Restless leg syndrome (RLS) or Wittmaack-Ekbom syndrome was first described by Ekbom in 1945. It is mainly characterised by sensory symptoms or an urge to move. It is now recognised that in addition to affecting the legs, the syndrome can also affect the arms and even axial segments. People who have RLS describe the unpleasant feelings as creeping, crawling, pulling, itching, tingling, burning, aching, or electric shocks. Sometimes, these feelings also occur in the arms. Restless leg syndrome begins at any age and generally worsens with age.

**Definition**

Restless legs syndrome is a recognised neurological disorder that can interfere with the part of the nervous system affecting the legs, and causes an urge to move them. This urge to move often occurs with strange and unpleasant feelings in legs. Moving legs relieves the urge and the unpleasant feelings. Because it usually interferes with resting and falling asleep, it is also considered a sleep disorder.

An urge to move the legs, usually accompanied by unpleasant sensations, worsens during periods of rest or inactivity that is partially or totally relieved by movement. The urge to move or the sensations is more intense in the evening or during night.

Causes of RLS include:

- Family history
- Iron deficiency
- Parkinson’s disease
- Kidney failure
- Diabetes
- Peripheral neuropathy
- Being overweight
- Tobacco use
- Excessive intake of caffeine
- Nerve diseases

- Heavy metal poisoning
- Pregnancy insomnina: Some women experience RLS during pregnancy, especially in the last trimester. Symptoms usually go away within a month after delivery.
- Certain mineral deficiencies
- Aching calves
- Jogging without stretches
- Sleep deprivation
- Drug side effects —some medications like anti-nausea drugs, antipsychotic drugs, anti-depressants, cold and allergy medication containing sedating antihistamines

**Pathophysiology of RLS**

In most cases, the cause of RLS is unknown. However, it may have a genetic component. Studies indicate that low levels of iron in the brain also may be responsible for RLS. Considerable evidence suggests that RLS is related to a dysfunction in the brain’s basal ganglia circuits that use the neurotransmitter dopamine, which is needed to produce smooth, purposeful muscle activity and movement. Disruption of these pathways frequently results in involuntary movements. Individuals with Parkinson’s disease, another disorder of the basal ganglia’s dopamine pathways, often have RLS as well.

Alcohol and sleep deprivation also may aggravate or trigger symptoms in some individuals. Reducing or completely eliminating these factors may relieve symptoms, but it is unclear if this can prevent RLS symptoms from occurring at all.

**Signs and Symptoms**

The severity of RLS symptoms ranges from mild to intolerable. The symptoms are generally worse in the evening and at night and less severe in the morning. For some people, symptoms may cause severe nightly sleep disruption that can significantly impair a person’s quality of life. Some signs and symptoms of RLS:

- Leg discomfort and strong urge to move — Uncomfortable sensations deep within the legs, accompanied by a strong, often irresistible urge to...
Many describe the sensations as tingling, jitteriness, a “creepy crawly” /insects crawling; some others say it feels as if bugs are crawling up their legs.

Some other signs are: sensation of itching, pulling, grabbing, aching, electrical current, pins and needles, throbbing, tearing, cramp like pain, prickling, disagreeable sensation, tugging, hot and cold flashes in the leg, a fizzy soda is bubbling through their veins, or they have a ‘deep bone itch’.

Rest triggers the symptoms. Leg pain is normally trigged by activity and relieved by rest, but with restless legs syndrome, the reverse is true. Restless leg symptoms start or become worse when sitting, relaxing, or trying to rest. Symptoms get worse night – RLS typically flares up at night, especially when lying down. In more severe cases, the symptoms may begin earlier in the day, but they become much more intense at bedtime.

The uncomfortable sensations temporarily get better when moving, stretching, or massaging legs. The relief continues as long as one keeps moving.

Nighttime leg twitching – Many people with restless legs syndrome also have periodic limb movement disorder (PLMD), a sleep disorder that involves repetitive cramping or jerking of the legs during sleep. The leg movements further disrupt the sleep.

**Diagnosis and Treatment**

There is no accurate medical test to diagnose restless legs syndrome; however, blood tests and other examinations are conducted to rule out other conditions.

Diagnostic criteria for restless leg syndrome:
- **U** - Urge to move the Limbs
- **R** - Which begins at Rest /during sleep
- **G** - Goes away when Get up and Go
- **E** - Emerge in the evening or at night

Can other conditions mimic restless leg syndrome?

There are many conditions which can mimic restless leg syndrome including:
- Parkinson’s disease
- Muscle diseases
- Joint diseases
- Peripheral neuropathy caused by diabetes
- Circulation difficulties.

In children, restless leg syndrome is often misdiagnosed as ‘growing pains’.

**Treatment**

The treatment for RLS is targeted at easing symptoms. Treatment of an RLS-associated condition also may provide relief of symptoms.

Medications may be helpful as RLS treatments, but the same drugs are not helpful for everyone. In fact, a drug that relieves symptoms in one person may worsen them in another. In other cases, a drug that works for a while may lose its effectiveness over time.

**Drugs used to treat RLS include:**

- Dopaminergic drugs, which act on the neurotransmitter dopamine in the brain. Mirapex, Neupro, and Requip are approved for treatment of moderate to severe RLS. Others, such as levodopa, may also be prescribed.
- Benzodiazepines, a class of sedative medications, may be used to help with sleep, but they can cause daytime drowsiness.
- Narcotic pain relievers may be used for severe pain.
- Anticonvulsants, or antiseizure drugs, such as Tegretol, Lyrica, Neurontin, and Horizant.

Although there is no cure for restless legs syndrome, current treatments can help control the condition, decrease symptoms, and improve sleep.

**Nursing management**

- Advice the person to have better sleep by sticking to a regular sleep schedule. Try sleeping with a pillow between the legs. It may prevent nerves in legs from compressing.
- Advice for regular exercise. Daily activity, including moderate aerobic exercise and lower-body resistance training, can significantly reduce the symptoms. Swim, go for a walk, take the stairs, or spend a few minutes doing jumping jacks.
- Avoid to reduce or eliminate consumption of coffee, tea, soft drinks, and caffeinated foods such as chocolate.
- Avoid alcohol and cigarettes.
- Advice to avoid eating a heavy meal close to bed time.
- Advice to take dietary supplements of iron, vitamin B, folic acid, or magnesium.
- Advice to lose weight.
Teach and demonstrate the relaxation techniques such as yoga and meditation.

- Advice to take hot baths or apply heating pads or ice packs to the legs
- Leg massage can help reduce the signs.
- Nurses to be aware of major sleep disorders like obstructive sleep apnea, insomnia and RLS.
- Ask patients about the pattern of sleep and motivate them to maintain sleep diary.
- Demonstrate the following stretching exercise for relief in symptoms of RLS.
  > Calf stretch – Stretch out arms so that palms are flat against a wall and elbows are nearly straight. Slightly bend right knee and step left leg back a foot or two, positioning its heel and foot flat on the floor. Hold for 20 to 30 seconds. Now bend left knee while still keeping its heel and foot flat on the floor. For a deeper stretch, move foot back a bit farther. Switch legs and repeat.
  > Front thigh stretch – Standing parallel to a wall for balance, grab and pull one of your ankles toward the buttock while keeping the other leg straight. Hold for 20 to 30 seconds. Switch legs and repeat.
  > Hip stretch – Place the back of a chair against the wall for support and stand facing the chair. Raise left foot up and rest it flat on the chair, with knee bent (or try lacing your foot on a stair while holding the railing for balance). Keep spine as neutral as possible, press pelvis forward gently until feel a stretch at the top of right thigh. Pelvis forward gently until you feel a stretch at the top of right thigh. Your pelvis will move forward only a little. Hold for 20 to 30 seconds. Switch legs and repeat.

**Conclusion**

Restless leg syndrome is a distressing condition of which senory sensation and pain are characteristic features. The urge to move and unpleasant feelings happen when resting and inactive. Thus, it tends to be worse in the evening and at night. Although there is no cure for restless legs syndrome, in people with mild to moderate restless legs syndrome, lifestyle changes, such as beginning a regular exercise programme, establishing regular sleep pattern, and eliminating or decreasing the use of caffeine, alcohol, and tobacco, may be helpful to reduce the occurrence of restless leg syndrome.

**References**

13. Restless Legs Syndrome Fact Sheet," NINDS. Publication date September 2010., NIH Publication No. 10-4847