood pressure lying down, sitting, and standing

# Sleep Apnea: Risk Factors

- Affects: 4 to 5% of population: common
- Family history, Sleep maintenance insomnia
- Obesity: 80 % of sleep apnea patients; central (visceral, apples) obesity
- Increasing age, Male gender
- Large tonsils / adenoids in children
- Small mandible, large neck
- Smoking, alcohol, sedatives, nasal allergies

# Sleep Apnea: Consequences

- During **night**: snoring, snorting, gasping, stops breathing, restless, wakes up
- During **day**: sleepy, tired, depressed, irritable, impotent, forgets
- *Accidents*: work, home, motor vehicle
- Hypertension, Congestive Heart Failure
- Heart Attacks, Strokes, Atrial Fibrillation
- Promotes *Obesity* and *Diabetes*

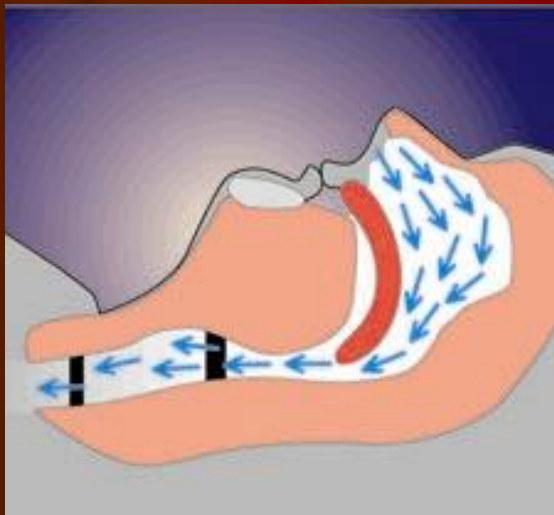


# Obstructive Sleep Apnea

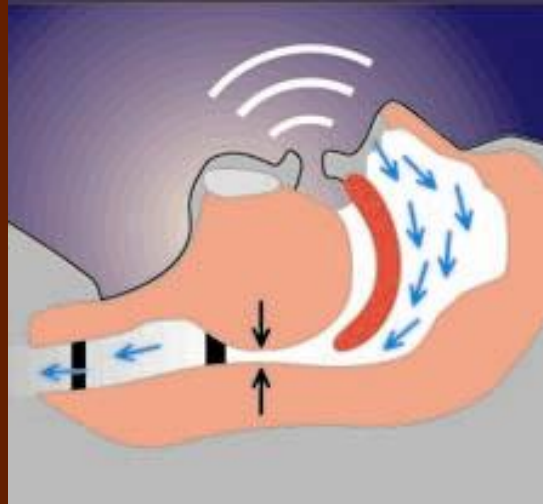
## What is OSA?

- Cessation of airflow with ongoing respiratory effort

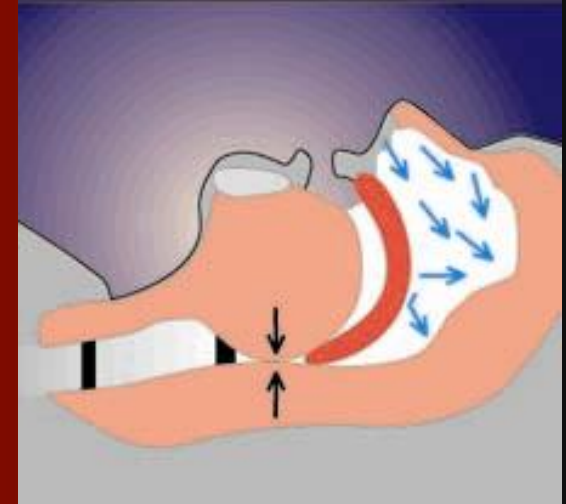
• **NORMAL**



**SNORING**



**SLEEP APNEA**



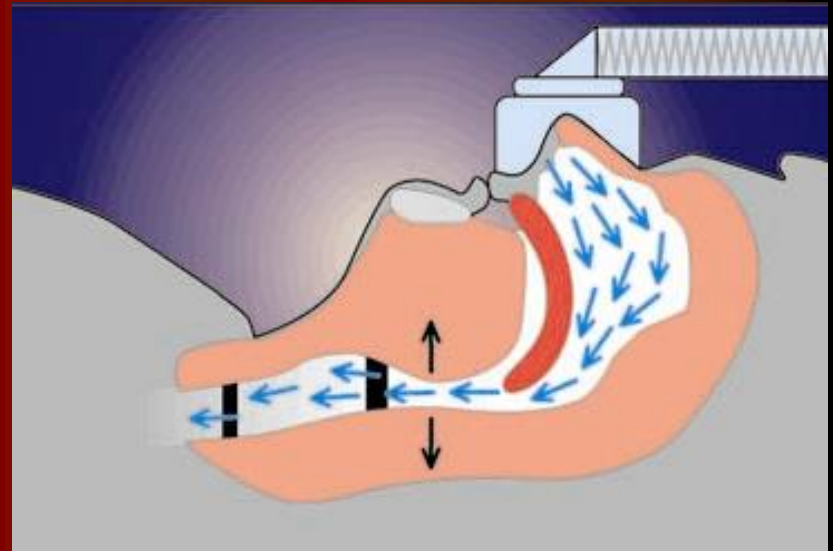
# Sleep Apnea: Treatment

- Behavioral: Weight Loss, Sleep Position (Sleep on side, head raised), Oxygen, Avoid sedatives
- **CPAP**: proven therapy, needs motivation: widely available, 70%: patients adapt well
- Surgery: tracheostomy, tonsillectomy, pull forth mandible or tongue
- Bariatric Surgery: banding, bypass
- Dental appliances: also pull forth mandible or tongue; expertise necessary

# Treatment Options: CPAP

## Treatment

- CPAP treatment
- Positive pressure keeps airway open
- 100% effective



# Summary: Sleep Apnea

- **Very common and dangerous**
- **Easily diagnosed and treated**
- **Benefits of treatment sleep better at night**
- **Feel better during the day:** less sleepiness and fatigue, more energy, less accidents
- **Reduce risk factor** for heart disease & strokes
- **Control better:** obesity, diabetes, hypertension
- **Bed partner sleeps better:** less noise & worry

# Stem Cell Treatments

- **At best: a for profit experimental procedure**
- **At worst: fraud and abuse of patients that are hopeful**
- **History of experimental procedures: about one third help, one third have no effect, and one third hurt**

# Stem Cell Treatments: 6 False Hope Warning Signs

- The International Society for Stem Cell Research lists these warning signs that a stem cell treatment is not legitimate
- It makes claims based on patient testimonials
- The same stem cells are used to treat many diseases
- The source of the stem cells is not clearly documented

# **Stem Cell Treatments: 6 False Hope Warning Signs**

- There is no clear protocol or detailed guide to treatment
- Claims that there is no risk; all medical procedures carry risk
- High cost or hidden costs; legitimate clinical trials do not charge patients, and may even pay them

# Stem Cell Clinics: Comments

- October 15<sup>th</sup>, 2015: Medical News  
<http://journals.lww.com/neurotodayonline/Fulltext/2015/10220/Unregulated-Stem-Cell-Clinics-Proliferate-in-the.1.aspx>
- May 18<sup>th</sup>, 2015: San Jose Newspaper:  
[http://www.mercurynews.com/business/ci\\_28139232/stem-cell-clinics-run-amok-amid-lack-regulation](http://www.mercurynews.com/business/ci_28139232/stem-cell-clinics-run-amok-amid-lack-regulation)
- Mayo Clinic: overview of stem cells:  
<http://www.mayoclinic.org/tests-procedures/stem-cell-transplant/in-depth/stem-cells/ART-20048117?pg=1>
- September 10, 2015: Medical Journal: Medicine's Wild West- Unlicensed Stem Cell Clinics  
<http://www.nejm.org/doi/full/10.1056/NEJMp1504560?query=TOC>
- International Society for Stem Cell Research: Patient Handbook on Stem Cell Therapies,  
<http://www.isscr.org/home/publications/patient-handbook>



# Placebo Effect

- Fascinating part of medicine and healing
- Traditionally studied with true pain: about one third to half of all patients controlled with placebo or sugar water/pill
- FDA demands that all new medicines be tested against placebo
- Since so many patients controlled or even cured with placebo there will be many testimonials for any pill

# References: Placebo

- Dr Ted Kaptchuk, Director of the Program in Placebo Studies at Harvard Medical School:
- Interview:  
<http://www.npr.org/2012/01/06/144794035/one-scholars-take-on-the-power-of-the-placebo>
- Article: <http://harvardmagazine.com/2013/01/the-placebo-phenomenon>
- Placebo Effect in Knee Surgery: YouTube  
<https://www.youtube.com/watch?v=HqGSeFOUsLI>
- Placebo Effect at Stanford Medical School:  
<https://www.youtube.com/watch?v=udJ31KKXBKk>

# Websites

- National Center on Sleep Disorders:  
[www.nhlbi.nih.gov/health/resources/sleep/](http://www.nhlbi.nih.gov/health/resources/sleep/)
- Insomnia: Cognitive Behavioral Therapy  
[cbtforinsomnia.com](http://cbtforinsomnia.com) and  
[uwhealth.org/health/topic/mini/insomnia/uh1001.html](http://uwhealth.org/health/topic/mini/insomnia/uh1001.html)
- Commercial: [www.MyResmed.com](http://www.MyResmed.com)
- Commercial: [www.Respironics.com](http://www.Respironics.com)
- **Buyer Beware!!!**

# Websites

- The Movement Disorder Society:  
[www.wemove.org](http://www.wemove.org)
- The American Academy of Neurology:  
[www.thebrainmatters.com](http://www.thebrainmatters.com)
- American Sleep Apnea Association:  
[www.sleepapnea.org](http://www.sleepapnea.org)
- Restless Legs Syndrome Foundation:  
[www.rls.org](http://www.rls.org)
- National Sleep Foundation:  
[www.sleepfoundation.org](http://www.sleepfoundation.org)

# Books

- *The Parkinson's Disease Treatment Book* by J. Eric Ahlskog, Mayo Clinic
- *The Promise of Sleep* by William Dement
- *Sleeping Well* by Michael Thorpy
- *No More Sleepless Nights* by Peter Hauri
- *A Woman's Guide to Sleep Disorders* by Meir H. Kryger
- *Restless Legs Syndrome* by Robert H. Yoakum
- *Say Good Night to Insomnia* by Gregg D. Jacobs