



What are Restless Legs Syndrome (RLS) and Periodic Limb Movement Disorder (PLMD)?

Restless Legs Syndrome (RLS) is characterized by a recurrent, peculiar, and unpleasant feeling in the legs; it is often described as a "creeping, crawling" feeling. Typically, this sensation is felt in the calves, although it can occur anywhere from the thigh to the ankles and even in the arms. These sensations occur when a person lies down or sits for prolonged periods of time. RLS symptoms tend to worsen during periods of relaxation and decreased activity, often with the evening hours being the most troublesome.

Getting to sleep can prove to be very difficult for people with RLS, as they frequently experience an irresistible urge to move their legs when the sensations occur. Often a person will find that moving their legs, walking, stretching, or massaging their legs can bring temporary relief; however, the symptoms typically return as soon as a person becomes stationary again.

Many people with RLS also have a related condition called **Periodic Limb Movement Disorder (PLMD)**. PLMD is characterized by repetitive involuntary body movements during sleep, particularly jerking, twitching, or thrusting of the limbs. Hundreds of these movements can be experienced each night, making it almost impossible to get enough restful sleep for the person suffering from this condition, as well as for their bed partner.

People who suffer from RLS and PLMD often have trouble falling asleep, staying asleep, and obtaining restful sleep. People with these conditions may present with insomnia and will often complain of extreme daytime sleepiness and lower back pain, all of which can cause significant distress in various areas of their life.



What Causes RLS and PLMD?

Although the exact cause of RLS is not known, it appears that there are several factors associated with this disorder. RLS is a sleep-related neurological disorder and is influenced by factors such as: family heredity, pregnancy (symptoms can occur in the later stages of pregnancy and subside after delivery), vitamin or mineral deficiencies (e.g. low iron or calcium levels), chronic diseases (e.g. hypothyroidism, kidney disease, rheumatoid arthritis, and diabetes), fatigue, back problems, and substance use (i.e. some medications, as well as caffeine, nicotine, and alcohol use). Some environmental factors include prolonged exposure to extreme temperatures (either very hot or cold temperatures).

The same factors that are associated with RLS are also associated with PLMD. However, PLMD is more common among people who have kidney disease or sleep disorders such as RLS, narcolepsy, and sleep apnea. Also, the use of certain medications can increase the frequency of limb movements.



What is the Treatment for RLS and PLMD?

A person should seek help from a health care professional if they are having difficulties with their sleep, if they are experiencing a lot of discomfort, or if these problems are causing significant distress to their daily functioning or quality of life. It is essential that a proper diagnosis be made so that a person can get the appropriate treatment for their condition.

The assessment of RLS involves an in-depth clinical evaluation, including a review of a person's medical history, and possibly a physical exam and blood work. PLMD, which often coincides with RLS, requires the same clinical evaluation as well as objective overnight testing to substantiate the diagnosis of this condition. This requires the expertise of a health care professional, preferably a sleep specialist, as the objective testing can only be done in a sleep laboratory equipped with the necessary facilities. The most common diagnostic test used for the evaluation of PLMD is the Nocturnal Polysomnogram (PSG). The PSG is a night time study that monitors sleep, including a person's physiological cues, such as brain wave activity, muscle and eye movements, leg and/or arm movements, as well as heart and breathing rates. This testing is also critical in excluding other sleep disorders that might be contributing to an individual's sleep difficulties.

Once a diagnosis has been made, treatment is essential for the management of RLS and PLMD. Examples of such treatments include:

- **Medications** – treatments to date may involve the use of central nervous system depressants (for mild forms of RLS and PLMD), other medications known as dopaminergic agents (medications that inhibit abnormal movements by enhancing dopamine levels in the body), or additional medications used to manage pain and induce relaxation.
- **Sleep Hygiene** – involves developing a set of good sleep habits to obtain quality sleep at night, and discourage any behaviours that might make the situation worse.
- **Behaviour Modification** – interventions designed to incorporate helpful habits for the management of this condition (e.g., exercise, massaging the legs, taking hot baths, eliminating caffeine use, etc.). It can also incorporate the use of supplements, such as iron, calcium, and magnesium to minimize the symptoms associated with these conditions.





The Canadian Sleep Institute's 10 Commandments for a better sleep

If getting a better night's sleep is your goal, and underlying medical conditions are not an impediment, you may achieve success by following the Ten Commandments of Sleep Hygiene:

1. Schedule a relaxing period before going to sleep, to separate your body and mind from the day's hassles.
2. Use your bedroom primarily for sex and sleep, and not as an all-purpose activity area.
3. Your bed should be comfortable, large enough, in a quiet, dark room, and at the right temperature.
4. Keep a regular schedule, going to bed and getting up at the same time each day. Don't go to bed until you feel sleepy.
5. Be consistent about taking naps. Take one regularly or not at all.
6. Exercise regularly in the morning or early afternoon, but do not engage in strenuous activity late in the evening. A relaxing, mild physical activity might be helpful close to bedtime.
7. Assess your caffeine intake, and avoid caffeine after 2 p.m. Smoking close to bedtime or at night causes further sleep disruption.
8. Don't use alcohol or drugs, such as sedatives. While they might help you initially fall asleep, they lead to sleep disruption and deprive you of deep sleep (at times, even for years).
9. If you feel hungry in the evening, have a light snack or a glass of milk. Heavy meals close to bedtime can result in discomfort and further sleep disturbance.
10. Above all, do not try too hard. If you can't fall asleep, don't lie in bed anxious and frustrated. Leave your bedroom to read, watch T.V. or do something else to relax, going back to bed only when you feel sleepy again.

- Adam Moscovitch, MD, FRCP (C), ABSM

The Good News:

Sleep specialists are in a position to properly diagnose and treat RLS and PLMD. Patients who seek appropriate diagnosis by a qualified sleep specialist can manage their condition and resume a perfectly healthy and normal life. Our specialists at the Canadian Sleep Institute are experienced and well trained in the assessment, diagnosis, and treatment of these conditions, along with a host of other sleep disorders. If you feel that you could benefit from seeing a sleep specialist, call us for more information or have your family physician refer you to:

Canadian Sleep Institute

#300, 295 Midpark Way SE
Calgary, Alberta Canada T2X 2A8
Phone: (403) 254-6400 Fax: (403) 254-6403
Website: www.csisleep.com



Canadian Sleep Institute

The Canadian Sleep Institute is a leading centre of excellence in the provision of clinical care, diagnostic services, corporate consulting, clinical research, and education in the area of sleep and fatigue disorders. Our full-service, community-based sleep centre serves a patient population from across Western Canada, and is accredited by the College of Physicians and Surgeons of Alberta to assess, diagnose, and treat the full spectrum of over eighty sleep and fatigue disorders.

Our fully qualified team of clinicians, headed by a board-certified sleep physician, is focused on providing comprehensive, coordinated, inter-disciplinary care in the most convenient, accessible, and cost-effective manner available. We feature a state of the art, four-bedroom, overnight sleep diagnostic facility in a comfortable atmosphere and residential hotel-like setting. We also provide a full-service CPAP clinic and follow-up care program for those patients with sleep apnea and related conditions.



Canadian Sleep Institute
Better Health Through Better Sleep

Restless Legs Syndrome and Periodic Limb Movement Disorder

Answers to Questions

and information about

Sleep and RLS/PLMD.

