Restless Legs Syndrome

Code: 333.94 (G25.81)

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Diagnostic Criteria 333.94 (G25.81)

A. An urge to move the legs, usually accompanied by or in response to uncomfortable and unpleasant sensations in the legs, characterized by all of the following:
1. The urge to move the legs begins or worsens during periods of rest or inactivity.
2. The urge to move the legs is partially or totally relieved by movement.
3. The urge to move the legs is worse in the evening or at night than during the day, or occurs only in the evening or at night.
B. The symptoms in Criterion A occur at least three times per week and have persisted for at least 3 months.
C. The symptoms in Criterion A are accompanied by significant distress or impairment in social, occupational, educational, academic, behavioral, or other important areas of functioning.
D. The symptoms in Criterion A are not attributable to another mental disorder or medical condition (e.g., arthritis, leg edema, peripheral ischemia, leg cramps) and are not better explained by a behavioral condition (e.g., positional discomfort, habitual foot tapping).
E. The symptoms are not attributable to the physiological effects of a drug of abuse or medication (e.g., akathisia).
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Diagnostic Features

Restless legs syndrome (RLS) is a sensorimotor, neurological sleep disorder characterized by a desire to move the legs or arms, usually associated with uncomfortable sensations typically described as creeping, crawling, tingling, burning, or itching (Criterion A). The diagnosis of RLS is based primarily on patient self-report and history. Symptoms are worse when the individual is at rest, and frequent movements of the legs occur in an effort to relieve the uncomfortable sensations. Symptoms are worse in the evening or night, and in some individuals they occur only in the evening or night. Evening worsening occurs independently of any differences in activity. It is important to differentiate RLS from other conditions such as positional discomfort and leg cramps (Criterion D).
The symptoms of RLS can delay sleep onset and awaken the individual from sleep and are associated with significant sleep fragmentation. The relief obtained from moving the legs may no longer be apparent in severe cases. RLS is associated with daytime sleepiness and is frequently accompanied by significant clinical distress or functional impairment.
Associated Features Supporting Diagnosis

Periodic leg movements in sleep (PLMS) can serve as corroborating evidence for RLS, with up to 90% of individuals diagnosed with RLS demonstrating PLMS when recordings are taken over multiple nights. Periodic leg movements during wakefulness are supportive of an RLS diagnosis. Reports of difficulty initiating and maintaining sleep and of excessive daytime sleepiness may also support the diagnosis of RLS. Additional supportive features include a family history of RLS among first-degree relatives and a reduction in symptoms, at least initially, with dopaminergic treatment.
Prevalence

Prevalence rates of RLS vary widely when broad criteria are utilized but range from 2% to 7.2% when more defined criteria are employed. When frequency of symptoms is at least three times per week with moderate or severe distress, the prevalence rate is 1.6%; when frequency of symptoms is a minimum of one time per week, the prevalence rate is 4.5%. Females are 1.5–2 times more likely than males to have RLS. RLS also increases with age. The prevalence of RLS may be lower in Asian populations.
Development and Course

The onset of RLS typically occurs in the second or third decade. Approximately 40% of individuals diagnosed with RLS during adulthood report having experienced symptoms before age 20 years, and 20% report having experienced symptoms before age 10 years. Prevalence rates of RLS increase steadily with age until about age 60 years, with symptoms remaining stable or decreasing slightly in older age groups. Compared with nonfamilial cases, familial RLS usually has a younger age at onset and a slower progressive course. The clinical course of RLS differs by age at onset. When onset occurs before age 45, there is often a slow progression of symptoms. In late-onset RLS, rapid progression is typical, and aggravating factors are common. Symptoms of RLS appear similar across the lifespan, remaining stable or decreasing slightly in older age groups.
Diagnosis of RLS in children can be difficult because of the self-report component. While Criterion A for adults assumes that the description of "urge to move" is by the patient, pediatric diagnosis requires a description in the child's own words rather than by a parent or caretaker. Typically children age 6 years or older are able to provide detailed, adequate descriptors of RLS. However, children rarely use or understand the word "urge," reporting instead that their legs "have to" or "got to" move. Also, potentially related to prolonged periods of sitting during class, two-thirds of children and adolescents report daytime leg sensations. Thus, for diagnostic Criterion A3, it is important to compare equal
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duration of sitting or lying down in the day to sitting or lying down in the evening or night. Nocturnal worsening tends to persist even in the context of pediatric RLS. As with RLS in adults, there is a significant negative impact on sleep, mood, cognition, and function. Impairment in children and adolescents is manifested more often in behavioral and educational domains.
Risk and Prognostic Factors

Genetic and physiological. Predisposing factors include female gender, advancing age, genetic risk variants, and family history of RLS. Precipitating factors are often time-limited, such as iron deficiency, with most individuals resuming normal sleep patterns after the initial triggering event has disappeared. Genetic risk variants also play a role in RLS secondary to such disorders as uremia, suggesting that individuals with a genetic susceptibility develop RLS in the presence of further risk factors. RLS has a strong familial component.
There are defined pathophysiological pathways subserving RLS. Genome-wide association studies have found that RLS is significantly associated with common genetic variants in intronic or intergenic regions in MEIS1, BTBD9, and MAP2K5 on chromosomes 2p, 6p, and 15q, respectively. The association of these three variants with RLS has been independently replicated. BTBD9 confers a very large (80%) excessive risk when even a single allele is present. Because of the high frequency of this variant in individuals of European descent, the population attributable risk (PAR) approximates 50%. At-risk alleles associated with MEIS1 and BTBD9 are less common in individuals of African or Asian descent, perhaps suggesting lower risk for RLS in these populations.
Pathophysiological mechanisms in RLS also include disturbances in the central dopaminergic system and disturbances in iron metabolism. The endogenous opiate system may also be involved. Treatment effects of dopaminergic drugs (primarily D and D non-2 3
ergot agonists) provide further support that RLS is grounded in dysfunctional central dopaminergic pathways. While the effective treatment of RLS has also been shown to significantly reduce depressive symptoms, serotonergic antidepressants can induce or aggravate RLS in some individuals.
Gender-Related Diagnostic Issues

Although RLS is more prevalent in females than in males, there are no diagnostic differences according to gender. However, the prevalence of RLS during pregnancy is two to three times greater than in the general population. RLS associated with pregnancy peaks during the third trimester and improves or resolves in most cases soon after delivery. The gender difference in prevalence of RLS is explained at least in part by parity, with nulliparous females being at the same risk of RLS as age-matched males.
Diagnostic Markers

Polysomnography demonstrates significant abnormalities in RLS, commonly increased latency to sleep, and higher arousal index. Polysomnography with a preceding immobilization test may provide an indicator of the motor sign of RLS, periodic limb movements, under standard conditions of sleep and during quiet resting, both of which can provoke RLS symptoms.
Functional Consequences of Restless Legs Syndrome

Forms of RLS severe enough to significantly impair functioning or associated with mental disorders, including depression and anxiety, occur in approximately 2%–3% of the population. Although the impact of milder symptoms is less well characterized, individuals with RLS complain of disruption in at least one activity of daily living, with up to 50% reporting
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a negative impact on mood, and 47.6% reporting a lack of energy. The most common consequences of RLS are sleep disturbance, including reduced sleep time, sleep fragmentation, and overall disturbance; depression, generalized anxiety disorder, panic disorder, and post-traumatic stress disorder; and quality-of-life impairments. RLS can result in daytime sleepiness or fatigue and is frequently accompanied by significant distress or impairment in affective, social, occupational, educational, academic, behavioral, or cognitive functioning.
Differential Diagnosis

The most important conditions in the differential diagnosis of RLS are leg cramps, positional discomfort, arthralgias/arthritis, myalgias, positional ischemia (numbness), leg edema, peripheral neuropathy, radiculopathy, and habitual foot tapping. "Knotting" of the muscle (cramps), relief with a single postural shift, limitation to joints, soreness to palpation (myalgias), and other abnormalities on physical examination are not characteristic of RLS. Unlike RLS, nocturnal leg cramps do not typically present with the desire to move the limbs nor are there frequent limb movements. Less common conditions to be differentiated from RLS include neuroleptic-induced akathisia, myelopathy, symptomatic venous insufficiency, peripheral artery disease, eczema, other orthopedic problems, and anxiety-induced restlessness. Worsening at night and periodic limb movements are more common in RLS than in medication-induced akathisia or peripheral neuropathy.
While is it important that RLS symptoms not be solely accounted for by another medical or behavioral condition, it should also be appreciated that any of these similar conditions can occur in an individual with RLS. This necessitates a separate focus on each possible condition in the diagnostic process and when assessing impact. For cases in which the diagnosis of RLS is not certain, evaluation for the supportive features of RLS, particularly PLMS or a family history of RLS, may be helpful. Clinical features, such as response to a dopaminergic agent and positive family history for RLS, can help with the differential diagnosis.
Comorbidity

Depressive disorders, anxiety disorders, and attentional disorders are commonly comorbid with RLS and are discussed in the section "Functional Consequences of Restless Legs Syndrome." The main medical disorder comorbid with RLS is cardiovascular disease. There may be an association with numerous other medical disorders, including hypertension, narcolepsy, migraine, Parkinson's disease, multiple sclerosis, peripheral neuropathy, obstructive sleep apnea, diabetes mellitus, fibromyalgia, osteoporosis, obesity, thyroid disease, and cancer. Iron deficiency, pregnancy, and chronic renal failure are also comorbid with RLS.
Relationship to International Classification of
Sleep Disorders
The International Classification of Sleep Disorders, 2nd Edition (ICSD-2), presents similar diagnostic criteria for RLS but does not contain a criterion specifying frequency or duration of symptoms.
Substance/Medication-Induced Sleep Disorder
Diagnostic Criteria

A. A prominent and severe disturbance in sleep.
B. There is evidence from the history, physical examination, or laboratory findings of both (1) and (2):
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1. The symptoms in Criterion A developed during or soon after substance intoxication or after withdrawal from or exposure to a medication.
2. The involved substance/medication is capable of producing the symptoms in Criterion A.
C. The disturbance is not better explained by a sleep disorder that is not substance/medication-induced. Such evidence of an independent sleep disorder could include the following:
The symptoms precede the onset of the substance/medication use; the symptoms persist for a substantial period of time (e.g., about 1 month) after the cessation of acute withdrawal or severe intoxication; or there is other evidence suggesting the existence of an independent non-substance/medication-induced sleep disorder (e.g., a history of recurrent non-substance/medication-related episodes).
D. The disturbance does not occur exclusively during the course of a delirium.
E. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
Note: This diagnosis should be made instead of a diagnosis of substance intoxication or substance withdrawal only when the symptoms in Criterion A predominate in the clinical picture and when they are sufficiently severe to warrant clinical attention.
Coding note: The ICD-9-CM and ICD-10-CM codes for the [specific substance/medication]-induced sleep disorders are indicated in the table below. Note that the ICD-10-CM code depends on whether or not there is a comorbid substance use disorder present for the same class of substance. If a mild substance use disorder is comorbid with the substance-induced sleep disorder, the 4th position character is "1," and the clinician should record "mild [substance] use disorder" before the substance-induced sleep disorder (e.g., "mild cocaine use disorder with cocaine-induced sleep disorder"). If a moderate or severe substance use disorder is comorbid with the substance-induced sleep disorder, the 4th position character is "2," and the clinician should record "moderate [substance] use disorder" or "severe [substance] use disorder," depending on the severity of the comorbid substance use disorder. If there is no comorbid substance use disorder (e.g., after a one-time heavy use of the substance), then the 4th position character is "9," and the clinician should record only the substance-induced sleep disorder. A moderate or severe tobacco use disorder is required in order to code a tobacco-induced sleep disorder; it is not permissible to code a comorbid mild tobacco use disorder or no tobacco use disorder with a tobacco-induced sleep disorder.
Specify whether:
Insomnia type: Characterized by difficulty falling asleep or maintaining sleep, frequent nocturnal awakenings, or nonrestorative sleep.
Daytime sleepiness type: Characterized by predominant complaint of excessive sleepiness/fatigue during waking hours or, less commonly, a long sleep period.
Parasomnia type: Characterized by abnormal behavioral events during sleep.
Mixed type: Characterized by a substance/medication-induced sleep problem characterized by multiple types of sleep symptoms, but no symptom clearly predominates.
Specify if (see Table1 in the chapter "Substance-Related and Addictive Disorders" for diagnoses associated with substance class):
With onset during intoxication: This specifier should be used if criteria are met for intoxication with the substance/medication and symptoms developed during the intoxication period.
With onset during discontinuation/withdrawal: This specifier should be used if criteria are met for discontinuation/withdrawal from the substance/medication and symptoms developed during, or shortly after, discontinuation of the substance/medication.
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ICD-10-CM
With use
With use disorder, Without
disorder, moderate use
ICD-9-CM mild or severe disorder
Alcohol 291.82 F10.182 F10.282 F10.982
Caffeine 292.85 F15.182 F15.282 F15.982
Cannabis 292.85 F12.188 F12.288 F12.988
Opioid 292.85 F11.182 F11.282 F11.982
Sedative, hypnotic, or anxiolytic 292.85 F13.182 F13.282 F13.982
Amphetamine (or other 292.85 F15.182 F15.282 F15.982
stimulant)
Cocaine 292.85 F14.182 F14.282 F14.982
Tobacco 292.85 NA F17.208 NA
Other (or unknown) substance 292.85 F19.182 F19.282 F19.982
Recording Procedures

ICD-9-CM. The name of the substance/medication-induced sleep disorder begins with the specific substance (e.g., cocaine, bupropion) that is presumed to be causing the sleep disturbance. The diagnostic code is selected from the table included in the criteria set, which is based on the drug class. For substances that do not fit into any of the classes (e.g., bupropion), the code for "other substance" should be used, and in cases in which a substance is judged to be an etiological factor but the specific class of substance is unknown, the category "unknown substance" should be used.