

## Restless Legs Syndrome

Restless legs syndrome (RLS), also known as Willis-Ekbom disease, is a type of dyssomnia that is most commonly of idiopathic origin, but also associated with iron deficiency and Parkinson's disease. This condition is characterized by a constant urge to move one's legs, with accompanying unpleasant sensations in the legs that are worsened with inactivity and relieved by movement. Treatment of restless legs syndrome includes iron supplementation, supportive therapy, pramipexole and gabapentin.



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### Pathophysiology

#### Idiopathic

##### Idiot-path

Restless legs syndrome most commonly arises spontaneously with unknown etiology, although alterations in central and peripheral neurotransmitter functions have been attributed to the disease. There is also a strong underlying familial component to the condition.

#### Iron Deficiency

##### Iron Broken

A consistent finding in some patients is decreased total iron stores within the central nervous system, and reduced enzymatic and receptor function of transferrin and ferritin. Iron studies should be ordered on RLS patients as correction of this condition can lead to the resolution of symptoms.

#### Parkinson's Disease

##### Park-in-sun garage

Although evidence is unclear, there is some association between Parkinson's disease and RLS. Symptoms of RLS in Parkinson's patients are generally less severe and may be confused with true Parkinson's symptoms, such as akathisia and tremor.

### Signs and Symptoms

#### Urge to Move the Legs

##### Urgent Alarm with Moving-legs

When RLS patients sit or lay still for extended amounts of time, like at nighttime, they begin to feel an uncomfortable feeling in their legs that may be described as itching, tingling or crawling; these feelings are relieved when they move their legs.

#### Unpleasant Sensations in Legs

##### Unhappy Leg with Creepy-crawly Sensation

Descriptions of unpleasant sensations felt in the legs varies widely, but some terms used by RLS patients include itching, tingling, or crawling. It is important to distinguish these patients from peripheral neuropathy patients, who often use adjectives like burning or pins and needles.

#### Worsens with Inactivity

##### Legs-restless in Bed

When RLS patients sit or lay still for extended amounts of time, like at nighttime, they begin to feel an uncomfortable feeling in their legs that may be described as itching, tingling or crawling.

#### Relieved by Movement

##### Relieved-face with Moving-leg

The uncomfortable feelings that RLS patients feel in their legs are almost universally relieved when they move their legs via walking, stretching or shaking. These movements may disturb others around them, such as a partner in bed.

## Treatment

### Iron Supplementation

#### Iron

Iron studies are often ordered when RLS is suspected. If iron deficiency anemia is identified at a serum ferritin level lower than 75 ng/mL, oral iron supplements, like ferrous sulfate, should be started.

### Self-care

#### Massaging Legs with Heating-pad

Nonpharmacologic therapies are helpful for some RLS patients. These include periodic daily massages, use of leg warmers, and avoiding triggers like caffeine and sleep deprivation.

### Gabapentin

#### GABA-Goose-Penguin

Gabapentin is a medication which binds to voltage-gated calcium channels in the central nervous system. It is used as an anti-seizure medication, as well as an analgesic for neuropathies. It is the first-line medication for patients with RLS.

### Pramipexole

#### Prom-picture

Dopamine agonists, such as pramipexole and ropinirole, can also be used for patients with RLS. These medications are also used to treat Parkinson's disease. Side effects include nausea, fatigue, insomnia, anxiety and daytime sleepiness.