

# An Overview of Restless Legs Syndrome

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## Description

Willis-Ekbom Disease (WED), often known as Restless Legs Syndrome (RLS), is a long-term condition that causes a strong need to move one's legs. The legs frequently have an uncomfortable sensation that improves with movement. This sensation is frequently described as hurting, tingling, or crawling. Arms are sometimes affected as well. Because the feelings usually occur during rest, they might make sleeping difficult. People with RLS may experience daytime tiredness, low energy, irritability, and depression as a result of their sleep irregularity. Many people also experience limb twitching while sleeping. Foot tapping or legs rocking are not the same as RLS.

Low iron levels, kidney failure, Parkinson's disease, diabetes mellitus, rheumatoid arthritis, pregnancy, and celiac disease are all risk factors for RLS. Antidepressants, antipsychotics, antihistamines, and calcium channel blockers are among the drugs that might cause the disease. There are two major categories. The first is early-onset RLS, which begins before the age of 45, runs in families, and gets worse over time. The other type is late-onset RLS, which appears after the age of 45, appears suddenly, and does not worsen. After ruling out other possible reasons, a person's symptoms are used to make a diagnosis.

If the underlying condition is addressed, restless legs syndrome may go away. Otherwise, lifestyle changes and medicines are used to treat the condition. Stopping drinking and smoking, as well as improving sleep hygiene, are two lifestyle adjustments that may help. Levodopa or a dopamine agonist like pramipexole is among the medications utilised. RLS is thought to affect 2.5–15 percent of the American population. Females are more likely to be afflicted than males, and it gets more common as they get older [1,2].

## Signs and symptoms

RLS symptoms include everything from muscle discomfort to "an itch you can't scratch," a "buzzing sensation," an annoying "tickle that won't quit," a "crawling" sensation, and limbs twitching while awake. During peaceful wakefulness, such as while relaxing, reading, studying, or trying to sleep, the sensations usually begin or intensify.

It is a "spectrum" disease, with some people feeling just mild annoyances and others enduring substantial sleep disturbance and quality of life deficits.

The sensations — and the impulse to move — may return immediately or later after you stop moving. RLS can strike at any age, including childhood, and for some people, it is a progressing disorder, while for others, the symptoms may fade. According to a poll conducted among members of the Restless Legs Syndrome Foundation, up to 45 percent of individuals experienced their first symptoms before the age of 20 [3].

"An impulse to move that is mainly triggered by unpleasant sensations in the legs, but can also occur in the arms or elsewhere."

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The sensations are unusual and distinct from those experienced by most people. RLS sufferers often use terms or phrases like uncomfortable, painful, 'antsy,' electrical, creeping, itching, pins and needles, pulling, crawling, buzzing, and numbness to describe their symptoms. It's been compared to a limb 'falling asleep' or an excessive sensation of positional awareness in the affected area. The sensation and urge can occur in any area of the body; the most common locations are the legs and arms. Even though they have little or no feeling, some persons have a strong need to move.

"Motor restlessness manifested as activities that satisfies the desire to move."

Movement usually provides instant comfort, however it is only temporary. The most common physical activity is walking; however, stretching, yoga, riding, or other forms of physical activity may help reduce symptoms. Without needing to walk, continuous, fast up-and-down leg movements and/or rapidly moving the legs toward and away from each other may keep feelings at bay. Each person may have their own distinct movements.

"The need to yawn in the legs or arms feels comparable to restless legs."

Many patients find sleeping difficult as a result of RLS symptoms and a recent poll found that this illness causes significant daily issues. Drowsiness can cause problems ranging from being late for work to missing work or events. Patients with RLS who replied said they drove when drowsy more often than those who didn't. For the patient and society, these daily challenges can lead to safety, social, and economic consequences [4].

## Primary and secondary

RLS can be classified as main or secondary.

Idiopathic means there is no known reason for primary RLS. Primary RLS usually occurs gradually before the age of 40–45 years and can last for months or even years. It's usually progressive and grows worse as you get older. Growing pains are frequently misinterpreted as RLS in youngsters.

Secondary RLS usually appears after the age of 40, and it might be everyday right away. It is most commonly linked to particular medical disorders or the usage of certain medications [2].

## Causes

While the aetiology is uncertain, it is thought to be caused by alterations in the nerve transmitter dopamine, which causes the brain to utilise iron abnormally. Iron deficiency is a common cause of RLS (low total body iron status). End-stage kidney disease and hemodialysis, folate insufficiency, magnesium shortage, sleep apnea, diabetes, peripheral neuropathy, Parkinson's disease, and some autoimmune disorders including multiple sclerosis are also possible complications. RLS can become worse during pregnancy, probably as a result of increased oestrogen levels. Alcohol, nicotine products, and caffeine use have all been linked to RLS. Reduced leg oxygen levels were also highly associated with the severity of restless legs syndrome symptoms in untreated individuals, according to a 2014 study published by the American Academy of Neurology [3].

## Mechanism

The pathogenesis of restless legs syndrome may involve dopamine and iron system abnormalities, though this is only partially known. There is also a well-accepted circadian rhythm explanatory mechanism connected with it, which is clinically demonstrated simply by circadian rhythm biomarkers like body temperature. Interactions between poor neuronal iron uptake and the functions of neuromelanin-containing and dopamine-producing cells play

a role in RLS development, implying that iron deficiency may impact brain dopaminergic transmissions in many ways [5].

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## Conclusion

If RLS does not have an underlying cause, lifestyle changes such as better sleep hygiene, frequent exercise, and quitting smoking can help lessen its frequency. Dopamine agonists or gabapentin may be used to treat daily restless legs syndrome, while opioids may be used to treat refractory cases.

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## Conflict Of Interest

None.

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