

Periodic Limb Movements

Periodic Limb Movement Syndrome: a neurological condition characterized by involuntary movements of the legs during sleep and sometimes wakefulness.

People with periodic limb movements may become very sleepy during the day because the movements disrupt their sleep throughout the night.

Features

This sleep disorder is roughly divided into two categories: Periodic Limb Movements of Sleep (PLMS) and Periodic Limb Movements of Wakefulness (PLMW). PLMS is far more common. PLMW occurs most often in those with severe PLMS.

PLMS movements may vary from slight to strenuous. A common movement is for the big toe to extend. The foot, ankle, knee, or hip may also bend slightly. Movements are not just limited to the lower extremities. Some people experience this condition in their arms or torso. Symptoms vary from person to person, and from night to night. Episodes usually last anywhere from a few minutes to an hour.

Diagnosis

When symptoms interfere with sleep or other activities, especially if you are tired during the day, it may be time to consider a sleep evaluation.

Keeping a log of your sleep habits and rating the quality of your sleep with the Epworth Sleepiness Scale will demonstrate how periodic limb movements interfere with sleep.

Although it is not always necessary, an overnight sleep study at an accredited sleep lab will assess how your arms and legs move. It will also record brainwaves, heart rate, and additional muscular movements, which may be helpful if another sleep disorder

is suspected.

Treatment

Periodic Limb Movement Syndrome may be treated with a combination of medication and behavioral modifications .

Behavioral Modification: Regular exercise such as walking, riding an exercise bicycle, or swimming may reduce or eliminate PLMS, particularly if Restless Legs Syndrome is part of the problem. Massaging the legs and soaking in a hot tub prior to bedtime may also help.

Medications: Several medications are available to treat PLMS. Many of these drugs are also used to treat RLS or a combination of both conditions:

Dopamine Replacement: a group of drugs that reduce muscular movement by replacing a chemical messenger in the brain called dopamine. They include: Pramipexole (Mirapex), Ropinerole (Requip), and very often a combination of Carbidopa and Levodopa (Sinimet).

Opioids: narcotic medications, which reduce muscular movements by inducing sleep, but which can also be addictive. They include: codeine, the combination of Oxycodone/ Acetaminophen (Percocet, Roxicet), and the combination of Hydrocodone/ Acetaminophen (Lortab, Vicoden).

Benzodiazepines: muscle relaxants and sleep medications, which may improve sleep but may not eliminate leg sensations.



I never feel rested, even though I slept all night.

I feel tired during the day.

I have trouble remembering things.

I have no energy.

I am depressed.

These body movements tend to involve my lower legs and possibly my arms.

These body movements are small, brief, or pronounced.

Do I have Periodic Limb Movements?

I have been told that my body moves repetitively during sleep.

PLMS Mechanics

Periodic Limb Movement Syndrome may be primary (occurring by itself), or secondary to a medical problem. The etiology or cause of primary periodic limb movements is unknown. It has been linked to a communication problem between the brain and limbs. Specifically, there is an abnormality in the regulation of nerves (neurotransmitters) that travel between the brain and the limbs. The exact nature of these abnormalities is not known.

It is important to remember that persistent sleep disruption-including disruptions due to PLMS or RLS are not a normal part of aging.



SleepCaptions

Risks for PLMS

- ✓ Family history/genetics
- ✓ Restless Legs Syndrome
- ✓ REM Sleep Behavior Disorder
- ✓ Sleep Apnea
- ✓ Narcolepsy
- ✓ Spinal cord injury
- ✓ The use of certain medications

Effects of PLMS

- ✓ Chronic daytime tiredness
- ✓ Fatigue
- ✓ Depression
- ✓ Short attention span
- ✓ Poor job or school performance

Need more information?

Visit the SleepMedicine Education web site at: sleepmedicineeducation.com for additional publications. See also:

SleepIssues: "Can't Sleep?"

SleepGuides: "Treating Sleep Disorders"

To schedule an appointment at any Sleep Medicine Centers location, visit www.sleepmedicinecenters.com or call:

(716)92-DREAM

(877)53-SNORE



Did You Know?

According to a study by the Stanford Sleep Epidemiology Research Center, PLMS and RLS are prevalent in the general population.

The journal Sleep Medicine Reviews reports that the prevalence of periodic limb movements in adults is estimated at 4-11%.

PLMS in children is frequently associated with low serum iron as

well as low serum ferritin levels, according to a study by Tulane University School of Medicine.

A study published in the Journal Sleep found a higher prevalence of PLMS in caucasians (9.3% of participants) than African-Americans (4.3% of participants).