

# Sleep Dysfunction in Multiple System Atrophy

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MEDICINE

CAPITAL HEALTH SYSTEM

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# Categories of Disturbance

- ▶ Sleep Breathing Disorders
- ▶ Parasomnias
- ▶ Sleepiness
- ▶ Insomnia

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# Breathing?

- ▶ Sleep Apnea (Obstructive vs Central)
- ▶ Stridor – Not just scary for the bed partner
- ▶ Hypoventilation

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# Sleep Apnea

- ▶ Obstructive vs Central
- ▶ Very common and very treatable
- ▶ Why does it matter?
  - ▶ Increased Risk of...
    - ▶ Hypertension
    - ▶ Heart Attack
    - ▶ Stroke
  - ▶ Worsens...
    - ▶ A.fib
    - ▶ Diabetes
    - ▶ High Cholesterol

Not only a disorder of the overweight...



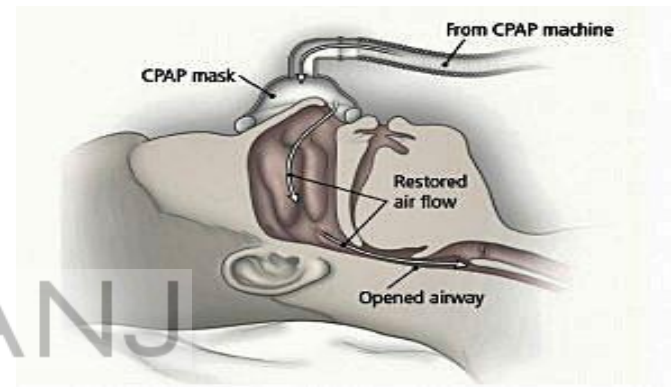
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# Signs and Symptoms

- ▶ Snoring!
- ▶ Snorts and Gasps
- ▶ Witnessed Apneas
- ▶ Multiple Awakenings (Nocturia)
- ▶ Nonrestorative Sleep
- ▶ Morning dry mouth, sore throat or headache
- ▶ Daytime Sleepiness

# OSA: What do we do about it?

- ▶ CPAP vs BiPAP!
  - ▶ Oral Appliances
  - ▶ Positional Therapy
  - ▶ Provent
  - ▶ Surgery
  - ▶ Weight Loss!
- 
- ▶ Hypoventilation?



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# Stridor

- ▶ Wake vs sleep
  - ▶ Suggests overactivity of the vocal cord musculature
  - ▶ Treating aggressively can have significant survival benefits
- ▶ Treatment?
    - ▶ PAP
    - ▶ Tracheostomy



# Parasomnias

- ▶ Usually REM-related
- ▶ Often the “canary in the mine-shaft”
  - ▶ precedes the onset of symptoms by up to 10 years
  - ▶ SSRI effect?
- ▶ DANGEROUS!!!
  - ▶ “Vigorous and violent” at times with multiple episodes through the night
  - ▶ 33-65% of patients with harm to themselves or their bed partner

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# The numbers?

## ▶ RBD

- ▶ 70% of patients with MSA
- ▶ Older data: 38-65% risk of developing synucleinopathy
- ▶ Newer data ?
  - ▶ 33.1% at five years
  - ▶ 75.7% at ten years
  - ▶ 90.9% at 14 years
  - ▶ The median conversion time was 7.5 years.
- ▶ Emerging diagnoses were dementia with Lewy bodies (DLB) in 29/65 subjects, Parkinson disease (PD) in 22, multiple system atrophy (MSA) in two, and mild cognitive impairment (MCI) in 12

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# REM Behavior Disorder

- ▶ Treatment?
  - ▶ Clonazepam
  - ▶ Melatonin
  - ▶ Non-Benzodiazepine hypnotics?

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# REM Behavior Disorder

- ▶ Clonazepam
  - ▶ Generally effective (>80%)
  - ▶ But with side effects...
- ▶ Side Effects?
  - ▶ Sedation
  - ▶ Gait Unsteadiness/Falls
  - ▶ Confusion
  - ▶ Worsening of sleep breathing disorders

# REM Behavior Disorder

- ▶ Melatonin
  - ▶ Conventionally used as a “natural” sleeping pill
  - ▶ Often effective
  - ▶ Safer but not perfect
  - ▶ Doesn't just sedate the person through it
- ▶ Side Effects? (5/14)
  - ▶ Sedation
  - ▶ Confusion
  - ▶ Morning headache

Boeve et al, Sleep Medicine, 2003  
Mcgrane et al, Sleep Medicine, 2014

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# REM Behavior Disorder

- ▶ Non-Benzodiazepines (“Z-drugs”)
  - ▶ Not necessarily effective and with side effects...
  - ▶ Not well studied
  - ▶ REM suppression vs sedate you through
- ▶ Side Effects?
  - ▶ Sedation
  - ▶ Gait Unsteadiness/Falls
  - ▶ Confusion
  - ▶ Worsening of sleep breathing disorders
  - ▶ Other parasomnias

# REM Behavior Disorder

- ▶ RBD IS DANGEROUS!!!!!!!!!!!!!!!
- ▶ Bedroom Safety?
- ▶ Bed partner safety
- ▶ Specific Interventions
  - ▶ Mattress on the floor
  - ▶ Padding corners/moving furniture
  - ▶ Windows?
  - ▶ Guns/knives?
  - ▶ Restraints???– recommend against

# Fatigue vs Sleepiness

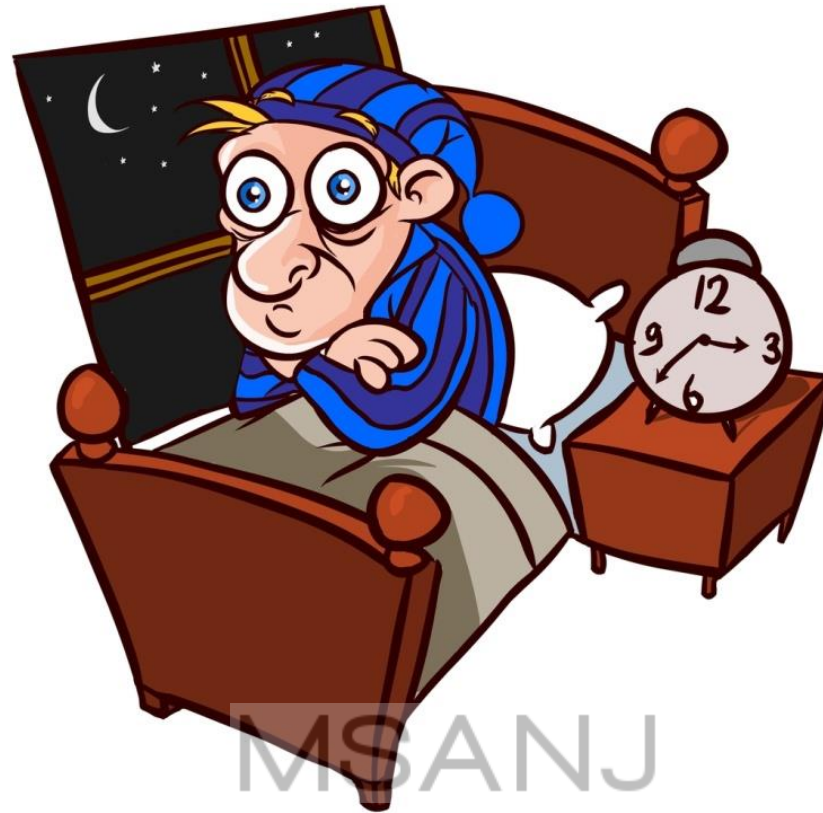


- ▶ 50% of MSA patients
- ▶ Underlying sleep disorders
- ▶ Medication induced
- ▶ Secondary Narcolepsy
  
- ▶ Often treatable!

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# Insomnia



# Eliminate Bad Habits (Sleep Hygiene)

- ▶ Caffeine!
- ▶ Napping!
- ▶ Clock Watching!
- ▶ Alcohol or Nicotine!
- ▶ The bedroom environment



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# Maximize Good Habits (Sleep Hygiene)

- ▶ “Worry Time”
- ▶ Exercise
- ▶ Bedroom Temperature
- ▶ Mental Distraction Techniques
- ▶ Probably equally effective initially\*
- ▶ Effects of drugs wears off if discontinued after 6-8 wks, effect of CBT persists for 10-24 months

# Medications?

- ▶ Older

- ▶ Supplements?
- ▶ Benzodiazepines
- ▶ Sedating Anti-depressants

- ▶ Newer

- ▶ Non-Benzodiazepine Hypnotics (Z-drugs)
- ▶ Melatonin Receptor Agonists

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# Medications vs Behavioral Strategies

- ▶ Each has their place
- ▶ Medications
  - ▶ May be effective in the long run
  - ▶ Risk of tolerance, dependence and side effects
- ▶ Behavioral
  - ▶ Relaxation Training
  - ▶ Cognitive Therapy
  - ▶ Stimulus Control

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# Management of Insomnia: Take Home Messages

- ▶ New drugs safer, but not without side effects
- ▶ Minimal tolerance, minimal withdrawal effects
- ▶ Benefits still modest
- ▶ CBT as effective as drugs; still first line treatment for chronic primary insomnia
- ▶ Drugs are useful if CBT ineffective, unavailable or declined