

Restless Leg Syndrome

You should be counting sheep to go to sleep—instead your legs are making you chase them!

by Margy Squires



What if every time you tried to sit or lie down for a while, something strange happens to your legs? There's a weird biting or creeping inside.

The more you try to keep them still, the stronger the urge becomes until you finally give in and move. Funny thing, the sensations quiet down or stop.

For the many with Restless Leg Syndrome (RLS) the above scenario isn't so strange. Early morning and mid-day symptoms may be mild and ignored. However, at night when the world is winding down, RLS begins acting up. If RLS progresses, the profile changes. Symptoms invade the daytime hours and occur more frequently instead of once or twice a week. Leg pain may develop. Eventually, the inability to rest or sleep "catches" up to you in fatigue, cognitive decline and the ability to function in normal activities. Your life, work and relationships change, too. Sleep, then, may be the number one RLS factor to change.

WHAT CAUSES RLS? Scientists are not sure but several things are known. RLS can be primary (occur alone) or secondary (with or because of another condition). RLS involves faulty dopamine metabolism. Dopamine is a neurotransmitter that facilitates alertness, movement and mood but requires iron for synthesis. Low iron is seen in certain areas of the brain on MRI. Abnormal dopamine activity is confirmed on PET scans, perhaps due to low iron. Prolonged iron deficiency may cause an irreversible dysfunction as replacement relieves RLS in some but not others. RLS can also affect other muscles in the trunk, neck and arms. In July 2007, a gene variant for RLS was found suggesting RLS is familial. Some have had RLS since childhood. RLS affects more women than men; 25% experience symptoms in the last trimester of pregnancy. A sleep specialist or neurologist may be helpful for diagnosis, but as there is no definitive test for RLS, your family physician who knows you best can just as easily handle evaluation and treatment.

WHAT RLS IS NOT. Periodic leg movement disorder (PLMD), is sometimes confused with RLS due to its similar nocturnal nature. While a person sleeps, involuntary leg jerks cause frequent kicking action through the night. Unlike RLS, it does not affect a person's ability to fall asleep. Leg cramps or "charley horse" are often mistaken for RLS. Peripheral neuropathy, damage to nerves in the extremities, mimics prickly RLS sensations. Other similar and sometimes overlapping conditions include type 1 Chiari malformation, ME/chronic fatigue syndrome, Parkinson's, fibromyalgia and ADD/ADHD. Treating any co-existing conditions will often reduce RLS symptoms.

TREATMENT

There are a number of non-drug options, although studies are small and limited. Author and neurologist Dr. Mark J. Buchfuhrer writes, "Before attempting to use drugs for RLS, it is worthwhile to try the nondrug approach, including avoidance of factors that can trigger symptoms". RLS varies in degrees of severity and overlapping conditions, so be persistent. Keep a diary and share your findings with your doctor.

SUPPLEMENTS. Given an iron deficiency in RLS, the first step is to check ferritin iron, B-12, folate and magnesium levels. Serum ferritin levels lower than 45 mcg are associated with an increase in RLS symptoms. (A physician should monitor your iron). Both B-12 and folate are needed for iron utilization. Magnesium is a key neuromuscular mineral for relaxation. Too tight muscles may initially relax but then contract again in a reactive spasm or cramp. A combination

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of calcium and magnesium before bed may help. Vitamin E at bedtime also lessens nighttime RLS. B vitamins support the nervous system and stress, best taken during the day or they may keep you awake. L-tyrosine (a pre-cursor to dopamine), Kava and St. John's wort may help as well, day or night.

LIFESTYLE. Modify any habits, activities, diet and medications that worsen or trigger symptoms. Certain drugs for hypertension and heart disease, nausea, cold and allergy, seizures and depression can affect RLS negatively as does some SSRIs and SNRIs that influence serotonin. Stimulants as caffeine, chocolate and nicotine are neuro-excitatory. Alcohol exacerbates symptoms and interferes with sleep. Positive changes to activity such as mild stretching and walking make a difference. A small study in 2006 found that three days a week of aerobic exercise combined with lower body resistance training reduced symptom severity by about 50%. Stick with it as it takes about six weeks to see maximum benefit. Strenuous exercise, on the other hand, made RLS worse. For sedentary activities, step up the alertness factor. Engage your mind in a good book, movie, crossword puzzles or lively conversations with friends. Improve habits that are calming and induce sleep such as warm baths, leg massage and relaxation techniques before bedtime.

EDUCATION. Get educated. Visit the list of resources and take charge of your body by learning how to help yourself. Consider a support group as there is strength in numbers and in sharing. When you know the facts, it's easier to take a pro-active role.

ABOUT DRUGS. Currently sleep or the lack of is one of the biggest issues with RLS. Studies suggest that as much as 68% take 30 minutes or more to fall asleep and almost as many wake during the night. Symptoms can also interfere with resting or relaxing during the day. Most drug therapy is suggested for moderate to severe RLS because of the side effects. One drug of televised commercials affects dopamine, the neurotransmitter responsible for alertness. Its own website warns that you can “fall asleep without any warning, even while doing normal daily activities, such as driving”, “hallucinations may occur” and “you may feel dizzy, sweaty or nauseated upon standing up”. Studies show L-dopa, a dopamine precursor, increases the risk of augmentation of RLS symptoms in duration, frequency and severity. Prescribed anticonvulsants and muscle relaxants may help with sleep but sedation is an issue for daytime use.

LASTLY, SLEEP. The ability to get to sleep is problematic in RLS. Valerian root extract may be an option by influencing gamma aminobutyric acid (GABA), a neurotransmitter that “calms” down nerve cells from being too active. Benzodiazepines are often prescribed to influence GABA as an anticonvulsant and sleep aid. Valerian has been shown to increase GABA production, interfere with its breakdown and slow down its re-absorption. Unlike benzodiazepines,

valerian does not cause next day drowsiness or hangover, and when discontinued, does not have “rebound” insomnia. To be effective, take a product with a standardized valerianic acid content (0.8%). Valerian also has the added benefit that it can be taken safely during the day without the sedative drawback of drugs. What's more, valerian actually helps maintain alertness, as evidenced in ADD/ADHD studies for children. Another herbal helper is capsaicin if leg pains bother or wake you. Applying capsaicin cream may reduce substance P, a neurotransmitter that reinforces pain signaling. Finally, know that sometimes it takes several therapies in combination—herbal, nutritional and lifestyle modifications—to fully achieve relief and one answer does not “fit all”.

The 4 Diagnostic Criteria for RLS

- 1 A strong urge to move your legs which seems irresistible and often accompanied by uncomfortable sensations. Sensations are described as: *creeping, itching, pulling, creepy-crawly, tugging, or gnawing.*
- 2 Symptoms start or become worse at rest. The longer you rest, the greater the chance symptoms will occur and the more severe they are likely to be.
- 3 Symptoms get better as soon as you move your legs and relief persists as long as you keep moving. Relief may be partial or complete.
- 4 Symptoms are worse in the evening, especially when lying down. Activities that bother you at night do not bother you during the day.

Source: RLS Foundation

Resources

1. Buchfuhrer, MJ. *Restless Leg Syndrome*. 2007, American Academy of Neurology Press, New York.
2. Yoakum, R. *Restless Leg Syndrome: Relief & Hope*. 2006 Fireside Books, New York.
3. NIH Fact Sheet on Restless Legs. www.ninds.nih.gov/disorders/restless_legs (12/07)
4. www.rls.org
5. www.rlsrebel.org

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