

How can RLS and Periodic Limb Movement Disorder be treated?

For RLS, sometimes distraction techniques may be helpful. Hot or cold compresses to the legs, massaging the legs, or even working on the computer may be helpful. It is also important to avoid factors that are known to make these symptoms worse, such as alcohol, caffeine, and nicotine.

Another important factor to address is low iron levels, which may be a causative factor in RLS (see the section above on “What Causes RLS?”). Iron levels can be assessed using a blood test called serum ferritin. If the ferritin level is low, or even low normal, iron supplements may be helpful in addressing RLS symptoms.

Several medications have also been shown to be effective in treating the symptoms of RLS and PLM-D. Generally, the most effective medications are the dopamine replacement drugs. The most commonly used are Ropinirole (Requip) and Pramipexole (Mirapex). Up to 80% of patients may benefit from use of these medications. Generally these need to be used everyday. If symptoms occur less than 3 times a week, a medication such as levodopa/carbidopa (Sinemet) may be used just when symptoms occur, rather than every night. These medications are generally well tolerated, with nausea, nasal stuffiness and leg swelling being the most common side effects. Blood pressure may also drop when going from lying to standing, so patients should exercise caution when rising from bed. Sometimes, they can also cause insomnia or excessive daytime sleepiness. As a result, one should exercise caution before driving, if beginning these medications.

Although generally very effective, dopamine replacement medications can cause significant problems for a minority of patients. Some may develop “augmentation”, where RLS symptoms occur progressively earlier in the day. Alternatively, sometimes symptoms can begin to occur in the early morning, something called “rebound”. In some people, a paradoxical worsening of overall RLS symptoms may occur after

a prolonged treatment response. The medication may have to be stopped if any of these effects occur. As a result, these medications should only be used for severe RLS and should be used with physician supervision.

Another medication that has been shown to be helpful for RLS symptoms is Gabapentin (Neurontin). The exact mechanism by which this medication helps RLS symptoms is not known. Other medications that can be very helpful include the sedative hypnotics, such as Clonazepam (Rivotril), or powerful narcotic pain killers. However, these medications have addictive potential, and should be used cautiously and only with physician supervision.

For more information, visit the Restless Legs Syndrome Foundation website at www.rls.org.

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Disclaimer: The information provided in this brochure is only intended to be a general summary. It is not intended to take the place of a medical consultation. If you need specific advice about a sleep disorder please seek a professional who is licensed or knowledgeable in that area.

Restless Legs Syndrome (RLS) and Periodic Limb Movement Disorder (PLM-D) during Sleep



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What is Restless Legs Syndrome?

People with **Restless Legs Syndrome (RLS)** experience an uncomfortable sensation in their legs, associated with an urge to move. The sensation can be hard to describe, but people often use the following terms:

“Creepy crawly”
“Heebee Jeebees”
“Electricity in the veins”
“Aching”
“Growing Pains”
“Coca Cola in the legs”
“Nervous legs”
“Itching”
“Like I have to move”

The sensation usually comes on at night, and can interfere with sleep. It typically starts in the calves and affects both legs. Occasionally, other parts of the body such as the arms or even trunk may be involved. The sensation improves with movement, and sometimes people have to get out of bed and walk around. Unfortunately, it tends to recur when they go back to bed. Prolonged periods of rest – such as long car rides, plane rides, or sitting in a movie theatre – may also bring on the symptoms.

Who Gets RLS?

Studies indicate that 5 to 15% of people have RLS. Women are 2 to 3 times more likely than men to be affected. Symptoms can begin at virtually any age, although the average age of onset is in the late twenties and early thirties.

For some people, however, symptoms can start in the teens or earlier. In these cases, symptoms can be chronic, and may slowly get worse. The symptoms may wax and wane over time. They may recall having to rub their legs to go to sleep at night; many attribute these symptoms to “growing pains”. Often, other family members may have the same symptoms, strongly suggesting that genetics are involved. For others, symptoms might develop later in life, perhaps in

their forties or fifties. These people will often experience a faster progression of their symptoms. RLS in general seems to be more common in older populations.

What Causes RLS?

The precise cause of RLS is unknown. There is evidence that RLS is related to a deficiency of a brain chemical called dopamine. One of the strongest pieces of evidence for this theory is that patients often experience a dramatic improvement in their symptoms when they receive a dopamine replacement drug. Of note, it is known that the brain needs iron to make its own dopamine. As a result, people without enough iron in their bodies are more likely to have RLS. Low iron levels are frequently related to blood loss, so those who lose blood through the stool, have heavy periods, have had recent surgery, or donate blood frequently can be at increased risk for having RLS. Pregnant women are also at increased risk for RLS, perhaps because of a shared iron supply between mother and fetus.

New research also strongly implicates several genetic factors in the cause of RLS, and a related disorder called Periodic Limb Movement Disorder (PLM-D, see below). Recent research, conducted on a large group of patients from Iceland and the United States, implicates a very specific part of chromosome 6 in the development of RLS and Periodic Limb Movement Disorder. This gene sequence may explain up to 50% of the risk of RLS with PLM-D, thus indicating that there is a strong genetic component to RLS and PLM-D and suggests that other genes may be involved.

Several other factors make RLS symptoms worse. Some of these factors include smoking, caffeine use, and nerve damage from other diseases such as diabetes, and kidney failure. Other metabolic factors that may be involved in the development of RLS include inadequate body stores of vitamin B12 and magnesium.

Is RLS bad? What if I just leave it alone and live with it?

For some patients, RLS symptoms may occur

only occasionally, and may disappear spontaneously, while others may experience a progressive worsening of their symptoms over years. Occasional symptoms of RLS may not require treatment, but RLS should be treated if the symptoms frequently interfere with sleep. Most people can fall asleep within 30 minutes of turning the lights out, but more than two thirds of people with RLS are unable to do so. Some people with RLS cannot fall asleep for hours, because their leg symptoms are so bothersome. Other studies have shown that people with untreated RLS have a significantly lower quality of life in terms of general pain, physical functioning, social functioning, and emotional difficulties. Additional studies have suggested links between RLS and high blood pressure, heart disease, decreased sexual interest, depression, and lower mental health scores.

My legs twitch during the night. My partner is bothered by them but I don't remember them. What is this?

Legs “twitching” in the middle of the night may be something called **Periodic Limb Movement Disorder (PLM-D)**. In the past, this was also called nocturnal myoclonus. Many people will have periodic limb movements in sleep, whereby the legs will twitch for up to a few seconds, every 5 to 90 seconds, though sometimes these movements can appear random. Occasionally, the arms or trunk may also be involved. The movements tend to occur in the first half of the night. Patients may not be aware of the movements, but sometimes they find that the bed covers are extremely messy in the morning. In some people, these movements contribute to insomnia or excessive daytime sleepiness.

Are Periodic Limb Movements related to RLS?

Yes. Up to 80% of patients with RLS will also have periodic limb movements in sleep. However, only a minority of people with periodic limb movements, perhaps 20%, have RLS. The same things that worsen RLS will worsen periodic limb movements. The underlying cause is thought to be similar, if not identical. Treatment of both conditions is also similar.