

Thank You !!!

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Sleep & Multiple Sclerosis

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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 (throat obstruction) problem of sleep *quality*
- **Restless Legs Syndrome:** leg discomfort, relieved by movement, symptoms day and night
- **Parasomnias:** abnormal sleep behaviors
- **Circadian Rhythm Disorders:** sleep clock not in harmony with the environment

Restless Legs Syndrome (RLS)

- Urge to move legs, discomfort at rest, worse at night, relieved by movement
- Affects 10% of population, women more
- Severity: mild, 7%, to incapacitating, 3%
- Familial or Primary, often begins in childhood; 2ary: other disorders present
- Disruptive of social activities and sleep
- Common, easily diagnosed, and treatable

RLS and PLMD

- Periodic Leg Movement Disorder, PLMD
- Involuntary leg movements while *asleep*
- RLS occurs while *awake*, but 80% PLMD
- Both PLMD and RLS can disrupt sleep
- Leg movements are common during sleep
- Need sleep study to diagnose PLMD but not RLS
- Same treatment for PLMD and RLS

Good Sleep Hygiene: Basics

- 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 bedtime
- Test: spontaneous bedtime and rise time

Multiple Sclerosis & Sleep Problems

- Sleep Problems present before MS: can worsen
- Sleep Problems caused by MS: can be managed
- Sleep Problems develop independent of MS: often complicated by MS

Multiple Sclerosis & Sleep Problems

- Insomnia & Sleep Apnea
- Daytime Sleepiness & Fatigue
- Disruptions during Sleep
- Anxiety and Depression
- Neurological complications of MS

MS & Insomnia

- Primary Insomnia: present before MS
- Insomnia due to MS: improves with better treatment of MS symptoms at night
- Depression / insomnia: before or after MS
- Urge to urinate: bladder, prostate, etc.
- Sleep apnea sometimes causes insomnia
- Medications: some antidepressants, stimulants

Insomnia due to MS: Causes

- Leg and bladder spasticity
- Pain syndromes
- Respiratory muscle weakness: *upper* airway (**throat**): aspiration, sleep apnea
- Respiratory muscle weakness: *lower* airway (**lungs**): ventilation (hypoxemia)
- Environmental: temperature & humidity

Frequent Urination

- Causes: light sleep, bladder problem, prostate problem, drugs, infections
- Light sleep: insomnia, Sleep Apnea, PLMD
- Consider urological evaluation
- Avoid too much fluids, salt, diuretics, alcohol, caffeine
- Consider sleep study (polysomnogram)
- Medicines for bladder (Detrol, Ditropan) 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, sad
- Depression: before or after MS; problem recognizing, admitting to illness
- Drugs are effective in treating both
- Treat chronic insomnia: behavioral therapy
- Beware: anti-anxiety drugs & sleepiness; anti-depressants & insomnia

Drugs and Insomnia

- Anti-depressants: Prozac, Celexa, Zoloft, Paxil, take in the morning or add sedating one at night: trazodone
- Stimulants for fatigue: methylphenidate, though modafinil better
- Coffee, alcohol, tobacco: avoid

Primary Insomnia: Before MS

- Insomnia: inability to get to sleep, stay asleep, wakes up early, with daytime impairment
- Acute Insomnia (<4 weeks): stress, illness
- Sleep medicines work well in acute stage
- Chronic Insomnia: >4 weeks, often years
- Treat basic problem: >60% psychological
- Psychotherapy and behavioral therapy better than medicines, not easy to treat
- Psychologists, Psychiatrists, PCP

Treatment of Chronic Insomnia

- Sleep Hygiene: avoid coffee & alcohol, sleep in a quiet, dark, cool room, eat lightly before bed regular sleep hours, avoid day naps, exercise
- Restriction: only go to bed when ready to sleep, if in bed sleep 90% of the time; out of bed and bedroom if awake over 20 min
- Stimulus control: simple bedroom furniture and bedroom strictly for sleep
- Proper perspective: good if adequate sleep over 75% of the time, don't exaggerate the problem

Treatment of Chronic Insomnia: Sleeping Pills

- Anti-histamines: available over the counter
Benadryl (diphenhydramine)
- Sedating anti-depressants: trazodone
- Sedatives: temazepam (Restoril), triazolam (Halcion), flurazepam (Dalmane)
- Specific drugs: Ambien (generic), Ambien CR (not generic), Lunesta, short acting but expensive; Rozerem (not habit forming)
- Natural Substances: melatonin, valerian root, chamomile tea, lavender, kava, jazmine scent, little to no proof that they help, side effects

Day Time Sleepiness

- Insomnia due to MS: leg spasticity, urination, pain, neuromuscular weakness
- Drugs: anti-anxiety & antispasmodics for legs or for bladder dysfunction
- Sleep Apnea: poor sleep quality
- Restless Legs Syndrome / Periodic Leg Movement Disorder
- Primary Insomnia: hyperarousal, little daytime sleepiness

Drugs and Daytime Sleepiness

- Muscle Relaxants: baclofen (Lioresal), tizanidine (Zanaflex), dantrolene (Dantrium)
- Anti-anxiety: alprazolam (Xanax), clonazepam (Klonopin), lorazepam (Ativan)
- Drugs for bladder dysfunction: oxybutynin (Ditropan), tolterodine (Detrol)
- Manage: change drug, lower dose

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

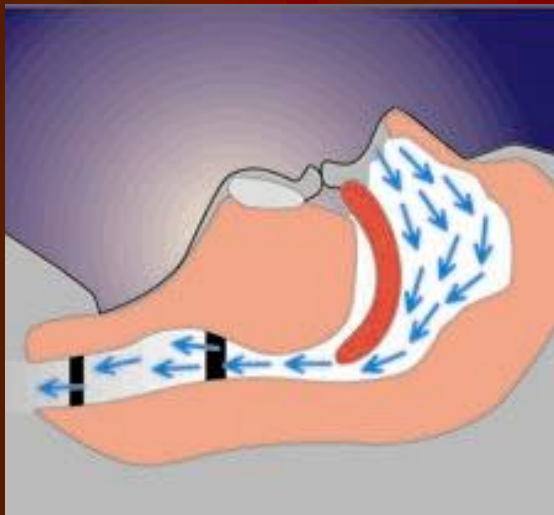
- During **night**: snoring, snorting, gasping, difficult or stops breathing, wife worries
- During **day**: sleepy, tired, depressed, irritable, impotent, forgets, sometimes few complaints
- More *accidents*: work, home, motor vehicle
- Higher death rates with severe sleep apnea
- Hypertension, Congestive Heart Failure
- Heart Attacks, Strokes, Atrial Fibrillation
- Promotes *Obesity* and *Diabetes*
- Problems: at night, during day, risk factor

Obstructive Sleep Apnea

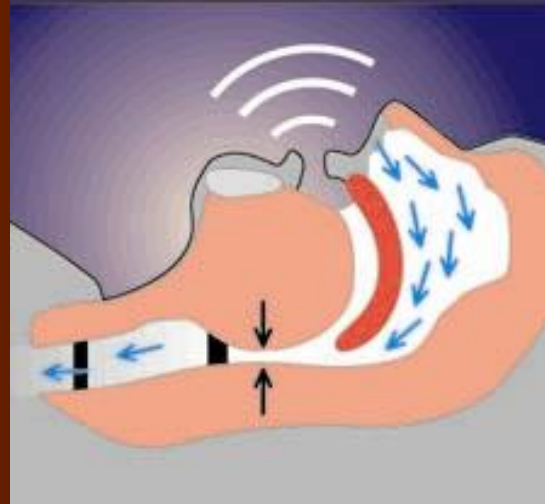
What is OSA?

- Cessation of airflow with ongoing respiratory effort

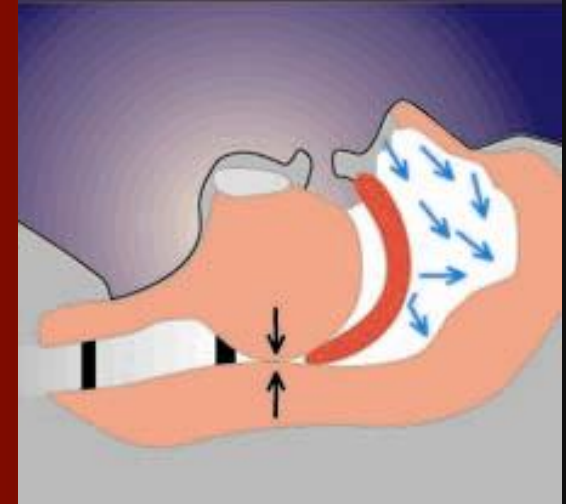
• **NORMAL**



SNORING



SLEEP APNEA



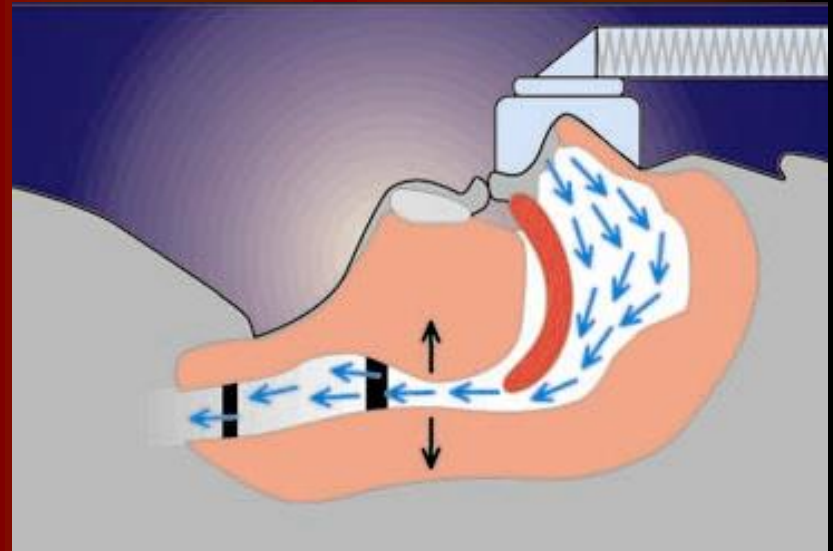
Sleep Apnea: Treatment

- 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 (Bob Eisenhauer, 259-1485)
- 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, also**
- **Feel better during the day: less sleepiness and fatigue, more energy, less accidents**
- **Reduce risk factor for heart disease and strokes**
- **Control better: obesity, diabetes, hypertension**
- **Bed partner sleeps better: less noise and less worry (but dog is scared of CPAP)**

Neuromuscular Weakness: Breathing & Sleep in MS

- Weakens throat and/or lungs (diaphragm)
- Advanced disease, night problem, not day
- Sleep apnea, aspiration, speech & eating problems, shortness of breath
- Infections: aspiration, weak cough
- Night: low oxygen, high carbon dioxide: sleep disruptions, insomnia
- Management: **head elevation** 35 angle, avoid bedtime eating , **BIPAP, Oxygen**

Summary: Sleep Disorders & MS

- Majority of MS Patients have sleep disorders, but the majority are easily diagnosed and treated
- Most common disorders: depression, pain, sleep apnea, leg & bladder spasticity, restless legs, anxiety, poor sleep hygiene, drug side effects
- Fatigue and daytime sleepiness are hard to distinguish
- Neuromuscular weakness at night easily missed

Websites

- American Sleep Apnea Association: www.sleepapnea.org
- National Multiple Sclerosis Society:
www.nationalmssociety.org
- Restless Legs Syndrome Foundation: www.rls.org
- National Sleep Foundation: www.sleepfoundation.org
- American Insomnia Association:
www.americaninsomniaassociation.org
- National Institute on Neurological Disorders and Stroke:
www.ninds.nih.gov
- Village Sleep Lab www.villagesleeplab.com (Dr. Albino,
coming in February, 2008)

Books

- *Multiple Sclerosis: A Guide for the Newly Diagnosed* by Nancy J Hollard et. al.
- *The Promise of Sleep* by William Dement
- *Sleeping Well* by Michael Thorpy
- *The MS Workbook: Living Fully with Multiple Sclerosis* by George H. Kraft et. al.
- *A Woman's Guide to Sleep Disorders* by Meir H. Kryger
- *Say Good Night to Insomnia* by Gregg D. Jacobs