



Sleep-Related Movement Disorder



SLEEP-RELATED MOVEMENT DISORDERS



- Restless Leg Syndrome
- Periodic Limb Movement Disorder
- Sleep Related Leg Cramps
- Sleep Related Bruxism
- Sleep Related Rhythmic Movement Disorder
- Due to Drug or Substance
- Due to Medical Condition



Restless Leg Syndrome



- A. Patient reports and urge to move the legs, usually accompanied or caused by uncomfortable and unpleasant sensations in the legs
- B. The urge to move or unpleasant sensations began to worsen during periods of rest or an activity such as lying or sitting
- C. The urge to move or unpleasant sensations are partially or totally relieved by movement such as walking or stretching, at least as long as the activity continues
- D. The urge to move or unpleasant sensations are worse, or only occur, and the evening or night



Restless Legs Syndrome



Key Points

NIH criteria

- (1) an urge to move the limbs with or without sensations
- (2) worsening at rest
- (3) improvement with activity
- (4) worsening in the evening or night

Disagreeable leg sensations prior to sleep onset

- Creeping, crawling, tingling, aching or itching
- Feelings abate with leg movement
- Complaints of inability to fall asleep



Restless Legs Syndrome



Key Points

Iron, dopamine and genetics are factors in pathology

- Serum ferritin levels < 50

PSG: Prolonged sleep latency

PLMS: Occur in 80-90% of patients with RLS

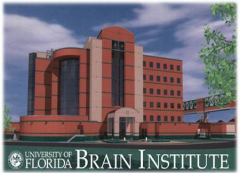
More than 50% of patients with primary RLS report familial pattern

May be precipitated or aggravated by medications

- Antidepressants (except Wellbutrin), lithium, antipsychotics, anti-emetics and other dopamine-receptor antagonists

Treatment

- Dopamine agonists such as ropinirole, pramipexole are first line in most cases unless contraindicated
- Other dopaminergic agents: carbidopa/levodopa or pergolide
- Opioids such as propoxyphene, oxycodone, or methadone, etc.
- Benzodiazepines, which often assist in staying asleep and reducing awakenings from the movements
- Anticonvulsants, which often help people who experience the RLS sensations as painful, such as gabapentin



Periodic Limb Movement Disorder



- A. Polysomnography demonstrates repetitive, highly stereotyped movements that are:
- i. 0.5-5 seconds in duration
 - ii. amplitude greater than or equal to 25% of toe dorsiflexion during calibration
 - iii. In sequence of 4 or more movements
 - iv. Separated by an interval of more than 5 seconds and less than 90 seconds (typically there is an interval of 20-40 seconds)
- B. PLMS index exceed 5 per hour in children and 15 per hour in adults



Periodic Limb Movement Disorder



Key Points

PLMs ↑ in frequency with ↑ age

~ 30-40% of individuals > 50 yo have PLMs;

~ 45% of population > 65yo

Iron deficiency may play role (check ferritin levels)

Also seen with RLS, RBD and narcolepsy

Symptoms include leg cramps & insomnia

May be precipitated or aggravated by medications

Antidepressants (except Wellbutrin), lithium, antipsychotics, antiemetics and other dopamine-receptor antagonists

Typically only treat if concurrent RLS or symptomatic PLMD

Treatment

Dopamine agonists such as ropinirole, pramipexole are first line in most cases unless contraindicated

Other dopaminergic agents: carbidopa/levodopa or pergolide

Opioids such as propoxyphene, oxycodone, or methadone, etc.

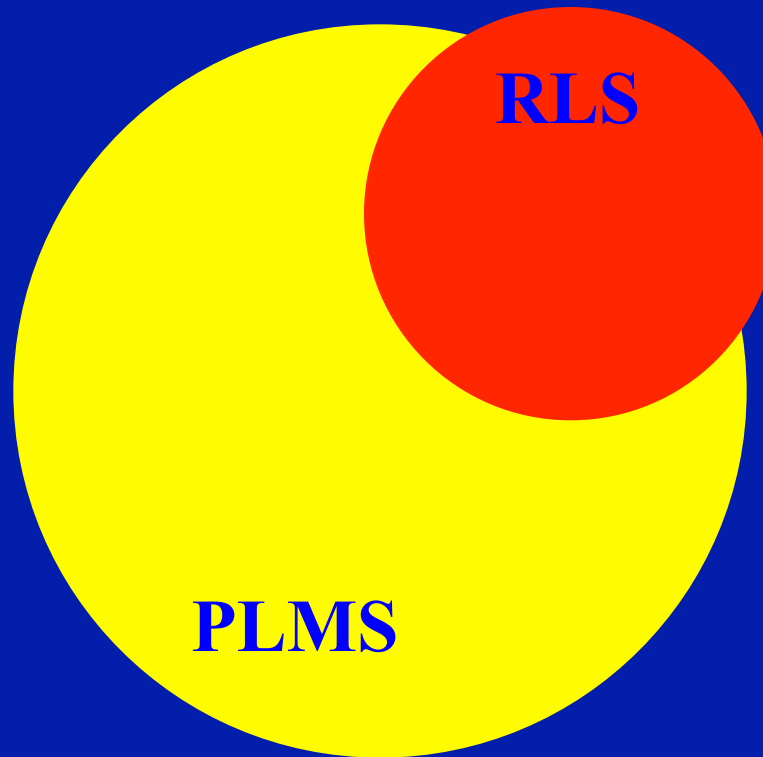
Benzodiazepines, which often assist in staying asleep and reducing awakenings from the movements



Relationship Between RLS and PLMS



70%-90% of patients with RLS have increased PLMS



Only 30% of patients with PLMS have RLS



Sleep Related Bruxism



- A. Patient reports or is aware of tooth grinding sounds or tooth clenching during sleep
- B. One or more of the following is present:
 - i. Abnormal wear of teeth
 - ii. Jaw muscle discomfort, fatigue or pain and jaw lock upon awakening
 - iii. Masseter muscle hypertrophy upon voluntary forceful clenching



Sleep Related Bruxism



Key Points

Rhythmical grinding of teeth during sleep; clicking noise in 20% of cases

Repeated episodes lasting seconds (usually 20-30 sec)

Severe tooth wear, pain, and TMJ in 5-10%, and another 10-20% have minor sx's

Most unaware of symptoms during night and only few have EDS; usually more bothersome to partners and dental dysfx; masseter muscle hypertrophy & pain

Occurs during arousals from all stages of sleep (both REM and NREM)

Most common in kids and adolescence; 20% of general population (up to 88% of kids); effects men:women equally

Meds that worsen bruxism include:

- SSRIs

- Nicotine

Biologic Basis

- unknown

- + FH increases risk

- usually associated with anxiety, stress, or depression

Treatment:

- no good treatment and most lack scientific basis

- treatments include:

- Malocclusive devices (although recent literature shows these are not warranted)

- Psychotherapy/ hypnosis

- Muscles relaxants (BZDs)

- NSAIDs